CHAPTER V

THE CANAL AND FREIGHT RATES

The Panama Canal was constructed to lessen the costs of transportation by reducing the time and distances of voyages between the eastern seaboard of the United States and Canada and the west coast of North and South America, between Europe and the Pacific coast of the Americas and between the Atlantic seaboard of North America and Japan, China, the Philippines, Australia, and New Zealand. It was sought to effect this reduction in the costs of transportation in order thereby to facilitate trade, to assist industry to develop, and, if possible, to lower the price which consumers pay for articles.

It is clear that the carrier's costs of transportation can be lowered by shortening the distances that commodities have to be carried; and it is equally evident that trade and industry will be aided if the reduction in the costs of transportation is accompanied by a corresponding decrease in freight rates. If freight charges are lowered, manufacturers and other producers will be benefited and it will be possible for them to lower

wholesale prices. The extent to which wholesale prices will actually be reduced by a lowering of the costs of transportation and a decrease in freight rates will, of course, depend upon the extent to which wholesale prices in the various industries are subject to competition and the extent to which they are monopolistic. In international trade, wholesale prices are, in most instances, controlled by competition; but in domestic or internal trade, wholesale prices in many industries are only partially determined by competition. Some products are sold in the domestic market at wholesale prices that are fully competitive, the prices of other articles are controlled in part by competition and in part by monopoly, while some commodities are sold at such wholesale prices as producers may think best to charge; i. e., wholesale prices may be competitive, partially monopolistic, or completely monopolistic.

When wholesale prices are controlled by competition, a reduction in the producer's cost which includes freight charges will result in lower prices to wholesale buyers. Inasmuch as only a part of the many articles which enter into domestic trade are produced and sold under conditions of unrestricted competition, it must be evident that it would be difficult to determine the influence which a reduction in general freight rates, due to the Panama Canal, will have upon the general

level even of wholesale prices. It must also be evident that it would be more difficult to determine the effect which the Panama Canal may have upon retail prices. The factors which enter into the determination of retail prices are so many and so difficult to measure that one may well conclude that it is practically useless to endeavor to estimate the benefits which individual consumers will derive from the transportation economies resulting from the use of the Panama Canal.

In view of these facts, the present discussion of canal freight rates will be limited to a consideration of the general effects of the canal; first, upon the cost of transportation, particularly between the two seaboards of the United States; and, second, the effects which the reduction in the costs of transportation may be expected to have, or actually has had, upon the rates charged by American railroads that compete with the coastwise lines for traffic between the eastern and western parts of the country. This discussion will, necessarily include an analysis of the factors that control railway rates between the Atlantic and Pacific sections of the United States, and an explanation of the adjustment of rates that the interested railroads have actually made in order to meet the competition of the coastwise carriers.

The general effect of the Panama Canal upon the cost of transportation will be, first of all, that

due to reducing the length of ocean routes and the time vessels take in performing the transportation services for which charges must be paid by shippers and consignees. A statement has been made in Chapter III of the reduction which the canal will effect in the length and time of ocean voyages. The reduction in the cost of transportation between terminals is roughly proportionate to the reduction in the length and time of voyages.

Another measurable effect of the canal upon the cost of transportation is the economy due to the avoidance of the transfer of such traffic as was, or would be, transferred across the Isthmus at Panama or Tehuantepec. Since 1855 traffic has been regularly transferred across the Isthmus of Panama, and, during the seven years preceding the opening of the Panama Canal, an increasing tonnage of freight was shipped between the two seaboards of the United States, and from Hawaii to New York, via the Isthmus of Tehuantepec. The transfer costs at the Isthmus, including the double handling of traffic, the maintenance of expensive terminals, and the operation of a railroad across the Isthmus, amount, on the average, to more than $3 per ton of 2,000 lbs. For several years the American-Hawaiian Steamship Company paid the Mexican National Railway at Tehuantepec an average of about $3.50 per ton for

transferring traffic from the vessel in one ocean to the ship in the other ocean.

It need hardly be said that the actual cost of transferring traffic from vessel to vessel is not the full measure of expenses avoided by the opening of the canal across the Isthmus. The transfer of traffic delays vessels and thus reduces the earning capacity of ships, and any delay such as the double handling of traffic increases the time required to transport goods from shipper to consignee. Throughout the business world time is money, and a reduction in the time required for the transportation of freight means a definite saving for the producer and trader as well as for the carrier.

The Panama Canal has reduced the cost of transportation by providing an additional facility that can advantageously be used by a large share of the world's commerce. The addition of such a facility as the Panama Canal to the agencies that serve ocean commerce makes it possible and profitable to add to the number of ocean lines, to enlarge terminal facilities, and thus generally to increase the facilities that serve ocean commerce and reduce the expense of trading in markets reached by ocean routes. Some of these economies are expressed in reduced freight rates, while others not less definite are expressed not in lower freight charges but in the larger commerce that becomes

possible by the shifting of lines of ocean commerce from circuitous to more direct routes.

The effect which the canal has had upon the system of rates by rail between the eastern and western sections of the United States can be stated only by beginning with a brief account of the rates that, before the opening of the canal, had been worked out by the transcontinental railways in competition with the carriers that were engaged in the intercoastal commerce.

The first railroad constructed from the Missouri River to the Pacific coast was the Union Pacific-Central Pacific line that was opened in 1869. Fourteen years before this a railroad had been completed across the Isthmus of Panama from Colon to Panama, and traffic via the Panama route between New York and San Francisco was carried in large volume up to the opening of the transcontinental railroads across the United States. From 1870 on, the tonnage transferred across the Isthmus of Panama en route between the Atlantic and Pacific seaboards of the United States decreased, but the use of this route was never abandoned; and, during the ten years preceding the opening of the Panama Canal, an enlarged volume of through business was handled by the Panama Rail Road. Throughout the latter half of the nineteenth century, sailing vessels made their way between the two seaboards of the United States

around Cape Horn, while steamers took the route through the Straits of Magellan. Thus from the beginning, the transcontinental railroads had to meet the competition of the coastwise carriers, and this competition was especially active from 1907 to the opening of the canal, during which period the American-Hawaiian Steamship Company made use of the route via the Isthmus of Tehuantepec across which traffic was transferred by the Mexican National Railway.

The competition of the transcontinental railways with the coastwise carriers resulted in the adoption of a system of transcontinental rates having the following special characteristics:[1]

(a) The through rates between the two seaboards are lower than the charges for the shorter haul to and from intermediate points in the Rocky Mountain States. The rates from New York or Pittsburgh to points in Nevada or Utah are higher than the rates to California; likewise, rates from Nevada, Utah or Idaho to the eastern part of the United States are usually in excess of charges from points at or near the seaboard in California, Oregon and Washington.

(b) The westbound rates to the intermediate points, until recently, have usually been the sum of the through rate plus the local rate from the nearest Pacific coast

[1] See "Commercial and Trade Aspects of the Panama Canal," a paper which the writer prepared for the International Engineering Congress that met in San Francisco, September 20-25, 1915.

terminal to the intermediate point of destination; i. e., the rate from Philadelphia to Reno, Nevada, has formerly been the rate to Sacramento, the nearest Pacific coast "terminal," plus the local rate from that terminal to Reno. Some intermediate rates, particularly the rates to intermountain points on the northern transcontinental lines, have been the sum of the rates to or from the Pacific coast terminal plus a differential somewhat less than the local rate between the seaboard terminal and the intermediate point.

After a long contest carried on by the shippers in the intermountain territory against these higher rates at intermediate points, the Interstate Commerce Commission, in 1911,[1] established a percentage adjustment between the through and intermediate rates on westbound shipments. The decisions of the Interstate Commerce Commission in the Reno and Spokane cases, which were later upheld by the Supreme Court,[2] provided that on traffic originating at the Missouri River and points west thereof (Zone 1) the rates to intermediate points should not be higher than the rates through to the Pacific coast terminals; that on traffic originating in the Chicago territory and at points between Chicago and the Missouri River (Zone 2), the rates to intermountain points should not exceed by more than 7 per cent. the through rates to the coast; that, on shipments originating in the Buffalo-Pittsburgh territory, and in the section between that territory and Chicago (Zone 3), the rates to inter-

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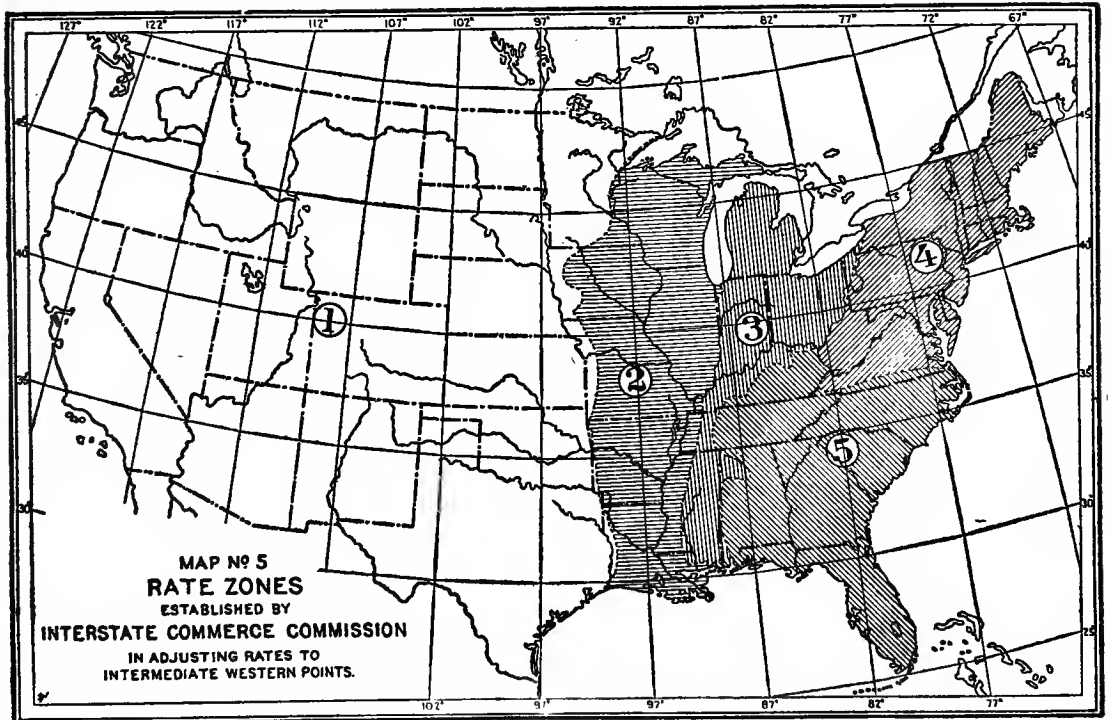
[1] *Railroad Commission of Nevada* v. *Southern Pacific Co., et al.*, XXI I. C. C. Reps., 329-84; *City of Spokane et al.* v. *Northern Pacific Co. et al., Ibid.*, 400-27.

[2] Intermountain Rate Cases, 234 U. S. 476. Decided June 22, 1914.


MAP Nº 5
RATE ZONES
ESTABLISHED BY
INTERSTATE COMMERCE COMMISSION
IN ADJUSTING RATES TO
INTERMEDIATE WESTERN POINTS.
1
2
3
4
5

mountain points should not exceed the through rates by more than 15 per cent.; and that, on traffic from the section between the Buffalo-Pittsburgh district and the Atlantic seaboard (Zone 4), the rates to intermountain points should not exceed the rates through to the Pacific seaboard terminals by more than 25 per cent. These percentages indicate the commission's estimate of the influence of the Panama and Tehuantepec routes upon the transcontinental railroad rates before the opening of the Panama Canal. The transcontinental rates to and from the southeastern part of the United States (Zone 5) were not included in the percentage adjustment. The five zones are charted on Map 5.

(c) Another effect of the competition of the coastwise lines with the transcontinental railroads was the blanketing of westbound rates over the eastern half of the United States. The rates to the west coast on most commodities were the same from all points east of the Missouri River; i. e., the same rate prevailed from New York, Chicago, St. Louis and Kansas City to west coast points.

