

A FIRE ALARM WHISTLE BLOWN BY GAS.

One of our correspondents, Mr. J. H. Ritchie, of Cherryvale, Kan., has sent us an interesting photograph of the fire alarm whistle used by the Pioneer Fire Company of that city. This whistle is blown by natural

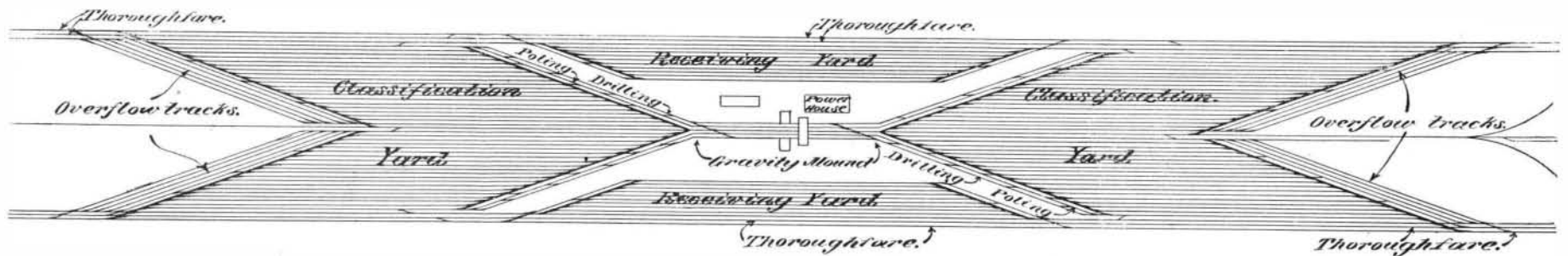


FIRE ALARM WHISTLE OPERATED BY NATURAL GAS.

gas furnished by a local gas company. It is said to be the only one of its kind and can be heard several miles. One of the gas wells flows 13,000,000 cubic feet a day, and is now considered the strongest well in the Kansas gas field. Natural gas is also used for fuel, for lighting the city and is also the only fuel used by zinc smelters employing 300 hands and by two vitrified-brick plants.

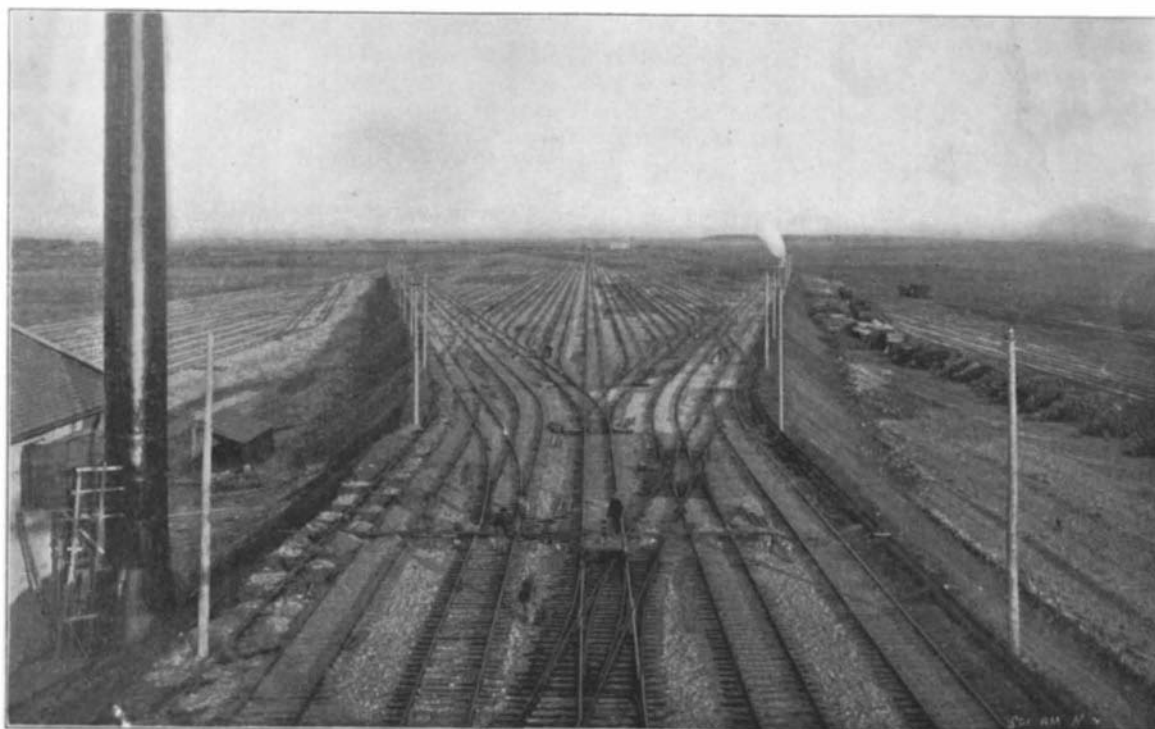
Fire on Shipboard.

