

CONTRACT FOR GUN COTTON IN STATES

Manufacturers Have Orders Which Will Insure Profits Around 200 per Cent

PRICES ARE HIGH

This is Owing to Fact That Manufacturers Have to Clear Cost of Plants Which Will be Useless After the War.

New York, July 9.—Contracts for upwards of 100,000,000 pounds of gun cotton have been placed with domestic manufacturers by the Allied governments of Great Britain, France and Russia within the past six months at prices ranging from 65 to 75 cents per pound. Of this huge amount only 4,000,000 pounds has as yet been exported. Hundreds of thousands of pounds of gun cotton will be shipped out of the country within the next few months, however.

Agents for the Allied Governments state that most of their purchasing of gun cotton has now been completed, and that they are now devoting all their attention to securing as large a supply of picric acid as possible. The gun cotton which has been exported is being generally used in the manufacture of smokeless powder. A considerable quantity also goes into the manufacture of torpedoes and large quantities are being utilized in mining operations.

Gun cotton, the most generally used explosive in land operations, is manufactured by treating cotton with nitric and sulphuric acids. The high cost of the finished material (65 to 75 cents per pound on contract) is explained by the fact that those new manufacturers who have taken up gun cotton manufacture must clear the cost of their plants, while the demand for the material exists. It is thus realized that upon termination of the war abroad, demand for gun cotton for use in manufacture of smokeless powder will cease, and that existing plants will be equivalent to so much junk. It is for this reason that gun cotton is to-day commanding as high as 75 cents per pound when the acknowledged cost of production including cost of nitric and sulphuric acid is but 22 to 25 cents per pound.

Over 21,390,530 pounds of sulphuric acid were exported from the United States in the first ten months of the current fiscal year ended April last, against but 10,822,681 pounds in the corresponding period in 1914. Statistics for nitric acid exports are not available, but a correspondingly large increase in the exports has taken place.

The finished product gun cotton, which is technically known as pyroxyline, nitrated cotton, or nitrocellulose, is being exported only under the most stringent regulations. The Interstate Commerce Commission prohibits shipments of all gun cotton whose average percentage of moisture exceeds 20 per cent.

Shippers are required to pack their product in metal lined water tight cases. Each case contains 220 pounds of gun cotton and each case alone weighs 65 pounds, making a total net weight of 235 pounds. Considerable of the moisture caused by treating gun cotton with nitric acid is absorbed in the additional treating of the product with sulphuric acid. But even after the various processes of nitrating, washing, boiling and neutralizing have been gone into, the resulting product is exceedingly moist. This moisture is not absorbable even under a hydraulic pressure of 25,000 pounds.

Considerable gun cotton which was about to be shipped was recently condemned as not coming up to specifications of British and French purchasing agents. It is understood that contracts made by one of the leading manufacturers with the Allies have been cancelled for this reason.

With the leading powder manufacturers working overtime to keep up with their orders, many business men have begun to reap the profits of their foresight. The manufacture of gun cotton is but one side of the activities of the larger powder makers, but a gun cotton plant can be put up in a short time, and any concern able to assure compliance with its contracts can obtain the business.

One instance of the short time elapsing between the breaking of ground for a plant and the shipping of the finished product is furnished by a plant organized by Lewis Nixon, near New Brunswick, N.J., which began work on May 5, with one of three units. Two of the three are now at work and the full plant will be in operation by August 1. At present 750 men are employed but with the plant working full time 1,000 men will be engaged, and the daily output will be around 100,000 pounds, with a gross value of \$50,000 to \$65,000 at the present prices of gun cotton. The company has contracted for 30,000 bales of linters cotton and 30,000 pounds of nitric acid—enough to turn out 100,000 pounds of gun cotton a day for a year.

The processes of making gun cotton are summed up briefly as bleaching, drying, nitrating, washing, boiling, wringing out dry and packing.

Estimates in the cotton trade of the amount of cotton consumed in the manufacture of explosives range from 1,000,000 to 3,000,000 bales. A recent report issued by Allan M. Fay of the United States Bureau of Mines throws some light on the quantity of powder manufactured in the United States. He says that 450,251,455 pounds or 225,126 short tons were manufactured last year. About 265,000,000 pounds of this total were "black" powder in which cotton is not an ingredient.

