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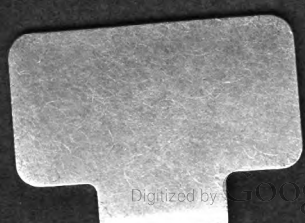
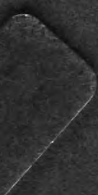
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Development of motor-vehicle trade abroad

United States.
Bureau of Foreign
and Domestic ...



DEPARTMENT OF COMMERCE AND LABOR
BUREAU OF FOREIGN AND DOMESTIC COMMERCE

A. H. BALDWIN, Chief

SPECIAL CONSULAR REPORTS—No. 59

DEVELOPMENT OF MOTOR-VEHICLE TRADE ABROAD

SUPPLEMENTARY TO
FOREIGN MARKETS FOR MOTOR VEHICLES
(SPECIAL CONSULAR REPORTS, No. 53)



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1913

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LETTER OF SUBMITTAL.

DEPARTMENT OF COMMERCE AND LABOR,
BUREAU OF FOREIGN AND DOMESTIC COMMERCE,
Washington, January 13, 1913.

SIR: I have the honor to submit herewith a series of reports dealing with the foreign markets for American motor vehicles. A bulletin dealing with the same subject was published by this Bureau under date of May 19, 1912, and the review herewith submitted is in the nature of a supplement to that work. It will serve to bring the account of foreign trade conditions in the motor-vehicle industry up to date, and should give further assistance to American manufacturers in increasing their constantly growing sales abroad.

Respectfully,

A. H. BALDWIN,
Chief of Bureau.

To Hon. CHARLES NAGEL,
Secretary of Commerce and Labor.

DEVELOPMENT OF MOTOR-VEHICLE TRADE ABROAD.

INTRODUCTION.

A previous publication of the Bureau of Foreign and Domestic Commerce, entitled *Foreign Markets for Motor Vehicles* (Special Consular Reports, No. 53), issued in the summer of 1912, gave a comprehensive account of the trade in motor vehicles in the various countries of the world. It was compiled from a series of consular reports and was devoted almost entirely to the trade in motor cars. The present monograph, which is in the nature of a supplement, is composed of consular reports that have been submitted since the former publication was issued.

In the United Kingdom, one of the chief foreign markets for low-priced American motor cars, the most prominent feature of the trade at present is the development of the cycle car, which is considered an important competitor of the less expensive automobile. The cycle car is discussed at some length, and the data furnished should assist American manufacturers to determine whether it would be practicable to meet the British demand for these cars by producing an American car of the same kind.

The section devoted to motor cycles covers most of the countries where American manufacturers could expect to sell their products. As the American statistics do not show exports of motor cycles separately previous to July 1, 1912, it is not known what progress is being made in the foreign trade as compared with former years. For the last six months of 1912 the exports of motor cycles numbered 1,246, valued at \$223,257. Imports of motor cycles, bicycles, and other cycles and parts for the calendar year 1912 amounted to a value of \$173,349. According to figures compiled by the Bureau of the Census, the number of motor cycles manufactured in the United States in 1909 was 18,628, valued at \$3,015,988, as compared with 2,300, valued at \$354,980, in 1904, and 160, valued at \$33,674, in 1899.

American exporters of motor cars have made an excellent start in many foreign markets and as a rule occupy a good position wherever there is an extensive sale of cars. While the demand for motor cycles is more sporadic in its nature, one of the principal factors in extending the sale of American automobiles, the standardization of parts, may help to promote the use of American motor cycles also.

MOTOR CARS AND CYCLE CARS.

AMERICAN AUTOMOBILES IN EUROPE.

[Consul General at Large James E. Dunning.]

Fourteen consuls general, comprising the local supervising officers in the district of Europe (covering all of Europe except European Russia, the Balkan States, and Greece), have rendered to this headquarters a series of statements showing what has been done in their respective countries to extend the American export trade in automobiles. These reports are of great interest as showing the positive and intelligent efforts undertaken by the consular corps in Europe, and many of them show definite results. In more than one country correspondence between the American manufacturer and the consular officers has led to the establishment of agencies in untried territory and to large consequent sales of cars. In other cases our manufacturers have been advised to remain out of certain markets where their efforts for sales can not at present be expected to result profitably. In this latter regard the action of American consuls in Europe has been extremely valuable, and exporters have been prevented by frank and immediate advices from embarking on a trade campaign in territory not yet worth the requisite expenditure.

SUGGESTIONS TO AMERICAN EXPORTERS.

From the statements sent by the several supervising consuls general and from careful observations made by the consul general at large when traveling the following suggestions may be made:

(1) The personal visit of some responsible member of the exporting firm is necessary to the establishment of a successful agency in Europe. It is not sufficient to send a subordinate except to collect preliminary information.

(2) The European campaign, whether conducted through a branch with an American staff or through an agency under contract with the house, must have for its foundation a complete stock of parts and facility for quick supply and repair. Our cars of all classes are in direct competition with foreign cars, spare parts for which can be had in a few days in any part of the Continent.

CREDIT TERMS.

(3) As in all other lines of manufactured exports credit terms constitute one of the main initial difficulties. I do not indorse the more or less common opinion that American manufacturers should grant long credits on all classes of manufactured goods. In fact, my opinion, resulting from years of observation, is rather against this practice. It is unreasonable to expect the American manufacturer to deal with Belgian customers, for instance, in the same informal way characteristic of German export methods. The relation between the German exporter and the Belgian buyer is geographically about the

same as between the Chicago manufacturer and the dealer in St. Louis or Buffalo. The trade is not a foreign proposition at all to either party, as it is with Americans engaged in European trade. A great deal of the commendation of long credits is based on relations between European maker and customer extending over half a century or more, where long credits become an actual asset in holding trade to the house against all competition. The situation facing the new American exporter is totally different and will be for many years to come. It will indeed remain permanently different except for those who have actual branches on the Continent.

Moreover, the necessity for extraordinary credits is very frequently exaggerated. The requisite for a permanent foreign business is a genuine superiority in the goods themselves—a superiority so obvious that it will always stand above mere price, terms, and distance of deliveries. Cheapness never has been and never need be the distinctive feature of American export goods. High quality and the maximum of service are the best assets for American export goods, and it is on these features that they have made their way and can continue to do so. This is fully as true of automobiles as of typewriters, office appliances, machine tools, or novelties. Europeans can compete with Americans in cheapness, but no one has equaled us or will be likely to in factory refinements.

CLOSE TERMS APPROPRIATE TO SITUATION.

This being the case, we can go to the foreign buyer with a proposition so distinctly high class that we can rightly ask from him close terms in return. My judgment is that in nearly all cases involving any costly American product like a motor car no foreigner is a safe agent who can not show bank connections and indorsements sufficient to enable him to pay for American goods either cash against documents or very nearly the equivalent. This trade has long seemed to me a matter very largely of preliminary arrangements or study of the goods by the prospective buyer, of an exchange of references, of personal contact between the principals, and of a frank contract or other agreement founded upon the bank relations of the two.

The department of foreign business in banks is now so well developed everywhere, the drawing of drafts and all other documents has become so simple, that there seems to be no reason for any doubt or difficulty on the score of payments if both sides to the enterprise are fair, and especially if the foreign agent is what he should be. There are agents without any capital, just beginning business, and lacking any known financial standing. Hundreds of them are excellent men, who can be successfully carried by local or near-local manufacturers to a successful permanent business, as is done all over America with our own people. But they do not furnish the right kind of connections for the American exporter. Generally speaking, the foreign agent able to handle American automobiles on the right scale can come to our manufacturers through a bank connection which will enable him to meet the usual American terms.

GOOD SALE FOR LOW-PRICED CARS.

(4) Europeans will buy low-priced cars if the cars are properly exploited, regardless of local conditions. This seems to have been proved frequently in territory where the original survey indicated no demand, or conditions unfavorable to the small car. The process of education seems to apply here as elsewhere, and each car used stimulates further sales. The psychology of the trade does not differ greatly from one country to another, except that some territory responds more slowly, or must be cultivated according to its special needs of climate, custom, prejudice, and natural aptitude for novelty. The usual rules of the trade apply here as they do in the United States. Get a few cars of the smaller type started in a new field and the spread of the automobile idea is found to proceed along the familiar lines.

(5) Agents who violate their contracts by demanding exorbitant commissions in their sales harm the trade. This feature will bear watching, for there are signs that the temptation to make large returns on a few cars rather than small returns on a large number has frequently stunted the development of American export trade in new fields and tended to continue the impression that the use of automobiles is only a pastime for millionaires. This contract violation is obviously fatal to the spread of the automobile idea among the great middle class, which constitutes the finest and as yet almost untouched market on the Continent.

(6) It is essential that the exporter show a real economy in operation of his car, because of the vastly higher price of gasoline in Europe. Attention to this item has already yielded large results to the Americans who are now putting large numbers of cars on the Continent. It appeals to the thrift of the average foreign buyer, and is the foremost claim that can be made for any car in the first stages of its introduction here.

EUROPEAN COMPETITION.

(7) European competition is as yet a largely undetermined quantity. Foreign manufacturers have not yet been stimulated to make a small car to compete with the American low-priced car under conditions which Americans could not meet. But certainly they have plants which can produce a smaller, less expensive car of the characteristic American type. As yet they show neither the disposition nor the ability to turn their energies to this phase of the trade. None of the small European cars so far produced equals the American, and it is significant that where Americans have established either well-developed agencies or actual branches they have put out cars in immense numbers and have given an amount of satisfaction in service which is increasing the volume of trade in these machines every month in the year.

In some countries American imports of cars have been deliberately ignored by local manufacturers. One consul general reports: "American cars are still received here with a sort of friendly skepticism." The fact seems to be that European conservatism has in

this case left the opening of which American manufacturers, with their superior factory organization and standardization of parts, have taken permanent advantage. Certainly in every country of the district the American car has come to stay, while in several of the larger markets it is rapidly becoming the characteristic vehicle of the middle-class buyers. As in the case of typewriters and machine tools, Americans have overcome a strong geographical disadvantage by thorough method and downright enterprise plus quality. European competition must be watched and reckoned with, but there seems to be small probability that it can now overcome the lead of American goods.

CENTRAL AGENCIES DESIRABLE.

(8) A study of the correspondence sent into most countries of Europe by American manufacturers shows a loss of effort through the common habit of working up agencies in all cities rather than concentrating on the capitals. Many new exporters write to every consulate in a country and send out literature to lists of possible agents in every city. It would seem to be a good idea to reduce such efforts from, let us say, 150 cities to about 25. In most cases in a region like this, where countries are small and populations compact, better results will be attained by a general agent in each commercial capital. Some countries require more than one agent because they have more than one commercial capital. This is true of Italy and Germany but not of France, where Paris is the natural center from which the entire country can be covered.

Only a little study of the field would be necessary to show American exporters the simpler method of entering a foreign field. A conference with the Department of State, and a reference of the exporter's plans to the Consular Bureau there, would bring out the high strategic points of the territory and enable the manufacturer to concentrate his efforts with a large saving in time and money.

(9) Electric automobiles can not yet be introduced in Europe, as there is no demand among women for machines which they can drive themselves, and also because the lack of speed limits in most cities is fatal to this branch of the trade. Its future is entirely problematical.

DURABILITY A REQUISITE.

(10) Exported cars must have a high degree of durability. It is not the habit of the thrifty Continental buyer to get a new car every season. In time, some arrangements can be made for the exchange of old cars for new, as is done by European makers. But in general the European buyer runs his car several times as long as is the rule in America.

(11) In most countries of this district the open car is less comfortable than the closed. An attractive proposition here would be the completely inclosed cars which can be driven by the owner. The lack of any hot summer in all countries north of the Alps renders the limousine far more comfortable, while it is especially serviceable during the comparatively mild though rainy winter in a large part of Europe. Limousines are of course of little use to the owner-driver, and attention may therefore be called to a type of moderate-priced,

totally inclosed car, in which the forward seat can be closed off from the others at will, though ordinarily open aft. This is satisfactory to the dignity of the owner-driver, and gives him a closed body for cool weather. Generally speaking, automobiling in Europe is more comfortable in a car with a closed body.

(12) Advertising is necessary, but can best be left to the local agent, or rather to his advices under home control. The mediums are numerous and the returns generally good. In some countries there are trade and touring journals. Billboard advertising is in good repute and not overexpensive, and special forms of advertising, such as souvenirs, etc., are common. Good agencies can be found in all large cities for placing advertising matter. On the whole, however, the returns are unequal to those in America. The first essential is a perfectly competent translator—not always easily found. Every line of printed matter should be proof-read by a confidential member of the house familiar with both languages. Lithography and stereotyping of good quality and at the right price can be had anywhere.

SMALL CAR IN DEMAND.

(13) One consul general reports that there is a demand in his country for a runabout which can be sold at about \$250. Such a car would reach thousands of Europeans who will not use a motor cycle and who can not afford to run a more expensive vehicle. This type, when it appears, will have a tremendous sale in countries like France where families are small.

(14) Exporters will frequently save by a better study of shipping routes. It is said that in one instance cars intended for an agency in southern Europe were shipped to Hamburg from New York and thence by rail to destination. Exporters should consult the foreign-trade advisers in the State Department and the Department of Commerce and Labor, and get a report not only on routes but on foreign tariff duties and conditions.

(15) Investigation by this office shows that the consular officers of the district have accumulated a large amount of technical and detailed information on the styles demanded and the conditions of importation and use. It is therefore suggested that American manufacturers, whether they are beginners in export trade or not, should get in touch with the consuls general in the several commercial capitals, and obtain their advice as to all preliminary steps.

UNITED KINGDOM.

LONDON.

[Consul General John L. Griffiths.]

The motor exhibition held in London toward the close of 1912 was a greater success than any of its predecessors. About 255,000 persons attended during the eight days it was held, or 30,000 more than in 1911. Such motor exhibitions are becoming more and more

the places where orders are taken and it is said that one firm sold at this one over 300 cars, representing a value of \$300,000, in a little over a week.

In one of the articles in the London Daily Mail on the motor exhibition attention was called to the interest shown by people of small incomes. The article says:

At three stands close together there might have been seen treating for immediate delivery of cars a country doctor, a clergyman, who was explaining the extent of his widespread parish, and a retired army major, who said he found it cheaper to take up his residence far from the railway and keep a car than to live near a station without one.

There are cheap British two-seaters in the show, some at \$852, some at \$730, and some at \$608. But in this line the Americans were in the field first, and while the British products may be as good they are not so well known. The self starter has come to England, and several devices of that kind may be seen at the show. In all classes of cars the upholstering grows more comfortable and more decorative at the same time.

EFFECT OF AMERICAN SALES.

The most talked of matter in the English motor trade is the wide sale of American cars, but several British experts are saying now that the introduction of the American car is not to be deplored, as it has stimulated and will continue to stimulate British manufactures, and has at the same time extended the market. The excellence of the construction of the American car has been widely and generously acknowledged. While there are some British cars selling at about the same or even slightly lower prices, the introduction of the low-priced car was due to American initiative, and American manufacturers have not spared expense in judicious advertising and in demonstrating the real value of their product. As a result, the low-priced British cars are not as widely known as those of American manufacture.

The fact must be emphasized, however, that even a very popular car will not retain its popularity unless the quality is maintained, and it is in this direction that American manufacturers must see that there is not the slightest basis for complaint and must do everything in their power to maintain the present high standard they have established. It is characteristic of the English buyer to purchase a motor car which he expects to use for a long time, so that durability is one of the considerations that influence him most strongly. The slightest deterioration in the quality of a single American make which is sold to any extent abroad will not only affect the particular manufacturer disastrously but will cause definite injury to the prestige of all American manufacturers selling motor cars in foreign countries.

Perhaps a little higher standard is demanded in England from the foreign than from the domestic manufacturer, and the American exporter must also sell the same article at a little lower price than his local competitor. British competition is becoming keener each year.

PRICES OF VARIOUS FOREIGN CARS.

The following list shows the prices of various less expensive cars of Continental and British make with which American cars have to compete:

Description of car.	Horse-power.	Price.
AUSTRIAN.		
Four cylinders, interior-driven coupé, bore 80 mm. (3.1 inches), stroke 110 mm. (4.33 inches), four-speed gears	16-18	\$2,798
GERMAN.		
Four cylinders, inclosed valves, leather clutch, four speeds and reverse, bevel drive, chassis only	12-20	1,582
Four cylinders, engines en bloc, inclosed valves, chassis inswept in front and up-swept at back, fitted with long springs, chassis only	15-25	2,190
Same, with torpedo double phaeton	5-12	973
Same, limousine or landaulet	6-16	1,460
Four cylinders, engine 75 by 88, thermo-siphon cooling, four speeds and reverse, forced-feed lubrication by pump, multiple-disk clutch, tires 750 by 88 mm. (29.5 by 3.5 inches), chassis	8-20	2,190
	10-16	1,073
FRENCH.		
Torpedo two-seater, four speeds, with hood and screen	8	1,022
Same, with interior-driven coupé	8	1,192
Four cylinders, four speeds, worm drive, two-seater, torpedo body	11	1,679
Same, chassis only	11	1,294
Complete torpedo body or two-seater with dicky seat behind, four speeds, hood, and screen	11	1,460
Same, with standard body	14	1,752
Same, with five seats	16	1,874
Four cylinders, four-seater torpedo, with hood, screen, all lamps, horn, etc.	16	1,995
Four cylinders, engine 65 mm. (2.5 inches) bore, trough lubrication, high-tension magneto, thermo-siphon, cylinders cast in one, chassis price	12	1,606
	8-10	1,216
ITALIAN.		
Polished chassis, mono-bloc engine, four speeds	15-20	1,776
Four cylinders, Captain fixed wire wheels with detachable rims, dynamo electric installation, auxiliary engine-starting magneto, horn, and speedometer, chassis complete	30	2,677
BRITISH.		
Two-seater, bore and stroke of engine 69 and 130 mm. (2.7 and 5.1 inches), with hood, wind screen, lamps, and horn	10-12	1,095
Same, four-seater	10-12	1,240
Four cylinders, bore and stroke 80 and 140 mm. (3.1 and 5.5 inches), 9-foot wheel base, four speeds forward and reverse, four-seater, worm or bevel drive, with hood, screen, etc.	16	1,703
Four-seater, torpedo model, complete	14	1,124
Two-seater, complete	10	894
Four cylinders, victoria two-seater, hoods, screen, lamps, etc.	12-14	1,168
Four cylinders, five-seater torpedo phaeton, with hood, screen, lamps, etc.	16-20	1,411
Two-seater torpedo body, two cylinders, cape cart hood, wind screen, engine 85 by 85 mm. (3.3 by 3.3 inches), chain drive, two speeds, Dunlop tires	8	803
Four cylinders, four-seater, complete with Dunlop tires	12	1,387
Four cylinders, two-seater, car complete	20	730
Two cylinders, safety three-wheeler, two-seated torpedo	10-14	584
Four cylinders, chassis with tires	10	706
	13-16	1,022
Two-cylinder victoria seating three abreast, engine 102 by 115 mm. (4 by 4.5 inches), cylinders cast en bloc, Dunlop tires, with hood, screen, lamps, etc.	13	1,071
Four cylinders, torpedo two-seater	12	1,095
Same, four-seater	12	1,183
Two cylinders, two-seated victoria, V-type engine, 85 by 88 mm. (3.3 by 3.4 inches), three speeds, worm drive, complete car	7-8	633
Four cylinders, four-seated double phaeton torpedo, with hood, screen, etc., spare tire and wheel	11	1,509

ELECTRIC VEHICLES—COST OF GASOLINE.

An article published some time ago on the coming of the electric automobile in the United Kingdom indicated that perhaps a new field may be developing for this type of car. Among other things the writer says:

There is every reason to believe that in England the electric car will attain an equally successful revival [as in America]. In the near future it is intended to handle the electric transport problem in an energetic manner, a start having been made by bringing over to England four different cars, all equipped with the new Edison storage battery, with which a large number of experiments have been made. These experiments have been successful in demonstrating the "fool-proofness" of the Edison accumulator, and forthcoming developments are worth watching by all those to whom the cheapest method of transport known is of interest. England has a chance to come in at the start of the new industry. Let us hope it will not be too slow in deciding. In five years' time there will be hardly any other type of heavy automobile than the electric.

