a sum in excess of the total profits, to say nothing of the claimed retroactive effect of the law in wiping out profits accumulated during a score of years.

At the outbreak of the war, we are told, the du Pont company had capital assets of about $80,000,000, and employed about 6,000 men. Its business amounted to about $26,000,000 per annum. Demands of war required the increase of this business to over $300,000,000 per annum, the employment of 68,000 men, and the investment in factories for the production of special military explosives of $220,000,000, equal to 270 per cent. of the total assets of the company prior to the war. The building of these factories and the production of 1,466,000,000 pounds of explosives required the purchase of an enormous quantity of materials in widely fluctuating markets, and in face of possible cessation of hostilities at any moment. Failure to produce on specified time would have entailed most serious consequences. Presence of explosives made the factories particularly liable to successful attack by the enemy, requiring constant guarding at all points. The introduction of thousands of untrained men not only caused grave risk with respect to the quality of product, but, through possible carelessness or lack of information, introduced hazards whose consequences might amount to thousands of dollars in a single accident. Chairman du Pont cites the war-time destruction of several powder magazines in flares that lasted a fraction of a minute, where the value of material lost amounted as high as $250,000 in one such accident.

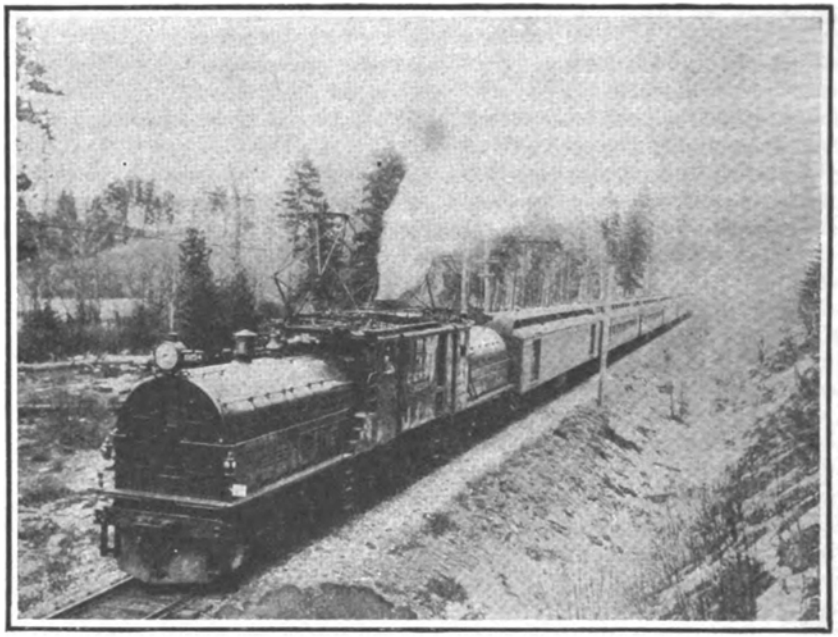
The *Christian Science Monitor* finds it hard to reconcile some of the foregoing statements with the annual report of E. I. du Pont de Nemours and Company to its stockholders in March, 1919. In this report, given wide publicity at the time of its issue, the activities of the company during the four years of the war are reviewed at length. After showing that, during those four years, the company produced a total of 1,466,761,219 pounds of military explosives, it is stated that the gross capital of the company was increased during the same period, 1915-1918, from $83,423,000 to $308,846,000 or 270 per cent. During the same period there was distributed to stockholders $140,983,000. The gross business done throughout the war period, in explosives, was $1,490,000,000. Summarizing the financial results of the four years' campaign, the report continues:

"The stock of the E. I. du Pont de Nemours Powder Company, the predecessor of the E. I. du Pont de Nemours & Co., sold during the early months of the war at $125 per share. The share of debenture stock and two shares of common stock of the E. I. du Pont de Nemours & Co., which were exchanged for the former security, are worth in to-day's market (December 31, 1918) $593, or an increase in value of 374 per cent. In the meantime (1915-1918) the total dividends on the common stock of the E. I. du Pont de Nemours Powder Company and on the exchanged securities of the E. I. du Pont de Nemours & Co. have amounted to 458 per cent. on the par value of the original stock. It is difficult to imagine a more satisfactory financial result."

It was stated that, following the signing of the armistice, war contracts worth $260,000,000 were canceled, but the stockholders were assured that no apprehension should be felt on this score because, after liquidation of the munitions business, the company would hold about $200,000,000 of assets on which, it was claimed, earnings should average the 11½ per cent. of prewar days.