Both class rates and commodity rates westbound as well as eastbound are stated by lettered "rate groups" A to J, into which the eastern half of the United States is divided. Map 6 shows the area covered by the several rate groups. In the case of class rates, there is some grading of charges by rate groups on westbound traffic, and to a greater extent upon eastbound freight. However, most commodities shipped from the eastern half of the United States to the west coast pay the same rate

TRANSCONTINENTAL
RATE GROUPS
MAP
TRANS-CONTINENTAL FREIGHT BUREAU
TERRITORY OF WESTERN
A
B
C
D
E
F
G
H
Portland
Boston
New York
Philadelphia
Baltimore
Norfolk
Buffalo
Detroit
Cleveland
Pittsburgh
Chicago
Cincinnati
Louisville
Memphis
Nashville
Atlanta
Mobile
New Orleans
Galveston
St. Louis
Kansas City
Omaha
St. Paul
Duluth
Denver
Salt Lake City
Ogden
Helena
Butte
Spokane
Seattle
Portland
Reno
Sacramento
Stockton
San Francisco
San Pedro
San Diego

whether shipped from the Atlantic seaboard section or from the central West.[1]

The through route between the two seaboards via the Southern Pacific Railroad from the Pacific coast to Galveston and New Orleans and from those cities to New York by the Southern Pacific Company's steamers (the Morgan Line) was established in 1883. The Sunset-Gulf route immediately began an active warfare against its competitors by rail and by water lines, and secured a large share of the traffic from coast to coast. The transcontinental railroads, other than the Southern Pacific, ran from the Mississippi and Missouri rivers to the Pacific coast and were primarily interested in the development of traffic between the middle West and the Pacific coast. The rates by the Sunset-Gulf route from New York to San Francisco were made the same as the rates by the transcontinental lines from St. Louis and Missouri River crossings to the Pacific. Gradually the rates by the through all-rail lines from the Atlantic to the Pacific were made the same as the rates from Chicago, St. Louis and Missouri River crossings to the Pacific seaboard. This system of blanket rates was worked out by 1896, and has since prevailed on westbound traffic.[2]

[1] For a full explanation of transcontinental freight rates see Johnson and Huebner, *Railroad Traffic and Rates*, I. chap. xxiv (1911).

[2] See Johnson, *Panama Canal Traffic and Tolls*, 52.

This policy of the Southern Pacific had much to do in bringing about the blanketing of westbound transcontinental rates. The other cause that brought about this system of blanketing rates was the insistence of manufacturers in Chicago, St. Louis, St. Paul and other central western points, as well as the demand of the railroads connecting the Mississippi Valley with the Pacific coast, that the middle West should be allowed to market its products on the west coast in even competition with manufacturers located at or near the Atlantic seaboard whose rates by rail to the Pacific coast were regulated by competition between the coastwise and rail lines.

Eastbound rates from west coast points to places on and east of the Missouri River were, in part, blanketed over the territory east of the Missouri River, but the system of blanketing the territory east of the Missouri River did not prevail so fully in eastbound as in westbound tariffs. Eastbound rates were, and still are, graded by zones, or by so-called "rate groups," as explained above, but in the case of fruit, lumber and other important commodities there is little grading of rates as between different parts of the territory east of the Missouri River.

Such was the system of transcontinental railroad rates at the time of the opening of the canal. Shortly before the canal route became available,

the Supreme Court had, as stated above, upheld the decisions of the Interstate Commerce Commission in the Intermountain Rate cases and the commission had issued an order establishing the percentage adjustment above described between the through rates to the west coast and the rates to intermediate intermountain points. Had that system of percentage adjustments remained unchanged, whatever effect the canal may have had upon through rates by rail between the two seaboards it would have had upon the rates to intermediate intermountain points which would have changed automatically with variations in the through rates. The Pacific railroads, supported by certain business interests in the middle West, were, however, desirous of securing authority to reduce rates by rail from the middle West to the Pacific coast without being obliged thereby to lower the charges to intermediate places in the Rocky Mountain territory; and the Interstate Commerce Commission was petitioned to permit the reduction of some through rates without making a change in the intermediate charges. In other words, the Interstate Commerce Commission was petitioned to modify its decisions in the Spokane and Reno cases; and, after hearings held in October, 1914, the Interstate Commerce Commission, in an opinion rendered January 29, 1915, permitted the railroads under certain limi-

tations to reduce the westbound through rates without lowering the charges to intermediate points on a list of articles including commodities for which the competition of rail and water lines is most active.[1] This order was, however, rescinded by an order effective September 1, 1916. See note page 93.

¶ This decision of the Interstate Commerce Commission permitting the railroads to make lower rates through to the Pacific seaboard without reducing charges to intermediate intermountain points was reached after comparing rates by the transcontinental railroads and by the coastwise carriers upon the principal commodities moved between the two seaboards. The commission found that the traffic by way of the canal comprised articles originating in the middle West as well as articles shipped by producers at the seaboard. Concerning the extent of the actual competition of the coastwise carriers with the railroads, the commission says:

Whatever may have been the degree of competition in the past between the rail carriers and the water carriers as to the rates on these articles concerning which additional relief is now sought, we are witnessing the beginning of a new era in transportation between the Atlantic

[1] Commodity Rates to Pacific Coast Terminals and Intermediate Points, XXXII I. C. C. Reps., 611-58; *Ibid.*, XXXIV, 13-20. See note at end of chapter concerning rescinding of these orders.

and Pacific coasts. To secure any considerable percentage of this coast-to-coast traffic, rates on many commodities must be established by the rail lines materially lower than those now existing.

The Interstate Commerce Commission took the position that the railroads should be allowed to compete actively with the coastwise carriers, and that the railroads should be permitted so to adjust their through and intermediate rates as to make competition with the coastwise lines possible on a large scale. The view of the commission concerning the policy that should be followed by the Government in regulating the rates upon the traffic which the railroads secure by competition with the coastwise lines was expressed as follows:

It has been suggested that the construction of the Panama Canal by the Government of the United States is indicative of a governmental policy to secure all of this coast-to-coast business for the water lines, and that no adjustment of rates by the rail lines should be permitted which will take away traffic from the ocean carriers which normally might be carried by them. This suggestion, however, loses force under the consideration that the Panama Canal is but one of the agencies of transportation that the Government of the United States has fostered between the Atlantic coast and the Pacific. The Government has from the beginning of railroad construction in the United States encouraged their construction and operation by private capital and enterprise. Some of these transcontinental lines would not

have been built had it not been for the liberality of the Government extended to them at the time of their construction. As we view it, the Panama Canal is to be one of the agencies of transportation between the east and the west, but not necessarily the sole carrier of the coast-to-coast business. If the railroads are able to make such rates from the Atlantic seaboard to the Pacific coast as will hold to their lines some portion of this traffic with profit to themselves, they should be permitted so to do. The acceptance of this traffic will add something to their net revenues, and to that extent decrease, and not increase, the burden that must be borne by other traffic. It will also give the shippers at the coast points the benefits of an additional and a competitive service.

The adjustment of rates authorized by the Interstate Commerce Commission to give effect to the policy expressed in the paragraph just quoted allowed a modification, but not the abandonment, of the percentage relationship between the through rates by rail to and from the coast and the rail rates to intermountain points. The commodities transported by the transcontinental railroads were grouped by the commission into schedules A, B, and C, and the rates in schedules A and B were left as they were before the opening of the canal. The commodities, somewhat more than 100 in number, included in schedule C were given reduced rates through to the coast, but the reduced rates were to bear a fixed differential relation to the rates on the same com-

modities to intermountain points. The rate adjustment allowed January 29, 1915, was as follows:[1]

From points on the Missouri River and in the territory west thereof (Zone 1) carload rates to intermediate points are not to exceed those to Pacific coast terminals, except for a list of 28 articles or commodity groups which consist, for the most part, of various kinds of iron and steel manufactures. In the case of this excepted list the through rates, as filed by the carriers, may be less than the intermediate rates, provided that the rates to intermediate points in no instance exceed 75 cents per 100 pounds.

Carload rates through to the Pacific coast seaboard from Zones 2, 3 and 4 may be lower than the intermediate rates for articles listed in schedule C (with the exception of six exempted commodities and of 27 items that were withdrawn by the carriers from their petition), provided the rates to intermediate intermountain points from points in Zones 2, 3 and 4 do not exceed the rates from the Missouri River to the same destinations by more than 15, 25 and 35 cents per 100 pounds, respectively. In the case of coal and pig iron, the rates to the Pacific coast may be lower than the rates to intermediate points, provided the intermediate rates do not exceed 5 mills per ton per mile.

For commodities in schedule C the through rates on less than carload shipments from points in Zone 1 may be lower than the rates to intermediate points on "all articles listed as first or second class in western classification upon which the rates to the terminals are less than $1.50 per 100 pounds, and on all articles listed as

[1] This adjustment has been rescinded, effective September 1, 1916.

third or lower class on which the rates to the terminals are less than $1.25 per 100 pounds, provided that on and after May 1, 1915, the rates to intermediate points on all such first and second class articles do not exceed $1.50 per 100 pounds, and on all such third or lower class articles $1.25 per 100 pounds. By the supplemental decision of April 30, 1915, the maximum less-than-carload rates to intermediate points on first and second classes may be $1.72 per 100 pounds when lower rates to the terminals are applicable.

Less-than-carload commodity rates from points in Zones 2, 3 and 4 to Pacific coast terminals, as filed by the carriers, may be lower than the rates to intermediate points, provided "the rates to intermediate points do not exceed the rates from the Missouri River to the same destinations by more than 25, 40 and 55 cents per 100 pounds from points in Zones 2, 3 and 4, respectively.

The decision of the Interstate Commerce Commission by which the foregoing adjustment of rates was permitted was supplemented by a second decision rendered a few months later, April 30, 1915,[1] defining the "back haul" territory inland from the Pacific coast terminals, and fixing the rates which the railroads might charge for traffic to points in that territory. The back haul territory was made to extend 200 miles inland from the Pacific coast, and the direct rail rate into this territory is not to exceed the sum of the through rate to the Pacific coast plus 75 per

[1] XXXIV I. C. C. Reps., 13-20.

cent. of the local rate from the nearest coast terminal to the inland point of destination within the back haul territory. It is provided, moreover, that the sum of the through rate to the Pacific coast plus 75 per cent. of the local back haul rate shall not exceed the maximum prescribed for intermediate points in the rate adjustment permitted by the previous decision of the commission, that of January 29, 1915. The Pacific coast ports included by the Interstate Commerce Commission in the list of cities to which terminal rates are allowed, and from which back haul rates may be calculated to determine the charge by direct rail route to points in the back haul territory, are San Diego, San Pedro, East San Pedro, Wilmington, East Wilmington, San Francisco, and Oakland, Cal.; Astoria and Portland, Ore.; Vancouver, Bellingham, South Bellingham, Everett, Tacoma, Seattle, Aberdeen, Hoquiam, and Cosmopolis, Wash.[1]

Another important adjustment in transcontinental railroad rates was made after the Interstate

[1] The railroads had previously treated as terminals a much larger number of cities. The cities of Sacramento, San José, Stockton, and Santa Clara have secured an order from the United States District Court forbidding the Interstate Commerce Commission from denying these four cities terminal rates. Presumably the commission will appeal to the United States Supreme Court for a reversal of the District Court's order.

Commerce Commission's order of April 30, 1915, was issued. By that order the rate on certain specified iron and steel articles to Pacific coast ports from Chicago and from all points between Chicago and the Missouri River was 55 cents per 100 pounds, whereas the rate from Cincinnati (group C) territory and from Pittsburgh (group B) territory was higher, the rate from Pittsburgh and common points being 73.9 cents per 100 pounds. The railroads, supported by Cincinnati and Pittsburgh shippers, petitioned for a 55-cent rate on specified iron and steel articles from Pittsburgh in order that Pittsburgh and Cincinnati might be put upon a common basis with Chicago in shipping to the west coast, and also that the railroads might be able to hold the traffic from Pittsburgh and Cincinnati against the competition of the coastwise carriers through the canal.

The commission granted a 65-cent rate from Pittsburgh and Cincinnati (rate groups B and C). This decision was rendered March 1, 1916.[1] At that time the Panama Canal was not open to traffic and coastwise carriers were not quoting rates between the two seaboards, but shortly before the canal was closed in September, 1915, coastwise rates on many articles of steel were 40

[1] "Rates on Iron and Steel Articles from Pittsburgh Territory to Pacific Coast Ports," XXXVIII I. C. C. Reps., 237-242. This decision and order were rescinded September 1, 1916.

cents per 100 pounds. In some instances the rates were 45 and 50 cents. It was the judgment of the commission that an average coastwise rate of 40 cents on iron and steel between the two seaboards justified a rate of 65 cents by all-rail route from Pittsburgh and Cincinnati to the west coast.

