

The spring wheat yield was revised to 345,163,000 bushels, although a previous forecast had estimated that it would reach only 322,000,000 bushels. This was added to the winter wheat figures of a month ago, 659,114,000 bushels. The oats crop, placed at 1,517,478,000 bushels, eclipses any previous total for that cereal in the country's history. Figures given out on the corn crop report a total of 3,026,159,000 bushels, which falls a little short of the record, although it is at least second to the largest crop ever raised. Other crop totals contained in the report are: Barley, 236,682,000 bushels; buckwheat, 16,738,000; white potatoes, 368,151,000; sweet potatoes, 64,800,000; flax, 17,655,000; rice, 26,251,000; tobacco, 1,098,804,000 pounds; apples, 71,632,000 barrels, and sugar beets, 6,158,000 tons.

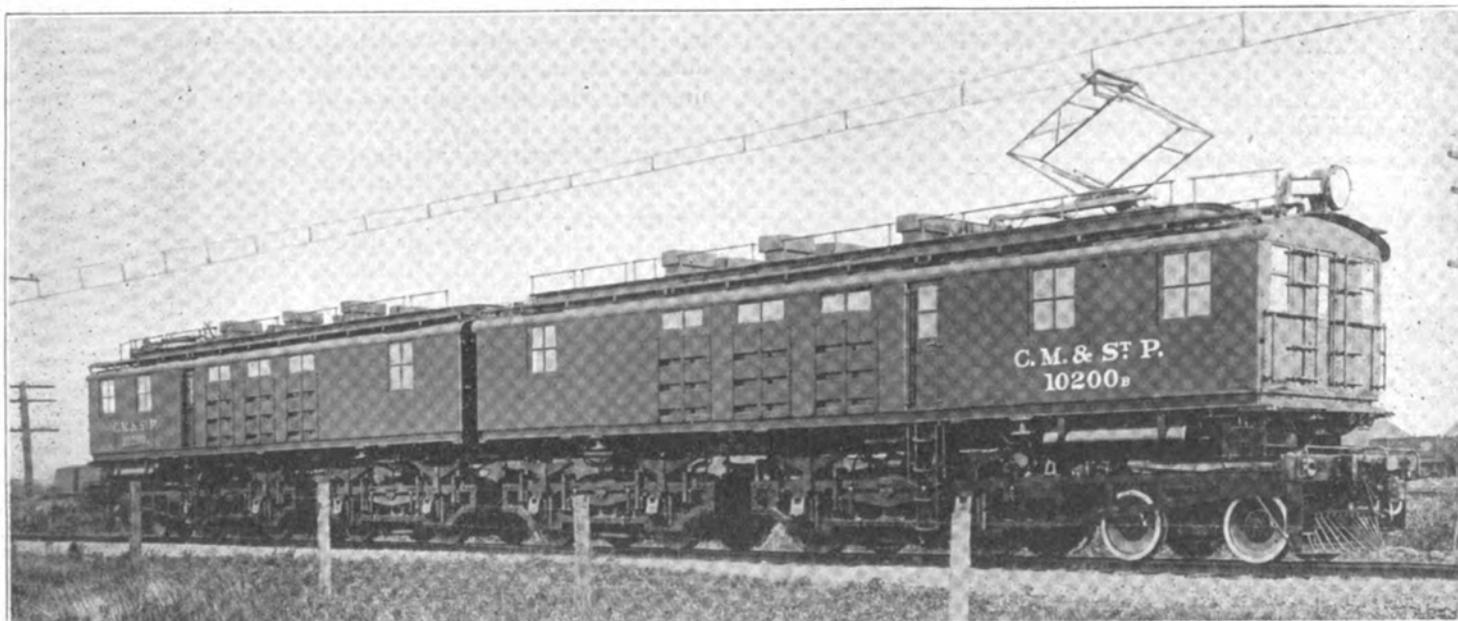
#### Railroad Losses in the New Orleans Storm.

In the terrific hurricane that swept over the Mississippi delta on September 29 and referred to in our last week's issue, a number of railroads suffered both serious derangements to operation and extensive material damage. The dam-

and timber and its products. The attacks which the Department of Justice has made against railroads under the commodities clause have been confined chiefly to efforts to divorce the business of coal mining from that of transportation. But, with steel production, as with coal mining, the principle that a railroad should not be interested through ownership in the commodities which it transports, remains the same. Accordingly, it has been suggested as probable that the Pennsylvania will close out its interests in the steel business, especially as present market conditions are eminently favorable for such a step.