CAN THE RAILROADS SAVE MONEY BY ELECTRIFYING

CAUTIOUSLY predicting that within the next 50 years or so airships will entirely replace railroads, Alvin W. Krech, head of the Equitable Trust Company, of New York, and a director in a score of corporations, including eight railroads, is, oddly enough, dubious as to the practicability of electrifying the great



LATEST TYPE 265-TON ELECTRIC PASSENGER LOCOMOTIVE, C. M. & ST. PAUL RY.

railway systems of America. Every road, as he qualifies, must be a law unto itself in this electrical connection—dependant upon the accessibility of water power. Consequently, in his carefully considered opinion, expressed in the *Magazine of Wall Street,* "electrifying railroads and abolishing steam power altogether seems a long way in the future, the tremendous outlay involved in substituting one for the other being of vital consideration." In support of his contention it is of interest to read that the Chicago, Milwaukee & St. Paul, a pioneer in railway electrification on a large scale, now has two long stretches of electrified road in operation. Its first development was 440 miles, covering three mountain ranges, including the so-called Continental Divide extending from Harlowton, Montana, to Avery, Idaho. This division has been in operation for several years. The later application was from Othello, Washington, to Tacoma, some 210 miles, and includes not only the Cascade Mountains but a long climb out of the Columbia Valley. There is now left between these two sections over 200 miles of railroad which will in time, no doubt, be electrified, altho not in the near future.

The power employed is all hydro-electric. These far western lines of the St. Paul run through a country where there are many water-power possibilities in excess of power requirements.

A very considerable advantage which the St. Paul enjoys from electrification is on the mountain grades, which are long. There is no end of economics, on this account, which would not be disclosed under ordinary conditions.

There are other conditions, too, which surround this wonderful undertaking and which are conducive to economy. The St. Paul is operating through a country where connecting railroads are not frequent. The interchange of business between steam and electric lines presents complications which in the St. Paul case are not many.

It is of special interest to know that the St. Paul has for some time past been operating electric locomotives on continuous runs in the passenger service from Harlowton to Avery — 440 miles — and these locomotives are frequently turned

at either end without being run into the roundhouse. This is remarkable in consideration of the fact that such work would require the services of at least steam locomotives. The St. Paul management is satisfied that an electric locomotive in passenger service can be driven continuously over a stretch of 1,000 miles. In considering the St. Paul case, Mr. Krech opines that "early developments promise some other method for transmitting power whereby overhead wires and the third rail will be abandoned entirely." He is expecting an economical storage battery to enable trains to run independently of a general power station. To-day, however, he believes that "the adoption of electricity by all the railroads in the country is quite out of the question."

REVEALING GEO. WASHINGTON AS A PIONEER CAPTAIN OF INDUSTRY

STRIKING evidence of the fact that the first President of the United States was also the first American millionaire, if not multi-millionaire, is freshly revealed by Eugene E. Prussing, of the Chicago Bar, whose search of obscure and forgotten Colonial records authenticates an early important chapter in our industrial history. It, of course, is well known that George Washington inherited a considerable estate from his brother, Lawrence, and that it was greatly enhanced by his marriage to the widow Custis. George Washington Parke Custis, in his "Recollections," assumed that Washington received through his wife $100,000, part in sterling and part in Virginia currency, and this estimate has been generally accepted. The buying power of a dollar was then eight or ten times as much as now.

Washington was elected a member of the Virginia House of Burgesses in 1759, soon after his marriage, and held his seat continuously until he was chosen a delegate to the First Continental Congress in 1774. In a volume to be published shortly under the title "The Estate of George Washington, Deceased," extracts from which appear in *Scribner's*, the author states that the 15 years of legislative training and business experience which Washington thus acquired have never been fully exploited by his biographers or the historians of his time. "We are left to guess what he did from day to day and year to year, politically and otherwise, to train him for that ability and soundness of judgment which he later displayed in the national field, in the Revolution, the Constitution, the presidency and the French crisis." A few items, hitherto glossed over, are thus summarized by Eugene E. Prussing:

> In 1759 he succeeded his wife as administrator of the estate of Daniel Parke Custis, her deceased husband, consisting of $100,000 in cash and securities, belonging to her, and through her to him, and to her son and daughter, in equal shares.
>
> He also succeeded to the long guardianship of the two children's shares in this personal estate and doubled its value in the 17 years in which he administered it.
>
> He was guardian and manager of "Jack" Custis's 45,000 acres of cultivated and wild lands. These were scattered through half a dozen counties in tide-water Virginia, and were farmed in part by many slaves, managed by overseers, or were leased on shares to tenants. Their product must be planted, husbanded, reaped, watched, warehoused, and then shipped to and sold in English and West Indian markets, and the returns secured, collected, and accounted for.

The result of his labors was that young Custis at 21 became the richest young man in the old Dominion. His mother had been advized in writing by her lawyers to get the ablest manager in the colony to superintend this vast estate if she would conserve it, a thing she was not qualified to do, and that she "ought to pay him any salary he might reasonably ask for the service." That she chose wisely in marrying young Colonel Washington,