The rate policy followed by the coastwise lines that have been operated through the canal has been modified from time to time and probably has not yet reached its final formulation.[1] As was to have been expected, several coastwise lines began operating between the two seaboards of the United States as soon as the canal was opened; and in order to secure adequate traffic promptly, especially low rates were offered shippers. The principal coastwise lines readily secured at these low rates all the traffic they were able to handle, and from time to time advances were made in the rates.

A comparison of the rates between the two seaboards that were charged, in 1914-15, by the coast-

[1] April 25-27, 1916, the Interstate Commerce Commission heard testimony and argument upon a petition of the intermountain cities for a readjustment of the relation of the through and intermediate rates. The basis of the petition was the lessened competition of the coastwise carriers with the transcontinental railroad lines due to the temporary closing of the canal and to the effect of the European War upon ocean rates. This petition was granted by order effective September 1, 1916.

wise lines and by the railroads shows that the rates coastwise were lower than the railroad rates by amounts varying largely with different commodities. The rates of the coastwise lines cover only the transportation between the seaboard terminals, whereas the railroad lines quote a flat or blanket rate applying not only between the seaboard terminals but also, as regards many commodities, from points in all rate groups A to J to Pacific coast terminals. (See Map 6.) That is, the railroad rate between Pittsburgh or Chicago and the Pacific coast is, for many articles, the same as the rail rate between New York and the Pacific coast, whereas the transportation charges for shipment between Pittsburgh and the Pacific coast via New York would include the rate charged by the coastwise lines and also the rail rate from Pittsburgh to New York. It is no longer the practice of coastwise lines to "absorb" the rail portion of such a rate, and the shipper to or from an interior point like Pittsburgh or Cincinnati must figure out for each commodity whether it would be more economical to ship by the direct all-rail route, or by an indirect rail and coastwise route. In general, it has been the policy of the coastwise carriers so to adjust their rates as to be able to compete successfully for such shipments to and from interior points as were deemed by the managers of the coastwise

lines to be necessary to enable the lines to secure the tonnage required to fill their vessels.

A comparison of the rates that have been charged by the principal lines operating coastwise through the canal between the two seaboards of the United States shows for most commodities that the rates have been the same by all of the lines. There are, however, some differences in the rates that have been charged by the different lines, and the rates up to the present time have evidently not been fixed by agreements among the competing carriers. Traffic has been so abundant and the demand for ocean shipping created by the European War has been so great that the coastwise lines have not been obliged to take measures to limit competition. It is not to be expected, however, that these conditions will prevail permanently after the close of the war and the return of normal commercial conditions. In course of time the coastwise lines operating through the canal may be expected to associate in "conferences" for the purpose of agreeing upon uniform rates and adjusting the charges coastwise with reference to the charges of the transcontinental railroads.

The rate policy which the transcontinental railroads will follow and the system of charges which they will maintain have now been determined by the Interstate Commerce Commission, subject,

possibly to minor future changes from time to time. The general schedule of rates charged by transcontinental railroads will, as the result of government regulation, necessarily be stable; and, in the long run, the coastwise carriers, while exerting a constant competitive influence upon the general system of transcontinental railroad rates, will tend to adjust the rates coastwise with reference to the general level of railroad rates; that is, the charges made by coastwise lines will, in general, be made as much lower than the railroad rates as is necessary to secure for the carriers by water the tonnage required to fill the vessels in operation.

The railroad rates upon such commodities as can be carried coastwise as full vessel cargoes will, necessarily, be influenced by the cost which large producers or shippers of grain, lumber, and similar commodities would incur in securing vessels by purchase or charter for the transportation of cargoes. The number of commodities that can be shipped in full vessel cargoes is limited. Relatively only a few of the largest shippers can profitably own or charter vessels for the transportation of their own commodities. In the long run, the railroads will not be able to make rates as low as the cost of moving commodities in full vessel loads when ships can be purchased or chartered at normal prices or rates. The competi-

tion of the railroads will, for the most part, be with the regular coastwise lines which, however, will probably serve 99 out of every 100 men who ship coastwise between the two seaboards of the United States.

The canal has lowered the cost of transportation by water between the two seaboards of the United States and temporarily caused a reduction of some railroad rates across the United States and consequently a reduction in some of the through rates by rail and water between the United States and foreign countries. If public opinion and wise legislation can effectively control the forces that interfere with the equitable social distribution of the benefits resulting from the reduction which the canal will effect in the cost of supplying consumers with many of the commodities they purchase, the general public, as well as the carriers, traders, and producers who make direct use of the canal, will profit from the investment of $400,000,000 which the United States has made to provide a more economical route for the commerce of the United States and other countries.

[NOTE. As noted at several points in this chapter, the Interstate Commerce Commission, by order effective September 1, 1916, has rescinded its orders of 1915 and 1916 permitting the reduction of through rates to the west coast without corresponding reduction to intermountain points. On account of the European War, ships are so scarce and ocean rates are so high that, for the present, coastwise lines through the canal can not charge rates low enough to control the rates by rail.]

CHAPTER VI

THE CANAL AND THE DOMESTIC TRADE AND INDUSTRIES OF THE UNITED STATES

When, on the fifteenth of August 1914, vessels of commerce began making their way between the Atlantic and Pacific oceans regularly by way of the Panama Canal, an event occurred in the history of the world's commerce comparable only with the opening of the Suez Canal. Following the construction of the Suez waterway, which was completed forty-five years before the Panama Canal was opened, the commercial and economic, and even the political, life of India and eastern Asia entered upon a new development. The East and the West were brought into more intimate intercourse and the progress of both was quickened. The forces set in operation by the Suez Canal have not only continued to shape the course of history but are today more potent than they were when the shortened ocean highway to and from the Orient was first followed by the world's commerce.

It is not yet possible to take full account of the economic changes that the Panama Canal will

produce. We are too near events to see them in perspective. Certain statistics of traffic can be recited, the use being made of the canal by some typical industries can be pointed out, and some forecast may be ventured as to the probable services which the canal will render to the United States and other countries; but only the unfolding scroll of history can reveal the effects which the Panama Canal will have upon the economic and political future of the United States and of other countries bordering the Atlantic and Pacific. For the present it will be well to confine our efforts mainly to a statement of the use that has been made of the canal, and of the clearly discernible influences which the canal may be expected to exert in the years that lie in the immediate future.

To carry out this purpose of making a reconnoissance of the results, accomplished and in early prospect, of the opening, in 1914, of a shorter and more economical route for the intercoastal and foreign commerce of the United States and for the trade of Europe with the Pacific ports of North and South America, it is desirable that this book upon the canal and commerce should devote successive chapters to the relations of the canal to the following subjects: the domestic trade and industries of the United States, the foreign trade of the United States,

the American merchant marine, and the interest of Europe in the canal. This series of chapters may well begin with an analysis of the use made of the canal not only by the domestic commerce and industries of the United States, but also by the commerce of the United States with foreign countries and by the commerce of Europe with countries other than the United States.

The use that is to be made of the Panama Canal by traders and producers making shipments between the eastern and western sections of the United States is indicated by the intercoastal traffic that was carried through the canal up to the time the waterway was temporarily closed by the slides at Culebra in September 1915. During this period of thirteen months, the total shipments via the canal between the two seaboards of the United States (the Hawaiian trade being included) amounted to 2,236,502 tons of cargo, the traffic being nearly equally divided between eastbound and westbound shipments. The net tonnage (Panama Canal measurement) of the vessels that carried this cargo was 1,616,759 tons, the tonnage of a vessel being counted on each trip through the canal. The intercoastal traffic was one-third of the total of 6,706,915 tons of cargo shipped through the canal.

During this period of thirteen months and two days that the canal was in operation before the

slides in September 1915, put the waterway temporarily out of service, the traffic had averaged somewhat over 500,000 cargo tons per month. During the last six full calendar months of the period the average was over 600,000 cargo tons per month. As just stated, one-third of this was strictly domestic commerce that moved between the two seaboards of the United States. The major share of the remaining two-thirds consisted of commerce between the United States and foreign countries. The commerce of the Pacific coast of the United States and Canada with Europe amounted to 969,993 cargo tons, and of this total Canada's portion would be a minor share. The trade between Atlantic-Gulf ports of the United States and western Central and South America comprised 1,363,102 cargo tons, by far the greater part of this being trade with western South America. The commerce via the canal between the eastern part of the United States and transpacific countries, Japan, China, the Philippines and Australia, amounted to 1,195,665 cargo tons. Most of the remaining traffic through the canal during the first thirteen months was that of commerce between Europe and South and Central America. In addition to the traffic definitely assignable to the foregoing categories were 59,525 cargo tons of goods transshipped at Cristobal during July, August, and September, 1915.

There were also 167,968 tons shipped through the canal over "miscellaneous" routings.

Stated in percentages, 33 1/3 per cent. of the traffic via the canal during the first thirteen months of operation consisted of goods shipped in the intercoastal domestic commerce of the United States; 38 per cent. consisted of goods moved in the trade of the United States with foreign countries, i.e., with western Central and South America and with transpacific countries; 10.6 per cent. of commodities in the commerce of Europe with the west coast of Central and South America; about 14½ per cent. of commerce between Europe and the western United States and Canada; while 2½ per cent. was of commerce moving over "miscellaneous" routes.[1]

For purposes of comparison, the traffic through the canal from the Atlantic to the Pacific and from the Pacific to the Atlantic during the first thirteen months of the operation of the canal, over each of the routes above considered, is stated in Table 1:

[1] There were also 59,525 tons of cargo transshipped during July, August and September 1915, at Cristobal while en route between Atlantic and Pacific ports. The official analysis of canal traffic up to the end of June 1915, apportioned the traffic transshipped at Cristobal among the several main routes according to the destination of the traffic transshipped; but the statistics for the months of July, August, and September 1915, do not thus apportion the traffic transshipped at Cristobal.

TABLE 1

Distribution of Traffic over the Five Main Routes, August 1914 to September 1915, Inclusive

Atlantic to Pacific

	Vessels	Net Tonnage	Tons of Cargo
United States coastwise	215	848,428	1,134,673
Europe to west coast of North America	45	158,864	127,376
Europe to South and Central America	58	146,714	81,182
United States to South and Central America	105	342,776	399,776
United States to Australia and Far East	154	641,144	994,370
Atlantic terminus to South and Central America[1]	28	46,161	28,828
Miscellaneous	23	74,661	106,802
Vessels in ballast	133	378,253	.....
Total	761	2,637,001	2,873,007

Pacific to Atlantic

United States coastwise	199	768,331	1,101,829
West coast of North America to Europe	131	493,577	842,617
South and Central America to Europe	133	410,838	632,978
South and Central America to United States	184	632,603	963,326
Australia and Far East to United States	32	138,038	201,295
South and Central America to Atlantic terminus[1]	27	44,316	30,697
Miscellaneous	16	40,457	61,166
Vessels in ballast	36	95,664	.....
Total	758	2,623,824	3,833,908
Total westbound and eastbound	1,519	5,260,825	6,706,915

[1] July, August and September; statistics for previous period apportioned among the several main routes according to destination of the traffic transshipped.

It will be noted that vessels engaged in the intercoastal domestic trade made 414 passages through the canal during these thirteen months. As stated above, these vessels carried 2,236,502 tons of cargo. As measured by the Panama Canal tonnage rules, the total net tonnage of these vessels was 1,616,759, the average size of the vessels being 3,905 tons.

The vessels engaged in the commerce between Europe and the west coast of the United States and Canada, eastbound and westbound, made 176 passages through the canal and transported 969,993 tons of cargo; the number of passages made by these vessels was 11½ per cent. of the total number of vessels through the canal. The tonnage of this cargo constituted 14.5 per cent. of the total cargo traffic of the canal during the period in question.

The commerce of Europe with South and Central America was but a small fraction of what it would have been had there been no war in Europe. Under the conditions of restricted trade, the vessel passages through the canal in this trade during the thirteen months covered by the above table were 191, and the cargo transported amounted to 714,160 tons. Accordingly, this trade amounted to only 12½ per cent. of the total vessel passages through the canal, and to only 11½ per cent. of the total cargo tonnage of the canal. Had there been no war in Europe, it is probable that the traffic between Europe and the west coast of South America would have comprised about 35 per cent. of the total traffic through the canal.