#### Delivery of Electric Locomotives for the Chicago Milwaukee & St. Paul.

In the Railway Review for Jan. 16, 1915, there was given a general article covering the electrification of the Rocky Mountain division of the Chicago Milwaukee & St. Paul Ry. The first of the powerful locomotives being built for use on



Electric Locomotive for the Chicago Milwaukee & St. Paul Ry.

age to Southern Pacific property has been estimated at \$75,000. The road's St. Anne depot is said to have been completely demolished. The ferry landing sheds on Gretna wharf were blown down and the Southern Pacific car shops and paint shops were wrecked, as was also the old passenger shed at Algiers. On the Louisville & Nashville considerable damage was suffered in the vicinity of Bay St. Louis. The two miles of trestle between Pass Christian and New Orleans was badly distorted and 700 feet of track was destroyed. The telegraph lines all through this territory, of course, were torn down. Track washouts on the Illinois Central R. R. also, have been reported.

#### Probable Liquidation of Steel Holdings, P. R. R.

Impelled by the commodities clause in the interstate commerce law and given a favorable opportunity to do so, through the pending steel amalgamations being fostered by the Schwab Frick and other interests, the Pennsylvania Railroad is reported to be favorably inclined toward the sale of its extensive holdings in the property of the Pennsylvania and the Cambria steel companies at Steelton and at Johnstown, Pa., respectively. The law prohibits railroads having any interest, direct or indirect, in the commodities which they transport, with the exception of articles for their own use

that section has been turned out of the Erie, Pa., shops of the General Electric Co. and has been delivered to the road. It passed through Chicago this week, and on Wednesday, October 6, was made the subject of inspection by a large number of interested persons, at the invitation of the local officials of the Chicago Milwaukee & St. Paul Ry.

The general appearance of these engines is shown in the half-tone illustration herewith. Each locomotive carries eight 430-horsepower motors, each geared to a driving axle, thus giving a total of 3440-horsepower per locomotive. The tractive effort available for starting trains will approximate 135,000 pounds at 30 per cent coefficient of adhesion. These motors are designed to operate at 1500 volts across each commutator, two motors being connected in series across the 3000-volt circuit.

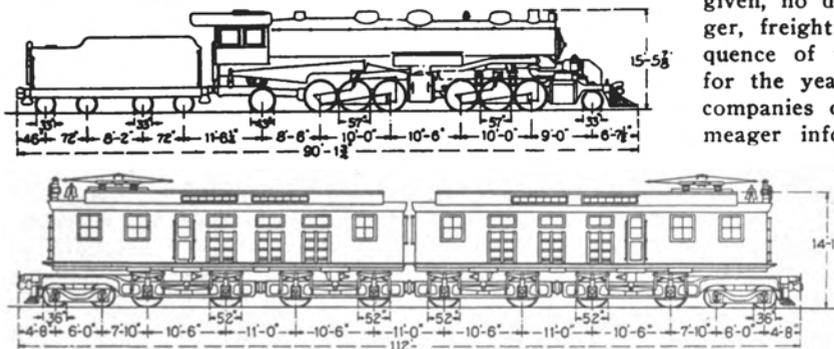
The control equipment is the well known Sprague-General Electric Type M arranged for multiple unit operation. This allows two locomotives to be operated from a single master controller. The main control switches are located in steel compartments inside of the locomotive convenient for inspection and repairs. In addition to this apparatus, the cab contains a motor-generator set for furnishing lighting and control current, air compressors for operation of the air brakes, and a blower for ventilating the motors. Space is also provided for the installation of an oil-fired steam boiler with storage tanks for fuel and water which will be required for heating the coaches when hauling passenger trains. The locomotive is

equipped with two pantographs, one located at each end for collecting current from the overhead trolley. The same type of locomotive is to be used for both passenger and freight service, the only difference being the gear ratio which is 4.56 for freight and 2.45 for passenger service.

The line drawing serves to show a general comparison of the elevation outlines of one of the new electric locomotives and one of the Mallet compound steam locomotives which will be replaced by the former in freight service. The following figures show a comparison of weights and of capacity on the basis of speed and draw-bar pull:

	Mallet.	Electric.
Total weight .....	555,700 lbs.	564,000 lbs.
Weight on drivers.....	324,500 lbs.	448,000 lbs.
Rated tractive effort.....	76,200 lbs.	85,000 lbs.
Per cent, weight on drivers.....	25.5	21.2
Rated tonnage on 1 per cent grade....	1,800 tons	2,500 tons
Weight per driving axle.....	54,000 lbs.	56,000 lbs.
Speed with drag tonnage on 1 per cent grade .....	8 to 10 m.p.h.	15.75 m.p.h.

The electric locomotive weighs but 1.6 per cent more than the



Comparison of Mallet Compound Freight Locomotive and the New Electric Locomotive by Which It is to be Replaced, Chicago Milwaukee & St. Paul Ry.

combined weight of the Mallet engine and its tender, has a tonnage rating 23.5 per cent greater, and has approximately 33 to 50 per cent greater speed with drag tonnage.

