

RAILWAYS IN JAPAN.

The Japanese are evidently not going to remain content with building railways and using imported rolling-stock and plant. They are taking steps, says the *Indian and Eastern Engineer*, to supply their own wants. Arrangements have been made for the construction of a large steel works, which should supply a good deal of the material required for railways and for shipbuilding. Viscount Jhonye Masaru, ex-chief of the railway board, supported by well known financiers, is making arrangements for the erection of large works for the construction of locomotives and railway stock generally, and they calculate from some experience which they have already had in the matter that they will be able to turn out engines and wagons at a much lower cost than they can import them from England. Some of the Japanese papers, indeed are already picturing the immense trade which might come to Japan if the Japanese could not only supply their own wants, but also those of China. Evidently the Japanese are determined to do their best to win for themselves the name of the Britons of the East. In the meantime, however, the Britons of the West must not allow themselves to fall behind in efficiency, and as the world grows older, probably it will be found that there is room for both.

PNEUMATIC TIRES.

In connection with the coming use of motor carriages, the construction of the wheels is very important. The pneumatic, full rubber and iron tire, so far as the effort of traction is concerned, have relative values, in round numbers, of 100, 130 and 133, showing a general economy for the pneumatic of about 30 per cent. But besides this economy in power required, there are other and important advantages in the use of the new wheel, and these are the reduction of the effect of sharp shocks, and the marked decrease in noise, and the wear and tear on the vehicle itself. As to this feature of noise, it may be remarked that the pneumatic tire on a low wheel of the bicycle type is now quite common among the cabs of Paris, and over the smooth wooden or asphalt roadways of that city these tires make so little noise that, for the safety of pedestrians, an ordinance has been passed requiring the owners of cabs to put bells upon their horses. In this way, while the rattle of carriage wheels is much reduced, the jingling of bells is substituted for it. But the person using the carriage gains decidedly in comfort, and the low wheels have advantages in getting into and leaving the vehicle. The wearing part of the rim is heavily armed with rubber, and inquiry failed to find any cases of punctured cab tires. The fact that pneumatic tires were actually used fifty years ago, and they practically differed very little in construction from those now placed upon carriages, will be new to many of our readers. But just as the bicycle, or velocipede, was introduced over seventy

years ago, and then laid aside and forgotten, so the condition of our streets and highways, in 1846, was not favorable for the improved carriage tire. The modern development of the bicycle, and now the motor carriage, is a direct resultant of the improvement of our roads, and good roads and more of them will always be an important factor in the growth of all efforts towards cheaper and more rapid transit upon them.—*Engineering News*.

A CURIOUS freak of lightning is reported from East Gloucester, Mass., by Superintendent of Waterworks J. W. Moran. During a thunder shower there on September 6 lightning struck the water main on Mount Pleasant avenue and broke it in nine places in a distance of 2,000 feet. These breaks were all that were evident after the storm, but a fuller examination will be necessary to ascertain the exact extent of the damage.—*Engineering Record*.

It having been reported that an officer of the Russian Government, assigned to duty as inspector during the manufacture of armor plates at the Homestead Works, had become acquainted with the secret processes of manufacture, and had given them to his own government, with the result that no more orders for such plates could be secured here, the report was later denied by the superintendent of the works, who stated that none of their secrets had been stolen, and that the truth is there are very few secrets to steal.

It was reported this week that John D. Rockefeller is endeavoring to consolidate the Pennsylvania and Ohio pig iron furnaces for the purpose of perfecting ultimately an organization similar in plan to the Standard Oil Company, and that many of the larger companies had agreed to it through fear. The union of the iron interests is a difficult undertaking, and some doubt as to its accomplishment, even by Mr. Rockefeller, is to be entertained. A prominent authority upon the iron market has suggested to us, however, as a reasonable conjecture, that it would not be strange if the Carnegie and Illinois Steel Companies and the Rockefeller mining interests should prove to be working in harmony and should effect an arrangement controlling the price of rails, etc., perhaps of structural material. As usual, inactivity has characterized the metal trade.—*American Machinist*.

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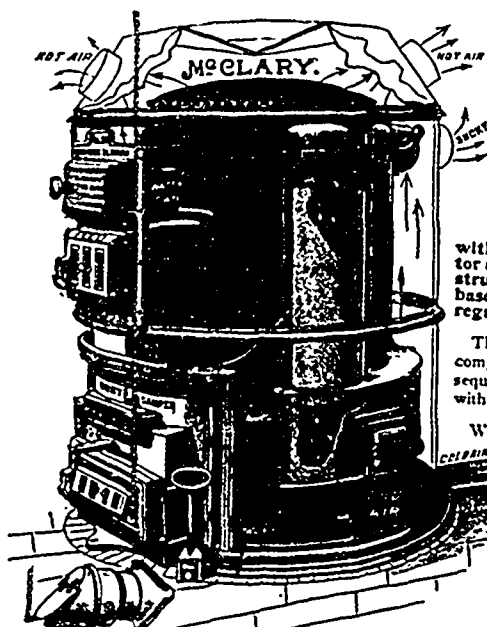
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