To handle the commerce between the United States and South America during the thirteen months ending with the 17th of September, 1915,

there were 289 vessel passages through the Panama Canal, the vessels being loaded with 1,363,102 tons of cargo. These figures represent 19 per cent. of the total number of vessel passages and 20.3 per cent. of the total cargo tonnage of the canal traffic. Ordinarily the commerce of Europe with the west coast of South America would probably not be less than three times the commerce between the United States and that section, whereas, on account of the war, the trade of the United States was nearly double that of Europe with western South America.

The above table shows that in the commerce between the United States and transpacific countries vessels made 186 passages through the canal, transporting 1,195,665 tons of cargo. These figures represent respectively 12.2 per cent. of the total number of vessel passages and 17.8 per cent. of the total cargo tonnage through the canal. The far-reaching effect of the European War is indicated by these figures concerning the trade of the United States with transpacific countries. In spite of the large shipments of war supplies to Vladivostok for transportation thence to Russia over the Trans-Siberian Railway, the volume of trade between the United States and countries beyond the Pacific was not as large as it probably would have been under normal conditions. The purchasing power of Japan, China, and Australia

was reduced by the European War and, to some extent, by Japan's participation in that war. Moreover, this trade, like that of other parts of the world, was restricted by the scarcity of vessels and the high freight rates prevailing on the ocean.

The traffic transshipped from one vessel to another at Cristobal, the Atlantic terminus of the canal, from the thirtieth of June to the eighteenth of September 1915, amounted to 59,525 cargo tons, or seven-eighths of one per cent. of the total traffic. A small percentage of the traffic through the canal is carried by vessels having such routings and destinations as prevent the vessels and their traffic from being classified with reference to the five main routes among which the above table classifies the traffic through the canal. As shown by the table, the traffic over "miscellaneous" routes during the thirteen months' period amounted to 167,968 tons, or to only 2½ per cent. of the total canal tonnage.

The commercial usefulness of the canal as revealed by the traffic passing through the waterway is indicated most clearly by a statement giving the name and tonnage of each of the principal commodities shipped through the canal during the thirteen months preceding the temporary closing of the waterway in September 1915. Table 2 contains a list of the sixteen commodities

that contributed each 50,000 tons or more to the traffic of the canal during the first thirteen months of the operation of the canal. These sixteen commodities account for 57.6 per cent. of the total tonnage through the canal during the period in question. Among the commodities, other than those shown in the table, that were shipped in relatively large quantities through the canal were tin, coffee, miscellaneous manufactured goods, cacao, wool, cement, iron, copper ore, coke, vegetable oils, textiles, wines, creosote, chemicals, skins and hides, rice, wire fencing, seed, and beans. The official analysis of the traffic through the canal during August 1915, enumerates 122 commodities, some of the titles referring to groups of articles rather than to a single commodity. Thirty-five of the commodities thus listed moved in both directions through the canal.

TABLE 2

Tonnage of the Sixteen Principal Commodities Shipped through the Panama Canal, August 15, 1914 to September 18, 1915

Commodities	Atlantic to Pacific	Pacific to Atlantic	Total
Nitrates	471	1,074,961	1,075,432
Sugar	21,103	391,682	412,785
Coal	386,778	7,500	394,278
Petroleum, refined	351,734	34,550	386,284
Lumber	3,270	256,067	259,337
Manufactured goods of iron and steel	248,986	6,258	255,244
Wheat	7,542	231,439	238,981
Barley	.....	229,361	229,361
Iron ore	2,200	136,154	138,354
Railroad material	100,017	.....	100,017
Canned goods	9,494	65,614	75,108
Copper	3,658	67,222	70,880
Cotton, raw	52,976	13,780	66,756
Oils, crude	23,531	35,363	58,894
Flour	4,955	52,612	57,567
Machinery	48,370	1,049	49,419

As was to have been expected, the nitrate shipments from northern Chile to the United States and to Europe comprised the largest single item of traffic through the canal, in spite of the fact that the nitrate shipments to Europe were probably not more than 25 per cent. of what they would have been under normal conditions of world peace. The sugar tonnage was second in amount, and that consisted mainly of sugar from the Hawaiian Islands to refineries at Philadelphia and New York. The coal tonnage was third in rank and petroleum oil fourth. Coal and oil moved mainly westbound through the canal. Lumber ranked fifth in amount of tonnage, the shipments being nearly all from the Pacific ports of the United States and Canada to the Atlantic ports of the United States and Europe. Manufactured goods made of iron and steel, as was to have been expected, contributed largely to the canal tonnage and consisted, for the most part, of shipments from the eastern seaboard of the United States to the west coast of the United States, to Hawaii, and to Siberian ports. Wheat and barley made important contributions to the canal tonnage and consisted almost entirely of shipments from the Pacific coast of the United States to Atlantic ports in the United States and Europe.

A somewhat closer analysis of a few of the commodities shipped through the canal will serve

to indicate some of the relations of the canal route to the development of typical American industries. As representative of the extractive industries, coal and lumber may be selected. During the six months of 1915, March to August inclusive, 211,173 tons of coal were shipped through the canal, and all but 7,500 tons moved westbound. Nearly all of this coal came from Norfolk and Newport News, the canal having created an available market in Pacific ports for the products of the mines of West Virginia. During the same six months' period the lumber shipments amounted to 184,500 tons, of which all but 2,600 tons were taken through the canal eastbound from the Pacific ports of the United States and Canada to Atlantic ports of the United States and Europe.

The facts regarding the movement of coal and lumber through the canal during the seventeen days of September 1915 that the waterway was open to traffic are instructive. During those seventeen days there were about 28,000 tons of coal shipped through the canal, all of which came from Norfolk and Newport News, 570 tons going to San Francisco, while the remainder was taken to ports on the west coast of South America, principally of northern Chile. The lumber traffic during the seventeen-day period amounted to 17,471 tons, all but 70 tons of which was moved eastbound, 8,054

tons being shipped in the coastwise trade to New York and Boston, while nearly 9,000 tons were sent from Victoria, B. C., to Kingston, Jamaica, and to Liverpool, England.

As representative of products of manufacturing industries shipped through the canal, reference may be made to manufactures of iron and steel. During the six months of 1915, March to August inclusive, 164,743 tons of iron and steel manufactures were transported via the canal, and all but 4,020 tons moved westbound. These figures do not include machinery and railroad material, which consisted mainly of iron and steel, and which were shipped in relatively large quantities from the Atlantic seaboard of the United States to Pacific markets, particularly to Vladivostok. During the first seventeen days of September 1915, there were 13,448 tons of iron and steel manufactures shipped through the canal from the Atlantic to the Pacific, all but 1,500 tons of this originating in the United States. The shipments of railroad material through the canal from the first to the seventeenth of September 1915, amounted to 24,235 tons, all of which came from New York and most of which was taken either to the west coast of the United States or to Vladivostok and Kobe. About two-thirds of this railroad material was shipped directly to Vladivostok and Kobe, and it is possible that some of

that carried to Los Angeles and San Francisco was there transshipped to destinations beyond the Pacific.

The service of the Panama Canal to the industries of the United States consists not only of affording a wider market for American exports but also of enabling American industries to secure necessary material more advantageously. Indeed, some useful materials, as, for instance, iron ore from Chile, would not bear the cost of transportation to the eastern seaboard of the United States prior to the opening of the canal. Soon after the opening of the canal, the Bethlehem Steel Company established a line of bulk carriers to bring iron ore from Chile to Philadelphia and New York for shipment to the furnaces at South Bethlehem. During the six months of 1915, March to August inclusive, 70,504 tons of iron ore were shipped eastbound through the canal, most of it being taken to Philadelphia and New York. The largest export from the west coast of Chile has been nitrate of soda, which, in the past, has gone mainly to Europe. Since the opening of the Panama Canal, there has been much increased importation of nitrate into the eastern ports of the United States; in fact, on account of the war in Europe, shipments to the United States have been larger than to Europe.

Wool is another material which American in-

dustries can secure more economically because of the Panama Canal. In times past nearly all of the wool from Australia and China used in American mills has been purchased in London. The European War has temporarily increased the difficulty of securing wool via London, while the canal has, for the first time, made possible the economical shipment of wool directly from transpacific countries to New York and Boston. During the six months of 1915, March to August inclusive, about 20,000 tons of wool were shipped through the canal from Australia to Boston and New York. These wool cargoes came mainly from Melbourne and Brisbane, Australia, and from Shanghai and Yokohama. It is possible that the direct shipment of cargoes of wool from transpacific countries to New York and Boston may continue after the close of the European War, thereby making American industries less dependent than they formerly have been upon the London market as to the source of their wool supply.

The southern states of the United States, those bordering upon or tributary to the south Atlantic and Gulf seaboards, are in the section of the United States nearest to the canal, and the shipments from that part of the country consist of several commodities whose export will naturally be facilitated by the reduction in the cost

of transportation effected by the canal. Reference has been made to the movement of coal via Panama from Norfolk and Newport News to Pacific markets. The use of the canal by this commodity has thus far probably been slight as compared with what it will be in the future. The tonnage of coal shipped long distances is directly dependent upon the cost of transportation. Ocean freight rates, on account of the European War, have been so high since the opening of the canal as to make almost impossible the profitable sale of coal for commercial uses in distant markets. With the restoration of normal freight rates on the ocean, coal movements from the Atlantic and Gulf ports of the United States to Pacific ports north and south of the canal can hardly fail to be large. Likewise, there should be active demand in the countries about the Pacific for the fertilizers made from Tennessee, South Carolina and Florida phosphate rock, when freight rates again become low enough to make possible the long-distance transportation of such commodities as fertilizers.

As was anticipated, raw cotton has been shipped via the canal to Oriental and other Pacific markets. As is shown in Table 2, about 53,000 short tons of cotton, or 212,000 bales of 500 pounds each, were transported westbound through the canal during the thirteen months

ending with the middle of September 1915. In all probability, the cotton tonnage via the canal will steadily increase with the certain growth in the demand for the staple in the mills of Japan, China, and Australasia. As regards southern lumber, the canal has apparently not yet opened up new markets. The heavy lumber shipments via the canal have nearly all been eastbound. It can hardly be doubted, however, that a demand for the yellow pine and hardwood lumber of the South will develop in the markets on the west coast of South and Central America. Had there been such a demand during 1915, it could hardly have been met, because the high ocean freight rates would have made profitable shipments impossible.

The industries of the west coast states of the United States made large use of the canal from the outset. The lumber, wheat, barley and canned goods (fish, fruit, etc.) which are shipped in large quantities from the Pacific ports of the United States and Canada were able to reach their largest and best markets at greatly reduced costs of transportation; and, as Table 2 shows, those articles moved in large volume through the canal, even under the adverse conditions prevailing during the period for which the table gives figures. West coast products entered very largely into the intercoastal trade and also found a ready

market in such European countries as were able to engage in international trade. The Panama Canal, in spite of trade restriction due to the war in Europe, has given the western part of the United States and Canada larger industrial opportunities and a greater measure of prosperity.

CHAPTER VII

THE CANAL AND THE FOREIGN TRADE OF THE UNITED STATES

The United States Government undertook the construction of the Panama Canal because the work proved to be too great a task for the Panama Canal Company, the corporation that began the enterprise. It is obvious that the people of the United States, in doing this, must have been influenced by the desire to accomplish three results: The connection of the two seaboards of the United States by a more direct and more economical route for the intercoastal trade of the country, the reduction in the cost of reaching foreign markets with goods of American production, and the removal of the barrier which prevented the Atlantic and Pacific squadrons of the American navy from coöperating effectively in defending the country.

The purposes of the United States, however, were by no means entirely selfish. The Panama Canal, like the Suez waterway, was constructed not for the sole use and benefit of one country, but that it might be of service to all nations. The

ships of all flags and countries, in accordance with the policy to which the United States has consistently adhered for more than a half century, are to use the Panama highway under like terms, each nation being free to take full advantage of the new "gateway to the Pacific" in carrying on its commerce not only with the United States but with other countries. In constructing the canal and opening it to the commerce of all nations "on terms of entire equality," the United States voluntarily undertook to act as trustee of all nations in order that the world might thereby secure a benefit that could not otherwise have been obtained. To be of service to mankind is a nation's highest reward.