That would leave 250,000,000 pounds into which cotton enters. The proportion of cotton in smokeless powder is put at 40 per cent. On that basis the powder mills of the United States consumed 200,000 bales of cotton, including linters last year. Linters are preferable to lint cotton because they are very short fibre. Lint cotton must be chopped into fine bits before it can be used for manufacturing powder.

If it is true—and no doubt it is—that American mills are turning out three times as much powder now as they were last year, the probable output would be at the rate of 750,000,000 pounds a year. Presuming that 40 per cent. of this total weight is made up of cotton, there would be a consumption of 300,000,000 pounds, or 600,000 bales of cotton.

Assuming that this country is producing only one-sixth of the gunpowder which is being manufactured for war purposes just now, it might be roughly correct that consumption of cotton in manufacture of explosives is going on at the rate of 2,400,000 bales.

Government statistics show that consumption of linters, which are preferred by manufacturers of gunpowder to lint cotton, is going on at a higher rate than the size of the yield of linters last season would warrant. The output of linters from the 1914 crop was 720,000 bales, which was the record. According to government reports domestic consumption of linters in the last three months was 112,105

GERMAN HOP CONDITIONS ARE NOT TOO PROMISING

Hop Culture Has Been Somewhat Curtailed and Prices Still Remain Low and Lower Grades Only Sought.

German hops are mainly used in the production of beer, and those which are not so consumed at home are shipped abroad. Beer drinking in Germany, however, has declined and exportation is interrupted. How have these circumstances affected the growth and sale of hops?

The prices still remain low, while only the poorer grades are sought. Inferior varieties from Alsace recently brought \$4.70 to \$5.50 per 100 pounds. The middling sort from Baden brought \$13.90 to \$16.50, and the same variety from Wurttemberg \$12.40 to \$16.50. The best quality from the same district did not reach a higher price than \$21. The highest price obtained for the best Bohemian variety (Saazer) was only \$23 per 100 pounds. No recent quotations for Bavarian hops have been given but the prices obtained since the war have been poor, offering a marked contrast to the record price of \$107.30 for the best sort in the year 1911.

There is no prospect that prices will become appreciably better under present conditions.

That hop culture has been somewhat curtailed is undisputed, but the leading authorities in this field—Barth & Sohn, of Nuremberg—state that it is impossible at present even to estimate the general extent of this curtailment. The decline is said to be much greater in Bohemia than in Germany. In some districts of Southern Germany it amounts to about 25 per cent. This seems to be exceptional.

Hop growing requires a degree of permanence; it is much easier destroyed than re-established. For this reason hop authorities recommend the planting of beets, potatoes, etc., between the hop rows and not the pulling up of the hop stalks. How far this advice has been heeded it is impossible to say. In the Spalt district near Nuremberg a considerable area of hop land is reported to be used exclusively for potatoes and grain. Last year's crop did not pay the expenses of its production and gathering. My own observation has not shown me that intermediate crops are being sown on hop fields nor that hop growing in the vicinity of Nuremberg, except perhaps in some plantations in Spalt, is being reduced. On the contrary, I have seen not a small number of freshly cut poles.

CONDITIONS IN LONDON SOUND.

London, July 9.—Sir George Paish, editor of the Statist and a former adviser to the Treasury Department, while discussing the financial outlook, told a correspondent that financial conditions in England are not so serious as certain pessimists imply. On the contrary, he said, the country is at present on an extremely sound basis.

LITTLE HOPE OF U.S. GETTING ANY MORE GERMAN DYE STUFFS

Washington, July 9.—An apparently unbreakable deadlock has been reached in the efforts of the United States Government to secure dye stuffs from Germany for American manufacturers.

State Department officials will continue their negotiations but it is practically certain that Germany will not permit the exportation of dye stuffs unless some arrangement is made which will give Germany a much-needed supply of American cotton.

The Department of Commerce has instructed Erwin W. Thompson, commercial attaché at Berlin, to report on the dye stuff situation—not on possible shipments of dye stuffs during the war, but on the stock of colors now on hand in Germany, the amount available for export immediately if war should cease, and the probable policy of German manufacturers as to prices.

The commercial attaché, unable to work effectively in Berlin, is at present at The Hague.