The general data applying to the freight locomotives are as follows:

Type of locomotive.....	3000 volts d. c.
Length over all.....	112 ft.
Total wheel base.....	102 ft. 8 ins.
Rigid wheel base.....	10 ft. 6 ins.
Total weight.....	564,000 lbs.
Weight on drivers.....	448,000 lbs.
Weight per driving axle.....	56,000 lbs.
Weight per guiding axle.....	29,000 lbs.
Diameter of driving wheel.....	52 ins.
Diameter of guiding wheel.....	36 ins.
Number of driving motors.....	8
Total output (continuous rating).....	3000 h. p.
Total output (1 hour rating).....	3440 h. p.
Tractive effort (continuous rating).....	71,000 lbs.
Per cent of weight on drivers (tractive coef.).....	15.83
Speed at this tractive effort at 3000 volts.....	15.75 m.p.h.
Tractive effort (1 hour rating).....	85,000 lbs.
Per cent of weight upon drivers (tractive coef.).....	19
Speed at this tractive effort at 3000 volts.....	15.25 m.p.h.

As noted in our previous article, electricity for this project will be furnished by the Montana Power Co. at 100,000 volts from its existing system embracing six large hydro-electric plants, connecting with the 440-mile, 100,000-volt transmission being erected by the road. These plants aggregate nearly 70,000 kilowatts and additional current will shortly be provided from plants of approximately twice this capacity now under construction. Further information relative to the new

locomotives and the general scheme of the Chicago Milwaukee & St. Paul electrification is anticipated for the near future.

### War Performance of British Railways.

Under the government's guaranty of earnings during the war, the railways of Great Britain earned a total gross revenue in the year ended Dec. 31, 1914, of \$677,407,260. This was about \$1,700,000 under the year before, but more than \$50,000,000 above 1912, and with the exception of 1913, the largest ever reported. This information, the first indicating the performance of British railways since the outset of the year, is contained in the smallest report on the annual returns of its railways ever published by Great Britain, which has just been received by the Bureau of Railway News and Statistics in Chicago.

The report, covering the returns of all the railways of England, Ireland and Scotland for the years 1913 and 1914, is contained on a single page. Only the barest essentials of mileage, capitalization, gross revenues and expenses are given, no details being furnished as to volume of passenger, freight or other traffic. It is stated that "in consequence of the war no further returns will be published for the year 1914 regarding the statistics of the railway companies of the United Kingdom." In contrast to this meager information as to the war-time performance of the railways the current accident reports covering the British roads are more detailed and larger than before.

That British railway traffic is well maintained despite the war may be learned, notwithstanding absence of traffic statistics, from train mileage figures which are included. Total train miles in 1914 were 430,332,000, against 435,851,000 in 1913, a loss of some 5,500,000, most of which was in freight.

Mixed train miles show a smaller loss, while passenger traffic increased slightly—about 164,000 miles. With the exception of 1913, this 1914 train mileage is the largest ever obtained by British railways, showing a gain of about 18,000,000 over 1912. Though freight train mileage in 1914 has been exceeded in several previous years, the passenger train mileage is the highest ever reported.

Total revenues in 1914, at \$677,407,260, were \$1,719,110 under 1913, the close approximation resulting largely from the agreement, when the government took control of the roads for military purposes, that the compensation paid them by the government should be the sum by which their aggregate net receipts for the period during which the government should be in possession of them might fall short of the aggregate for the corresponding period of 1913. Expenses were \$429,402,510 in 1914, a gain of \$4,154,110, resulting in net receipts of \$248,004,750, a loss of \$5,873,220, but almost \$18,000,000 above the net for 1912. Ratio of expenses to revenues in 1914 was 63.39 per cent, against 62.62 per cent in 1913 and 63.20 per cent in 1912, while ratio of net to paid up capital was 3.79 per cent against 3.91 per cent in 1913 and 3.55 per cent in 1912.

In 1914 there were open for traffic 23,701 miles of railway, a gain of 10 miles over 1913, but total trackage at 55,663 miles showed a gain of 258 miles, most of the growth being in third and fourth track and sidings. The United States in 1914 had over 250,000 miles of line and 376,000 miles of track. The total paid up capital of the British railways in 1914 was \$6,531,751,140, a growth of more than \$35,000,000 over the 1913 figure, but only \$30,000,000 above 1912, about \$5,000,000 less being shown for 1913 than for 1912. The capital per mile of line, as a result, stood at \$275,590 in 1914, against \$274,225 in 1913 and \$277,346 in 1912. Capital