The truth of this assertion of altruism on the part of the United States in the construction of the Panama Canal is not invalidated by a frank admission that the people of the United States expect to derive large benefit from the canal—a larger benefit, indeed, than is to be secured by any other country. Because of its location, its resources, its assured economic development, and, most of all, because of its use of the Panama route in carrying on its intercoastal trade, the United States will secure greater assistance from the canal than any other single country can hope to obtain; although Canada and Europe, as will be pointed out in a later chapter, will profit

largely from the economies resulting from the use of the canal.

Commerce with foreign nations is subject to the control of forces different from those that have to be reckoned with in carrying on trade within the country; and, in this discussion of the relation of the Panama Canal to the development of the foreign commerce of the United States, it will be a help to clear thinking, and possibly to the avoidance of overstatement, to keep in mind certain controlling principles concerning industry and trade.

First among the facts to be kept in mind is, that international trade, as regards most commodities, is subject to worldwide competition. Except for the limited number of commodities, of which the particular country in question may possess a monopoly, success in securing foreign trade depends upon certain well known factors, chief among which are efficiency in production, economical means of transportation by land and by sea, skillful methods of merchandising, foreign investments and adequate international banking facilities. These essential factors of success in foreign trade have often been overlooked or neglected in discussions of the service which the Panama Canal will be to the foreign commerce of the United States.

Trade begins with production. A large activ-

ity in foreign commerce is impossible without diversification and efficiency in industry; moreover, this efficiency must obtain not only in the enterprises and establishments of individual producers, it must characterize the organization and conduct of the industries of the country as a whole. To meet international competition successfully, there must be brought about, for the country as a whole, such territorial division of labor and industry as will enable each section to engage in those activities for which it is best equipped as regards climate, resources, and labor supply. It is only when the productive energies of the entire country are so organized that all the various resources are intelligently utilized, and only when labor and capital are applied where they will produce the best results, that the national output can be of maximum volume and can be secured at minimum cost of production.

A second factor of controlling influence is transportation. The effective organization of production and the economical shipment of goods to the seaboard and to markets beyond the sea require the services of systematically developed, adequate, and economical means of transportation by land and by sea. The country as a whole needs to be supplied with railroads and with such inland waterways as can, at reasonable expense, be so improved as to increase the facilities and

reduce the cost of transportation. There is need, moreover, for a merchant marine under the national flag of tonnage and efficiency commensurate with the volume of the country's maritime commerce. To depend mainly upon foreign shipping for the transportation of exports and imports is to limit a country's foreign commerce at all times and to subject that commerce to temporary destruction during a period of war with or among strong commercial nations.

It should be the policy of the Government to bring about the coördinated development of railroads and waterways; and, while protecting the public against abuses, to assist the carriers in providing the country as a whole with a system of transportation that will permit the general development of all natural resources, and assist in the production of all commodities that can be profitably produced or manufactured for consumption at home or for exchange in other countries. It should also be the policy of the Government to establish conditions favorable to the construction and profitable operation of an adequate deep-sea fleet.

It is but recently that the people of the United States have come fully to appreciate the fact that success in foreign trade can only follow the attainment of economy and efficiency in production. Indeed, it was hardly to be expected that special

attention should be given to organizing and developing industry with a view to minimizing the cost of production and transportation in a country possessing an apparently limitless wealth of natural resources. As long as the protected domestic market readily took nearly all the products of manufacturers, and as long as commodities exported consisted mostly of materials and foods secured merely by appropriating natural resources and by drawing upon the fertility of a new continent, there was no special necessity for seeking to organize industry systematically, in order thereby to bring the costs of production and transportation in the United States below corresponding costs in other countries. The spur of necessity being absent, the United States has been later than European countries in establishing the conditions precedent to successful competition on a large scale for trade with foreign countries.

Past conditions are rapidly changing. Since 1890, and particularly since 1900, there has been a growing appreciation in the United States of the importance of a diversified foreign trade. This is evidenced by the fact that some of the leading manufacturing industries in the United States have successfully overcome obstacles and have built up a large trade abroad. Other industries are making headway, and the daily press, the reports of government officials, the delibera-

tions of chambers of commerce, and the conventions which business men are holding give evidence of an effort being made to master the problems of foreign trade development.

The Panama Canal was not constructed for the sole purpose of reducing the cost of reaching foreign markets, but prominent among the reasons for making the large expenditure required to bring the waterway into existence was the desire to effect a reduction in the cost of reaching markets abroad and to add to the facilities of foreign commerce. Previous chapters have considered the effect which the canal will have upon the length and time of ocean voyages and upon freight rates, and have thus indicated the transportation economies which the canal will bring about. These economies will be large and will be of much assistance to the foreign trade of the United States. Whether, with the aid thus received, American producers and traders will be able largely to expand the foreign commerce of the United States will, however, depend upon the success which American business men have in meeting or providing other requisites of foreign commerce.

The Panama Canal and the development of other needed transportation facilities will, together with the progressively efficient organization of industry within the United States, prob-

ably reduce the costs of production and transportation of American products to the level of similar costs in other countries, and the chief requisites of successful foreign trade will have been met by the people of the United States. Perhaps it is well, however, to call attention to what business men have already come to realize—that there are factors other than the costs of production and transportation, that determine success in foreign trade.

Commerce results from trading, and depends upon effective merchandising methods. Unless American producers, exporters, and importers are good merchants, they must be worsted in their efforts to secure foreign trade in competition with the skillful and experienced merchants of other countries. The domestic market has, in the past, so overshadowed the foreign market in practically all lines of production that only a few of the very largest producers and traders in the United States have had a strong incentive to adapt their merchandising methods to the demands of foreign buyers. Indeed, many American producers have not found it profitable to seek foreign trade by methods which European traders have found necessary; but that condition is passing away with the growth of the foreign commerce of the United States and with the enlarging opportunities for trade with other countries.

American manufacturers and merchants are now seriously studying the merchandising requirements of the foreign trade, and numerous educational agencies have undertaken to assist them in their study.

Another factor determinative of success in the development of the foreign trade of the United States, whether with countries reached via the canal or with countries approached by other routes, is the establishment by American banks of branches in foreign countries, particularly in South America and in regions beyond the Pacific. European traders have been greatly assisted in their foreign trade by the fact that international exchange has been provided by European banks, and by the fact that European banks, having branches in all parts of the world, have been able to provide the credit which European business men have required in undertaking commercial or industrial enterprises in foreign countries. More than one hundred European banks have branches in foreign countries, the number of such branches being said to exceed 2,000. More than one hundred of these branch banks are in South America, about three hundred in Asia, four hundred in Africa, and more than seven hundred in Australia, New Zealand and the Pacific islands. These branches of European banks scattered over the world have assisted European manufacturers

in making investments abroad and have given much aid to European traders in building up foreign commerce.

The Federal Reserve Act, approved December 23, 1913, has made it possible for national banks in the United States, with a capital and surplus of $1,000,000 or more, "to establish branches in foreign countries or dependencies of the United States for the furtherance of the foreign commerce of the United States." Acting upon the authority thus conferred, the National City Bank of New York, during the year 1915, established six branches, three in Brazil, one in Argentina, one in Uruguay, and one in Cuba. This is an encouraging beginning, although it is only the first step towards the establishment of American banking facilities for financing American enterprises abroad and for developing the foreign trade of the United States. It is to be hoped that the experiment of the National City Bank will be so profitable as to cause numerous other banks or associations of banks (if the law be so amended as to permit) to establish branches in foreign countries, particularly in those countries with which the United States may trade via the Panama Canal. If these international banking facilities are developed, there can be no doubt that their development will make possible a larger use of the Panama Canal.

The relation of the canal to the foreign trade of the United States may be concretely indicated by a brief analysis of the use that has been made and will be made of the canal in the trade of the eastern seaboard of the United States with western South America and with transpacific countries. This analysis leaves out of account the large trade of the western part of the United States with Europe and other countries adjacent to the Atlantic, and does not take into consideration the trade between the Atlantic-Gulf ports of the United States and the Pacific coast of Central America, Mexico and Canada. For the purposes of the present discussion, these omissions are not serious, because all the trade of the Pacific coast of North America with countries adjacent to the Atlantic will unquestionably use the canal and will increase more rapidly because of the assistance which the canal will render.

Up to the present, the trade of the west coast of South America has been mainly with Europe. The reasons for this are chiefly industrial. The exports from western South America have consisted, for the most part, of nitrate of soda, grain, copper, and various materials used in manufacture. More than half the tonnage of the west coast South American exports has consisted of nitrate. In the past, the natural market for the products of western South America has been

Europe. Being industrially undeveloped, the countries of western South America have imported mainly manufactures, which, as regards many commodities, could be secured in Europe at lower prices than in the United States. Moreover, the freight rates from Europe to western South America are especially low, because a large number of vessels which transport the nitrate and other bulky cargoes from western South America to Europe are obliged to make the outbound trip from Europe in ballast or with only partial cargoes. On the other hand, the freight rates from the eastern seaboard of the United States to western South America have, in the past, been relatively high. The imports from western South America have not been large, and there have been few, if any, vessels making the run in ballast from the Atlantic ports of the United States to western South America. Before the opening of the Panama Canal the distances were practically the same from New York and from Liverpool via the Straits of Magellan to the west coast of South America.

The relation of North and South America to each other geographically has been completely changed by the Panama Canal. As was pointed out in Chapter II, the west coast of South America lies directly south of the Atlantic seaboard of the United States. The distances from the

Atlantic-Gulf ports of the United States by way of the canal to the west coast of South America do not differ much from the distances from the United States to Europe. In trading with western South America there is a distance advantage in favor of the United States as compared with Europe equal to the width of the Atlantic. It is evident that the opening of the canal ought to result in the development of a larger trade between the eastern part of the United States and western South America, provided economic and commercial conditions are such as to call for the exchange of commodities between the two sections.

Table 1 in the preceding chapter shows that during the first thirteen months of canal operation 105 vessels carried cargo from the eastern part of the United States through the canal to Central and South America. The tonnage of these exports amounted to 399,776 tons and naturally all but a small part of the traffic went to western South America. The imports into the United States via the canal from Central and South America amounted to 963,326 tons, in the transportation of which 184 vessels made use of the canal. These figures of the traffic between the United States and western Central and South America are not to be compared with the figures of the traffic between Europe and those sections

of the Pacific. Europe, under normal conditions, would have a larger trade than the United States had with the Pacific ports of South America, but on account of the war Europe's trade was much less than that of the United States.

The exports from the United States to western Central and South America via the canal have consisted mainly of manufactures, machinery, petroleum oil, and cement. The sale of American manufactures on the west coast of Central and South America has been possible not only because of the canal, but also because of the war, which greatly restricted European exports.

The tonnage of imports into the United States from Central and South America via the canal during the first thirteen months of canal operation was 2 1/3 times the volume of the traffic in the opposite direction. This is accounted for partly by the fact that some vessels make the run from New York to Chile via the Straits of Magellan and return via west coast South American ports and the canal. There has, however, been an increase in traffic from western South America to the United States as a result of the opening of the canal. Two important commodities comprised in this traffic are nitrate of soda and iron ore. Before the opening of the canal, the cost of transportation restricted the nitrate imports and entirely prevented the shipment of iron ore from

the west coast of South America to the eastern seaboard of the United States. The iron ore tonnage of 136,154 tons represents a traffic made possible by the Panama Canal. In addition to nitrate of soda and iron ore shipments from the west coast of South America to the United States, copper ore, wool, tin, and hides were shipped in appreciable quantities.

For the trade of the eastern seaboard of the United States with Japan, China, the Philippines, Australia and New Zealand, the Panama Canal will be used for most shipments, but the trade of the United States with these countries via the Panama Canal must be secured in competition with Europe whose commerce with the Orient and Australia moves via the Suez Canal or via the Cape of Good Hope. To some extent the commerce of the Atlantic ports of the United States with the Pacific shores of Asia will, after the war, when navigation of the Mediterranean becomes safe, be carried on via Suez. As was pointed out in Chapter III, Hongkong and Manila are equally distant from New York via Suez and Panama, and vessels making voyages between New York and those ports will decide between the Panama and Suez routes after considering various factors affecting the earnings and expenses of voyages via alternative routes. In general, however, the trade of the Atlantic-Gulf seaboard of the United

States with Japan, China, the Philippines, and Australia will be via the Panama Canal; while the commerce of Europe, for the most part, will move via Suez and the Cape of Good Hope. It is by establishing conditions more favorable to the United States in competing with Europe for the trade in question that the Panama Canal will be of assistance to American producers and traders.