The reference to electricity as the cheapest form of transport power is intended to bring out in contrast the high cost of petrol or gasoline, the increase in the cost of which is becoming a matter of some concern. At the beginning of 1912 the price did not exceed 24 cents per gallon, but toward the close it was as high as 38 cents per gallon. A solution of the difficulty is being sought and it is stated that one colliery in the Midlands is producing motor-fuel oil from gas, the plant erected being capable of turning out 1,000,000 gallons annually, the whole product, however, being exported at present. The use of alcohol from potatoes has also been suggested.

Although special stress has been laid on the success of the low-priced American car on the English market, it must be remembered that there is also an increasing demand for the higher priced American cars due to satisfactory endurance tests and to added beauty of design.

CYCLE-CAR EXHIBITION.

Immediately following the motor-car exhibition previously mentioned an exhibition of cycles, motor cycles, and cycle cars was held. It was the first international show in which the last-named type was prominent. Although the cycle car is not a novelty, it has only recently attracted much attention in the United Kingdom. Its utility, however, is now being widely recognized. An evidence of its increasing popularity is that at least 60 British companies are engaged in its manufacture, while nearly 40 manufacturers showed cars at the exhibition.

The cycle car may be described briefly as a small motor car of a narrow wheel gauge, but lighter in construction, selling at a lower price, and costing less to operate than the usual motor car, with a possible speed of 30 to 40 miles per hour. It is stated that for some time past new designs in cycle cars have been brought out at the rate of one a week. The reliability of the modern motor-cycle engine has done much, it is claimed, to promote the introduction of the cycle car, and when standardization of the various parts has been attained a very large sale may be confidently predicted.

Cycle cars are built with three or four wheels, with a track of 36 to 40 inches, and are capable of seating two, three, or four persons. The narrower gauged cars are built to carry passengers tandem, but those

in which the passengers ride beside each other have been most favorably received.

Some of the advantages claimed for the cycle car are that it is more comfortable than a motor cycle with side car, that its low price places it within the reach of those who can not afford to purchase even the lowest priced motor car of the ordinary kind, and that it can be operated at a very moderate cost. As to the possibilities of the industry, a well-known statistician states that there are at least 350,000 persons in the United Kingdom who can afford to purchase these cars.

A newspaper article entitled "A new rival to the motor car" says that large numbers of people have been waiting for the £100 (\$486) car, and many who have owned motor bicycles and side cars have become practical admirers of "the newest motoring." The fact that the cycle car can be run so cheaply is a point in its favor that will have far-reaching results. Public interest in the cars is growing perhaps faster than the industry of making them itself.

USES AND DESCRIPTION OF CARS.

There are several spheres of action in which the cycle car can and will displace the more expensive motor car or fill a place which the latter can not fill. It will have a wide value eventually for tradesmen, as it is ideal for a small delivery van, having the advantages of lightness and ease of manipulation in traffic. It is often impossible for delivery vans to be loaded both on the outward and the inward journeys, and when empty the running cost is practically all loss; hence the importance of light weight. The commercial traveler will also find the cycle car of great value, as he requires a machine that is moderate in price and at the same time thoroughly reliable, that can be run cheaply, carry a few samples, be fairly speedy, and require little attention.

A detailed description of some of the cycle cars shown at the exhibition in 1912 may be interesting to American manufacturers:

1. Engine: 8 horsepower, twin-cylinder, air-cooled J. A. P. or 7-9 horsepower Peugeot. Frame: Ash of special construction. Transmission: Belt. Clutch: Plate type, running in oil. Steering: Direct by means of wheel. Gear ratios: 4½ to 1 and 7 to 1. Size of tire: 650 by 65 millimeters (25.6 by 2.56 inches). Body details: Two-seater, well upholstered. Weight: 5 to 6 hundredweight (hundredweight=112 pounds), with hood and screen. Brakes: Foot and side. Wheels: Fixed wire. Price: With J. A. P. engine, \$462; with Peugeot engine, \$435.

2. Engine: G. N. 90°, twin-cylinder, 80 by 98 millimeters (3.1 by 3.8 inches). Frame: Armored ash. Transmission: Chain sliding gear and double belt. Clutch: Double disk. Steering: Ackermann, with duplicated wire cables. Gear ratios: 4½ to 1 and 7½ to 1. Size of tires: 650 by 65 millimeters. Body details: Light torpedo, two-seater. Weight: 400 pounds. Brakes: Belt rim. Wheels: Detachable wire. Suspension: Long laminated springs. Price: \$484.

3. Engine: 9 horsepower, two-cylinder, 90°, air-cooled J. A. P., 85 by 95 millimeters (3.3 by 3.4 inches). Frame: Pressed channel steel. Transmission: Cardan shaft and bevel drive to back wheel: two-speed gear box. Clutch: Ferrodo-lined cone. Steering: Direct, with geared wheel. Size of tires: Back wheel, 700 by 85 millimeters (27.5 by 3.3 inches); front wheels, 650 by 65 millimeters (25.6 by 2.56 inches). Body details: Two-seater, with scuttle dash and side doors. Price: \$511, complete.

4. Engine: Single-cylinder, water-cooled, 95 by 102 millimeters (3.7 by 4 inches). Frame: Tubular steel. Transmission: Chain from engine to epicyclic gear in back wheel. Clutch: Combined with gear in back hub. Steering: Direct by tiller. Gear box: Two speeds forward. Size of tires: Back, 700 by 85 millimeters (27.5 by 3.3 inches); front, 650 by 65 millimeters (25.6 by 2.56 inches). Body details: Two-seater, with sloping dash. Weight: 6½ hundredweight. Brakes: Foot brake on rear wheel, front wheel brakes 3 guineas (\$15.33) extra. Wheels: Wire. Price: \$511.

5. Engine: Two-cylinder, air-cooled, bore 85 millimeters (3.34 inches), stroke 88 millimeters (3.46 inches), 999 cubic centimeters (60.9 cubic inches) capacity. Frame: Weldless-steel tubing, trussed girder design. Transmission: By shaft to gear box on countershaft and thence to back wheels by belt. Clutch: Cone faced with vulcanite. Steering: By wheel direct. Gear ratios: 10 to 1, $6\frac{1}{2}$ to 1, 4 to 1, and reverse. Tire sizes: 650 by 65 millimeters (25.6 by 2.56 inches). Body details: Two-seater, scuttle dash, dummy radiator. Weight: $5\frac{1}{2}$ hundredweight, complete. Brakes: Two brakes operated by hand and foot levers on rear wheels. Wheels: Detachable and interchangeable. Price: \$535, or with hood, lamps, horn, and screen, \$584.

6. Engine: 10 horsepower, J. A. P., 90° twin-cylinder. Transmission: Chain to countershaft, V-type belts to back wheels. Gears: By expanding pulleys, giving a range from 4 to 1 to 10 to 1. Clutch: Clutch action taken by the belts. Brakes: Two, working independently. Body details: Two-seater sociable or tandem model if preferred. Wheels: Wire, for use with Stepney spare wheel. Tire sizes: 26 by 2 $\frac{1}{2}$ inches. Weight: $6\frac{1}{2}$ hundredweight, complete. Suspension: Front, quarter-elliptic; rear, half-elliptic. Lubrication, automatic. Price: \$560, complete with lamps, hood, and screen.

7. Engine: 8 horsepower, twin-cylinder, air-cooled, J. A. P., 85 millimeters (3.34 inches) bore, 85 millimeters stroke. Frame: Tubular of special construction. Transmission: By shaft to bevel on countershaft, thence by chains to back wheel. Clutch: Leather-lined cone. Steering: Direct by wheel. Gear ratios: $4\frac{1}{2}$ to 1 and 8 to 1. Tire sizes: 26 by 2 $\frac{1}{2}$ inches standard, nonskid on back wheel. Body details: Two-seater, made of wood and sheet steel. Weight: 3 hundredweight. Brakes: Two band on back wheel, controlled by hand lever and pedal. Wheels: Wire, back wheel easily removable. Price, \$435.

8. Engine: 8 horsepower, twin-cylinder, air-cooled, J. A. P., bore 85 millimeters, stroke 85 millimeters, large flywheel and fan. Frame: Armored ash. Transmission: Chain to countershaft and belts to back wheels. Clutch: By slipping belts. Steering: By wheel and cables working on the Ackermann principle. Gear ratios: $3\frac{1}{2}$ to 1 up to 8 to 1. Tire sizes: 26 by 2 $\frac{1}{2}$ inches. Body details: Two-seater with scuttle dash. Weight (chassis): $4\frac{1}{2}$ hundredweight. Brakes: Shoe brakes on belt rim. Wheels: Detachable wire. Suspension: Half-ellipticals throughout. Price: \$484.

9. Engine: Twin-cylinder, air-cooled, Humber, 84 by 90 millimeters (3.3 by 3.5 inches). Frame: Tubular. Transmission: By shaft through gear box to a bevel-driven live axle. Clutch: Leather-faced cone. Steering: Rack and pinion. Gear ratios: 13.5 to 1, 8 to 1, 4.5 to 1 top. Tire sizes: 650 by 65 millimeters. Body details: Two-seater with scuttle dash. Weight: 7 hundredweight. Brakes: Foot brake at rear of gear box and band brakes on back wheels. Wheels: Fixed wire. Wheel base: 7 feet 3 inches. Track: 3 feet 6 inches. Springs: Half-elliptical transverse front, quarter-ellipticals at back. Price: \$560; with hood, screen, and full equipment, \$609.

10. Engine: 90° J. A. P. twin, 85 by 120 millimeters (3.34 by 4.7 inches). Frame: Steel tubing. Transmission: Chain drive throughout. Clutch: Multiplate. Steering: Direct. Gearbox: Three speeds forward and reverse. Tire sizes: 700 by 85 millimeters (27.5 by 3.3 inches). Body details: Body built up with steel tubing; two or four seater. Springs: Quarter elliptic. Wheels: Wire, on ball bearings. Dimensions: Wheel base 8 feet, track 3 feet 8 inches. Price: \$779, four seater; \$657, two seater.

11. Engine: 8-10 horsepower, twin-cylinder, air-cooled. Frame: Ash. Transmission: Chain to countershaft and belts to the back wheels. Clutch: By slipping belt. Steering: By steel cable and pivoted front axle. Suspension: Cee spring rear, and spiral front. Tire sizes: 650 by 60 millimeters (25.59 by 2.3 inches). Body details: Two-seater tandem torpedo. Brakes: Two separate, one acting on countershaft and the other on the back wheels. Wheels: Fixed wire. Weight: 425 pounds. Price: \$526.

12. Engine: 5-6 horsepower, A. C., air-cooled, bore 95 millimeters (3.4 inches); stroke 102 millimeters (4 inches). Frame: Combination ash and steel. Transmission: Chain. Clutch: Incorporated with epicyclic gears of the multiple-disk type. Steering: Tiller. Gear: Epicyclic, ratios $4\frac{1}{2}$ to 1, 9 to 1. Tire sizes: 650 by 65 millimeters. Body details: Two or three seater, coach finish. Weight: 5 hundredweight. Brakes: Two on back wheel; front wheel brakes \$15.33 extra. Springs: Quarter elliptical in rear, semielliptical in front. Lubrication: Automatic from a reservoir in crank case. Price: \$450.

CARS LICENSED—MOTOR-OMNIBUS ACCIDENTS.

The report of the commissioner of police for London shows that in 1911 there were 16,476 vehicles licensed, an increase of 521 over 1910, and that while there was a decrease of 1,724 in horse-drawn vehicles, there was a gain of 2,245 in mechanical vehicles. Of the 16,476 licensed vehicles in 1911, 12,253 were mechanically propelled. The report further states that while the number of motor cabs has probably reached its maximum, the increase of motor omnibuses is likely to continue, as they have become popular with the traveling public.

According to a statement made in the House of Commons, 118 persons were killed in London in motor-omnibus accidents and 21 in electric-tram accidents between January 1 and October 9 of 1912. The attention of the Home Office was called to the matter and it was definitely decided to appoint a special commission to investigate the subject thoroughly, with a view to making recommendations.

A Public Safety League has been formed for the purpose of urging that the various powers dealing with the traffic of London be concentrated in a central authority. The magnitude of the problem may be understood from the estimate that by July 1, 1913, there will be at least 4,000 motor omnibuses on the streets of London.

The omnibus companies are endeavoring to secure a type of vehicle that will reduce the risk of accident to a minimum. In the last few years the weight of the motor omnibuses most commonly used in London has been reduced from 5 to 3½ tons, with the result that they are under more immediate and complete control. The suggestion has been made that, as in several instances pedestrians have been injured when motor omnibuses mounted the sidewalk, the curbstone should be built considerably higher than at present.

RECKLESS DRIVING AND ACCIDENTS.

In 1911 drivers of motor cabs or omnibuses to the number of 893 and 3,556 drivers of other motor vehicles were prosecuted in the Metropolitan Police District of London for offenses connected with excess of speed or dangerous driving. In the course of a statement made in the House of Commons, the Home Secretary declared:

The enforcement of the motor-car act presents many difficulties, but the whole matter is engaging my careful attention, and I am issuing instructions with a view to better differentiation between the more and the less serious classes of offenses and to the more stringent enforcement of the section which deals with dangerous, reckless, or negligent driving. Reckless driving at a crossing would certainly *prima facie* justify proceedings under that section; but the evidence of the constable showing that the driving is reckless is often contradicted by the evidence of the driver or occupants of the car. Members of the public can give useful assistance by tendering themselves as witnesses on such an occasion.

NOTTINGHAM.

[Vice Consul William Force Stead.]

In remarking on the reduced prices of American cars for the 1913 season, a writer in a local newspaper states:

It seems to me that in one or two cases it would have been better to have maintained the old prices so far as the trade in Great Britain is concerned, and to have given the difference in slightly better-made bodies. I know several people who like the running of the American cars, but who want something more finished and substantial in the way of bodies.

The suggestion seems to be not without value, for in discussions on the American automobile with local dealers and motorists, it has consistently been the case that the only points criticized were the finish, the lack of the few additional coats of varnish that would lend distinction, and the uncomfotableness of the seats, which are neither so deep nor so well upholstered as in the English makes. In English cars an occupant can sit back deeply and comfortably, in the cars designed for two persons as well as those for four or more, much as if lounging in an armchair.

The foregoing suggestion was called to the attention of several of the leading dealers here who are interested in the sale of American cars, and their opinions were various, ranging from qualified agreement with the suggestion to the blunt statement that "the best reply the American manufacturers can give to such suggestions is to reduce their prices again next year."

MARKET FOR TWO GRADES.

There is doubtless a valuable element of truth in both points of view. There is a large public anxiously waiting for the time when the motor car will be within reach of its means, when prices will be sufficiently low to make the purchase of a car not an extravagance, but a reasonable outlay. This public is being reached by the low-priced American cars, and with every reduction in price the number of these motorists is proportionately increased. At the same time there exists an important element among purchasers of limited means who are willing to make an additional outlay of \$100 to \$250, in order to obtain a car that satisfies their requirements in the way of finish. Such purchasers are now either buying British cars, at an extra cost of perhaps 25 to 50 per cent, or else are adapting a British body to an American chassis. It is suggested that to hold the market with both of these classes the cars might be supplied in two degrees of finish. That is, if a car which was formerly sold at \$900 can now be supplied for \$800, a certain number of the latter might be offered at the former price, putting the difference into a few additional coats of varnish and a more comfortable seat. The mechanism of the two cars would be identical, but the extra finish of one might overcome the objections of particular purchasers, while the cheapness of the other would appeal to the less particular, with whom expense is the only consideration. The latter purchasers, of course, form the widest public, but the former are sufficient in number to be worthy of attention. Other details might be added to increase the attractiveness, such as the use of brass work instead of nickel plate.

GOOD QUALITIES OF AMERICAN CARS.

It is gratifying to observe the speed and ease with which the American cars run. Although it has been suggested that the engines would be difficult to repair, and that some parts are too light, as for instance the axles, nevertheless I have never heard an owner of one of these cars complain that he had actually experienced any of these anticipated difficulties. In giving his personal experiences with an American car, a writer in a local paper said:

The sample car started up easily, its clutch was smooth, its brakes powerful; it started on second gear with the ease of an ocean liner, its gears changed silently with-

out fiddling, and it ran steadily at about 8 miles an hour on top gear, accelerating to nearly double the legal limit. Its comfortable speed was about 25 miles an hour, at which it pulled well on up gradients. The only obvious criticism had reference to the coachwork, which was excessively uncomfortable. The backs of the seats were too stiff, short, and vertical.

In another article the statement was made that, notwithstanding the "marvelous hill-climbing powers" of the American cars, very few of these vehicles take part in hill-climbing contests. The explanation given was that the hills chosen are abnormally steep, so steep as to require the low gear, which is much lower on American cars than on the English. The former are built to take average gradients on the high gear, and their success as hill climbers is very generally admired. The writer last referred to observes that "to see the way in which the majority of the American cars romp past others of equal power up an average hill is a revelation."

DEMAND FOR CHASSIS—SELF-STARTERS, ETC.

It appears that a market exists here for the manufacturer who cares to supply a chassis without body. Several dealers complain that in the case of American cars the cost price allowed for the body is too small in proportion to the price of the complete car. For instance, on a car that costs \$1,000 complete only \$125 is allowed for the body, making the cost of the chassis \$875. It is claimed that if a good chassis were supplied at \$500 or slightly more, it would meet with a ready welcome in the local market. This demand exists among those who are well satisfied with the American engine and other mechanical parts, but prefer the English body. The chassis should include a 15 to 20 horsepower motor, four cylinders, 3 or 4 speed gears, and be capable of an average speed of 25 to 35 miles per hour.

Self-starters are said to be in demand but not in supply. The dealers with whom the question of these appliances was discussed expressed themselves as not very well satisfied with the specimens which they had seen. An agent for American cars said that if the Americans are to command the field in this line "they must come quick or lose the market," as many experiments are being tried here and a perfect appliance is looked for at any time. There is no question that the demand for a reliable self-starter is very great among all classes, more especially among women; it has been predicted that with the general introduction of a device of this kind the number of women motorists will quickly double or treble.

There is a demand here for a heavy grease that will tend to silence the gearing. The taxicab drivers often use a mixture of heavy oil and sawdust, but this has a tendency to clog the bearings of the shafts. What is wanted is a heavy grease that will act as a cushion between the teeth and yet at the same time prove satisfactory for the shaft bearings. The same grease is needed for some of the cups under the bonnet, where they are subjected to considerable heat, and where an ordinary grease runs too freely.

An innovation which should have as ready an acceptance as the perfected self-starter is the new engine-driven tire pump. There are several of these on the market at moderate prices, one that is well spoken of at \$20, and they are being energetically pushed by their makers. Another of these is described as a small flat pump which

may be easily stored under a seat. It clamps to the footboards and is provided with a pulley; a second pulley is attached to the clutch shaft, and a flat belt completes the drive. By this device a 120-millimeter (4.6-inch) cover can be inflated in a minute or two.

BIRMINGHAM.

[Consul Albert Halstead.]

The 60 firms in Great Britain manufacturing automobiles, according to Motor, offer to the public nearly 200 types of machines, and the total British output is now probably well over 20,000, although exact figures are not easily obtainable. Deducting exported vehicles it is calculated that the British automobile manufacturers are supplying two-thirds of the home demand, so there is ample room for expansion. Although imports are on the increase they are not growing as rapidly as formerly and there is a greater rate of growth in exports. German and Italian cars are increasing their hold in England, but French imports have dropped almost \$2,500,000 in the last four years. It is said that the increase in the value of the Italian cars imported has been greater than that of the American cars.

Actual figures are said to prove that the British industry is thoroughly healthy and rapidly expanding. Home firms have found the demand in excess of the supply for a long while and this condition promises to continue. It is said that there has been no loss through American competition, as Great Britain has never possessed the trade taken by American firms.

BRADFORD.

[Consul Augustus E. Ingram.]

The ruling automobile club's definition of a cycle car limits the chassis to 672 pounds, with body complete 784 pounds, and engine capacity not exceeding 1,100 cubic centimeters (67.1 cubic inches). Above this grade a reverse is compulsory by Government regulations. There are a few vehicles exceeding these limits, and they will be debarred from entering competitions as cycle cars.