Why water is not always used in extinguishing fire in



PLAN SHOWING GENERAL LAYOUT OF CHICAGO CLEARING YARD. MAXIMUM CAPACITY OF YARD, 8,000 CARS PER DAY.

a ship's hold is clear, says Fire and Water. While it can be used to great advantage in the case of fires in the open air, if it should be employed to put out a big fire in the hold of a vessel the sudden burst of steam so formed would be the parent of disastrous results. M. Diolis, a French maritime engineer, has recently suggested a new method of discovering and extinguishing a fire on shipboard, especially that arising from spontaneous combustion in the cargo. To give warning of fire, or of a rise of temperature that may lead to it, he would distribute through the cargo vertical metallic tubes. Into these tubes, from time to time, thermometers could be lowered to ascertain the temperature. His next step would be to place in



CHICAGO CLEARING YARD—LOOKING EAST FROM SIGNAL TOWER AT CENTER OF GRAVITY MOUND.

the midst of the cargo a large cask containing lime and communicating by a small tube with the bridge. In case of fire in the hull, sulphuric acid is poured into the tube, and a violent production of carbonic acid gas takes place, which smothers all combustion.

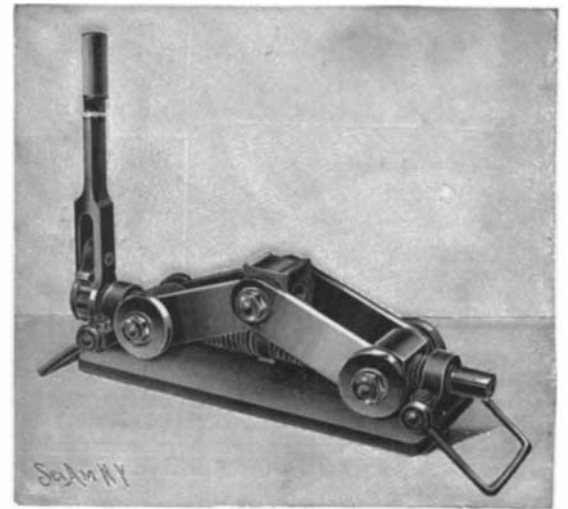
LIFTING JACK FOR ELECTRIC CARS.

We illustrate herewith a lifting jack designed especially for electric car purposes, made under the patent of Mr. Golightly, and now being put on the market by Mr. George Addy, of Waverley Works, Sheffield. The arrangement is well shown by the engraving, from which it will be seen that by the combination of a toggle joint and a right and left-handed screw, worked by a ratchet lever, very great power is obtained in a compact form of apparatus and on moderate weight. The steel baseplate is 20 inches long and 8 inches wide, while the total height over all is 6½ inches. The weight complete is 96 pounds. The movement is vertical, there being no side thrust, and the motion when the jack is loaded is regular and well under control.

This appliance has been supplied, among other applications, to the Sheffield Corporation tramways, where it has been found to be admirably adapted for changing axle brasses on the road, for lifting trucks, to remove broken slipper-brake parts, sets, or other things. In one case of a broken axle it was found to be the best appliance for enabling a repair to be executed, as the jack gave a direct lift, so that every inch lifted was a clear gain. In the case of another jack placed under the platform, a movement of 10 inches is needed to lift 1 inch at the axle. It may be added that in the case of a fatal accident in Sheffield some time elapsed before the body of a man run down by a car could be released, there being no lifting jack on the car. In view of this the coroner's jury recommended that jacks should be placed on the cars, or should be provided at intervals along the road. In another case of a person being run over and getting under a car, the people in the street turned the car over to get the injured person free. This jack has also been adopted by the Bradford Corporation.—Engineering, London.

transfer. The other 4,000 cars are loaded with freight for Chicago. Under the system which has hitherto been followed in the transfer of this traffic, the trunk lines enter a terminal yard of the company, in which the freight trains are broken up, the cars sorted according to their destination, and outgoing trains made up. The inbound cars destined for an outgoing journey by other roads are taken by switch engines to the yards of these roads, or else they are distributed by means of belt lines which have been built especially to connect the terminal yards of the various railroads. Over half of the cars are transferred by the various roads themselves with their own engines, the remaining half being transferred by the belt lines.

It can be understood that this work of transfer in-



LIFTING-JACK FOR ELECTRIC CARS.

volves much delay and labor, and it may often happen that a through car, reaching the yard shortly after the transfer train has left, will be delayed several hours before it can start out for the other road, or if the freight is specially important, a special trip has to be made for it. There are twenty trunk lines entering Chicago, and altogether the various belt lines and connecting lines have to operate a total of twenty-seven different yards. The distance between the yards varies from a tenth of a mile up to 16 miles, and it is estimated that the total number of cars interchanged daily averages over 7,000, while to haul them calls for the work of 264 engine round-trips. With these figures before him, the reader can readily understand that this system of independent operation of the yards causes endless complications and delays, involving in the aggregate a considerable expense to the railroads. The system which we illustrate in the accompanying engravings has been designed by A. W. Swanitz, C. E., for the Chicago Union Transfer Railway Company, for the

purpose of overcoming the difficulties inherent in the present system of transfer and centralizing the work in one great clearing yard. This yard is located at a distance from the busy city lines, and the breaking up of trains and classification of them for their outgoing journeys will no longer be done separately by the various companies, but centrally.

The yard is located west of the city limits on a line with 67th Street. It extends east and west and connects with the Chicago and West Indiana Railroad on the east and with the Chicago Terminal Transfer Railroad and the Chicago Junction Railway on the west. It occupies a rectangular tract of ground 670 feet in width and 13,000 feet in length. The general arrangement of the yard is as follows: Ex-