The extent to which the canal will assist American producers in developing a larger trade with countries beyond the Pacific is conditioned, first of all, upon the nature of the commerce of the Orient and Australasia. The trade of Japan is relatively large, its chief exports being raw and manufactured silk, tea, mattings, cotton goods, coal and copper, while its imports consist largely of rice and other foodstuffs, raw and manufactured cotton, iron and steel manufactures, and machinery. This partial list of the exports and imports of Japan shows that the trade of the country would naturally be carried on not only with China and India, but also to a large extent with the United States and Europe. Indeed, the United States affords Japan its best market; and, on account of the large demand in the United States for tea and raw and manufactured silk, especially raw silk, the United States takes nearly three-tenths of the country's exports. Japan's

purchases from the United States, while of only two-thirds the value of her exports to the United States, amount to about 17 per cent. of the country's total imports. American products sent to Japan include raw and manufactured cotton, petroleum, also machinery and other classes of heavy manufactures.

It will be difficult, even with the assistance of the canal, for American producers to secure a large increase in exports to Japan. Japan now secures a large part of her imported foods from southern Asia and also much of the cotton required for her factories. Great Britain, Germany, Belgium and other European countries have, in the past, supplied Japan with most of her imported manufactures. It is evident that strong competition must be overcome by American exporters; on the other hand, the outlook for an increase in imports from Japan is more favorable. A large increase in silk manufacturing in the United States is to be expected, and this will require greater importations of raw silk. It is also probable that other products of Japan will find a larger market as a result of the more favorable conditions of trade established by the opening of the canal.

The United States has a relatively small share of the trade with China. Only 6 per cent. of China's imports come from the United States,

and only 9 or 10 per cent. of her exports are sent to the United States. China ranks next to Japan in the exportation of raw silk and also is a large producer of tea. These are the two most important articles imported from China into the United States. Among other articles which American importers secure from China are carpet wool, hides, straw braid, and "curios" of various kinds. China is a large importer of cotton goods and petroleum, and, during recent years, has purchased railway equipment and other manufactures of iron and steel. China obtains these and other articles in the United States, as well as from other countries, and, until the development of the cotton manufacturing industries in Japan, there was prospect of a large increase in the exportation of cotton goods from the United States to China. The development of this trade in the future, however, will be under conditions of strong competition.

In considering the canal with reference to the development of the trade of the United States with Japan and China, it should be noted that the imports from those countries into the United States, being of high value in comparison with their bulk, can be, and are, largely brought into the United States through the Pacific ports, whence they are shipped to the markets and mills of the central and eastern states. During the

thirteen months ending with the middle of September 1915, 32, but only 32, vessels came to the United States from Australia and the Far East via the canal, bringing 201,000 tons of cargo, whereas during the same period 154 vessels went from the eastern United States via the canal to Australia and the Far East carrying 994,000 tons of cargo. The figures for Australasia and the Orient are not stated separately in the official statistics.

Australia and New Zealand export large quantities of wool, meat, and grain. With the exception of wool, the products of Australia do not find a large market in the United States; on the other hand, the imports into Australia and New Zealand, which consist largely of textiles, iron and steel, machinery, and general manufactures, include articles that the United States has been able to supply in considerable quantities in spite of the difficulties of competing with British and other European manufacturers. While less than 4 per cent. of the exports of Australia and New Zealand reach the United States, more than 11 per cent. of their imports come from the United States. Such was the situation before the opening of the canal which has so reduced the cost of reaching Australia as to make it probable that American goods will be able, in the future, to compete more successfully than they have in the past

with the exports from Great Britain and other European countries.

The commerce of the Philippine Islands and the participation of the United States in the trade of the islands will be somewhat, although not greatly, assisted by the Panama Canal. At the time of the opening of the canal the Philippine Islands were receiving over one-half of their imports from the United States and were sending thither 43 per cent. of their exports. At the end of June 1915, after the canal had been in operation for 10½ months, the trade of the United States with the Philippines included 45 per cent. of the exports of the islands. Up to that time the United States had not increased its share of the Philippine imports.

The conditions under which foreign commerce was carried on during the thirteen months that the canal was in operation before it was temporarily closed on account of the slides of September 1915, were so abnormal that it is difficult to forecast the effects the canal will have upon the development of trade between the eastern seaboard of the United States and countries beyond the Pacific. Shipping facilities during this period were greatly restricted, freight rates were especially high, and the demand for many commodities in transpacific countries was lessened as a result of the European War.

Among the concrete effects of the canal were the direct shipments of wool from Australia and China to Boston, and the establishment of a Japanese steamship line operating between Japan and New York by way of Panama. The steamship lines that had been operated between New York and Australia via the Cape of Good Hope were shifted to the Panama route. The large development of the Australian and transpacific trade of the United States made possible by the canal will, necessarily, come slowly as the changed conditions of international competition work out their consequences. It is too soon, yet, to measure or definitely forecast the ultimate effects of the canal upon the commerce of the eastern and southern part of the United States with lands beyond the Pacific Ocean.

CHAPTER VIII

THE CANAL AND THE AMERICAN MARINE

For many years prior to the outbreak of the European War, the American marine in the foreign trade either actually declined or made only slight gain year by year. At the same time, the volume and value of American foreign commerce increased rapidly, until less than one-tenth of the exports and imports of the United States was carried in ships under the national flag. Such American ships as were employed in foreign commerce were, for the most part, engaged in the trade with nearby countries, while the overseas trade with distant ports made use almost entirely of foreign vessels. Tourists returning from South America, Europe, or transpacific lands never fail to remark upon the fact that the American flag is rarely seen abroad or that it is entirely absent from the channels of international commerce and the great ports of the world.

The European War, together with the act of Congress, approved August 18, 1914, which permitted and made easy the admission of foreign-

built vessels to American registry, has brought about, at least temporarily, a large increase in the tonnage of the American deep-sea fleet. Under this act, prior to the first of August 1915, 150 foreign vessels of 528,408 tons gross were transferred to the American flag, and the gross tonnage of sailing vessels and steamers registered for the foreign trade amounted to 1¾ million tons, of which 1 1/3 million tons consisted of steamers; but, after this increase had taken place, the American marine in the foreign trade had only one-tenth the tonnage of the shipping of the United Kingdom. This ratio of one to ten also applies to the number of American and of British ocean-going vessels of over 3,000 tons gross register, there being ten such ships under the British flag to one under the American.

In the coastwise trade and on the Great Lakes there is a relatively large fleet of American vessels, including steamers, large barges, and sailing vessels, and having an aggregate gross tonnage of nearly 6,500,000 tons. The merchant marine enrolled for the domestic trade consists entirely of vessels of American construction and ownership, ships of foreign origin and ownership having been excluded for a full century from traffic between ports of the United States. Being thus protected, the marine in the domestic trade has not been affected by the forces that have lim-

ited the development of American shipping in the foreign trade where international competition has been and must always be controlling. In all probability, the policy of reserving the domestic trade to American shipping will be continued. For reasons stated below, a change of policy under present conditions would be unwise.

During the decade preceding the Civil War, the American marine in the foreign trade reached a gross tonnage of 2,500,000 tons and transported two-thirds of the foreign commerce of the country. For nearly a half-century after the Civil War the American marine in the foreign trade declined. The causes were primarily economic, but navigation laws, which should have sought to remove the obstacles imposed by economic conditions, increased the handicap of the American shipowner in competing with foreign carriers. The cost of constructing a ship in an American yard was higher than in a foreign yard, and the operating expenses were greater for a vessel when under the American flag than when under a foreign ensign. The higher construction costs in the United States were due to economic causes; the greater operating expenses under the American flag were the result partly of the relatively high wages and high prices prevailing in the United States and partly of the requirements of the navigation laws.

Without going into details, it is sufficient to

say that the American marine in the foreign trade declined throughout most of the half-century intervening between the American Civil War and the great war in Europe, because the people of the United States could not profitably employ capital extensively in owning and operating vessels under the American flag in competition with foreign shipping. Over some ocean routes, particularly those to Gulf and Caribbean ports, profits could be made in the ocean shipping business; but it was generally possible for American capital to secure larger returns from investments in domestic industries than from the purchase of vessels and their operation in the foreign trade.[1]

The handicap which the higher cost of vessels for American registry has in the past imposed upon the development of the American marine has been removed by two recent laws: The act of Congress, approved August 24, 1912 (Section 5 of the act providing for the operation of the Panama Canal), which permitted foreign-built vessels not over five years old to be admitted to American registry; and the emergency Ship Registry Act of August 18, 1914, which removed the restriction

[1] The mercantile marine policy of the United States and the causes of the decline of the American marine in the foreign trade are discussed in Chapters XVIII to XX of the writer's volume on *Ocean and Inland Water Transportation.*

that the foreign-built vessels must be "not more than five years old at the time they apply for registry." A citizen or corporation of the United States desiring to purchase a vessel for operation in the foreign trade may now buy the ship either of an American or of a foreign builder, and presumably the buyer's decision will depend upon relative costs, and competitive merits of American and foreign vessels.

Moreover, it is quite possible that American shipbuilders may, before many years, be able to meet the prices of their foreign competitors. Ships have been built at lower cost in British than in American yards, because labor and materials have been cheaper in the United Kingdom, and because the British yards have constructed a larger tonnage and have been able to standardize construction. In an American yard, ships of many types are built at once, each vessel thereby having a high individual cost; whereas a typical British yard is able to specialize on vessels of a single type, to construct several ships from the same plans, and to secure labor, materials, parts, and fittings at costs per unit of product much lower than the unit costs incurred in building a single vessel. Just as the real estate operator can build a block of houses at costs much lower per house than the cost of constructing only one residence, so the British shipbuilders have been able to con-

struct ships wholesale at lower costs than they could be built, retail, in the United States.

The advantages of the British and other European shipbuilders over the American will be less after the close of the present war than they have been in the past, and will tend to diminish with the natural growth of American shipyards in number and output. It seems certain that the destructive war now in progress must so reduce the volume of capital and the number of laborers as permanently to raise interest rates and wages in Europe. This will increase the British and German shipbuilders' capital and labor costs and make materials (plates, boilers, fittings, etc.) more expensive, and while this is occurring the growth in the output of American yards will enable builders to lower unit costs. Although experience alone can determine the possibility of successful future competition of American with foreign shipbuilders, the prospects for the shipyards in the United States are more encouraging today than they have been for three decades.

The Panama Canal will not directly, and probably not materially, assist the American marine to compete with foreign shipping. The conditions of competition will not be affected. Indirectly, however, the canal may, and doubtless will, aid in the development of the American overseas marine by increasing the volume of the for-

eign commerce of the United States, enlarging the tonnage of traffic to be transported, and creating a demand for shipping, American or foreign. In general, the conditions affecting the growth of the American marine will be more favorable as a result of the canal; because, other things being equal, an acceleration of the expansion of foreign commerce creates not only a demand for more ships but also an opportunity for their employment at profits that are higher and firmer than prevail during periods of stationary or declining trade.

The stimulating effect of the Panama Canal upon the American marine engaged in the coastwise trade was felt nearly two years before the waterway was opened. The account given in Chapter IV of the services through the canal states the number of vessels and indicates the importance of the fleet operated between the two seaboards during the year 1914-15. The large tonnage of freight readily secured by the intercoastal lines led to the placement of orders for the construction of several additional vessels for the canal service. The American-Hawaiian, the Luckenbach, and the Atlantic-Pacific companies all had vessels for the canal service under construction during 1915.