In standardization a point yet to be decided is whether they will have three or four wheels. This may be affected by the annual Government tax on motor vehicles, which in the case of those with two or three wheels is \$4.86, while with those of four wheels the tax is determined by the horsepower.

For steering there are many designs, those principally adopted being the worm and segment, the rack and pinion, the direct, and the cable types. The first two are the most expensive; the direct necessitates a large steering wheel; the cable, of one or more strands, attached to the steering axles of the wheels and wound around a bobbin at the end of the steering column, the cheapest form, is being adversely criticized.

The range of dimensions of cycle cars is approximately as follows: Extreme height, 2 feet 6 inches to 4 feet 4 inches; extreme length, 7 to 11 feet; extreme width, 3 feet 6 inches to 5 feet 7 inches; ground clearance, 3½ inches to 1 foot; wheel base, 4 feet 3 inches to 8 feet 6 inches; track, 3 feet to 4 feet 8 inches.

Though this class of vehicle is practically unknown in the United States, there would appear to be no reason why our manufacturers

should not make them for the English market, seeing that they are already able to undersell European makers of more expensive motor cars. If this manufacture were undertaken on the right lines and the cars marketed at an attractive figure—under \$500 with all accessories—a good business should be done; for not only will the cycle car appeal to motorcyclists and those who do not care for the two-wheeler and can not afford a motor car, but also to motor-car owners, who can use this handy little vehicle as a runabout and so save their larger cars.

EDINBURGH.

[Consul Rufus Fleming.]

The automobile movement was late in reaching Scotland. Ten years ago it was hardly felt—certainly it did not impel the most enthusiastic motorists to venture the prophecy that in 1912 as many as 22,000 pleasure cars would be in use, with the number increasing at the rate of 20 per cent annually. The advance of automobiling, especially since the introduction of low-priced cars, and the development of the automobile industry were impressively manifested at the Sixteenth Annual Show of the Scottish Motor Trade Association, held in Edinburgh from January 24 to February 1, 1913. Owing to the pressure for space, commercial vehicles were not included. The characteristics of up-to-date pleasure cars, notably strength and lightness, were well brought out, and the 114 sales made during the eight open days give promise of a substantial increase of trade in 1913 over 1912, mainly in low-priced and moderate-priced grades. Of the 125 cars on view 69 were English, 19 French, 11 Scottish, 11 American, 7 Italian, 5 Belgian, and 3 German. The machines varied from 10 to 50 horsepower, and the prices of cars complete ranged from \$608 to \$7,300. No American car over \$1,874 in price was exhibited, and four of the American cars shown were under \$973, while three ranged from \$973 to \$1,217.

It is expected, of course, that the sales made at the show will be multiplied several times by those resulting from inquiries made at the show. Agents for the American types exhibited express in no uncertain terms their satisfaction with their share of the business. With scarcely an exception, American cars properly introduced into this market—that is, placed in the right hands—have gained favor. The cheaper American models have created a market for themselves, and this new field is expanding.

MANCHESTER.

[Vice Consul John W. Thomas.]

General trade conditions in this district are good, and the opportunities for the sale of motor cars, particularly the less expensive ones, are correspondingly increased. Many American cars are already represented here. One point which only a few American manufacturers have heretofore noted is that the body work of a car should be of the conventional European type. There is a decided improvement in the motor-cycle trade, but only one make of American machine has entered this market. The result of the venture was a success, as the machine has established a splendid reputation throughout the whole district.

FRANCE.

PARIS.

[Consul General Frank H. Mason.]

Under the laws and regulations of France privately owned automobiles have to be registered for two purposes, first for taxation, and second in order that they may be subject to requisition for service in case of war.

The records are therefore all official and complete. They showed that in November, 1912, there were registered and subject to taxation in France 76,771 motor vehicles, an increase of 12,562 since the same date in 1911. These statistics do not include taxicabs, autobuses, or other vehicles used in public service, or the private automobiles owned by State officials or diplomatic and consular officers of foreign Governments, which are exempt from both taxation and requisition.

Paris and its Department of the Seine naturally lead, with 13,389 private automobiles, 6,747 taxicabs, and about 600 autobuses; these autobuses will be increased to about 900 before June 1, 1913, on which date all horse omnibuses and two-story omnibuses must be replaced by a prescribed standard type of autobus. After Paris and the Seine comes the neighboring Department of Seine et Oise with 3,299 automobiles, then the Nord (Roubaix and Lille) with 2,785, the Seine Inferieure (Havre) with 2,422, the Rhone (Lyon) with 1,945, Bouches du Rhone (Marseille) with 1,656, and so on down to the Basses Alpes, which has 106, and the Hautes Alpes, with 64.

The average motive power of private automobiles in Paris and the Department of the Seine is 16 horsepower and for the whole of France 13 horsepower; the total represents the power of 1,006,305 horses, which are thus emancipated from work on the roads and reserved for other purposes.

Comparing the foregoing figures with those of 1907, when the whole number of privately owned cars in France was 31,295, it appears that the total has much more than doubled within the past five years, the period during which the low-priced car, within the reach of people of moderate means in both city and country, has been put on the market in towns of importance throughout the country.

PARIS AUTOMOBILE SALON.

The Thirteenth International Automobile Exposition, held at the Grand Palais in Paris December 7 to 22, 1912, easily surpassed all predecessors in the number of exhibitors, range and variety of exhibits, beauty of lighting and decoration, and keenness of public interest. Previous automobile salons, although international in scope, had been mainly French displays and derived their principal interest from the high-powered racing cars and the expensive, luxurious, and elaborately finished vehicles turned out by the great Parisian makers and a few of the leading European competitors. In this latest exposition the dominant note was wholly changed, and, as a leading French exhibitor expressed it, "We are not trying to outshine our competitors, but are showing what we can sell." While most of the leading stands showed one limousine or landaulet, their

principal display was of open cars and chassis of 10 to 25 horsepower, costing complete not more than \$2,000.

A characteristic feature of the exposition was that it contained no great epoch-making invention or novelty in construction. Four or five European makers use the valveless engine, but that is merely an adaptation of the Knight engine. Wire-spoked wheels were very much in evidence for several reasons—because they are “in fashion,” because the exhaustion of hickory in American forests is making the high-class wooden wheel more and more costly, and, finally, because experiments in England tend to show that tires last longer on wire than on wooden spoked wheels. The torpedo body was still prevalent, but was higher, better equipped, and more comfortable than the body of the year before. There was a strong tendency toward gray, olive green, and various shades of brown, which show less sensitively than darker colors the effects of mud and dust. The French automobile owner, especially in the Provinces, is learning to drive his own car, and the proportion of vehicles with interior driving apparatus was greater than ever before.

AMERICAN CARS PROMINENT.

The salon of 1912 will be memorable as the first automobile exposition in Paris at which American cars and accessories were displayed on a scale and under conditions which constituted an adequate representation of the American automobile industry. Formerly American makers were for the most part absorbed in their home trade. They have tried more or less timidly the exceedingly difficult problem of selling their cars abroad through native agents under “American conditions” of delivery and payment, and naturally their progress in European markets has been slow and difficult. But during the past two years the situation has been entirely changed. A number of the leading makers have come abroad in person, have studied the conditions of the British, French, German, and other European markets, have recognized the exact nature and limitations of the opportunities offered, and have taken measures to meet them.

The display of American automobiles was recognized as the distinctive and significant feature of the exhibition. The Ford Motor Co., of Detroit, which has exhibited here every year since 1905, and has built up a large and prosperous trade in France, showed cars of three types—a car with a five-seated, European-made body, a two-seated 20-horsepower machine, and a landaulet for six persons.

The Cadillac Co., of Detroit, which had a small exhibit in the salon of 1908, returned with a six-seated 30-horsepower torpedo touring car, a five-seated open car, and a handsome limousine, the body of which was made in England upon European lines. But the special feature of the Cadillac stand was its electric self-starting device, which was included in all its models as an essential part of the mechanism. Europe has been experimenting with self-starters for years, but here at the Cadillac stand were machines in which the crank had been abolished, and each machine carried a generator that automatically made current to start and light the car and supply the ignition.

OTHER AMERICAN EXHIBITS.

The display of the Overland Co., of Toledo, included a two-place, 16-horsepower runabout with torpedo body, and a four-passenger, 16-horsepower car, both of which were especially adapted to the owner-driver, who from choice or economy prefers to pilot his own machine. Another important exhibit was that of the Hupp Motor Car Co., of Detroit, which has secured successful connections in Great Britain, France, and Germany during the past year. Its display included a 12 to 16 horsepower touring car, a 12 to 16 horsepower two-passenger roadster, a 10-horsepower runabout, and a delivery van, together with a standard chassis demonstrating the details of Hupmobile mechanism.

The Studebaker-Flanders Co. had on display a 15-horsepower torpedo touring machine, also a 20-horsepower and a 30-horsepower touring car, all similar in style and graded in price according to size and horsepower. All these machines were equipped with the electric starting device and detachable wheels.

Another attractive American stand contained combined exhibits of the Buick and Bedford companies. The Bedford, though nominally an English machine, is essentially American, being made of parts manufactured principally in America but adapted to English ideas. This exhibit was made by the General Motors Co. (Ltd.), of London, and altogether was one of the most elaborate in the salon. Four chassis, ranging from 15 to 30 horsepower, were displayed, and emphasis was given to their solid, durable construction, their power of endurance, and their low prices compared with European cars of the same grade.

The Oakland Motor Car Co., of Pontiac, Mich., on account of delayed arrivals, exhibited only three models, viz, two 30-horsepower, six-cylinder vehicles, one a cabriolet, the other with touring-car body, and a five-passenger, four-cylinder touring car of 21 horsepower. This exhibit was considered notable as representing the tendency of owners in America toward six-cylinder engines, the use of which, on account of the high cost of gasoline in France, is much less strongly developed in this country. Another late arrival was a 15 to 20 horsepower roadster made by the Regal Motor Car Co., of Detroit.

ESSENTIALS OF SUCCESS.

There are certain essential and obvious conditions which must underlie every successful effort to introduce and sell American automobiles in France and other European markets. The time is long past, if indeed it ever existed, when an automobile could be sold abroad from a printed description or testimonials and on the usual American terms of cash f. o. b. factory. No European firm of standing, capital, and experience will accept the agency for an American car on such conditions. Among the things that experience has shown to be indispensable in the effort to introduce American automobiles in this country are these:

1. The owners or managers of the American factory, the men of intelligence, energy, and business foresight, who have created the vehicle and built up its success at home, should come abroad in person, study the nature, extent, and character of the demand, the

competition to be met, methods of advertising, exhibition, and distribution, rates of duty and methods of packing and classification for import into different countries, and local preferences with regard to size, horsepower, and styles of bodies for leading types of vehicles.

2. Having decided to make a systematic effort, the firm or company should send one or more of its ablest managers—men who are not only masters of the art of describing and selling, but who can act independently and are, moreover, capable of making a favorable impression among the highest classes of European business men. It is better, of course, but not indispensable, that such a man shall know one or more European languages.

3. He should come with a full line of sample cars and parts, which can be shown, tested, and exhibited as proofs that he has to offer an honest, well-made, and attractive vehicle, ready for any reasonable service, and fully worth the price which he asks for it.

4. Every such representative should bring with him a first-class mechanic from the home factory, who speaks French, German, or whatever may be the language of the country to be entered, who can instruct local workmen in American factory methods and the best manner of making repairs, and who can show and demonstrate the car under test conditions, and thus help to answer the questions that convince a buyer. It is impossible for one man to fulfill both these functions—to do the larger business of representation and contract making and then don his overalls and demonstrate the machine.

CENTRAL DEPOT DESIRABLE.

5. Every manufactory which sells automobiles in Europe should establish a central depot at some convenient city, preferably a seaport, which should carry a large and complete stock of parts, accessories, and tools for immediate repairs. This depot should be so organized and managed that the branch depots, of which there must be one in every country where the car is sold, can be supplied immediately by express shipments, upon telegraph or mail order, of any part that may be required. The want of such arrangements retarded and defeated for a long time the sale of American automobiles in France, for no advantage in price would overcome the disadvantage to an owner of being compelled to wait weeks after a breakdown for the broken part to be replaced from America.

6. The American importer must pay part, at least, of the initial expenses of introduction, exhibition, and advertising, and, in respect to the latter, he should study and adapt his methods of advertising to European practice and traditions. Much of the money spent here for this purpose previous to 1911 was wasted. The market in France can not be reached by catalogues in the English language with American weights, measures, and values.

American automobiles sold in Europe during the year 1913 will meet the keenest competition that the French and other European makers can organize. Already several leading manufacturers announce reduced prices for their smaller and simpler types of machines, and add that they are prepared to manufacture automobiles on the American plan. They have not done this hitherto, because they had, or thought they had, no market that would justify or require them to organize production on a large scale, with stand-

ardization of types and interchangeable parts and dependence upon a small profit on each one of many thousands of machines turned out in a year in a single factory. Whether European makers will now be enabled to do this successfully, reorganize their factories on American lines, substitute automatic machinery for hand labor, and thus overtake the lead which the American automobile industry has achieved through wholesale production and consummate factory methods is the vital question which only the future can determine.

HAVRE.

[Consul John Ball Osborne.]

The total number of automobiles of all sorts in Havre remains less than 500, although the situation is all the more hopeful for American exporters on this account, as the automobile habit is spreading rapidly throughout France.

Several dealers in this city agree that there is an excellent opening for inexpensive but solidly built American gasoline cars, but none at all for electric runabouts, because of the difficulty of recharging batteries in the interior of the country. Dealers also state that there is no market for high-priced American machines, as practically all these sold are of French manufacture.

According to one of the principal dealers of this city the makes which enjoy the largest sales are the Renault, Unic, Delahaye, and Delaunay-Belleville, all French, and the American Ford. It is said that the most fashionable make is the French Renault, after which come about 20 other makes also of the first grade, including the Lorraine-Dietrich, Brazier, Panhard, etc. The Renault ranges in price from \$1,640 to \$2,316, and the Unic from \$1,400 to \$1,930. A new model of the 10-horsepower, 4-cylinder Clement-Bayard, just put on the market at Havre, sells at \$1,139, and other grades of the same make, of 11 and 14 horsepower, have been selling for some time at \$1,120 and \$1,409. General prices for various grades of cars are given by one dealer as follows: Three to six horsepower car, carrying 2 or 3 passengers, \$290 to \$579, and the same car, of 6 to 10 horsepower, carrying 3 or 4 passengers, \$579 to \$1,158; landaulets and limousines, 12 to 15 horsepower, 4 to 6 passengers, \$1,544 to \$2,895; light car, 10 to 20 horsepower, 4 passengers, \$1,158 to \$1,930; touring "torpedo" car, 15 to 30 horsepower, 6 passengers, \$1,930 to \$3,860; grand touring car, 15 to 30 horsepower, \$2,895 to \$4,825; car de luxe, 40 to 60 horsepower, 6 cylinders, 6 to 8 passengers, \$5,790 to \$7,720. Taxiautos of the French makes Delahaye, De Dion, Brazier, and Panhard, of 10 to 20 horsepower, sell here for \$772 to \$965.

GENERAL AGENCY PLAN THE BEST.

Undoubtedly the most practical and thorough method for introducing a new American automobile into this market would be to establish at Paris a central agency for France, with subagencies in the Provinces, including one at Havre. The general agent for France should be an American familiar with French business methods and able to speak the French language. The general agent for France for the Ford car is an American established at Paris. The local agent, who has had marked success in introducing the car in Havre, purchased one originally for his own use, and by exhibiting it to friends

and prospective customers and taking them for rides popularized the make and sold 18 cars in the course of a few months. These machines are sent direct to Havre, the fast freight service of the French line permitting very rapid delivery when required.

In discussing the trial conditions of American machines an experienced dealer in this city says that all that is required is for a machine to run satisfactorily a few miles on a level road and to ascend one of the steep streets in the back part of the city. The Rue de Montivilliers, for example, has a grade of about 9 centimeters to the meter, or about 9 per cent. Gasoline retails here at 40 cents per gallon and in the country districts near here at 36.5 cents per gallon.

It is important to repeat the advice previously given by the consulate that American manufacturers who desire to introduce their cars successfully in France should provide convenient means for the buyers to obtain interchangeable parts.

According to official statistics, the value of the automobiles imported into France from the rest of the world in the three years 1909, 1910, and 1911 was, respectively, \$1,453,483, \$1,677,556, and \$2,223,746. The noteworthy increase in 1911 was due almost wholly to the increased popularity of the moderate-priced American car. This increase was maintained in 1912, and the imports of American automobiles in the first 10 months of 1912 were \$328,000 greater than in the same period of 1911.

ROUBAIX.

[Consul Joseph Emerson Haven.]

This consular district (the Department of the North) is one of the most important manufacturing centers of France. The residents have wealth and the roads are level and excellent for automobiles. Although many motor cars are used both for business and pleasure, comparatively few of American make are seen. While several American automobile concerns are locally represented, the great drawback to increased sales seems to lie in the matter of the proper method of handling the agency problem. Except in certain lines a large trade can not be established in a foreign country through many small agencies each of which deals direct with the factory in America.

It would seem that the best way of entering the field here would be through the establishment of a central agency with warehouse facilities, preferably at Paris, which would be empowered to appoint small district agencies. The general manager would be in a position to pass on the needs of a district and the qualifications of an agent and be able to advise and assist the district agents in their advertising and selling campaigns.

AGENCY REQUIREMENTS TOO HEAVY.

Many young men who would eagerly take up the representation of an American machine are held back through lack of sufficient capital to carry the amount of stock and repair parts demanded by the manufacturers. I have seen letters from American automobile concerns to persons making inquiries regarding agency propositions in which the manufacturer expected the agent to make an outlay of at least 100,000 francs (\$19,300). Generally speaking, a young man with that sum at his disposal is not going to sink the

entire amount in a foreign proposition, lay in a stock of cars which he has never seen and whose merits he can determine only from the literature previously supplied him, and take all the risks—in effect purchase from the manufacturer and pay freight and customs duties and all expenses connected with demonstration and advertising. Through a central organization this difficulty could be removed, as local agents would not be obliged to carry a heavy stock and could promise immediate delivery of the latest models.

Motor vehicles are sold by agents in this district for a commission, amounting usually to 20 per cent. The usual terms of payment are part down with order, part on delivery, and the balance according to such arrangements as are agreed upon. Probably 90 per cent of the cars used in this district are French. The use of autotrucks not exceeding the 2-ton type is increasing, and a number of lighter vehicles is being used in the city delivery service.

A general feeling (happily disappearing) exists that American automobiles are weak in construction and unable to stand as heavy a strain as those of French manufacture. The chassis of a 20-horsepower car of the better grade of French machine sells from \$2,000 up, the body, tires, lamps, etc., being extra. A finished car of this character would cost \$3,000 up, whereas an American machine of like construction would cost \$2,000.

ST. ETIENNE.

[Consul William H. Hunt.]

The following table shows the value of the importations of automobiles into France in 1911 and 1912:

Imported from—	1911	1912	Imported from—	1911	1912
England.....	\$547,541	\$624,683	United States.....	\$416,687	\$871,685
Germany.....	436,566	431,587	Other countries.....	217,608	175,090
Belgium.....	406,651	343,521			
Italy.....	210,177	291,469	Total.....	2,235,230	2,738,035

The statistics published by the Customs Administration on the automobile trade show the exceptional activity reigning in the automobile factories during 1912. The preliminary figures covering the exports for the year are as follows:

Exported to—	Value.	Exported to—	Value.
Russia.....	\$407,153	Turkey.....	\$171,268
England.....	10,621,543	Brazil.....	2,260,069
Germany.....	3,115,309	Argentina.....	2,658,830
Belgium.....	9,703,114	Algeria.....	3,788,976
Switzerland.....	890,502	United States.....	938,607
Italy.....	610,150	Other countries.....	4,666,784
Spain.....	905,325		
Austria-Hungary.....	187,075	Total.....	40,924,705

Russia, Switzerland, Italy, Austria-Hungary, and Turkey purchased fewer cars than in 1911, principally on account of the Balkan war, but for all other countries the exportations show an increase as compared with the preceding year. The figures for Belgium are not representative of the exports to that country for the reason that French automobile manufacturers ship most of their cars to over-sea countries by way of Antwerp.