STEEL MARKET ACTIVE.

Chicago, July 9.—Farm machinery concerns are in steel market earlier than usual already specifying for August delivery. Steel bar market is active and strong and fairly steady, price of plates increased \$1 during the past week.

Cast iron pipe makers are busy on old contracts but new business is slow. Sheets are unchanged, structural is responding to prospects of early labor peace here and some good bridge orders, the market is more active than it has been for months with price steady.

American Bridge Company received order for 500 tons girder spans from the Burlington, 180 tons from the Pullman, and 134 tons from the Moorehead, Minnesota & Western. Equipment men expect to get the Baltimore & Ohio order for 2,000 cars.

THE WEATHER MAP.

Cotton Belt—Some heavy showers in the Carolinas, scattered in Mississippi and Arkansas. Temperature 72 to 82.

Winter Wheat Belt—Light to moderate showers in Kansas, scattered in Nebraska, Iowa and Ohio. Temperature 60 to 68.

American Northwest—Scattered showers in North Dakota and Minnesota. Temperature 60 to 64.

Canadian Northwest—Scattered showers. Temperature 56 to 64.

HAMILTON CLEARINGS.

Hamilton, July 9.—The clearings for the Hamilton Clearing House are as follows:—

Clearances. Balances. Total for week ending July 8, 1915 \$3,380,636 \$566,473 Corresponding week in 1914 ... \$3,928,383 \$765,583 Corresponding week in 1913 ... \$3,503,445 \$665,705

Allies have placed additional orders in Pittsburgh for 2,000,000 bayonets, 1,000,000 rifles and \$920,000 worth of trace chains, according to a Pittsburgh banker, who declined to give further details.

bales against 77,919 bales last year, while exports totalled in the same period 96,492 bales, or a total consumption of 208,587 bales for three months. At that rate \$25,000 bales of linters would be consumed in the course of the year. The prices of linters has advanced more than 100 per cent. In the last six months. Last year 2 cents a pound was a normal price, while now the cost is 4½ cents to 5 cents a pound.

Cotton mill waste is also entering into the manufacture of gunpowder. A spinner is authority for the statement that he gets 5 cents a pound for his waste this year, against about a cent a pound last year, an advance of 500 per cent. It is estimated that the amount of mill waste available in a season is not far from 1,200,000 bales. Adding 720,000 bales of linters to that would give a total of 2,000,000 bales of cotton suitable for the manufacture of gunpowder.



PRESIDENT R. A. FALCONER.

Of the University of Toronto. The University faces a shortage of \$100,000 this year.

REVIEWS FUTURE OF RAW RUBBER

During the War There will be a Reduction in the Proportion of Recovered Waste Rubber

INCREASED CROP

The Total Crop Last Year Was Approximately 65,000 Tons and This Year It Will Reach Something Like 80,000 Tons.

London, July 9.—Mr. Herbert Wright, chairman of Java Amalgamated Rubber Estates, Limited, in his address at the annual general meeting, threw some light on the future of the raw rubber market.

After surveying the annual report and accounts of the company, the chairman said that, in order to arrive at a reasonable estimate as to the future of the raw rubber market, he had studied the statistical position from every point of view. Apart from raw supplies, one must bear in mind the reduced life of rubber articles during the war, and also the destruction of raw material. During the war, there would be a big reduction in the proportion of recovered waste rubber in the war areas. So long as rubber remained at its present low price, and time was so important in war transport, waste rubber would be available in reduced proportions, and virgin rubber used in its stead. This was quite apart from the sheer destruction, at sea and on land, of unused manufactured, and raw rubber. With regard to raw supplies, during the present year there would be a very small increase in the production from plantations, and there would be big decreases from Africa and Brazil; but there would be a continuous and strong demand for raw rubber, certainly so long as the war lasted. Rubber took its place alongside petrol and copper in point of importance during war.

The total crop of plantation rubber last year was approximately 65,000 tons, and this year it would be something like 80,000 tons, because during the present year they would be tapping in the middle east those areas which were planted during or prior to 1909. The total acreage in that year was about 600,000 acres, which would give, say, 75,000 tons, a further 5,000 tons being obtained from areas planted in early 1910.