As has been pointed out, the tonnage of vessels that used the canal in the intercoastal trade dur-

ing the thirteen months ending with September 1915 was larger than had been predicted, although the European War so restricted the tonnage of vessels available for the world's international commerce, particularly for the foreign trade of the United States, as to create an abnormal demand for vessels in international commerce and to raise freight rates to such a high level that ships which would otherwise have been used in the coastwise traffic between the two seaboards of the United States were diverted to the transportation of goods between the United States and foreign countries. With the establishment of peace in Europe and the restoration of the world's shipping to commercial uses, ocean freight rates will soon return to a normal level, and, in course of time, though possibly not immediately, an expansion of the American coastwise fleet may be expected to follow, provided freight traffic in adequate volume can be secured by the coastwise carriers. The relatively large intercoastal shipments during the first year of the canal's operation, when vessels were in great demand for service in the foreign trade, makes it highly probable that coastwise freight will, in the future, give profitable employment to a steadily increasing tonnage of ships.

This will, however, depend upon the continuance of the present policy of reserving the coast-

wise traffic to American ships. The admission of vessels of foreign construction and ownership to the coastwise trade would be a serious mistake; although, without doubt, freight rates between the two seaboards of the United States might temporarily be lower if foreign vessels were allowed to enter the intercoastal service. If foreign vessels were permitted at the present time to compete in this service with ships of American construction, coastwise vessels under the American flag would soon be reduced to a small tonnage. When this had taken place, there would probably be a rise in the rates charged by the coastwise lines, and in the meantime the industry of building ships in American yards would have suffered greatly, if it had not been seriously crippled.

It is of importance to American industry and commerce that there should be a large tonnage of vessels in the coastwise fleet, and that the business of the coastwise carriers should be profitable enough to insure their successful development; but it is of vital necessity, from the standpoint of the growth and efficiency of the American navy, that there should be a large American coastwise fleet. The merchant marine is the foundation of the navy; and, having but a small tonnage of vessels under the American flag in the foreign trade, it would be the height of unwisdom for the United

States to cripple its coastwise shipping fleet and endanger the profitable development of American shipyards by allowing foreign shipping to engage in commerce between the ports of the United States.

During 1911 and 1912, when the Panama Canal Act, approved August 24, 1912, was under consideration, there was an active propaganda carried on to bring about the exemption of the owners of coastwise ships from the payment of tolls for the use of the Panama Canal. The advocates of this policy were at first successful, and the act of August 24, 1912, exempted coastwise shipowners from the payment of canal tolls. This action was not satisfactory to the country. It was the belief of a large share of the people of the United States that the exemption of the coastwise shipowners from canal tolls was a violation of the Hay-Pauncefote Treaty which the United States had entered into with Great Britain in 1901; and it was realized by a majority of the people of the country, when the question was understood, that the exemption of coastwise ships from the payment of Panama tolls was the grant of a subsidy to that part of the American marine which was not in need of further assistance. President Wilson, early in his administration, urged Congress to repeal the provision of the act of 1912 exempting coastwise shipping from canal tolls, and the

President's recommendation was carried out by act of Congress, approved June 15, 1914.

Even before the opening of the canal, the coastwise carriers, including those engaged in traffic between the two seaboards of the country, had found their business profitable, and the tonnage of the coastwise fleet was increasing at a satisfactory rate. The opening of the canal reduced the cost of transportation between the seaboards of the United States fully one-third, enlarged the volume of traffic available for the coastwise carriers, and gave the coastwise lines an opportunity to do an increased business at lower costs per ton of freight. The large use made of the canal by the coastwise carriers is evidence that the waterway must have aided those engaged in transportation between the two seaboards of the United States. The complete protection of the coastwise carriers from the competition of vessels of foreign construction and ownership affords ample assistance, and a subsidy or subvention in the form of toll exemption would have been an unnecessary and unjustifiable gratuity.

What, if anything, can be done by the United States Government to make the canal of greater assistance to the merchant marine in the foreign trade? The answer to this question is necessarily the answer to the larger question: What measures can be taken to bring about the development

of the merchant marine under the national flag? As was pointed out above, the general problem to be solved is the reduction of the cost of operating vessels. If possible, the expenses of operating vessels under the American flag must be made approximately the same as the expenses of operating vessels under foreign flags. If the expenses of American and foreign vessels cannot otherwise be equalized, such government aid must be given American vessel owners as will remove the handicap under which American ships compete with foreign vessels. Stated broadly, the problem is one of making attractive to private capital the business of owning and operating vessels under the American flag.

It is, perhaps, well to emphasize the fact that the issue, as stated, cannot be avoided. American shipping must be able to enter into competition with foreign ships without serious handicap, if there is to be a larger merchant marine under the American flag. If the handicap against the American ship, due to economic forces or to navigation laws, cannot be overcome, or if the obstacles, though removable, are maintained by the insistence of Congress upon continuing present laws, there can be no prospect of a large increase at an early date in the tonnage of the American marine in the foreign trade.

The thing to be done first is to establish a Fed-

eral shipping board, composed of three or five men having expert knowledge of shipping questions, and to intrust the board with the duty of ascertaining exactly how much and in what particulars the expenses of operating ships under the American flag are greater than the expenses of operating vessels under foreign flags. On the basis of the information thus obtained, the board should inform Congress what legislation is required to equalize the conditions of competition between American and foreign ships. The establishment of a shipping board with large discretionary powers is the first step to be taken in legislating for the development of the American merchant marine, because the problems to be solved are of a technical nature and are executive rather than legislative in character.

Legislation and regulatory measures for building up the merchant marine must concern themselves with numerous technical questions. The shipping business is governed by a complex body of navigation laws dealing with the construction, registry, and measurement of vessels, with boiler and hull inspection, with the enforcement of laws regarding the employment and discharge of seamen, and with many regulations concerning the operation of vessels, it being necessary for the Government to enforce such rules as are required to protect the property of shippers, to insure the

welfare of seamen, and to safeguard the lives of passengers. Effective legislation upon subjects of this kind must necessarily deal mainly with the establishment of standards and with general requirements, leaving the application and enforcement of the laws to an expert administrative body having discretionary power.

It is especially important that the administrative character of the task of government regulation and aid of the merchant marine should be appreciated. The success of legislation concerning shipping must depend upon the efficiency of the executive agency intrusted with the enforcement of the laws. At the present time, the administration of the shipping laws is intrusted to several bureaus. While each of these bureaus is managed with ability, the net result is less satisfactory than it would be if there were a greater degree of unity in the administration of shipping laws. This unity can best be brought about by subordinating the various bureaus to a shipping board vested with adequate powers.

If, as is probable, the shipping board, after thorough investigation, finds that the Government must give aid to American shipowners to enable them to compete on equal terms and successfully with foreign shipowners, Congress should leave to the shipping board the expenditure of funds which the Government appropriates

in aid of shipping. Instead of the enactment by Congress of a law granting a general navigation bounty or making appropriations to lines designated in the statute, it would be wiser for Congress to act in accordance with the technical and administrative character of the general problem of rendering effective government aid to the merchant marine, and to authorize the shipping board to enter into contracts with a limited number of steamship lines from the United States to foreign countries. The selection of the lines to be aided should be left to the shipping board, also the amounts to be paid and the formulation of the provisions of the contracts made by the Government with the lines assisted. It is quite certain that, by giving to the shipping board the responsibility of selecting the lines that will be of most assistance to the development of the foreign commerce of the United States, better results can be obtained than by the passage of laws granting subsidies such as have previously been given by Congress. The task to be accomplished being executive in character, its performance should be intrusted to an able body of experts vested with power to exercise its discretion in using the funds appropriated by Congress.

Effective legislation for the promotion of the American marine in the foreign trade ought not to be postponed; in fact it should have preceded

the completion of the Panama Canal. The opening of the canal increases the need for a larger American marine in the foreign trade and gives the vessels under the flag of the United States a greater opportunity. Having invested $400,000,000 in the construction of the Panama Canal, it would be a serious mistake for the people of the United States to neglect to adopt such a policy toward the merchant marine as will enable the canal to be of effective assistance in restoring the marine to the place it held in American commerce at the middle of the nineteenth century. It is not to be expected that this can be accomplished all at once or in a few years, but it should be the definite aim of the people and Government of the United States to bring about this desirable result ultimately and at the earliest practicable date.

CHAPTER IX

EUROPE'S INTEREST IN THE PANAMA CANAL

Before the United States Government undertook the construction of the Panama Canal, a company of Frenchmen, incorporated by France, attempted to accomplish the task. The Panama Canal Company—*La Compagnie Universelle du Canal Interocéanique*—was organized and obtained its concession from Colombia twenty-five years before the United States obtained from the Republic of Panama the grant of the Canal Zone and the right to build the canal. The ten years of heroic effort on the part of the French to pierce the Isthmus failed partly because the company's financial management was too loose, but more because the work was carried on before the methods of controlling yellow fever and checking malaria were known. The experience of the Panama Canal Company made it clear that the canal must be made a government undertaking, and the European capitalists reluctantly turned over the task to the United States, whose funds for canal construction and whose success in the execution of the great work to be done did not depend upon

the sale of stocks and bonds of a corporation, the value of whose securities was determined by the prospective revenues from the operation of the canal if and when completed.

A review of the history of the attention given to the project of a canal across the American Isthmus by the European governments from the time of Columbus to the days of De Lesseps is outside of the purpose of this chapter which is concerned with an analysis of the commercial and political interest of Europe in the completed waterway, now open on terms of entire equality to the commerce of all nations, but owned and operated by the United States, between which country and European nations there must unavoidably be more or less commercial and political rivalry.

From the standpoint of commerce, Europe's interest in the Panama Canal is twofold. As the result of opening the canal, Europe is compelled to face a stronger and more extended competition with the United States for the trade of all countries bordering the Pacific Ocean; but, while the relative advantages of Europe over the United States for the trade of Pacific countries have been lessened by the canal, the waterway has so reduced the costs of transportation between Europe and the west coast of North and South America as to be of much assistance to the commerce of

Europe. Europe thus stands both to lose and to gain from the canal.

The changed conditions of competition between Europe and the eastern seaboard of the United States for the trade of Pacific countries, resulting from the opening of the Panama Canal, were indicated in Chapter III which set forth the effect of the canal upon the length of ocean routes and the time of voyages. By way of the Straits of Magellan the distance from New York to Valparaiso, Chile, is 8,380 nautical miles, while from Liverpool the mileage is 8,747, the distances being nearly equal. Via the Panama Canal, Valparaiso is 4,633 miles from New York, and 7,207 miles from Liverpool, New York now having an advantage of 2,574 miles over Liverpool in trading with Valparaiso and all other west coast South American ports. The ports of the west coast of Central America and North America by way of the canal are, likewise, 2,574 miles nearer New York than Liverpool. As compared with Hamburg, Germany, New York has a distance advantage of 3,093 miles in trading with the ports of the Pacific coast of the Americas. New Orleans and the other Gulf ports, being nearer than New York to the canal, have a correspondingly greater distance advantage over Europe in trading with Pacific ports north and south of the canal.

Before the opening of the Panama Canal

Europe was much nearer to Japan and China than was the eastern seaboard of the United States. Via the Suez Canal, which is the shortest route, the distance from Liverpool to Shanghai (including calls at Aden, Colombo, Singapore, and Hongkong) is 10,637 nautical miles; from New York the distance is 12,525 miles, the advantage in favor of Liverpool being 1,888 miles, because Liverpool is that much nearer than is New York to Gibraltar. The Panama Canal removes this handicap against New York. As shown by Map 4, Chapter III, page 41, Shanghai is practically the same distance from New York via the Panama route as from Liverpool by way of Suez. Japan is now appreciably nearer to the eastern part of the United States than to western and northwestern Europe, the distance from New York to Yokohama via Panama and San Francisco being 9,798 miles, while from Liverpool to Yokohama via Aden, Colombo, Singapore and Hongkong the distance is 11,678 miles.

The commerce between the eastern ports of the United States and Australia, before the Panama route was available, moved via Cape Town and the Cape of Good Hope. Although the distance from north Europe to Australia is less via Suez than by way of the Cape of Good Hope, the difference in the length of the two routes is not great enough to cause many freight vessels to take the

Suez instead of the Cape route; and thus, under former conditions, the commerce both of Europe and of the eastern part of the United States with Australia was, for the most part, carried past the Cape of Good Hope. Via that route the distance from New York to Australian ports was 780 miles more than the distance from Liverpool. Via the Panama Canal Sydney is 9,811 nautical miles from New York, while from Liverpool to Sydney the distance via the Cape of Good Hope is 12,626 miles. Melbourne and Adelaide are farther from New York than Sydney is and are also on the way from Liverpool to Sydney, but both Adelaide and Melbourne are now somewhat less distant from New York than from Liverpool, Hamburg, and the other ports of northwestern Europe. The line connecting points equally distant from New York via the Panama Canal and from Liverpool via Suez is indicated on Map 4, page 41.