Agents for French motor cars in this region invariably maintain a garage and a well-equipped repair shop connected with their business, and are generally engaged in promoting the sale of at least two well-known French makes, as a rule a high-grade and a low-priced car. As the most reliable firms and individuals are already acting as agents for well-known French cars, they do not care to consider the agency for an American car. There is a certain class of individuals with no capital who are always ready and willing to accept an agency for a motor car to be sent over on consignment, but their names would not be worth the consideration of American manufacturers.

Several high-grade French automobile manufacturers have factories at Lyon, an hour's distance from St. Etienne by rail, and there are besides a number of manufacturers of low-priced cars in this region who are actively pushing the sale of their products in this district. These conditions render it rather difficult for an American car to compete with French-made machines, especially as the French automobile buyer insists on seeing the motor car he intends to purchase.

The most practicable way to introduce American cars in this district would probably be through a Paris agency. The circulation of an American car through the streets of St. Etienne would probably be the most fruitful kind of advertisement here.

SPAIN.

MADRID.

[Consul F. T. F. Dumont.]

Agents for automobiles report the following local sales for the first 11 months of 1912: French cars—De Dion-Bouton, 40; Renault, 80; Delaunay, 28; Panhard, 35; Berliet, 25; Mors, 8; Peugeot, 30; Leon-Peugeot, 20. Belgian cars—Minerva, 30; Imperia, 5. German cars—Benz, 10; Mercedes, 10. English cars—Humber, 5; Daimler, 10; Rossley, 3. Spanish cars—Hispano-Suiza, 60. American cars—Ford, 23; Flanders, 37; Mitchell, 1. The total number of automobiles sold was 460. The Ford agency, established in September, 1910, sold 5 cars during the first year, but since September, 1911, has sold 190 cars, of which 23 were sold in this consular district. The Flanders agency, established in January, 1912, has sold 70 cars, of which 37 were sold in this consular district. The Regal, Hupmobile, Speedwell, and Mitchell agencies were established somewhat later.

Cars of European manufacture, of 15 to 20 horsepower (Spanish rating), with closed bodies holding four people, and costing from \$3,000 to \$6,000, seem to be most in demand. There is at present absolutely no demand for medium or high-priced cars of American manufacture. Articles published in European trade journals and widely read, concerning the rough machine work and inferior finish of American cars, have given the buying public a poor opinion of these cars. There is a certain prejudice in the Spanish mind against being known as the owner of a cheap car, although the sale of American cars of this class is increasing rapidly.

A few American one-cylinder low-priced cars sold some years ago proved unreliable and the market for American cars has been a hard one to build up. People who have purchased American cars from local agencies complain that American manufacturers, in

building enormous numbers of these machines, lose sight of the fact that in foreign countries the buyer is frequently out of touch with their agencies and repair shops and must make his own minor repairs. The cars should be so constructed that repairs could be made without taking them apart and bolts easily removable by an amateur should be used.

MARKET CONDITIONS.

The automobile trade of this district should be only in its infancy, considering the number of people of means who reside here. In Madrid alone, with 600,000 inhabitants, but 1,602 cars showed on the municipal register in December, 1912, an increase of only 551 since January, 1911. The cost of operating and upkeep is high; gasoline sells at 56 to 60 cents per gallon; municipal taxes are \$3.60 per horsepower per annum plus \$7.92 per seat, and this deters many would-be purchasers. Little or no crating is required in shipping automobiles from European countries while American cars must be heavily crated for over-sea shipment and the fact that this crating pays duty at the same rate as the automobile operates to restrict still further the market for American cars. The market for inexpensive American cars, though small, seems to be well established, but American manufacturers of medium and high-priced machines will find hard work in making a market and must be prepared to send their own representatives with cars to this district and to spend both time and money in demonstrating the merits of their product.

This course was found necessary by American manufacturers who have agencies. The usual complaint against American manufacturers is that none of them seems to support his agent in making a market by granting proper terms of credit until a market is secured. The usual terms of cash against bill of lading make it difficult to secure agents and the manufacturer's requirement that the agent must agree to take a certain number of cars during the first year as one of the considerations for granting him the agency, can not be considered wise.

One of the causes for the small market in cheap American cars is the big profit exacted by the local agent from purchasers which brings the selling price to almost double that asked by the agent in the United States. The practice in this district of exacting a minimum profit on all automobiles of at least 1,000 pesetas (\$179) is practically universal and seems likely to continue. This profit on high-priced as well as cheap machines operates to the disadvantage of the latter. Manufacturers of medium and high-priced cars will find it much to their advantage to establish their own agents in this district, thereby following the practice of most of the European manufacturers. A close study of European models of cars will also help sales. This has been one of the great points in selling a certain low-priced American car which approached European cars more nearly in the matter of model than any other American make offered. Local agents can not be secured by catalogues or correspondence.

The Spanish Government requires that all automobiles purchased for the use of the various departments of the Government and municipalities (except for the War Department) be of Spanish manufacture. As the Hispano-Suiza automobile is the only one sold in Spain of Spanish manufacture, it has a monopoly of such business.

BARCELONA.

[Consul General H. H. Morgan.]

From the latest published statistics it appears that at the beginning of 1912 there were registered in Spain 5,816 motor cars, of which almost one-fourth were in the Province of Madrid. A great advance, however, was made in 1912, as is evidenced by the fact that the Province of Barcelona, which had 1,040 machines at the close of 1911, had 1,200 in 1912 and the number was said to be increasing at the rate of 1 per day.

The imports of automobiles into Spain in 1910 and 1911, according to official statistics, were as follows:

Imported from—	1910		1911	
	Number.	Value.	Number.	Value.
France.....	318	\$546, 141	426	\$392, 973
United States.....	22	48, 647	83	68, 722
Germany.....	12	25, 667	36	31, 058
United Kingdom.....	14	48, 295	28	33, 436
Belgium.....	14	37, 004	28	26, 203
Italy.....	9	29, 117	8	7, 602
Other countries.....	4	4, 359	3	3, 427
Total.....	393	739, 230	612	565, 422

It is to be noted that while the total number of motor cars imported in 1911 showed an increase of 219 over 1910 the value decreased by \$173,808, showing that there is a better market in Spain for the low-priced than the high-priced article. From advance statistics it appears that from January 1 to September 30, 1912, the number of cars imported into Spain exceeded the total number for 1911, being 691, with a value of \$631,178.

Although France dominates the market the United States is becoming a keen competitor, and according to information received from local agents the American car has now gained a strong foothold in Spain, although its introduction was exceedingly difficult. It is gratifying to note the thorough manner in which our manufacturers have set out to obtain a share of the trade in Spain by sending agents into the country with samples and demonstrating what their machines can do.

This office would caution American automobile manufacturers who desire to enter the Spanish market against failing to conform to the local laws regarding their product. One requirement of the Spanish law that should be fulfilled is that automobiles must be equipped with a double brake. American manufacturers should also use the utmost care in the choice of an agent, as a poor start will eventually result in the elimination of the car from the market, regardless of its qualities. Care should be used in stating the horsepower of a machine, as it appears to be the general practice in Europe to quote the minimum or average horsepower of a motor, whereas in the United States maximum figures are quoted. Machines of high power are not desired by the Spanish people, the average car running from 12 to 20 horsepower.

One thing about American automobiles not liked here is the acetylene tank, which is round and stands upright on the running board of the American automobile, and which is square or oblong on most European cars.

SEVILLE.

[Consul Charles S. Winans.]

According to the best estimates there are now in use in Seville and suburbs 200 motor cars, probably 10 of which are used for commercial purposes. In this whole consular district there are about 250. Of those in Seville not more than 15 are of Spanish manufacture, most of the rest being imported from France and Italy. Recently there have been several importations of inexpensive American cars. All cars here use gasoline as a motive power.

The retail price of the machines most used ranges from \$1,620 to \$2,700. There seem to be possibilities for the sale of a certain number of cars of every grade and price, but the medium-priced vehicles are most in demand. The four-cylinder, 8 to 30 horsepower, three-speed gear cars are largely in use, and the types most favored are those with the limousine or torpedo bodies.

The use of automobiles is for the most part restricted to the city streets, and a town car of good appearance is therefore required rather than a good road machine. The country roads here are usually in a condition unsuitable for motor cars, though not necessarily poor. When the agitation for good roads brings an improvement there will doubtless be an increase of touring, although the high price of gasoline (about 81 cents per can of 1.32 gallons in this city) will limit such use of cars.

Local sales of motor cars are usually made through agents who have exclusive rights of sale in a given territory, usually all of Andalusia. Agents' commission on sales range from 15 to 25 per cent, the terms in most instances being one-third of the sales price with contract order and the balance on delivery, except in the case of American cars, which are generally paid for in advance. Occasionally the local sales agent allows the purchaser a small discount out of his commission, but not often. For the most part cars are sold complete.

The sale of automobiles is being pushed, but if local dealers were financially able to carry cars in stock they could sell a larger number. There are many residents of Seville who are ready and anxious to purchase cars, but who insist on seeing and trying them before giving an order. Very little advertising is done, although agents are coming more and more to realize the benefits of it.

MARKET FOR AMERICAN CARS.

There would seem to be an excellent though somewhat limited market for American cars. The market, in fact, appears to be open to those manufacturers who first realize the situation and take advantage of it. Up to this time American automobiles have scarcely been known here, but there is no reason to suppose that well-made but inexpensive American cars of good appearance would not prove acceptable in the Seville market. The only American cars so far in use here are low-priced makes, recently purchased, and these appear to fill the needs of those who can not afford to buy the more expensive cars. It is unfortunate that these are compared with the European cars of far greater cost and higher grade.

There are comparatively few cars in local use except for pleasure purposes. There is a daily motor omnibus service between San

Fernando and Algeciras, in this consular district, and there is at least one similar service between outlying small towns very near Seville. It is only a question of time before the old-style diligences will give way to the far more satisfactory motor cars. There is one hotel omnibus in Seville and a very few trucks, delivery wagons, etc., usually of Spanish or Italian manufacture. So far as is known there is no electric motor car in this district, although the objection advanced against them, that they require a constant recharging of their batteries, would not seem to apply here, as motor cars are used almost altogether in town, where the danger of running short of electricity is no greater than that of running short of gasoline.

MALAGA.

[Consul Robert Frazer, jr.]

Malaga, though a city of some 135,000 population and with fair roads in its vicinity, has been slower than most places of its size to take up automobiles. There are 61 registered in the city itself and 17 more in the rest of the Province. Of these 78, 21 were imported in the last eight months of 1912. Of the total 15 are Hispano-Suiza, 8 Ford, 8 Star, 7 Renault, 5 Panhard, 4 De Dion, 4 Peugeot, and 4 Itala. The most popular horsepower is 15 to 20. Nearly all the cars seat five people, and most of them cost the purchaser \$2,100 to \$2,800.

The principal reasons for the slow adoption of motor cars in this region are, first, the relatively small number of people of sufficient means to afford them; second, high repair and maintenance charges, owing to the fact that there are few garages and repair shops and few spare parts; third, high operating cost as regards tires, gasoline, and oil, owing to the very mountainous character of the country and the steep roads; and finally, little apparent taste among the Spanish for long trips or tours, or other use of their cars besides driving in and around the city, for which horses are cheaper and apparently as well liked.

There is a municipal tax of \$45 per annum per car, irrespective of size. Gasoline retails at 56 cents per gallon and shows an upward tendency.

The question of agents here should not be more difficult for American manufacturers than for those of other countries, as the terms generally made by the latter require a small part of the price to accompany the order, with balance payable against shipping documents. American low-priced cars especially should be vigorously pushed, as many of them are quoted here at half or two-thirds of the cost of the average European cars.

The dissatisfaction most commonly expressed in regard to the sale of American automobiles is the delay in receiving machines ordered, apparently due to carelessness in routing and shipping in New York. In a number of instances cars have been shipped from New York to Valencia and Malaga via Hamburg in direct opposition to the purchaser's written directions, often causing delays of weeks, besides the unnecessary wear and tear due to transshipment and handling. The best way to ship cars from New York to Malaga is by one of the large lines going direct to Gibraltar, which is only 60 miles in a direct line from this city. By unpacking a car there and bringing it into Spain under its own power, nearly half the duty, which is payable on gross weight, may be saved on a light machine. The best route by which

to ship to Valencia and other points on the eastern coast is by one of the direct monthly boats of the Spanish line.

BELGIUM.

[Consul Alexander Heingartner, Liege.]

The Belgian automobile industry is enjoying a boom, due not only to the development of touring in this country, but also to the great increase in sales abroad.

Expositions held during the last few years have been the means of demonstrating the progress made by the Belgian manufacturers and of comparing their products with those of foreign competitors.

Although there are few manufacturers in Belgium, their production is large. There are now 20 automobile factories in this country, among the most important being the following: Fabrique Nationale d'Armes de Guerre, at Herstal-Liege; Société Minerva Motors, at Antwerp; Société Auto Métallurgique, at Marchienne-au-Pont; Société Pipe, at Brussels; Société des Automobiles Excelsior, at Saventhem; Société Anonyme Sava, Berchem-Antwerp.

The raw materials used are almost exclusively of Belgian origin; three factories, the Colonial Rubber, at Ghent, Jenatzy, in Brussels, and Englebert, at Liege, supply the tires, while numerous shops (among others the Société des Corps Creux de Louvain) manufacture special steels, springs, chassis parts, etc.

It is estimated that there are more than 17,000 automobiles in use in Belgium, which is a remarkable number, but still more remarkable is the increase in exports of 75 per cent from 1910 to 1911. The following statistics show the imports and exports of complete automobiles and automobile parts in 1910 and 1911:

Countries.	Imports.		Exports.	
	1910	1911	1910	1911
COMPLETE CARS.				
United States.....	<i>Number.</i> 3	<i>Number.</i> 32	<i>Number.</i> 10	<i>Number.</i> 6
Germany.....	35	65	93	135
Australia.....			89	80
Austria-Hungary.....	1	18	24	41
Spain.....		1	14	22
France.....	304	207	57	116
Great Britain.....	27	35	227	445
Dutch Indies.....			9	25
Italy.....		3	18	9
Netherlands.....	25	12	44	102
Portugal.....	1		26	29
Argentina.....	2		62	148
Russia.....			28	44
Switzerland.....		1	30	30
Other countries.....	13	12	80	184
Total.....	411	386	811	1,416
AUTOMOBILE PARTS.				
Belgian Kongo.....	<i>Value.</i>	<i>Value.</i>	<i>Value.</i>	<i>Value.</i>
Germany.....	\$92,371	\$212,244	\$2,794	\$6,808
Australia.....			304,688	301,282
Austria-Hungary.....			45,576	121,738
France.....	3,667	1,008	17,848	96,670
Great Britain.....	508,630	500,354	279,111	202,543
India.....	93,496	96,787	666,612	620,805
Italy.....			29,621	54,088
Netherlands.....	88,716	220,480	2,974	6,419
Russia.....	8,202	4,439	138,247	85,756
Switzerland.....	1,544		11,534	6,895
Other countries.....	3,769	10,320	4,774	12,313
Total.....	65	3,273	77,190	146,726
Total.....	800,460	1,048,905	1,580,969	1,662,043

Included in the foregoing imports is a certain number of chassis sent to this country to be fitted with bodies, and reexported as complete cars. The total value of the imports of complete cars in 1910 was \$478,466 and in 1911 \$415,915. Exports were valued at \$2,059,987 in 1910 and \$3,564,324 in 1911. About two-thirds of Belgium's output of automobiles and parts is exported. The total annual production of the country is in the neighborhood of 3,650 cars, valued at nearly 32,000,000 francs (\$6,176,000).

Among the numerous allied industries is that of coach-work making, which has undergone a complete transformation in the last 10 years and now specializes in the manufacture of automobile bodies. There are 50 manufactories of automobile bodies in the country, 10 of which are important, giving employment to 3,000 workmen and having an annual output valued at an average of 13,000,000 francs (\$2,509,000).

The solidity, style, and finish of the Belgian products, together with cheap labor, have enabled the Belgian manufacturers to compete successfully with the French in nearly all foreign countries, where formerly only French products were held in repute, so that at present Belgian coach work is exported very extensively to South America, England, Germany, Netherlands, Italy, Austria, Roumania, etc., not only on chassis made in Belgium, but also on Italian, French, English, and German chassis. In 1911 exports of Belgian automobile bodies amounted to 6,000,000 francs (\$1,158,000), and future figures will probably exceed these. Imports of automobile bodies into Belgium are practically nil.

RUSSIA.

[Consul General John H. Snodgrass, Moscow.]

As has been indicated in many previous reports from this office the Russian market for automobiles is apparently increasing more rapidly than any other in Europe for the reason that it has been backward up until very recent years and now there is a real demand for automobiles of all classes, particularly of the cheap but strong car required both in the larger cities and in the Provinces.

Russian roads are unsuitable for automobiles, and the streets of all cities, except a very few in the capital and Moscow, are even more so, as they are paved with cobble stones.

The importation of automobiles of foreign manufacture, which has been increasing very rapidly during the past two years, has excited much interest among those who are anxious to secure this trade for domestic manufacturers. Up to the present Russia has cut little figure in the building of automobiles or motor trucks although parts of many German cars have been shipped to this country and assembled here with the possible addition of other parts manufactured here.

IMPORTS AND MANUFACTURES.

In 1906, only 245 automobiles were imported to Russia, while five years later that number had increased to 2,717. During the last 11 years 7,653 automobiles were purchased in Russia, the value being \$13,500,000. Of that number Germany provided by far the greatest amount, France was next, and Great Britain third.

Russian automobile manufacture attracts little attention, but it seems to make steady progress, although so far it is apparently out

of the question for domestic manufacturers to compete with foreign firms. The Russian Baltic Works at Riga have most energetically set about developing automobile manufacture. The company began the construction of automobiles in 1908, and at present can produce 200 automobiles a year, but intends to increase its output for 1913. It has already built a number of automobiles for the army, and its machines have participated in all the big maneuvers held in this country during the past year.

In Russia the duty on automobiles is comparatively low, being \$110 for cars seating four or more passengers; \$70 for automobiles seating less than four passengers; and \$35 for trucks and chassis for automobiles. According to the latest statistics, the duty imposed amounts only to about 5 per cent of the value of the imported automobiles. While it is evident that for the present, at least, no additional duty will be imposed on imported automobiles, there is every reason to believe that the Government will provide some assistance to the manufacturers in order to encourage the construction of cars here and to provide them with means for competition with outside manufacturers.

GOOD MARKET FOR AMERICAN CARS.

In the meantime the market is largely extending, and few places in Europe afford better opportunities for the extension of American trade. Many American manufacturers have already arranged for agencies in the principal cities and are breaking down the prejudice that has existed against American cars for a number of years. This prejudice was due to the introduction of a cheap make a long time ago which attained a bad reputation and which caused the Russians to believe that all American cars were of similar construction.

Our manufacturers of the strong low-priced car have already placed an entering wedge in the market, and it is believed that these cars will be as popular here in the future as they now are in other parts of the Continent and in England. The high-grade expensive American car is having much difficulty in competing here with cars from Europe, but the buying public is gradually realizing that the American car of any grade is fully as good and often in some particulars better than those constructed elsewhere. Some American manufacturers are catering to this trade by building their cars on lines similar to those adopted by the progressive and successful manufacturers of France and Germany. They are thus pleasing the public, and evidently in the course of a short time will be on equal grounds with their strong European competitors.

ITALY.

[Consul William W. Handley, Naples.]

The first 11 months of 1912 showed continued increases in the sales in Naples of low-priced, well-made American automobiles of a good appearance. One subagent increased his sales from 5 machines in 1911 to 32 in the first 11 months of 1912. This satisfactory trade may be attributed to the fact that the business and pleasure-seeking people of Naples have been convinced by satisfactory tests and by daily observation that an American automobile costing from \$1,000 to \$1,500 will answer all ordinary purposes. This was not the case a

few years ago when only the high-priced machine was considered suitable.