America would take this year a tonnage of raw rubber equivalent to the whole of the plantation output (80,000 tons). America had always been the biggest importer and had demanded more rubber every year. For years in succession America had taken more plantation and less wild rubber. American activity in raw rubber was the real index of the market, and the increase in English imports to that country this year was in accordance with anticipations, and that increase would be continued. For the last three years the rubber imported by the United States was, in round figures, 40,000, 50,000 and 60,000 tons, so that the figure of 80,000 tons for this year was only slightly above the normal annual increase. This year England had already exported, during four months only, nearly 15,000 tons to the United States, and it was common knowledge that eastern centres had added to this grand total.

At this rate America would take this year 10,000 more tons of plantation rubber than she did last year. There had been special activity among manufacturers in America and the United Kingdom on account of the war, but in the latter country the manufacturers have been making goods which in normal times would have been made in other parts of Europe. Estimating 80,000 tons for America, the balance tonnage of the world's production this year—about 45,000 tons—could be apportioned according to fancy among European and far-eastern countries. Even England could take almost half the balance. Assuming that the war continued, there would not be sufficient rubber to go around, and steady, if not advancing, prices could be assured. As the war seemed likely to last some time this year's supplies seemed assured a welcome home. Even without war this would have been a year when production would not have kept pace with the normal increase in consumption.

What would be the position after the war? For the purpose of preparing a statement he assumed that the war would be over during 1916. What was the probable production and demand for that period? Up to 1910 there were planted in the middle east approximately 750,000 acres, and this should yield about 100,000 tons during 1915. In 1911 a further 200,000 acres were planted, from which 10,000 to 20,000 tons might be obtained in 1916. His total estimate of plantation rubber for 1916 was, therefore, from 110,000 to 120,000 tons. This production was based upon the assumption that price and labor remained satisfactory; if prices or labor conditions were unfavorable, the estimate would not be reached. Plantation rubber was the only supply which could show an increase this or next year.

Africa and Brazil together could certainly not exceed their average output, and wild rubber might, for their purposes, be assessed for 1916 at 45,000 tons, giving a total production of from 155,000 to 165,000 tons for the year. In pre-war periods the importance of the various countries was, in order of tonnage consumed—first America, then the United Kingdom, followed by Germany, Russia, France, Austria-Hungary, Italy and Japan. Though the first-mentioned consumed as much as all the others put together,

UNITED STATES BUILT 1,226 VESSELS DURING YEAR

Washington, July 9.—There were built in the United States during the last fiscal year 1,226 vessels of 215,711 gross tons as compared with 1,291 vessels of 211,578 gross tons for the last fiscal year. The Bureau of Navigation announced that the principal vessels built during the last year were two colliers, built for the Panama Canal trade, the Achilles and the Ulysses, of 11,081 and 10,910 gross tons, respectively.

Other vessels over 5,000 gross tons were the John D. Rockefeller, a tanker of 8,574 gross tons; the Great Northern and the Northern Pacific, of 3,255 gross tons each, for passenger service on the Pacific coast, and the J. A. Moffet, of 6,395 gross tons and the Lyman Stewart, of 6,054 gross tons, both tank vessels for the Pacific coast oil trade.

Only one large sailing vessel was built during the year, the Georgia, a schooner of 1,318 gross tons. In all, 23 vessels of more than 1,000 gross tons each were built, aggregating 123,242 tons.

The following table shows the number and tonnage of vessels built during the year:

Wood.	No.	Gross.
Sailing	50	7,241
Steam	742	27,082
Unrigged	355	59,623
Concrete	2	565

Total

Grand total

Wood:

Sailing

Steam

Unrigged

Concrete

Total

Grand total

Wood:

Sailing

Steam

Unrigged

Concrete

Total

Grand total

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JITNEY RIVALRY IS GROWING LESS

Regulatory Ordinances Have Greatly Reduced Number of Jitneys in Many Cities

EFFECTS OF COMPETITION

Street Railways in General Have Suffered During Past Six Months, and Dividends Have Been Reduced.

Effects of the jitney competition, which, as affecting street railways in general, may be said to have been in existence for six months, is being seen in the passing and reduction of dividends by some of the companies operating where competition has been the strongest. Within the last month Memphis Street Railway Co., and Birmingham Railway, Light and Power passed their dividends, and Puget Sound Traction, Light and Power has just reduced the dividend on its preferred stock from \$1.50 a share a quarter to 75 cents a quarter.