The few references here made to the effect of the Panama Canal upon the relative distances from Europe and from the eastern part of the United States to the Pacific ports of North and South America, Japan, China, and Australia show that one important factor affecting the conditions of competition of the United States with Europe for the trade of Pacific countries has been so altered as to convert a handicap against the United States into a distance advantage over

northern and western Europe; but, as was pointed out in Chapter III, it must be borne in mind that there are several factors other than relative distances that determine not only the routes over which commerce actually moves, but also the success attained by any particular country in competing with other countries for the trade of the world. European producers and traders have had, and upon the termination of the present war will again have, the advantage over their American competitors in ocean-shipping facilities, international banking agencies, and even as regards methods of merchandising. It is only by removing or offsetting these handicaps that the people of the United States can largely benefit from the distance advantages created by the construction of the Panama Canal.

Although European countries have been somewhat apprehensive as to the possible effects of a more active competition with the United States for the trade of the Pacific, the feeling apparently has been and is that the Panama Canal will assist much more than it will hinder the development of the commerce of Europe. The canal will be of great absolute benefit to Europe. Indeed, in normal times, European traders and shipowners will use the canal more largely than will American merchants and carriers, and the reductions in the costs of transportation will doubtless enable

fit Europe largely, and will assist its manufacturers and merchants in extending their trade.

The population and industries of Central America are mainly in the western part of the region, and trade, with the exception of that in bananas and logs, is carried on principally at the Pacific ports. The coffee, cacao, and rubber plantations and the cattle ranches having been developed mainly by Englishmen, Germans, and Frenchmen, the exports of Central America have gone chiefly to Europe whence most of Central America's imports have been derived. The trade of Europe, as well as that of the United States, with Central America will be greatly facilitated by the Panama Canal.

Europe as well as the United States will benefit from the assistance which the canal will give to the exchange of commodities between the west coast of the United States and countries beyond the Atlantic. The grain, lumber, fish, fruit and other exports of Washington, Oregon, and California will go largely to Europe and at lower transportation costs to European buyers. In all probability, a larger use of European wares and products in the western part of the United States will result from the closer commercial relations which the canal will establish between Europe and the Pacific ports of the United States.

British Columbia and its commerce with east-

ern Canada and with Great Britain and other European countries have an interest in the Panama Canal second only to the interest which the two seaboards and the intercoastal trade of the United States have in the isthmian waterway. Until the Panama route could be used, the industrial and commercial progress of British Columbia was greatly hindered by the cost of getting the natural exports, lumber, fish, and grain, to the only markets in which the products could be sold in large quantities. Freight rates for transcontinental shipment by rail being well nigh prohibitive, traffic with Europe was necessarily carried around South America or subjected to the expense of double handling and of rail transportation at the Isthmus of Tehuantepec or Panama.

It was pointed out above that the eastern seaboard of the United States is brought much nearer Australia by the Panama Canal. This may be expected to aid in the development of the commerce of Australia with the United States, and to intensify the competition of American and European producers for the trade of Australia. This will presumably not be of direct benefit to the manufacturers and merchants of Great Britain and other countries of Europe; but it ought to enable Australia to advance more rapidly in industry and commerce. Viewing Great Britain in the larger sense of "Greater Britain," what is

of assistance to an important unit—in the case of Australia a continental unit—is a benefit to the Empire as a whole and particularly to the ancient mother realm that is the political center, the heart of the world-wide Britain that lies beyond the seas. The political and economic unity of the British Empire has become so close that the fortunes of one section are the fortunes of all.

Europe's interest in the Panama Canal from a naval point of view is hardly inferior to its interest from an economic standpoint. The use of the canal under terms of impartial neutrality by all countries not at war with the United States was naturally desired by all the great maritime powers. Several European nations have possessions in the West Indies, Great Britain has a strong naval base in the islands, and it was natural that all nations, including not only those having possessions in the West Indies, but all maritime powers, should desire to be able freely to move their naval squadrons from the Atlantic to the Pacific or in the opposite direction as often as the efficient use of their navies may make necessary or advantageous.

By the Hay-Pauncefote Treaty of 1901 the United States gave its pledge that the canal would be open to the vessels of war of all nations on terms of entire equality. The United States became the sole guarantor of the neutrality of the

canal and laid down the rules that she would enforce to insure the neutral use of the canal. This guaranty and these rules were embodied in a treaty with Great Britain, because it was necessary to make a treaty that would supersede a former convention—the Clayton-Bulwer Treaty of 1850—by which the United States and Great Britain had agreed that neither country would obtain exclusive control over an isthmian canal, and that they would be jointly responsible for the neutrality of any canal that might be constructed; but the obligation which the United States voluntarily assumed in entering into the Hay-Pauncefote Treaty runs to the benefit not of Great Britain alone; it is a pledge made to all nations. In fulfilling its obligation to maintain the neutrality of the Panama Canal, and in keeping, as it will, its solemn pledge, the United States will confer a naval benefit upon the maritime powers not only of Europe, but also of Asia and of the Americas.

It is obvious, however, that the United States will derive far greater naval advantages from the Panama Canal than will European or other foreign nations; and, in so far as the canal affects the relative naval strength of the United States and other countries, the canal may be regarded by foreign nations as a detriment rather than a benefit.

The canal is, indeed, a most valuable naval as-

set of the United States whose wide-reaching territory fronts the Atlantic and Pacific. Not only for domestic reasons, but also because of the international obligations which the United States, as one of the great world powers, cannot avoid, and would not wish to shun, the United States must maintain on each ocean a fleet strong enough to police its coasts, defend, if need be, its seaboards, protect American commerce, and fulfill the international obligations that have been assumed, particularly the obligations as regards countries of Central and South America. A large and increasingly difficult task is, thus, imposed upon the American navy.

The Panama Canal has brought the formerly separated squadrons of the United States navy closer together; it has increased the mobility of the naval fleet as a whole by making it possible for squadrons to pass quickly from ocean to ocean; and, what is possibly of greater importance, it has enabled the United States to establish at the canal a well-equipped naval base protected by strong fortifications. It is apparent that it must be of great strategic value to the United States to have, at the sole gateway between the Atlantic and Pacific, coaling stations, docks, machine shops and a well equipped naval base at which fleets may be assembled, from which squadrons may proceed to perform their assigned tasks,

and to which they may confidently return for coal, supplies, and necessary repairs.

It is to be hoped that the time may come when neither the Panama Canal nor any other work or locality of possible strategic importance will need to be considered with reference to naval efficiency or with regard to military strength and weakness. Possibly that day may come sooner than the present distracted state of the world would seem to make probable; but, for the present, no great nation, however peaceful its purposes nor however fortunate it may thus far have been in avoiding war, can wisely ignore the possibility of international conflict and neglect to safeguard itself against attack. The naval significance of the Panama Canal is necessarily of interest to the United States and to all nations.

It is a fortunate circumstance that the United States has from first to last adhered to the principle and policy of a neutralized isthmian canal. In subscribing to the Clayton-Bulwer Treaty of 1850, at a time when it was supposed that a private corporation would construct the canal across the Isthmus, the United States agreed with Great Britain that the canal, "being open to the citizens and subjects of the United States and Great Britain on equal terms, shall, also, be open on like terms to the citizens and subjects of every other nation which is willing to grant thereto such pro-

tection as the United States and Great Britain engage to afford." When it became evident that the canal, if constructed at all, must be built by the United States Government, Great Britain agreed to such amendment of the Clayton-Bulwer Treaty as would free the United States from her agreement not to obtain control over (i. e., construct) the canal or to "erect or maintain any fortifications commanding the same."

The only stipulations made by Great Britain in acceding to the request of the United States for the modification or abrogation of the Clayton-Bulwer Treaty were that the United States should agree to the neutralization of the canal and that all vessels, American and foreign, should pay the same tolls. The neutralization of the canal was the main issue considered in the negotiations that resulted in the Hay-Pauncefote Treaty. In the draft of the treaty as first submitted to the Senate it was provided that the United States should not fortify the canal and that the United States should neutralize the canal by entering into treaties with the several powers. These provisions were objectionable to the Senate which so amended the proposed treaty as to cause Secretary of State Hay, after due negotiations, to submit to the Senate another draft of a treaty which made no mention of fortifications and which provided that the United States should alone assume

the obligation to maintain the neutrality of the canal.

As stated in the Hay-Pauncefote Treaty, the United States and Great Britain entered into the treaty "to remove any objection which may arise out of the Convention of the 19th April, 1850, commonly called the Clayton-Bulwer Treaty, to the construction of such canal under the auspices of the Government of the United States, without impairing the 'general principle' of neutralization established in Article VIII of that Convention;" and, to give effect to this purpose, the Hay-Pauncefote Treaty formulates in Article III certain rules which "the United States adopts as the basis of the neutralization of such ship canal." The first of these rules provides that the canal shall be "open to the vessels of commerce and of war of all nations observing these rules on terms of entire equality."[1]

[1] Article III of the Hay-Pauncefote Treaty is as follows:

The United States adopts, as the basis of the neutralization of such ship canal, the following rules, substantially as embodied in the Convention of Constantinople, signed the 28th October, 1888, for the free navigation of the Suez Canal, that is to say:

1. The canal shall be free and open to the vessels of commerce and of war of all nations observing these rules on terms of entire equality, so that there shall be no discrimination against any such nation, or its citizens or subjects, in respect of the conditions or charges of traffic, or otherwise. Such conditions and charges of traffic shall be just and equitable.

The maintenance of the principle of a neutralized Panama Canal was again pledged by the United States in the treaty signed with the Re-

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2. The canal shall never be blockaded, nor shall any right of war be exercised nor any act of hostility be committed within it. The United States, however, shall be at liberty to maintain such military police along the canal as may be necessary to protect it against lawlessness and disorder.

3. Vessels of war of a belligerent shall not revictual nor take any stores in the canal except so far as may be strictly necessary; and the transit of such vessels through the canal shall be effected with the least possible delay in accordance with the regulations in force, and with only such intermission as may result from the necessities of the service.

Prizes shall be in all respects subject to the same rules as vessels of war of the belligerents.

4. No belligerent shall embark or disembark troops, munitions of war, or warlike materials in the canal, except in case of accidental hindrance of the transit, and in such case the transit shall be resumed with all possible dispatch.

5. The provisions of this Article shall apply to waters adjacent to the canal, within 3 marine miles of either end. Vessels of war of a belligerent shall not remain in such waters longer than twenty-four hours at any one time, except in case of distress, and in such case, shall depart as soon as possible; but a vessel of war of one belligerent shall not depart within twenty-four hours from the departure of a vessel of war of the other belligerent.

6. The plant, establishments, buildings, and all works necessary to the construction, maintenance, and operation of the canal shall be deemed to be part thereof, for the purposes of this Treaty, and in time of war, as in time of peace, shall enjoy complete immunity from attack or injury by belligerents, and from acts calculated to impair their usefulness as part of the canal.

public of Panama, November 18, 1903. In this treaty, by which the United States obtained the territorial concession and the rights required for the construction of the canal, the United States agreed, in Article XVIII:

> The canal, when constructed, and the entrances thereto, shall be neutral in perpetuity, and shall be opened upon the terms provided for by Section I of Article 3 of, and in conformity with all the stipulations of, the treaty entered into by the Governments of the United States and Great Britain on November 18, 1901.

By these treaties and as a consequence of the policy to which the United States will adhere in carrying out their terms, European and other countries are assured of the use of the Panama Canal on terms of entire equality and without special discriminations being made in favor of the citizens of the United States. The citizens and subjects of all nations are guaranteed the right to use the canal on the same terms as the citizens of the United States use the waterway. This gives foreign countries full opportunity to derive from the canal all the benefits to their industry and commerce that can be secured from reductions in the costs of transportation and from the use of safer and shorter ocean routes. The interest of foreign countries in the Panama Canal are as great as the possibilities of the ad-

vantageous use that "vessels of commerce and of war" may make of a waterway that has been opened as a world highway which all nations at peace with the United States may travel so long as they observe the rules of neutrality that the United States has formulated and, by solemn treaties, has obligated itself to enforce and observe.