While Italian agents are at present manifesting special interest in American machines, complaints have been made at this consulate that although the American car is a splendid machine for the money deliveries are slow and unsatisfactory. One prominent agent here who represents as a subagent three American cars, said that he had ordered eight cars through the general agent at Turin in August, making part payment on them, and had not received them early in December. He also complained that while the catalogue price of the cars in America had been reduced in some cases the cost price to the subagent remained the same.

I am satisfied that some of the subagents here are pushing forward the American machine as much as possible, sending cars on tours through southern Italy and Sicily for exhibition and test purposes at considerable expense to themselves.

[Consul General James A. Smith, Genoa.]

The Italian automobile industry centers at Turin, with a few factories at Milan and elsewhere. The Turin and Milan factories, with capitalization and output for 1911 or 1912, according to the latest figures obtainable, are as follows:

Name of factory.	Capitaliza- tion.	Output.		
		Year.	Pleasure automobiles.	Trucks.
TURIN.				
Fabbrica Italiana Automobili "Fiat".....	\$2,800,000	1911	1,800	400
Società Anonima "Itala".....	600,000	1911	650	50
Società Anonima "Spa".....	900,000	1911	250	100
Società Geirano Automobili "Seat".....	140,000	1911	350	.....
Società Anonima "Rapid".....	1,000,000	1911	100	.....
Società Automobili "Diatto".....	1,000,000	1911	100	.....
Lancia & Co.....	.....	1911	360	.....
Società Torinese Automobili Elettrici.....	90,000	.....	.....	.....
Società Aquila Italiana.....	.....	1911	55	.....
Nazzaro & Co.....	.....	1912	20-25	.....
MILAN.				
Fabbrica Automobili Isotta & Fraschini.....	300,000	{ 1911	300	.....
		{ 1912	475	.....
Fabbrica Automobili "Zust".....	170,000	{ 1912	200	150
		{ 1911	250	.....
Società Anonima Edoardo Bianchi.....	500,000	1912	400	.....
De Vecchi & Co.....	.....	1912	120	.....
Fabbrica Automobili "Alfa".....	.....	1912	250	.....

At Florence the Fabbrica Automobili Florentia was established in 1905, but is now in liquidation.

These figures give a total output of nearly 5,000 pleasure automobiles and trucks for 1911. From information recently gathered it would appear that the 1912 output will show figures reaching at least 8,000 machines.

According to recent statistics of the Italian Ministry of Finance, which collects the taxes on automobiles, there were in use in the Kingdom at the close of the fiscal year, June 30, 1911, 10,008 private automobiles, 392 trucks, and 724 taxicabs, or a total of 11,124.

The figures for 1912 have not been published, but will doubtless show a considerable increase, particularly in trucks and public automobiles. From 1910 to 1911 the collective increase was over 43 per cent.

For the 11 months ending November 30, 1912, there were imported into Italy 227 automobiles of American manufacture, as against 145 for the calendar year 1911, only 25 in 1910, and 7 in 1909. The American cars imported are practically all of the cheaper grades.

SWITZERLAND.

[Consul George Heimrod, Bern^a.]

Imports of automobiles into Switzerland for the calendar year 1911 were as follows:

Imported from—	Not upholstered.		Upholstered.	
	Number.	Value.	Number.	Value.
Germany.....	35	\$104, 600	126	\$228, 000
France.....	240	416, 500	155	280, 900
Italy.....	74	106, 350	9	21, 000
Belgium.....	32	63, 900	3	7, 000
England.....	9	22, 000	5	10, 500
United States.....			14	13, 600
Other countries.....	4	13, 000	1	950
Total, 1911.....	394	726, 350	313	561, 950
Total, 1910.....	260	438, 500	275	466, 500

In the nine months from January to September, 1912, automobiles not upholstered to the value of \$579,000 and upholstered machines valued at \$589,000 were imported.

The importance of the domestic industry as compared with these imports is shown by the fact that exports in 1911 numbered 540 cars not upholstered, valued at \$1,730,350, of which Germany took 132, France 81, Brazil 72, England 53, United States 50, Russia 35, Austria 32, Italy 26, Argentina 22, and Spain 12, and exportations of upholstered cars numbered 140, valued at \$309,500, going principally to the following countries: Germany 24, France 20, Italy 13, Argentina 12, Brazil 11, and Dutch East Indies 11.

According to a press dispatch, the Saurer Co., in Arbon, has closed a contract with the Russian Military Department for the delivery of 64 trucks for military automobiles, and with the city of Munich for the delivery of several trucks for the use of the fire department. The largest automobile concern in this district is the New Martini Automobile Co., in St. Blaise. Its capital of somewhat over \$400,000 was reduced in December, 1911, to \$160,000, and it paid a dividend of 5 per cent for 1912. The director of the Martini company is also director of the Zedel works.

AMERICAN CARS IN SWITZERLAND.

Within the past year or year and a half a number of Ford cars have been sold in Switzerland, a few of which have been placed in this district. The local agent also represents the Fiat and the Stoewer, the latter a German car with four speeds and four places, costing \$1,250. The Ford cars are shipped from Manchester, England,

complete and crated, but the orders are placed and settlements made with the Paris office of the Ford company. Inasmuch as the cars are assembled in England, they appear in the foregoing Swiss import statistics as English cars.

Complaint is sometimes made that dealers make too little commission on cars on which the price is fixed in advance by manufacturers, and that while the general agent may make 20 or 25 per cent on sales, the subagent must be content with 10 or 15 per cent. Among the low-priced cars other than the Ford may be mentioned the Stoewer and the Clement-Bayard, the prices for which range from \$1,200 upward for four-cylinder chassis without tires. The Swiss makes Pic-Pic (Picard-Pictet) and Martini, which are popular with the Swiss buyers, sell for \$1,700 up for chassis alone. One dealer, who is agent for the Napier, also sells a small 3-wheel, 10-horsepower, 2-cylinder English car, the Morgan, for \$600, his chief customers being physicians. He and another dealer express the opinion that they could sell an American car delivered in Switzerland to be retailed at \$1,200 to \$1,600, with a good profit in the form of a discount to the agent. Those American firms which are established in Paris can probably enter the Swiss market through Geneva, and once a footing is obtained there, German Switzerland, with automobile headquarters at Zurich, should follow.

[Consul Francis B. Keene, Geneva.]

According to an official census, there were in the latter part of 1912 4,973 motor cars in Switzerland, the Canton of Geneva heading the list with 1,120. Of the total number, 626 were trucks, 59 were used by public administration services, 2,194 belonged to factories, trade firms, hotels, etc., 536 to garages and taxicab companies, 419 to doctors and veterinarians, 256 to engineers, lawyers, etc., 322 to private owners, and 34 to agricultural concerns. It will be noticed that automobiles are far from being a luxury in this country. They play a large part in the commercial and industrial life of the country and have come to stay.

DENMARK.

[Vice Consul General Axel Permin, Copenhagen.]

On September 1, 1912, the number of automobiles registered in Denmark in accordance with the law of April 18, 1910, was 1,587, and the number of motor cycles was 4,507. The figures for September 1, 1909 and 1910, respectively, were 682 and 997 automobiles and 3,467 and 3,478 motor cycles. Of the 1,587 automobiles registered in 1912, 726 were owned in Copenhagen, 98 in Frederiksberg, a suburb of Copenhagen, 358 in the Danish islands outside the capital, and 405 in Jutland. Of the total number, 638 were used as taxicabs (338 in Copenhagen and Frederiksberg) and 162 for the transportation of goods (115 in Copenhagen). Of the total number of motor cycles, 719 were owned in Copenhagen, 183 in Frederiksberg, 1,584 in other cities, and 2,021 in the country districts.

CANADA.

[Vice Consul General G. C. Woodward, Vancouver, British Columbia.]

The rule of the road in British Columbia is to drive on the left side, although in most cases with pedestrians the right side is used. As this Province is an exception to the general rule in most other parts of Canada, automobile associations and dealers are endeavoring to have the rule changed in order to have it conform with the custom there and in the United States. This difference in road laws has caused a great deal of confusion among tourists and others coming from other Provinces and the United States, and in a number of cases serious accidents have been narrowly averted and a number of machines badly damaged.

It is claimed that it would not be very difficult to make the change, as a large percentage of the population of the Province is from the United States and eastern Canada and has been accustomed to the use of the right side. Should this change be made, it would put the street car companies to considerable expense in the change of crossrails, trackage, switches, etc.

[Of the other Canadian Provinces most traveled by automobilists, Ontario and Quebec have regulations requiring motor cars to turn to the right when meeting and to the left when passing other vehicles, while in New Brunswick the reverse is required. The latter regulations also hold in Newfoundland.]

ARGENTINA.

[Vice Consul General A. G. Ebert, Buenos Aires.]

According to the Buenos Aires Herald, there have been almost 10,000 automobiles imported into Argentina since 1900, and now it is more the exception than the rule to see a carriage and pair in the streets of Buenos Aires. Demand has created supply, and to-day every class of automobile, from the most ordinary to the most luxuriously appointed car, can be obtained on hire.

Eighty per cent of the imports of motor cars for the first five years of the trade were of French manufacture, and their number and value were as follows: 1900, 9 cars, value \$4,352 (United States currency); 1901, 16 cars, value \$7,623; 1902, 28 cars, value \$13,981; 1903, 62 cars, value \$24,807; 1904, 129 cars, value \$77,433. The total imports according to the Herald, and those of the five leading importing countries in the period 1905-1909, inclusive, and in 1910 and 1911 were as follows:

Imported from—	1905-1909		1910		1911	
	Number.	Value.	Number.	Value.	Number.	Value.
France.....	1, 114	\$1, 614, 550	705	\$574, 643	894	\$921, 199
Germany.....	340	235, 625	164	136, 214	301	294, 313
Italy.....	281	303, 952	237	236, 941	306	292, 321
United Kingdom.....	273	332, 792	194	158, 686	230	235, 615
United States.....	333	216, 163	217	116, 943	489	330, 126
All other countries.....	100	107, 725	64	94, 965	241	272, 814
Total.....	2, 441	2, 810, 807	1, 581	1, 318, 392	2, 461	2, 346, 588

Imports from Belgium in 1911 amounted to 159 cars, valued at \$172,662. During the first nine months of 1912 no less than 3,067 cars were imported, valued at \$3,575,740. These were distributed among the principal importing countries as follows:

Imported from—	Number.	Value.
Belgium.....	214	\$286, 123
France.....	1, 148	1, 588, 948
Germany.....	404	553, 863
Italy.....	336	379, 403
Spain.....	23	28, 708
Switzerland.....	26	30, 759
United Kingdom.....	352	278, 676
Uruguay.....	43	28, 274
United States.....	512	392, 917
All other countries.....	9	8, 071
Total.....	3, 067	3, 575, 740

Including cars admitted free of duty, there have been practically 10,000 cars imported into the country, of which almost half are used in Buenos Aires.

ECUADOR.

[Vice Consul Charles F. Baker, Guayaquil.]

While the market in Ecuador is still very limited, the interest in automobiles is rapidly increasing, especially in Guayaquil. There were, in October, 1912, 47 machines in Guayaquil alone, as against 29 for the whole country at the beginning of the year. There are no garages in the proper sense of the term, though there are three individuals who do a small taxicab business. The majority of the cars are for private use and are kept on the premises of the owners.

The public vehicles pay a city tax of about 10 cents United States currency per day for the days they run, while the private car pays \$2.50 per month. The cars in use here include half a dozen different makes and practically every style in the market except the strictly racing machine.

Only the medium-priced machine will find much of a market in this country. Road conditions are not good, and the drivers are generally inexperienced. This consulate will gladly receive from manufacturers catalogues for distribution.

JAMAICA.

[Consul Julius D. Dreher, Port Antonio.]

After several previous attempts a satisfactory experiment has been made at Port Antonio with motor trucks for hauling bananas. Early in 1912 the United Fruit Co., whose chief offices for Jamaica are at Port Antonio, purchased two motor trucks of 48 horsepower, with a capacity of 5 tons each. These trucks were operated satisfactorily during the dry spring and summer months; and when the fall rains came a further test was made on wet roads, with the result that, in spite of some slipping of the rubber-tired wheels, good work was done.

As one of these large trucks hauls 250 to 300 bunches of bananas at a load, it does the work of five 3-mule wagons; and notwithstanding the wear of tires and the high cost of gasoline, it has been found more economical to use the trucks than wagons drawn by mules or oxen. There

is a further advantage in using trucks, because the bananas are less bruised than when they are hauled in wagons. The long test made with these trucks has been so satisfactory that it is the present intention of the manager of the United Fruit Co. to purchase at least two more in 1913. Since their use in this district, where the roads are generally narrow and where there are considerable grades and sharp turns in many places, has been successful, it may be safely asserted that they may also be used to advantage in all parts of the island.

MOTOR TRACTOR FOR HAULING BANANAS.

In the fall of 1912 an agent of an American automobile company brought to Port Antonio a tractor with a large wagon body and two hind wheels, to demonstrate the practicability of using this combination of tractor and wagon for hauling bananas. This tractor has three rubber-tired wheels, a guiding wheel in front and two in the rear. The fore part of the wagon body rests on springs over the axle of the tractor, while the rear part is supported by two ordinary wagon wheels, steel-tired, but of wider tread than is generally used. This combination proved satisfactory for hauling bananas. To it was fastened an oxload of bananas in a wagon as a trial, and the tractor easily pulled the double load of 370 bunches of bananas to the shipping point. In making use of a tractor of this kind it would be well to have three wagon bodies, one to be left at the plantation to be loaded and another at the wharf to be unloaded, while the third would be making trips between the two places.

In order to show the tractor as well as to give it a further test, the agent took a load of 4½ tons of freight from Port Antonio to Montego Bay, a distance of 133 miles, returning with only one-half ton as a load, the speed made being 8½ miles an hour. During the run of 266 miles he used 85 gallons of gasoline. While this trip may be regarded as fairly satisfactory as a whole, several mishaps were encountered. At one place the wide-tread tractor wheels skidded off the narrow macadamized part of the road and sank so deep in the ground that the wagon had to be unloaded and detached and the tractor pulled out with an ox team. At another place in backing the tractor and wagon (or trailer) the wheels sank into the ground to such an extent that half of the load had to be discharged before the combination vehicle could be moved forward. But the agent feels confident that with a tractor having a tread 16 inches narrower and a trailer with correspondingly narrow tread a chauffeur with some experience on Jamaica roads would have no trouble in carrying a load of 5 tons from Port Antonio to Montego Bay. The outfit was taken back to Boston. It is hoped that another test will be made.

HAITI.

[Consul John B. Terres, Port au Prince.]

Up to January 1, 1912, there had been only two automobiles imported into Haiti, both of which were for private use, but in the last three or four months of the year there was a sudden and surprising development along this line. Some 19 passenger cars and 1 motor truck were imported, all of a good grade of American machines.

The passenger cars do a thriving business in conveying persons about the city and suburbs, as far as the roads will permit, charging

a reasonable fare. The motor truck also does well, and so far the enterprise has proved a good paying one for those interested.

Several of the streets of the city have been put in a fairly good condition and the improvements are being continued, permitting these cars a wider range. The Secretary of State of Finance has given a decision which is expected to encourage the enterprise, as it fixes the customs duties on cars at the same rate as on carriages.

TRINIDAD.

[Vice Consul Edward B. Cipriani.]

During 1911 44 motor cars, valued at \$62,438, were imported into Trinidad, of which 29, valued at \$41,505, came from the United States. Extensive improvements in the road system promise to make the demand for cars a large one in the future. The popular car seems to be of light make, costing about \$1,000 landed in Trinidad. The Ford, Hereshoff, Buick, Flanders, E. M. F., and Hupmobile are all well known here, and the Overland is being introduced.

INDIA.

[Consul Edward J. Norton, Bombay.]

The increase of 37 per cent in the importation of motor vehicles into India is one of the interesting features of the trade returns for the official year ended March 31, 1912. Bombay continues to be the principal port of entry; of the year's imports, amounting to \$3,255,785, cars to the value of \$1,668,099 were received here.

The United Kingdom still retained most of the trade, having sold \$2,541,568 worth of motor vehicles to India during 1911-12. Germany's share, amounting to \$190,532, showed an improvement of only \$3,500 over the previous year, while Belgium, with sales of \$77,722, France, with \$214,836, Italy, with \$25,422, and Austria-Hungary, with \$8,837 all lost ground.

A substantial increase is noted in the imports from the United States, which were valued at \$195,925, four times the amount of 1910-11. It puts the United States in the second place and shows that our manufacturers are taking a serious interest in the Indian market.

The trade in motor vehicles will undoubtedly increase, since there is a strong tendency to substitute motor for animal traction. Returns covering the six months April to September, 1912, show motor-car imports amounting to \$1,305,111, as against \$980,111 for the corresponding period of 1911. Germany just about held its own for the year ending March 31, 1912, while cars from Belgium, France, and Italy have not only made slow progress during the past five years, but their sales are now falling off.

MOTOR CARS IN BOMBAY.

The number of automobiles registered in Bombay toward the close of 1912 was 2,256, an increase of 336 in a little over a year. Although this growth is small compared to that of American cities, it is enough to show that there is a field here which will prove of importance in the near future.

While it is acknowledged that American manufacturers are able to sell low-priced cars of good quality in every detail of construction, the Bombay buying public is inclined to think that the American is not yet able to compete with the European manufacturer in the highest-grade models. Dealers in the high-grade British and Continental automobiles are controlling sales simply because American manufacturers of, say, the \$4,000 cars, have failed to establish active agencies to compete for new business in this territory. The American car sold at prices up to \$2,000 has won its way here absolutely on its merits and with the assistance of very little advertising compared to the space that Continental and British manufacturers are running.

MOTOR-CAR ADVERTISING.

In one month the two leading daily newspapers of this city printed approximately 15 pages of automobile advertising, not including the advertising of tires, oils, or accessories. Only 2½ pages were run by city agents representing American cars among their other lines as against 12½ pages devoted to British and Continental models. Apart from 2 full pages taken to advertise one American car during the visit of the New York sales representative for India, the space given to advertising American cars has been restricted to 3 or 4 inches several times a week.

There is a growing tendency toward using local newspaper space for automobile advertising and full-page space has been generously used. One firm that has an agency for three British and two American cars has run two full pages advertising the merits of one of their British cars, but they do not advertise either of the American cars in the daily press; half a page in one of the technical publications is the only space that has been given to American cars. Another firm that represents three French, one Italian, three British, and two American makers is dividing its advertising rather evenly. One, at least, of the American cars represented has been given as much prominence as the foreign competing cars. The advertising used was evidently written in the United States and sent direct to the dealer.

The Rolls-Royce cars are among the most extensively advertised of the high-grade British models, and the agent's policy of printing the names of the princes and nobles of India who have purchased different types of their cars evidently appeals to the wealthy native merchants who can pay \$5,000 or so for a luxuriously equipped automobile.

AGENCIES—MILITARY MOTOR TRANSPORT.

Local agents have now all the lines they are able to handle properly; in fact, it appears that some dealers are representing too many competing manufacturers. However, they are all evidently willing to undertake the agency of any car offered them on a commission basis. They are afraid to decline a single line for fear that some one else will get it and develop into a strong competitor. Information regarding the agency problem will be cheerfully furnished to American manufacturers by this consulate.

The following information in regard to the possible use of motor transportation by the military authorities was published in the *Indian Textile Journal*:

The officer in charge of supplies, Bombay Brigade, informed the local chamber of commerce that the question of introducing mechanical transport as a substitute for bullocks, etc., was under consideration at army headquarters, and that it was proposed to adopt a petrol-driven vehicle (lorry or tractor) which would, it was understood, meet the requirements of the case. In the event that the mechanical transport should be maintained at Bombay, he requested to know whether the local trade could utilize any of the transport in time of peace for the carriage of goods, etc. Although no particular type had yet been decided on, it was believed, the writer stated, that two types of mechanical transport, viz, those with a useful load of 30 hundredweight (3,360 pounds) and 3 (long) tons, respectively, would suit the needs of this country and would probably be introduced. The chamber was also asked to intimate the roads by which the transport would require running to enable the officer in charge to ascertain the carrying capacity of such roads, especially as regards bridges, culverts, etc., which might, in some cases, not be strong enough.