While all the reduction in electric railway earnings cannot be attributed to the jitneys, as the industrial depression has had some effect, yet the substantial part of the decrease has been due to jitneys. Hay the jitneys not entered the field it is probable that while earnings with many electric railways would have shown some decline, this would not have been sufficient to endanger the regular dividends.

In the case of Puget Sound Traction, Light and Power, earnings have been showing declines for some time; but with the regulation of the jitneys in Seattle and other Pacific Coast towns in which the company operates, it is expected that there will soon be material recovery in revenues of its electric railway lines.

Reports from cities where jitneys have been operating indicate that when regulation is adopted the number of cars quickly decline. In Montreal the invasion of jitneys had almost ceased before the Tramways Co. felt any effect in diminution of the number of its passengers.

In Atlanta, where the state railroad commission is to take jurisdiction over jitneys, the number of cars has declined 50 per cent., and the upholding by the courts of the regulatory ordinance in Youngstown, O., is expected materially to decrease the number there. In New Orleans an ordinance requiring a \$10,000 indemnity bond with many restrictions has been upheld by the highest court, and the jitneys will soon diminish in number under its provisions. In the territory served by Northern Ohio Traction and Light Jitney competition is lessening, and for May gross revenue of the railway department was but \$6,700 below May, 1914.

In Duluth Jitney owners are attempting to secure a referendum on the regulatory ordinance passed to protect the Duluth-Superior Traction Co., but on filing their petitions they were found to be 173 short on legally qualified signers. The Jitney owners have until July 9 to secure the additional signers. In Dallas, where jitneys have been very numerous, it is stated that about 300 cars have been withdrawn and it is believed that the number in operation will steadily grow less.

In one phase of the business the motor bus is helping the electric railways. That is in the establishment of motor bus feeder lines to the interurbans. In the vicinity of Kansas City and in southwestern Missouri this feature has been developed to considerable extent. In some localities these motor buses have been established to try out the possibilities of routes for electric railway traffic, and if found profitable, it is planned to extend the electric lines.

In the smaller towns, where jitneys have been affecting the street railway revenues the street railway men are advocating a return to the single-track street car, operated by one man and more frequent trips over the lines. In several southern towns where this has been tried the jitneys have been entirely forced out.

Philadelphia, the largest city where jitneys have become a menace to earnings of the street railways, has now in force an ordinance to regulate the vehicles, including the filing of indemnity bonds. So far about thirty-six cities and towns have adopted regulatory ordinances. All these ordinances provide for indemnity bonds, running in amount for each car from \$2,000 to \$11,000, with license fees of graduated amount. The lowest bond is in Little Rock, where it is but \$2,000 a car, while in Fort Worth it is \$11,000 a car.

In connection with its effort to increase traffic on its interurban lines Puget Sound Traction Light & Power Co. has organized the Washington Auto Bus Co., with a capitalization of \$25,000. The new company will operate a feeder bus service for the electric railway lines. Operation was started June 1, and joint tickets are sold for the autobus and electric railway lines.

SPECIAL TRAIN BROUGHT MANY MUNITION WORKERS.

A special train arrived in Montreal yesterday from Toronto carrying workers who have answered Britain's call for help in the manufacture of munitions of war. It carried about 300 men and a number of women, en route to England. The men have all passed the strict examination of the British Commission and are skilled workmen.

Toronto contributed 170 of these men. There was a quota from Hamilton, too, in charge of Mr. A. W. Haigh, secretary of the British Commission. The Toronto men were accompanied by Mr. R. C. Newman, of the Labor Bureau, as far as Montreal. Western Canada sent some 70 British-born mechanics. This train full of men is the third contingent of munition workers to leave Canada in the last six weeks.

The Toronto men have been examined in the Grand Trunk shops there. The examinations will be resumed in a few weeks, when the British Commission's return from the Pacific coast. The men sail this week.

NEW BRUNSWICK BUSINESS FAILURES.

St. John, N.B., July 9.—Business failures in New Brunswick during the first six months of 1915 numbered 29, with assets amounting to \$36,825, and liabilities of \$88