The committee, in reply, stated that in their opinion the adoption of petrol-driven vehicles would meet with the support of the local trade and would be utilized mainly by the cotton trade going from Colaba to the mills. Further scope for employment of these vehicles would probably be found in the cartage of coal from the bunders to the mills. The roads along which most of the traffic was now taken were the main roads between the cotton depot and the mills at Parel. The attention of the officer in charge was called to the fact that, under existing regulations, motor vehicles were not allowed within the docks.

AUTOMOBILE ACCESSORIES.

In this district the fuel supply for motor cars is obtainable only from the Standard Oil Co. or the Asiatic Petroleum Co. A large part of the trade in lubricating oils is held by the Vacuum Oil Co., which has a branch distributing station in this city.

In motor-car tires, the Wood-Milne, Dunlop, Michelin, and Continental are extensively advertised by Bombay dealers. But little is being done apparently to develop sales in pumps, tool kits, lamps, speedometers, or horns.

JAPAN.

[Consular Assistant H. H. Dick, Yokohama.]

In 1912 the automobile trade made rapid progress in Japan; companies were organized to open new garages, stock cars exhibited, complete assortments of repair parts and accessories provided, and in several instances expert mechanics employed.

The E. M. F. Corporation sent a special representative to study the field carefully and to develop it by actively pushing the sales of their products. It is understood that the Hupmobile manufacturers are also sending a special representative to establish a general agency, with branches in other parts of the Far East.

A year ago advertising was a negligible quantity; now it is conducted by all agencies and garages along American lines in daily foreign and Japanese papers. In consequence of this widespread campaign, the number of cars grew in one year in this district from 194 to 413. In Tokyo licenses have been issued to 305 machines and in Yokohama 108 licenses have been granted.

In Tokyo a taxicab company was formed, beginning operations with six Ford machines. The service immediately sprang into such popularity that the company ordered at once 50 more cars from America and established flat rates as follows: First mile, 30 cents; each

additional mile, 10 cents; each five minutes wait, 5 cents. Under these low rates the daily average per car in operation has been \$15.75. The company, recognizing the need of competent chauffeurs, contemplates establishing a school for chauffeurs where detailed instruction may be given young men ambitious to become not only drivers but mechanics. Wages paid chauffeurs vary from \$12.50 to \$22.50 per month, depending upon previous experience.

AUTO-OMNIBUS COMPANY FORMED.

A company has been organized to replace the horse-drawn vehicles used by an omnibus line from Yokohama via Hayama, a seaside resort, to Yokosuka, a naval station, covering a total distance of about 30 miles. If this venture proves successful further extensions radiating from Yokohama and Tokyo will be considered. Already there has been a large increase in the immediate returns of the company, but it is thought that eventually further expenditures will have to be made to replace with stronger chassis the light frames of the ordinary 5-seated touring cars which were converted into 10-seated omnibuses.

As soon as people living in the many country districts having neither steam nor electric road accommodations thoroughly realize the advantages of motor-truck transportation over the horse-drawn carts and trams now in use, they will urge the establishment of truck lines to facilitate marketing their products. Three trucks constructed for freight purposes have been ordered from America, and if the enterprise proves successful further orders will be placed.

TARIFF PROVISIONS.

A considerable obstacle to developing the motor-vehicle business in Japan is the indefiniteness of the customs tariff, which contains but two sections relating to automobiles. Tariff No. 563 provides a general rate of 50 per cent ad valorem and a conventional rate (applicable to imports from the United States) of 35 per cent ad valorem for automobiles. Tariff No. 564 provides a general rate of 30 per cent ad valorem and a conventional rate (applicable to imports from the United States) of 25 per cent ad valorem for parts of automobiles except motors.

In this connection, the following quotation from the correspondence of a local merchant may be of interest:

The question of duty is still a very complicated one. Automobiles come in at 35 per cent and "parts of automobiles" at 25 per cent and there is no special section for chassis. In order to avoid the risk of having to pay the automobile rate on chassis alone, some importers have got their chassis and the engines out separately, but even in this case we understand that the appraiser may insist on the value of both being lumped and charge the 35 per cent rate. On the other hand, if this does not occur a great saving is effected, as the chassis without the engine would pay only 25 per cent and the engine would pay duty by weight, which, worked out to its ad valorem equivalent, would be approximately 8 or 10 per cent. In view of this, it is becoming the practice of importers to get engines by one steamer and chassis and other parts by another steamer, so that they may be cleared at different times. We do not believe it is the desire of any merchants to evade payment of the proper tariff, but the exigencies of competition force the same methods on one merchant as on the other.

TARIFF RATES ON MOTORS.

The Japanese tariff provides the following rates of duty for motors imported separately: Motors weighing each not more than 100 kilos (220 pounds), \$11.29 per 100 pounds; motors weighing each not more than 250 kilos (551 pounds), \$7.53 per 100 pounds. The rates are applicable to gas engines, petroleum engines, and hot-air engines.

The importer of motor cars is handicapped by the fact that ad valorem duties are assessed not on the first cost of the goods but on a dutiable value including all charges incidental to bringing them to the port of entry; that is, the 35 per cent duty on automobiles is charged not on the cost of the machine to the merchant at the place of purchase, but on "the value thereof at the time of its arrival at the port of importation." It frequently happens, therefore, that when an importer is in a hurry for his goods and has them shipped from eastern points in America, overland and via Pacific coast, instead of via Suez Canal, he has not only to pay the higher freight involved in shipments by the former route but has to pay duty on the basis of an increased dutiable value.

An agent intimates that some 1,200 cars will be sold within the next two years and that at least 75 per cent of these will be American-made, medium-priced machines.

AUSTRALIA.

[Consul General John P. Bray, Sydney.]

The latest figures available in regard to the importations of automobiles into the Commonwealth of Australia show the trade to be thriving in every State. During 1911 chassis, bodies, motor trucks, and motor cycles to the value of \$6,019,947 were imported. The United Kingdom led in countries of origin with shipments valued at \$2,265,801, and the United States was next with \$1,268,096. The American manufacturer has obtained a strong hold on this market and the 1912 figures will probably show that importations from the United States are a great deal closer to those of the United Kingdom than in 1911. They will also show a big increase in the total.

The latest figures showing the importations from the principal countries in 1911 are as follows:

Countries of origin.	Chassis (not including rubber tires).	Motor-car bodies and parts.	Motor cycles and similar vehicles and parts.
United Kingdom.....	\$2,074,867	\$351,376	\$239,558
Canada.....	239,919	59,678	.....
New Zealand.....	.....	346	.....
Austria-Hungary.....	20,445	1,198	.....
Belgium.....	227,699	7,864	14,293
France.....	882,764	45,706	20,250
Germany.....	166,235	20,595	5,504
Italy.....	320,682	2,686	.....
United States.....	972,116	291,536	4,444
Other foreign countries.....	49,467	292	418
Total.....	4,954,194	781,277	284,476

The importations of chassis, bodies and parts, and motor cycles and similar vehicles into each of the States of Australia in 1911 was as follows:

Imported into—	Chassis.	Bodies and parts.	Motor cycles, etc.
New South Wales.....	\$2,117,335	\$338,196	\$118,961
Victoria.....	1,553,212	201,132	75,499
Queensland.....	436,691	85,115	23,643
South Australia.....	554,840	79,427	43,979
Western Australia.....	194,499	59,683	15,484
Tasmania.....	97,617	17,724	6,910
Total.....	4,954,194	781,277	284,476

The imports of these articles into New South Wales in the year 1911 and the first six months of 1912 were as follows:

Countries of origin.	Chassis.		Bodies and parts.		Motor cycles, etc.	
	1911	1912 (6 months).	1911	1912 (6 months).	1911	1912 (6 months).
United Kingdom.....	\$893,172	\$425,560	\$145,152	\$89,047	\$94,108	\$84,788
Canada.....	67,157	63,230	14,049	12,000	.....	.....
Belgium.....	113,929	86,204	2,988	1,508	5,451	4,647
France.....	320,108	180,059	16,920	4,866	15,481	5,426
Germany.....	73,751	43,870	13,207	6,647	2,569	2,541
Italy.....	133,215	65,113	924	399	.....	.....
United States.....	477,028	300,724	143,356	78,837	1,352	915
All other countries.....	38,975	26,314	1,600	889	.....	.....
Total.....	2,117,335	1,171,074	338,196	194,193	118,961	98,317

It is extremely gratifying to note in the foregoing figures the conspicuous place taken by the United States in the automobile and motor-cycle trade of this Commonwealth. From inquiries made among dealers it seems very likely that the future will see an even greater increase in this branch of industry to the benefit of American manufacturers.

NEWCASTLE.

[Consul G. B. Killmaster.]

There are about 135 automobiles in use in the Newcastle district, about 75 per cent of which are runabouts, usually of 20 to 30 horsepower and four cylinders, selling at \$1,000 to \$1,200. Touring cars sell for \$1,800 to \$2,500, but the market for high-priced cars is very limited, and is practically confined to European makes. Medium and low priced cars are meeting with a good sale, and about 50 per cent of this grade of cars in use are American. As the climate is semitropical the extra air pipe, besides the water-cooling device, is in general use.

The owner of a car must pay \$4.86 license, irrespective of the horsepower of the machine, and the driver's license costs \$1.22. Gasoline costs 38 cents per gallon in 2 and 4 gallon tins. Automobile sales are made through general agents at Sydney by local representatives, who are not restricted as to territory. The local agent usually receives a commission of 10 per cent. No automobiles are imported into this port direct. The local market is well worked and splendidly covered by advertising. A slight prejudice against American automobiles, due to the fact that the first ones imported were of the less expensive variety and did not compare favorably with the high-grade European cars sold here, is fast dying out. There are five or six repair shops here, but no parts are carried in stock.

This city has a population of 100,000 and the State 1,500,000. The country is undulating, and there are about 500 miles of good roadway in the district.

MOTOR CYCLES. UNITED KINGDOM.

[Consul General John L. Griffiths and other consular officers in United Kingdom.]

The motor cycle is a very popular machine in the United Kingdom, and apparently there is no likelihood that it will decline in favor soon. The roads of England are exceptionally good for motor cycling, having a hard roadbed, often of stone, and being kept in good repair. The only difficulties seem to be in the hills, which in some places are steep, but this does not interfere with the widespread use of these vehicles in practically all parts of the British Isles. Around Glasgow and in other parts of Scotland the roads pass through charming scenery, in the hills and mountains, and are well maintained.

In London, according to a report issued by the London County Council, 16,736 motor cycles were registered at the close of 1911, while the following numbers were estimated to be in use in and around other cities of the United Kingdom: Liverpool and Birkenhead, about 600; Bristol and vicinity, 1,000 to 1,500; Nottingham, about 2,000; Newcastle, about 200 in the city and about 1,000 in the county; Dundee and vicinity, 200 to 300; Glasgow and the western half of Scotland, about 5,000, with about 200 annual sales in Glasgow. Some 500 machines are sold annually in both Bristol and Nottingham, and 100 in Dundee.

FOREIGN TRADE IN MOTOR CYCLES.

The imports and exports (domestic product) of motor cycles in the United Kingdom in 1909, 1910, and 1911 were as follows:

Countries.	1909		1910		1911	
	Number.	Value.	Number.	Value.	Number.	Value.
IMPORTED FROM—						
Germany.....	617	\$81,309	401	\$60,286	307	\$45,666
Netherlands.....	6	798	3	360	.....	.....
Belgium.....	722	101,339	707	107,345	502	73,488
France.....	25	3,825	35	6,433	47	8,127
Switzerland.....	23	3,479	19	2,676	25	3,489
United States.....	45	8,301	208	37,106	455	71,011
British possessions.....	.....	.....	1	170	.....	.....
Other countries.....	4	650	13	1,195	15	3,030
Total.....	1,442	199,701	1,387	215,571	1,351	204,811
EXPORTED TO—						
Foreign countries.....	157	26,974	386	69,654	1,026	185,330
Cape of Good Hope.....	71	13,601	185	32,055	562	96,438
Natal.....	24	4,977	47	8,866	134	25,276
Transvaal.....	100	20,307	201	39,428	756	141,036
British India.....	205	36,522	256	49,643	439	88,146
Australia.....	617	108,167	854	149,717	1,468	263,647
New Zealand.....	543	96,876	900	161,873	2,122	402,114
Other British possessions.....	167	29,050	512	85,309	843	155,065
Total.....	1,884	336,474	3,341	596,545	7,350	1,357,052

Imports of parts of motor cycles amounted to \$143,152 in 1909, \$267,419 in 1910, and \$319,806 in 1911, while exports for the three years were valued, respectively, at \$176,624, \$184,410, and \$384,988. The importations of motor cycles for the first 10 months of 1912 amounted to 1,183, valued at \$186,173, as compared with 1,205, valued at \$183,657, in the same period of the previous year, but the importation of parts materially increased, amounting to \$656,306, as compared with \$266,913 in the year before. Exports of motor cycles of British manufacture were four-fold greater in the first 10 months of 1912 than in the same period in 1910, having a total value in excess of \$2,000,000.

There seems to be every probability that motor cycles will continue to command large sales in the United Kingdom, as they are now being built so that they can be used with engines of a higher horsepower than formerly. They have to a certain extent become standardized in design. Variable speed gear, free engine, and kick starting are demanded by practically all of those able to buy the more expensive machine. The part showing the greatest need of improvement is the silencer. Cut-outs or other devices permitting the exhaust gases from the engine to escape into the air without first passing through a silencer are to be prohibited after March 31, 1913, and this will naturally stimulate inventors to produce a device applicable to motor cycles that will meet the requirements of the Local Government Board.

Among the most popular machines are those of light weight for single riders. They have engines of 2 to 2½ horsepower and one or two cylinders, are fitted with two and three speed gears, and sell at prices varying from \$219 to \$243.

A marked feature in the motor-cycle trade is the rapidly growing use of the side car. In the Liverpool district especially the demand is increasing month by month and in the opinion of the trade the demand in 1913 will be a very heavy one. These side cars are used for pleasure purposes, extended trips sometimes being made in them. They cost from \$80 to \$100.

MAKES PREFERRED—AMERICAN MACHINES.

In the Bristol district the Triumph and Humber are probably the most popular makes, though many others have good sales, especially the Douglas. The Triumph, 3½ horsepower, single cylinder, sells for \$238 to \$268; the Humber, 3½ horsepower, cylinder desaxé, for \$256; and the 2-horsepower Lightweight, cylinder desaxé, for \$170. In Nottingham the following are popular, with the first three perhaps leading in sales: B. S. A., Rex, Triumph, Zenith, Phelon & Moore's, Rudge-Whitworth, and Humber. These are all one-cylinder machines, retailing at about \$270. All are fitted with two-speed gears, and tools and bags are supplied, but lamps and horns are not included. The one-cylinder Triumph is considered the best make in Newcastle, and in Dundee the Triumph, Rudge, Humber, and Bradbury, of 3½ horsepower, usually of a single cylinder, and costing \$219 to \$292, are most in favor, while the Triumph, Humber, F. N., Rudge-Whitworth, Bradbury, and others are largely sold in Glasgow.

So far American machines do not seem to have found an extensive market in the United Kingdom, doubtless because of the many

excellent English makes. There is no reason, however, why a market should not be created for a high-grade American motor cycle provided it meets the English demand as to type, construction, and price. The best course for American manufacturers to pursue would probably be to make a thorough preliminary investigation of conditions in the United Kingdom and then to open a stock depot or depots in London in charge of a competent manager, and later to have the London management open local branches throughout the country. Agents' commission must be generous, as purchasers of machines costing £60 (\$292) and over are likely to be prejudiced in favor of those of English manufacture. The position of the motor-cycle market is somewhat similar to that for automobiles—the market for the more expensive machines is largely supplied by home manufacture.

There is a tendency in favor of heavier and higher-powered machines. Around Dundee a few four-cylinder German machines are in use, and in Glasgow, where formerly three-fourths of the motor cycles in use were of the one and two horsepower and the one and two cylinder class, the demand for those of higher power and more cylinders has greatly increased and the more expensive machines now find as good a market as the cheaper ones.

NEED OF ADVERTISING.

If an American agency is established in the United Kingdom, the manufacturer should empower his agents and subagents to enter his machines for competition in all the principal races, reliability trials, hill-climbing contests, etc., throughout the United Kingdom. The advertisement thus gained would be worth all it would cost. It would also be well to advertise in the principal papers connected with the motor-cycling trade. In Liverpool the favorable results attained by one American motor cycle in the races and various other tests have produced a very good impression and have prepared the market for other American makes.

The demand for motor cycles in the Liverpool district at the present time is not only heavy, manufacturers being pressed to meet the many orders which are being received, but in the opinion of the trade is likely to increase. In fact, one dealer asserted that "the demand for 1913 would be a tremendous one and would probably amount to a boom in the trade." The existing demand is rather for high-grade machines of 3½, 5, and 7 horsepower.

GERMANY.

FRANKFORT ON THE MAIN.

[Vice Consul General William Dawson, Jr.]

Imports of motor cycles into the German Empire from abroad are very small. According to customs statistics, imports during the calendar year 1910 numbered 258 and were valued at \$37,366, and in 1911 numbered 445 and were valued at \$59,500. Nearly one-half of the imports came from Belgium in 1911 and considerably over one-half in 1910. In 1911 about one-third were returned goods of German make.

There is an annual tax of 10 marks (\$2.38) on motor cycles in Germany. This is a uniform tax, collected on all machines irrespective of horsepower.

INTRODUCTION OF AMERICAN MACHINES.

With respect to the market for American motor cycles, it hardly appears probable that they could be sold here in considerable quantities. Unless they could be placed on the German market at about the same price as German machines, they would probably find only occasional purchasers willing to pay the difference in price for a powerful machine.

The practice of sending catalogues in English will not bring results. Motor cycles are handled largely by business men who have not the knowledge of English necessary to understand the technical description contained in a catalogue. In the opinion of this office the most satisfactory way of introducing an American motor cycle here would be to establish one or more general agencies in large distributing centers. The general agents could either correspond directly with local dealers in their own language or call on them personally. This plan would have the further advantage of assuring a supply of replacement parts required at quick notice. It may, however, be doubted whether probable returns to be found in this market would warrant any considerable expense in order to introduce American motor cycles.

Statistics apparently bear out the statement that the use of motor cycles in Germany as a whole is decreasing. A comparatively large part of the decrease is said to be due to a falling off in the use of motor cycles for the transportation of merchandise. One dealer says that the principal reason for the decrease is to be found in the increasing popularity of small motor cars, three-wheeled "cyklo-nettes," and similar vehicles, but asserts further that the demand for motor cycles has picked up again in the last year or so.

Extensive inquiries made of the leading dealers here tend to show that American motor cycles are not used or known in this part of Germany.

The principal German makes found here are the Neckarsulmer, made at Neckarsulm, Wurttemberg, by a firm which advertises over 20,000 motor cycles in use, and the Wanderer, made at Chemnitz. German motor cycles are built with one or two cylinders and the horsepower ranges from $1\frac{1}{2}$ to $7\frac{1}{2}$. Cycles with $7\frac{1}{2}$ horsepower, however, are used only for racing, and the average horsepower is 3 to $6\frac{1}{2}$. German motor cycles vary in price from 700 to 1,200 marks (\$166 to \$285), the average price being about 1,000 marks (\$238).

The only foreign motor cycles known here to any extent are of Belgian manufacture. Belgian machines were formerly handled here by a local firm which has since ceased to carry them. Two sizes were carried, the one-cylinder machine costing \$178 and the four-cylinder, costing \$238.

In addition to the cost of placing American motor cycles in Frankfort, including freight and duty, the principal difficulty in the way of their use here is delay in securing replacement parts. This is immediately referred to by all dealers handling motor cars or motor cycles. Even in the case of Belgian motor cycles, the difficulty of getting parts is counted a considerable disadvantage.

CHEMNITZ.

[Consul Thomas H. Norton.]

The roads of Saxony are admirably constructed and well maintained. The whole Kingdom is well adapted to the use of motor vehicles of all sorts, and the number of such vehicles is steadily increasing. The demand for automobiles seems to grow much more rapidly than that for motor cycles. The number of automobiles in Saxony increased from 805 in 1907 to 3,530 in 1911, while the corresponding increase of motor cycles was from 1,416 to 2,457. Of the latter number 1,578 were employed for business and professional purposes, and the remainder, 879, were in use for pleasure.

Most of the cycles used in this section are of the two-cylinder type, and those with three and four cylinders are only occasionally in demand.

There is one large establishment at Chemnitz, the Wanderer works, engaged in the manufacture of motor cycles. Its two-cylinder machine retails at \$202, with higher prices according to the finish, and a one-cylinder type sells at \$167. The firm claims to have sold 500 cycles in this district during the past year, and seems to have almost a monopoly in the local trade. Of competing makes, the Neckarsulmer, manufactured at the town of Neckarsulm in Wurttemberg, is given the preference, about 25 cycles of this make being sold annually in Chemnitz.

There are two other large establishments in Chemnitz, engaged in the manufacture of bicycles, which also make motor cycles on order. The Prestowerke furnishes the Presto cycle, often used here as a pace-maker in racing, and another firm, Gebrüder Nevoigt A. G., makes the Diamant motor cycle.

Among outside makes occasionally seen in Chemnitz, are the Adler of Frankfort, the Corona and the Brennabor of Brandenburg, the Opal of Rüsselsheim, and the F. N. of Berlin. The last-named is a four-cylinder cycle costing \$155 and upward, according to the finish. This is the only four-cylinder make found here, and it is used for racing only. Saxon police regulations do not permit the general use of four-cylinder cycles.

NO AMERICAN MAKES IN SAXONY.

Thus far no American motor cycles have been introduced in Saxony. Competition between the various German manufacturers is so keen, and the cost of the German motor cycles is so low, that it is exceedingly difficult for foreign makes to secure an entrance to the market. A cycle of distinctly superior qualities could probably win its way, if energetically pushed and if the price was but little in excess of local current prices.

Correspondence could be opened with Chemnitz firms, but as a rule satisfactory connections with prospective agents could best be established by a competent general agent, who could personally investigate conditions and confer with available firms or individuals.

BARMEN.

[Vice Consul Charles J. Wright.]

It seems very unlikely that American motor cycles, especially the higher-priced ones, would meet with a ready sale in Germany. One American manufacturer of automobiles has tried for several years to gain a foothold here and has spent thousands of dollars with little return. A second firm has recalled its American representative after two years' work in Germany, as he was unable to secure enough business to warrant maintaining him here. Several other firms are trying hard for the German business but with only one or two exceptions have had but little success.

German cars are all high priced and it would seem that the cheaper American car ought to find a ready market here. On the other hand, German motor cycles are, as a rule, cheaper than the American ones.

The gasoline used here is not only much higher in price but also much lower in grade than the American product, so that it not only costs more to run a motor cycle but the carburetors with which American machines are furnished seldom give entire satisfaction. Considerable benzol is used and that never proves satisfactory with an American carburetor.

OPPOSITION TO AMERICAN MACHINES.

License fees, permits, and insurance are all very expensive so that automobiling is not as popular or as reasonable in cost as at home. German dealers are energetically trying to prevent the sale of American cars. In the summer of 1912 a convention of German automobile dealers was held in Berlin, at which it was agreed that after October 1 any dealer offering an American car for sale should immediately lose his German agency. One large automobile paper refuses to accept any advertisements for American cars. These things are all against the sale of American automobiles and motor cycles.

In this consular district, which contains about 5,000,000 people, there were in November, 1911, only about 324 motor cycles. Perhaps 200 are sold annually in the district. They are about equally divided between pleasure and commercial vehicles. The average price is about \$150 or \$175 for one-cylinder machines and somewhat higher for those of two cylinders.

FRANCE.

[Consul William H. Hunt, St. Etienne, and Vice Consul R. C. Reitenbach, Rouen.]

There are only about 20 motor cycles in Rouen and only 5 or 6 are sold each year. These include the following makes: F. N., made by the Fabrique Nationale d'Armes de Guerre, Hertsall, Belgium, retail price \$231; the St. Etienne, made by Manufacture Française d'Armes et Cycles de St. Etienne, Loire, retail price \$164 to \$184; Peugeot, made by Société Peugeot, Paris, retail price \$174; Alcyon, made by Société Alcyon, Paris, retail price \$174. The F. N. has four cylinders, and the others one or two cylinders. The sale of high-priced motor cycles is very limited and at present the market does not offer much of a field for their introduction.

The roads around St. Etienne are admirably suited to the use of motor cycles, of which there are about 278 in use in the Department of the Loire, some 200 sales being made annually. The Magnat-Debon,

made at Grenoble, and the Terrot, made at Dijon, each with one cylinder and retailing at \$193, are popular there and 50 or 60 are sold every year.

There has been a steady decline in the number of machines sold in St. Etienne in the last few years, due it is said to the low price of small motor cars, several makes of which are produced in that region. Five or six years ago there was a considerable demand for motor cycles of 5 to 7 horsepower, with four cylinders, but they were found too high-powered and heavy for use in that region and consequently a four-cylinder machine is now rarely seen except in races. There is no demand for them.

The most prominent and reliable dealers in St. Etienne are unanimous in the opinion that there is a strong tendency among motor-cycle owners in favor of a machine on the style of the one-cylinder, 3½-horsepower, English roadster model Triumph, which is sold by dealers for \$231. There are several reputable dealers in St. Etienne who would be willing to consider an agency proposition from an American firm turning out a machine of this kind. [A catalogue, in English, of the Triumph motor cycle is on file for loan in the Bureau of Foreign and Domestic Commerce.]

ITALY.

[Consul Albert H. Michelson, Turin.]

The roads of the Piedmont, while exceptionally suitable for motor cycles, are often alpine in character and not infrequently rise to a height of 3,000 feet or more. There are about 1,000 motor cycles in use in the Piedmont, and of these not less than 800 are pleasure cycles.

Turin is the Italian center for the manufacture and sale of motor cycles. The following makes are produced here: Borgo, Della Ferrere, Motosacoche, Siamt, C. B. R., and Rigat. From 100 to 200 machines of each of these makes are produced annually, all of one cylinder. The first two are of the German Fafnir type, the third is of special type, the fourth is very light and develops 2½ horsepower, and the fifth is of the two-cycle type and develops 2 horsepower. These machines and one other well-known type, the Frera, built in Milan, retail at \$150 to \$215, and sell wholesale at a reduction of 25 per cent.

The foreign machines sold in the district are the Motoreve, Triumph, Rudge-Whitworth, Humber, and F. N. The first retails at \$200, the second at \$300, the third at \$280, and the fourth at \$360. The F. N. is a four-cylinder machine selling at \$320 and most of the others are of the one-cylinder, four-cycle type developing 2 to 4 horsepower. No four-cylinder machines are made in Italy and they are not popular because of the belief that while the first two cylinders may cool well the other two are likely to cause trouble in cooling.

About 400 motor cycles of all types were sold in this district during 1911. A high-grade American machine ought to find a favorable market in the Piedmont and throughout Italy, but if it is at present unknown its manufacturers should not expect to sell more than 20 or 30 during the first year. In the order given the following Italian cities use the most motor cycles: Turin, Milan, Florence, Bologna, and Rome.

[Consul Hernando de Soto, Palermo.]

The trade here in motor cycles was rather dull for many years, but according to a prominent dealer there has been a marked revival during the last year or two. Two new well-equipped stores have been opened on the principal thoroughfare and a considerable stock of motor cycles is to be noticed in the show windows. There are about 40 motor cycles in use in Palermo and as many more in the rest of this consular district, while the total number in all Sicily is estimated at 130 to 150. The preferred types, at least those offered for sale here, are the Motoreve, the S. A. F. (Società Anonima Frera, Milan), the Moto Borgo, and the Motosacoche.

[Vice Consul Aiden March, Leghorn.]

There are about 30 motor cycles in this vicinity, the most popular of which are those of light make, the Motoreve and Motosacoche. They cost \$116 and have but one cylinder. Motor cycles with four cylinders are little used here and cost \$232. About 10 machines are sold annually, all of Italian make. It is doubtful if a demand could be created for a high-grade American motor cycle, as the price would probably be too high. The roads in this vicinity are good.

SWITZERLAND.

[Vice Consul General H. A. McBride, Zurich.]

The popularity of motor cycling is growing in this district. The good roads and scenic beauty of Switzerland combine to make this one of the most enjoyable sports, and the proximity of towns and cities to one another gives ample opportunity for the use of the motor cycle as a means of transportation for business and commercial men. It is estimated that 80 per cent of the machines in use in this part of Switzerland are for professional and other practical purposes and only 20 per cent for pleasure. In the Canton of Zurich, which comprises the city of Zurich and the immediate neighborhood and has a population of 503,915, there are over 400 motor cycles registered. Machines are also extensively used in Geneva and other cities in the French section of the country.

There are six firms in Switzerland manufacturing motor cycles (two of which make only the motors), and the machines used throughout the country are therefore, to a great extent, the product of domestic factories. The Motoreve, made in Geneva, is one of the most popular. A foreign-made cycle which has had remarkable success in the Swiss market is the two-cylinder Wanderer, manufactured in Chemnitz, Germany. It is a 3-horsepower machine with spring-set forks, the price of which in Germany is \$211 and in Switzerland \$222, complete, including duty, transportation, etc. This is the most popular type of cycle for Swiss buyers—a two-cylinder, medium-priced machine. It may be said that fully 65 per cent of the motor cycles in use are of this class. About 5 per cent are heavy four-cylinder machines, and the others are of the cheaper one-cylinder grade.

FOREIGN TRADE—AMERICAN MACHINES.

During 1911, 316 motor bicycles and tricycles, valued at \$37,523, were imported into Switzerland, as compared with 255, valued at \$25,054, during the previous year. This shows that the sale of foreign-made machines is considerably increasing. The number of

machines imported from Germany in 1911 was 148; from France, 109; from Belgium, 29; from Great Britain, 14; and 8 each from Austria and Italy.

The exportation of Swiss motor cycles is of more importance. During 1911, 981 machines, valued at \$134,335, were sold to foreign buyers, showing a marked increase over 1910, when the exports amounted to 590 machines, valued at \$80,076—a gain of 391 machines in one year. It will be noticed that the exports were over three times as great as the imports. France was the best customer in 1911, taking 587 machines, followed by Russia with 103, Spain 44, Germany 37, and Egypt 28, while 20 were exported to Latin-American countries. One Swiss machine was sent to the United States.

Motor cycles of American manufacture are little known in Switzerland. In this district there are only four in use. They give good satisfaction and there is no reason why American machines could not compete with other foreign makes, providing the prices were equal. The market would naturally be small, as there are so many machines of domestic manufacture on sale, and the competition is great. The total annual sales of all makes in Zurich and vicinity is about 150 machines.

A demand could possibly be created for the heavier grades of American makes, especially the four-cylinder machines of about 7 horsepower, as most foreign motor cycles of this type are heavy and clumsy and in this respect may be regarded as inferior to the American product.

RUSSIA.

[Consul General John H. Snodgrass, Moscow.]

The roads of Russia are not generally suitable for the use of motor cycles, and few are found outside the cities. There are also few in Moscow or any of the provincial cities near by.

Moscow streets are superior to those of the provincial cities, but are not adapted to cycling. About half a dozen of them are smoothly paved, the remainder being paved with cobblestones, which make rough traveling for a motor cycle. The few cycles in use are only for commercial purposes.

So far American machines have not been introduced into Russia, as there has been but a small demand and American manufacturers have given no attention to this territory. English, French, and German makes prevail, and are retailed at \$180 to \$350. The number sold in Russia during 1911 ranged from 800 to 1,000, and were valued at \$182,225. Of the motor cycles sold here the English are considered the best, but at the same time the most expensive.

A serious difficulty met with in the sale of American motor cycles is that long credits are usually extended by the English, French, and German manufacturers, while the American exporter requires cash with order or at least payments f. o. b. American port. It is absolutely necessary to meet foreign competition with an excellent article and at the same time a credit of at least nine months. Before entering into business relations with any firm, however, it is advisable to secure bank references from Russian importers.

The machine best fitted for Russian roads is that of one or two cylinders. It does not seem possible to create a demand for a high-grade, expensive American machine.

Russians do not require motor cycles for commercial purposes for the reason that street cars cover every section of the cities, and the fares are exceedingly low. In Moscow the fare for a mile, or perhaps farther, is 2½ cents, and the cost of a ride to the suburban parks several miles distant from the center of the city is 5 cents.

In addition to reasonable tramway fares, the Russian one-horse carriage (iswostchik) is to be found everywhere, and the cost of riding in these vehicles is also comparatively low. Taking into consideration the cheap rates here and the unsuitable thoroughfares, not only in the cities but in the country as well, it is thought the time is not ripe for the introduction of expensive motor cycles.

SPAIN.

[Consul Edward J. Norton, Malaga.]

The consular district of Malaga lies in one of the large mountain regions of the Spanish Peninsula, and therefore has no long ranges of good roads suitable for the use of motor cycles. A short distance from this city the roads rise steep and rugged into the mountains, and pleasure trips of bicycle or motor cycle to the towns and villages of the interior, one of the most interesting parts of the Province, are impossible.

Partly because of unfavorable road conditions, but still more on account of local indifference to outdoor exercise of all kinds, cycling as an amusement never became as popular here as in certain other Spanish Provinces.

At present 25 motor cycles are registered in Malaga; as far as inquiries show only 10 machines are in actual use. The heavy operating expense (especially the expense of gasoline), the high cost and frequency of necessary repairs, and the lack of good roads are some considerations which have led owners here to give up motor cycling.

Most of the machines imported into Malaga are of German manufacture, having one and two cylinders. Of these, the Wanderer is a favorite type. There are also 2 machines of Swiss make, 4 French, and 1 four-cylinder British machine. None of these weighs much over 175 pounds, and they are possibly too light for the work required of them. The motor cycles now in use here cost from \$162 to \$234 delivered at Malaga, duty paid. Not over three or four motor cycles of all makes are sold here annually, and there is apparently no possibility of creating a market for a machine costing over \$200.

PORTUGAL.

[Vice Consul General James L. A. Burrell, Lisbon.]

About 50 or 60 motor cycles are sold annually in this district, 30 or 40 of which are of the make known as N. S. U., of four cylinders, selling at \$250 to \$300. Practically all of them are used for pleasure. The roads in this locality are fairly good.

It is the opinion here that any first-class firm which seriously tried to get business might work up a good trade in Portugal. The point is that machines must be exhibited and continually kept in stock to avoid keeping customers waiting for orders. Extensive advertising is absolutely indispensable.

The reason why Belgian and German machines are sold here and English and American machines are not lies in the different sales

methods of the manufacturers. Belgian and German firms send out two or three machines to their agents on consignment and when these are sold the money is remitted to the manufacturers, who supply other machines to take the place of those sold, while English and American firms demand cash. The agents are bound to keep the machines in perfect order and are responsible for them during the period they are kept in the show rooms.

NORWAY.

CHRISTIANIA.

[Consul General Charles A. Holder.]

Although the heavy snows of a long winter season and poor roads, especially in the outlying districts, restrict the use of motor cycles to some extent, there is a fair demand for them throughout Norway and particularly in Christiania.

It is estimated that about 75 machines were sold in 1911 in all of Norway, of which 50 were sold in Christiania. Future sales will probably show a very decided increase, as motor cycles are daily becoming more popular and in a few instances have been used for purposes of utility. It is probable that they will also be adopted for police service and in the army.

At present the motor cycle that has had the largest sale and is most popular is the N. S. U., imported from Germany. A double-cylinder, 3-horsepower model, with magneto and clutch, sells at retail for 800 crowns (\$214), and a single-cylinder, 4-horsepower model for 900 crowns (\$241). There were about 20 of these machines sold in 1911. Others sold were the Motosacoche, the English Humber, Wanderer, and Progress, the French Peugeot, and one or two each of various other foreign and American makes. Prices ranged from 700 to 1,000 crowns (\$187 to \$268), but the popular demand is for a low-priced machine and only such will find ready sale in Norway.

COST OF SHIPPING, ETC.

Regarding a method of estimating the cost of shipping motor cycles to Norway, it is suggested that application be made to the New York office of the Scandinavian-American Line or to the Newport News office of the Mexico-Gulf Line, for freight rates to Christiania, Bergen, and Trondhjem. From New York to Christiania the rate for freight such as motor cycles, crated, is \$6.07 for 40 cubic feet, but the local agents believe that the American offices of the lines in question will offer weight rates and that this will be cheaper. Insurance is one-half of 1 per cent of the value of the machine.

Besides these charges there are only the customs duties, which are 10 per cent of the value of the motor (as distinguished from the rest of the machine) plus 30 crowns (\$8.04), which is assessed on each cycle or bicycle.

STAVANGER.

[Consul P. Emerson Taylor.]

The roads of this consular district are much better suited to motor cycles than automobiles, being generally too narrow for automobiles to pass other vehicles. The roads are uniformly fine, being smooth and solid, and free from stones, rock, and sand.

This district has a population of only 140,000, and, so far as can be ascertained, there are only 12 to 15 motor cycles here. Many more than this are seen each month, however, as many tourists and persons from other parts of Norway pass through the district on motor cycles. There has been a noticeable increase in the use of the machines in the past two years, and I believe there is an opportunity for more than doubling the present number of machines in the district in 1913.

The motor cycles used are chiefly for business purposes, the greater number being owned by physicians and by local officials. The use of bicycles for both pleasure and business is very general in the district and their use is growing. The largest bicycle factory in Norway is located in this district at Sandnaes and makes 1,400 to 1,500 World bicycles each year.

A German machine, the Neckarsulmer, is the motor cycle in most general use in the district. The machines are purchased direct from Germany and the prices range from \$134 to \$241. At present only four or five motor cycles per year are sold in this district. While the demand seems to be on the increase, it is doubtful whether a demand could be created for a very expensive machine. The machine most in demand here is a one or two cylinder machine of 3 to 5 horsepower. The only towns in which an agency would be likely to do any business are Stavanger, Haugesund, and Sandnaes.

SWEDEN.

[Consul Douglas Jenkins, Goteborg.]

The field for motor cycles in Goteborg does not appear to be promising, though there is a limited demand. There are scarcely more than a dozen motor cycles in this city of 170,000 inhabitants, and it is thought that not more than half a dozen a year are sold.

Motor cycles seem to be used here solely for business purposes and not for pleasure. The roads in Sweden are rough and unsuited to either automobiles or motor cycles. The machine capable of standing hard usage would therefore have an advantage.

A German machine, the Neckarsulmer, of one and two cylinders, is apparently the only motor cycle known in this market. The retail price ranges from \$200 to \$375. Dealers here say that a four-cylinder motor cycle would be too heavy and would not work to advantage in this country because of the poor roads.

BELGIUM.

[Vice Consul General Harry Tuck Sherman, Antwerp.]

The Belgians manufacture very high-class motor cycles at prices with which it is extremely difficult for foreigners to compete. The roads in this part of the country are bad, being paved with cobblestones for the most part. This requires heavy springs and very strong frames to withstand the jolting and explains, to a certain extent, the scarcity of motor cycles throughout this district. They are used more in the southern part of the country, where the roads are macadamized and particularly suitable for cycles and motor cars of all descriptions.

There are no statistics to show how many motor cycles are used in this locality, but it can be said that few or none are used for commercial purposes.

The Fabrique Nationale d'Armes de Guerre, at Herstal, seems to have had greater success with the manufacture of motor cycles than any other factory in this country and turns out machines of one, two, and four cylinders at prices varying from \$150 to \$300. It would be advisable for American exporters to make their center in Brussels, for it is around Brussels and to the south of that city that the roads begin to be suitable for motor cycling, and Brussels is also the commercial center of Belgium, where the business people of the entire country congregate on 'Change once a week. It is, therefore, the best point for exhibition purposes.

The other towns of importance are Antwerp, Liege, and Ghent, at each of which places a subagent could be located. A great aid to the sale of American cycles or cars is the stocking of interchangeable parts. Some objections have been raised against American machines by both dealers and public, because when a breakdown occurs with American cars it is often impossible to get repairs promptly.

AUSTRIA.

[Consul Joseph I. Brittain, Prague, Bohemia.]

Motor cycles are not much used in Prague and vicinity, and one of the leading dealers says that the future prospects are not very bright. The ones in use are mostly of two cylinders, but there are not many in Prague. The streets are paved with granite blocks, which in many places are very uneven. Many of the streets are also narrow and others are frequently crowded by people and vehicles of various sorts, making it difficult to operate motor cycles.

The country roads are generally fairly good, but the country surrounding Prague is very hilly. The machines here are mostly used for pleasure, especially those with side cars attached. These sell at \$110 to \$121 each without the side car or baskets and with the basket attachment \$162. There is not much of a market here for a machine selling as high as \$400.

Small tricycles which retail at \$609 are manufactured and sold here. These are easily driven and comfortably accommodate two persons. They appeal to the ordinary business man who can not afford an automobile.

TURKEY.

[Consul General G. Bie Ravndal, Constantinople.]

There are about 30 motor cycles in use in and about Constantinople, mostly for pleasure. The most popular makes on the market here are the Peugeot, the Motosacoche, and the Ariel. The two-cylinder, 3½-horsepower Peugeot sells for \$210 and the two-cylinder, 5-horsepower for \$235. The two-cylinder Ariel sells for \$265. The local agents say they sold four Peugeots and one Ariel last year. Ten or twelve of all makes are sold annually between the months of April and November.

At present there are only a few roads in this consular district which are suitable for the use of motor cycles. In the vicinity of Constantinople, within a radius of 20 miles, there are several good macadam roads leading out in all directions and connecting the city with the small villages on the Bosphorus and the Sea of Marmora. Although there are several very well paved thoroughfares in Constantinople, the majority of the city streets are narrow, crooked, and, if paved at all, in poor condition.

FIRST MACHINES ON CONSIGNMENT.

As showrooms and depots where automobiles and motor cycles may be exhibited to prospective customers are necessary in this market for their extensive sale, several local firms are willing to make the proposition that an American company shall ship four or five machines, for which they will give a bank guaranty covering the cost and guaranteeing the sale of the machines. As these are sold out of stock they will remit to the company the cost of the machine, deducting sales commissions, and will collect the money on their own account from the purchaser. This plan provides that there shall always be a stock on hand, and delays of three to five months for delivery of single orders are avoided. European manufacturers have entered the market on this basis and have found the plan to be practical and successful. If American firms should care to exploit the Constantinople trade under these conditions, they might possibly find a good market for their motor cycles here.

Correspondence should be in French and the catalogues sent to this market should also be printed in French, as there are a great many technical terms which are not understood in English by the average Constantinople importer. Prices should be quoted f. o. b. Constantinople.

GREECE.

[Consul General W. H. Gale, Athens.]

Many of the streets of Athens are asphalted and motor cycles may be used on practically all of them. There are a few good roads in the vicinity of the city, but Greece is an extremely mountainous country, and, generally speaking, the roads outside of the cities are primitive and rough, with many steep grades, and are hardly suitable for the use of motor cycles.

There are said to be 50 motor cycles in use in Greece at present, all of which are used for pleasure. About 10 are sold here each year. The Motosacoche is the most popular in this district. Most of the machines of this make sold here are of one cylinder and $1\frac{1}{2}$ horsepower and cost \$96 to \$106 each. A few two-cylinder, 3-horsepower machines of this make have also been sold at \$193 f. o. b. Piræus on six months' credit. These machines are light, and are said to be good hill climbers. About six or eight are sold during the course of a year.

There is no demand at present for a heavy and expensive motor cycle, though it is possible that a demand might be created through the efforts of a good agent, particularly if he were supplied with a machine for exhibition purposes. In view of the bad roads and other unfavorable local conditions, however, it is thought that the process of building up a satisfactory business in high-grade, expensive motor cycles would be a difficult and slow one.

INDIA.

[Consul Edwin S. Cunningham, Bombay.]

Motor cycles are popular in Bombay, and the dealers estimate that there are about 300 machines in the city. There are registered in the city some 700 machines, these including many of those used in various parts of the Presidency. Motor cycles are used both for pleasure and business purposes, often taking the place of the automobile.

A number of makes are sold on this market, among them being the 1912 model of the Triumph, with free engine, single cylinder, and $3\frac{1}{2}$ horsepower, and selling at \$318; and the N. S. U. in both single and twin cylinders. The following is an N. S. U. price list for the various cycles:

Description.	Price.
SINGLE CYLINDER.	
2 $\frac{1}{2}$ horsepower, 66 by 78 mm. bore and stroke, with adjustable pulley.....	\$243
2 $\frac{1}{2}$ horsepower, 66 by 78 mm. bore and stroke, with two-speed gear free engine.....	259
3 $\frac{1}{2}$ horsepower, Model-de-Luxe, with two-speed gear and free engine, and adjustable pulley.....	283
TWIN CYLINDER.	
3 horsepower, 58 by 75 mm. bore and stroke, with two-speed gear and free engine.....	278
6 horsepower, 75 by 90 mm. bore and stroke, with two-speed gear and free engine and spring frame.....	354

The Triumph makes corresponding to these various styles are approximately \$32 more expensive than the N. S. U. All days is another single-cylinder machine sold here.

It is impossible to ascertain the number of motor cycles sold on this market, but the interest is considerable and the demand, though not extensive, is steadily growing. It will be seen that the machines sold here are not the most expensive. If American manufacturers can put a machine on this market that can compete with the prices given and come up to the quality of the machines described, it will be worth their while to appoint agents and attempt to secure a part of the trade. The price of gasoline here is 32 to 36 cents per imperial gallon (1.2 American gallons).

[Consul M. K. Moorhead, Rangoon.]

In the entire Province of Burma there are 163 motor cycles registered, all of them used for pleasure. The roads of Rangoon are suited to their use, although rough and badly paved, but outside the city limits the roads are such as to make the use of motor vehicles, except for short distances, impracticable or impossible.

The English Triumph is the most popular machine here. It has one cylinder and 2 $\frac{1}{2}$ horsepower, and sells retail at \$308. About 30 of these machines are sold each year out of the total of 50 or more sales of all makes. There is no demand for high-grade high-powered motor cycles in Burma, but there is an increasing demand for a single-cylinder machine which could sell for \$275 to \$300 in Rangoon.

[Consul Stuart K. Lupton, Karachi.]

There are approximately 50 motor cycles in use in Karachi, perhaps the same number in Lahore, and two or three each in Multan and a few other towns. Outside of a few cities there are almost no roads in this district and consequently no demand for motor cycles for touring purposes. They are used almost entirely for the transportation of persons, as the distances in Indian towns are great and the cost of keeping horses has increased to such an extent that many people find they must have some cheaper means of conveyance.

There are several different makes in this city, most of them British. The New Hudson, Triumph, B. S. A., and N. S. U. are probably

noticed most frequently, and practically all of these have been purchased second-hand in Bombay. The demand will probably be steady in the future, but as there are no hills here, and as the roadway available for motor cycling does not exceed 100 miles, there will probably be little or no market for high-powered, four-cylinder, expensive machines.

[Consul José de Olivares, Madras.]

It is estimated that 150 to 175 motor cycles of all makes are sold in southern India each year. The ones most commonly sold here retail at \$297 to \$329 and are for the most part of a single cylinder; with a horsepower averaging $3\frac{1}{2}$. The local preference is probably divided among the Indian, Triumph, Bradbury, N. S. U., and Durkopp. All told there are about 800 motor cycles registered throughout the Madras Presidency, 686 of which are registered in the city of Madras.

The roads of this district are macadam. Motor cycles are used hereabouts chiefly by business men and military and civil officers as a means of rapid transit between their residences and their places of employment. It is not believed that a demand could be created here for a machine selling for over \$300. The general opinion here is that the popular motor cycle of the future in this section will retail at \$150 to \$250.

JAVA.

[Consul B. S. Rairden, Batavia.]

There are perhaps 150 motor cycles in Java, used principally for business purposes. Most of the public roads are excellent and are well adapted to the use of motor cycles and motor cars. Two English makes, the Rover and the Wolff, and various German and Swiss makes, mostly of two cylinders, are sold on the market here. There are apparently no machines of four cylinders or as high as 7 horsepower on the market. Prices range from \$180 to \$250.

SIAM.

[Vice Consul General Carl C. Hansen, Bangkok.]

There are 20 to 30 motor cycles in use here, the English and German machines, of light weight, single cylinder, and $3\frac{1}{2}$ horsepower, costing from \$103 to \$222, being most popular. Some 15 or 20 machines are sold annually and there is a growing demand for them. The streets and roads of Bangkok and vicinity are smooth and level, with no hills.

CHINA.

[Consul General S. S. Knabenshue, Tientsin.]

The motor-cycle business is in its infancy in North China. Up to a year ago there were probably not a dozen machines in Tientsin and Peking. Then a French firm in this city brought out a number of Motosacoche machines, which were disposed of rather slowly. Early in 1912 two battalions of United States Infantry were brought here from Manila and a number of the officers brought with them Indian motor cycles. These machines seemed to be considered very favorably, and the China American Trading Co., an American corporation here, ordered a dozen of them.

All told, there are probably not over 35 motor cycles in use in all North China. The roads are simply cart tracks crossing the country. Motor cycles can be run on them in the autumn and winter, but in the rainy season they become quagmires of mud. No work at all is done to improve the roads in the interior of China, but the streets in the foreign concessions here and a few of the principal streets in the native city of Tientsin are well macadamized.

As foreigners are not allowed to establish business houses in any except the treaty ports, and as Tientsin is the treaty port for North China, practically all foreign goods sold in North China come through this city. Any agencies would have to be established in Tientsin.

[Consul General Roger S. Greene, Hankow.]

The prospects for selling motor cycles in Hankow are not very good. Hankow has a population of but 1,000 foreign inhabitants, and the concessions extend over an area of only a single square mile. Outside of these limits it is hardly possible to use motor vehicles of any kind, as the roads are very poor.

The experience of the one motor-cycle company doing business would seem to indicate small returns. This company has represented a British concern for a year, and in spite of an active canvass of both the native and foreign population has sold but three machines.

The possibility of large sales in motor cycles in the future is doubtful. The native trade must depend largely on the rebuilding of the Chinese city of Hankow, burned during the late revolution. As planned at present the new city will have wide streets which will permit the use of motor vehicles, but it will be several years before the work of reconstruction can be completed.

A German firm which handles a number of American manufactures would probably act as agent for motor cycles also. As regards shipping requirements all that is necessary is to send the bill of lading to the consignee. Goods are shipped by steamer to Shanghai, where they are transhipped to river steamers for Hankow and the other Yangtze ports.

[Consul Lester Maynard, Harbin.]

There are 10 motor cycles in Harbin, all German machines of one make, and all except two purchased about three years ago. They were all handled by one agent, but he intends giving up the agency, as he says it does not pay on account of the small demand. The retail prices of the make sold here are as follows: One-cylinder, 1½ horsepower, \$103; 2½ horsepower, \$129; two-cylinder, 3½ horsepower, \$193; 5-horsepower, \$245; 6-horsepower, \$270. The agent is granted a discount of 2 to 5 per cent for cash or, if he prefers, 11 months' credit. Harbin is the only town in northern Manchuria where motor cycles can be sold.

JAPAN.

[Consul George N. West, Kobe.]

There are about half a dozen motor cycles in Kobe and two or three in Osaka, used mostly by foreigners. The most popular makes are English and German, of one cylinder and 3½ horsepower, and retail at \$325 to \$375. There is small market at present, but the future prospects seem favorable. The roads in this vicinity are not generally good for cycling.

UNION OF SOUTH AFRICA.

DURBAN.

[Consul Nathaniel B. Stewart.]

In the six largest towns of this Province—Durban, Pietermaritzburg, Ladysmith, Dundee, Newcastle, and Greytown—there are 304 motor cycles licensed. Aside from these there are probably not to exceed a dozen others in the district. However, the number in use is constantly increasing, and while the market, for some years at least, will not be a very large one, owing to the small white population, yet it is worth striving for. The Government is looking to the early improvement of roads in the Province, and this will greatly tend to increase the use of both motor cycles and motor cars. The number of cars licensed in the six towns named is at present 203, and it is estimated that there are 50 to 75 others outside the limits of the towns and not licensed under borough regulations. The larger part of these are within the environs of Durban, and nearly all have been sold within the past three years.

Practically all the motor cycles in Natal are used by people in business to go back and forth between their offices and homes.

There are many makes in the Province, but probably the most popular is the English Rudge. A single-cylinder, $3\frac{1}{2}$ -horsepower machine of this make retails in Durban for \$307 to \$355, depending on whether it has a fixed or free engine. Other makes sell all the way from \$219 to \$487. Just how many machines of all kinds are sold in the district during a year is not definitely known, nor how many of any make, but it is fairly safe to say that of the total number now in use about one-half have been sold within the past 12 months; and of these the Rudge far outnumbered all others.

A leading dealer said that the best method for American firms to follow in entering this market would be to send out a machine to some reliable firm at the lowest possible cost for a trial and to quote on shipments the very lowest rates possible f. o. b. New York, through one of the well-known export commission houses there. Durban and Pietermaritzburg are the only two points in the Province where it would be worth while to establish agencies.

JOHANNESBURG.

[Consul Edwin N. Gunsaulus.]

In Johannesburg alone there are over 750 miles of streets, most of which are paved. The streets of all the principal towns of the Transvaal are good, and the country roads are in fair condition. Many of them, however, are intersected by water furrows, and in numerous places they are both sandy and stony. Owing to the condition of the roads in the outlying districts, the wheels of motor cycles should have strong spokes and the engines should have a clearance of $5\frac{1}{2}$ inches.

Up to September 18, 1912, the Johannesburg municipality had issued 1,266 licenses for motor cycles since January 1 of that year. Licenses issued for the same period in other principal cities and towns of the Transvaal were as follows: Germiston, 208; Boksburg, 161; Krugersdorp, 140; Pretoria, 187; Benoni, 159; a total of 2,121. It is estimated that between 700 and 800 motor cycles have been sold in the Transvaal during the past year.

Nearly all of the motor cycles in use along the Rand are employed primarily for practical purposes, although many are used for pleasure during week ends or on holidays. The motor cycle with side car is becoming popular, being used almost entirely as a pleasure vehicle.

MOST POPULAR MAKES.

The English Triumph has had the largest sale in this consular district. It is a one-cylinder, single-speed machine, fitted with either a fixed or free engine of $2\frac{1}{4}$ to $3\frac{1}{4}$ horsepower. The price of the standard model with fixed engine is \$304, and of the free-engine model \$352. It is estimated that the annual sales of this make of motor cycle are considerably in excess of 200.

The other makes, in the order of the number sold, may be taken as follows: Bradbury, Matchless, Rudge, B. S. A., New Hudson, Douglas, Rover, Ivy, Royal Enfield, Humber, Bat, James, Zenith-Gradua, and Singer, all of which are of British manufacture and are increasing their sales steadily. The Scott, Rex, Abingdon, King Dick, Precision, Hazelwood, Forward, and New Comet motor cycles are also represented in this market. The Indian is the only American make sold here at present.

English motor-cycle manufacturers are now introducing the twin-cylinder, two-speed gear, free-engine, 5 to 8 horsepower model, which sells at \$400 to \$475. For racing, the T. T. (Tourist Trophy) type of engine is fitted in various makes. Johannesburg, Pretoria, and Bloemfontein are the points where it would be most advisable to establish agencies.

CAPE TOWN.

[Vice Consul General W. A. Haygood.]

There was a marked increase in the use of motor cycles here in 1911-12. In the Western Province the estimated number of motor cycles on October 1, 1911, was 475, and in Cape Town 160, while on October 1, 1912, the number had increased to 800 in the Western Province and 250 in Cape Town. On the latter date in Cape Town there were also 12 commercial motor cycles. The British makes in use here are the Triumph, Premier, Matchless, Bradbury, Humber, P. & M., Rudge-Whitworth, Abingdon, Douglas, Ariel, Hazelwood, and B. S. A. All of these except the last three have side-car attachments. The American makes Indian and Flanders and the Belgian F. N. are also found on the market here.

The demand for motor cycles provided with side-car attachments has led to the building of cycle cars by English firms. They are less expensive than a motor car both as to original purchase price and upkeep. Several firms are importing these cycle cars from England, and it is confidently predicted that they will become exceedingly popular. They are two seaters, whether the passengers ride side by side or tandem. The motive power is understood to be of the same type as the motor cycle, but, generally speaking, they are of higher power. They are described as being "very light, four-wheel cars, for carrying two adult passengers, provided with about 8-horsepower engines, and retailing in England at \$450 to \$500."

It is the consensus of opinion here that the three-wheel type of motor cycle, having failed to compete in this market with the type adapted to pulling side cars, has no chance in competition with the new four-wheel cycle car. It may be mentioned, however, that the auto carriers here are three-wheel motor cycles, but are built only for delivery purposes and are of slow speed.

AUSTRALIA.

[Consul W. C. Magelssen, Melbourne.]

The most popular motor cycle on the Melbourne market is the one-cylinder Triumph, retailing at \$328, and with free engine at \$377. Among other machines on the market are the Calthorpe, Matchless, Bradbury, A. J. S., B. S. A., Singer, F. N., Abingdon, Rudge-Whitworth, Hunter, Premier, Rover, Motosacoche, Thor, Douglas, Acme, Lincoln-Elk, and Indian. The roads here are excellent for the use of motor cycles, and it is estimated that there are about 5,000 in use in this consular district.

It is thought by the trade that an American machine as good as the Triumph and slightly lower in price would command a good business here, but it would have to be of one or two cylinders, not more.

MEXICO.

[Consul T. C. Hamm, Durango.]

While bicycles are becoming very popular in this section of Mexico, motor cycles have not yet found much favor. This is due chiefly to the relatively high price of the motor cycle as compared with the bicycle, and the fact that the mountain and country roads of this section are not such as to encourage long-distance travel.

There are local agencies in this city for two American and one light-weight French motor cycle, but during the four years since the first machine appeared in this city only 12 or 15 have been sold.

The French machine is at present the most popular one sold locally, on account of its low price and the ease with which it may be started. This is a two-cylinder machine developing about $2\frac{1}{2}$ horsepower and selling retail at 600 pesos (\$300).

VENEZUELA.

[Consul Thomas W. Voetter, La Guaira.]

There are at present four motor cycles in this district, all at Caracas. A good agent stationed at Caracas might be able to develop a demand for these machines, but outside of that city there would probably be no chances to make sales. The few roads in existence were used principally for heavy carts up to a short time ago, but the Government is now laying great stress on road improvement and construction and this may increase the demand for motor cycles.

LIST OF DEALERS, ETC., ON FILE.

The names and addresses of firms which would probably consider a proposition to act as agent for American manufacturers of motor cycles were included in practically all the foregoing motor-cycle reports, and these lists, with the following additional articles, are on file in the Bureau of Foreign and Domestic Commerce. They will be loaned to American export firms interested.

Two copies of first issue of British periodical Cycle Car.

Catalogue Ariel Motor Cycles, 1912.

Two catalogues Brennabor Bicycles and Motor Cycles, in German (from Harbin, Manchuria).

Catalogue Triumph Motor Cycles, 1912.

Two catalogues Humber Motor Cycles, 1912.

One copy of English periodical Motor Cycle.

Newspaper clippings, advertisements, etc., from Cape Town, showing details of cycle cars on sale.

Clipping from London Daily Mail giving list of English and other motor cycles on sale in England, with prices.

Lists of firms handling motor cars in Manchester and other important towns of Manchester district.

One copy of each of two numbers of British publication Motor.

One copy of British publication Auto.

Lists of dealers in automobiles in St. Etienne, Clermont-Ferrand, Lille, Havre, and Roubaix, France.

Pamphlets and folders of Mors Automobile Co., Charron (Ltd.), and Delaunay-Belleville car, and catalogues of Ford, Clement-Bayard, La Licorne, and Lorraine-Dietrich automobiles (all in French).

List of agents and garages in Malaga, Spain.

List of automobile dealers in Seville, Spain.

List of automobile agents and garages in Yokohama and Tokyo, Japan, and samples of newspaper advertisements of automobiles (in English).





