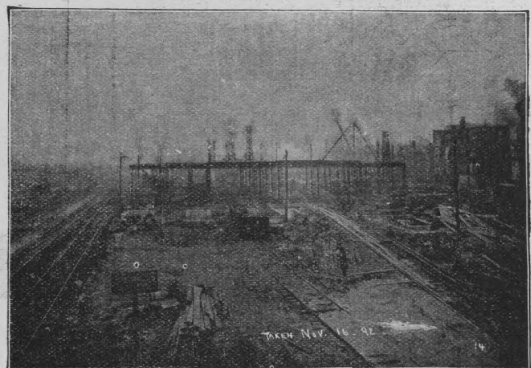


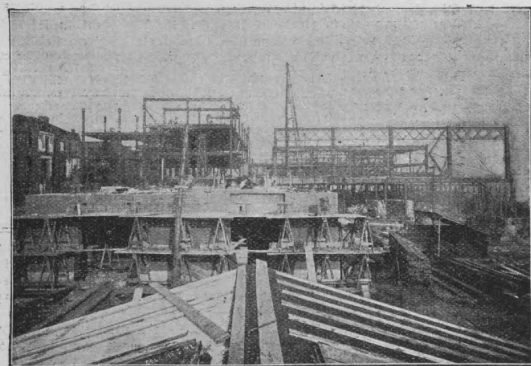
August 15, 1892.



September 15, 1892.



November 15, 1892.



December 15, 1892.

FROM PHOTOGRAPHS SHOWING THE PROGRESS OF THE WORK ON THE
CENTRAL STATION OF THE ILLINOIS CENTRAL RAILROAD.

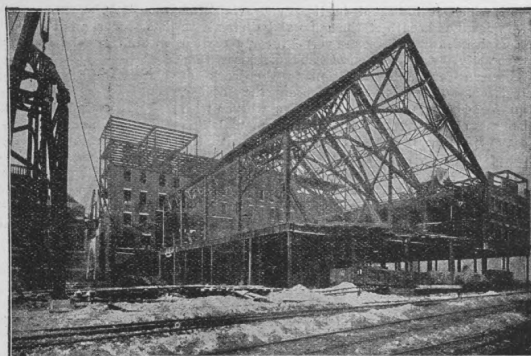
BRADFORD L. GILBERT, *Architect.*

JOHN F. WALLACE, *Chief Engineer.*

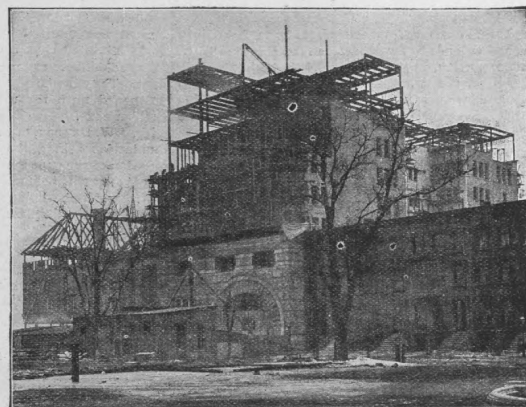
The Central Station of the Illinois Central Railroad.

In our issue of Oct. 14, 1892, there appeared a description with many illustrations of the new Central Station building of the Illinois Central Railroad at Park Row and Twelfth street, Chicago. The engravings which are shown in this issue, taken from photographs, illustrate the remarkable progress that has been made in

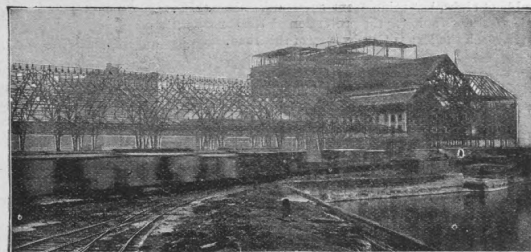
that work. The architect, Mr. B. L. Gilbert, says that he knows of no building in Chicago which has been carried forward more rapidly under such difficulties. Ground was broken June 4, 1892. Over two thousand hardwood piles were driven an average of 60 ft. in length, carrying the entire weight of the structure on initial points, varying from 15 to 750 tons weight on the piers. The last pile was driven Sept. 8, the oak plank-



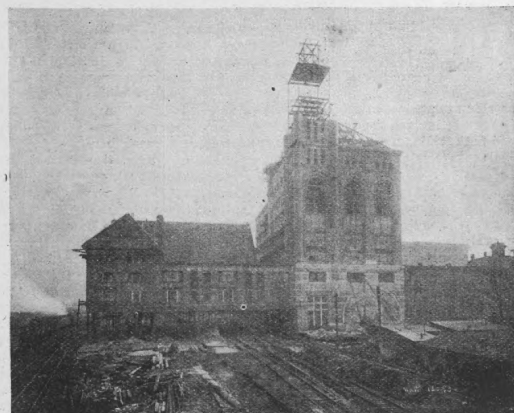
January 15, 1893.



February 15, 1893.



February 15, 1893.



March 15, 1893.

ing and wales for subways and cellar below city datum being finished the last of October, the filled ground being almost impossible to excavate on account of riprap and old cribwork. The erection of the ironwork was begun in October and the building will be open for use April 17. The photographs from which the engravings were made were taken during the progress of the work at various dates from Aug. 15 to March 15. Besides

the work which is indicated in these engravings the subways north and south of the general building have been completed, and as these are very large and carried below the city datum for considerable distances they have been a formidable addition to the work of construction. The winter has been the coldest known for 40 years, and the men have worked with an open salamander at the beck of each man, laying brick and putting in place the ironwork with the thermometer 15 deg. below zero; and this low temperature was not encountered one day merely, but day after day. On April 6 the tower was finished, the tiling on all the roofs and the plastering were well advanced, the main rotunda and all the lower portion of the building completed and the mosaic floors and marble work also finished, so that the main rooms can, without question, be thrown open for public use as proposed on April 17. Two bronze tablets have been cast, which will be placed on either side of the main columns of the entrance stairway, secured to the granite plinths. One tablet will contain the dates of beginning and opening the building and the names of the Chief Engineer, Mr. Wallace; the Architect, Mr. Gilbert, and the General Contractor, Mr. Downey. On the other tablet will be inscribed the names of the directors and officers of the Illinois Central Railroad Company.

The building has a frontage of 220 ft. on Lake Park place, and extends to Twelfth street, a distance of 180 ft. The office portion, on the west side of the building, is six stories high, the depot portion being but two stories high. A departure from the ordinary construction is the underground passages across the tracks so that the passengers will have no occasion to cross the tracks themselves. The building will cost about \$1,500,000, the foundations being the most expensive part.

This station will be used at once for the through trains of the Illinois Central, the Michigan Central, the Cleveland, Cincinnati, Chicago & St. Louis, and the Chicago & West Michigan. These roads will then have facilities in Chicago second to those of no other road.

It may be of interest to add here that the Illinois Central is making every possible arrangement at Chicago to protect itself from loss of fares and its patrons from injury during the World's Fair period. It is preparing to inclose its right of way between the city and Jackson Park with an iron fence, five feet high, with gates only at the various stations, where each one passing through will be required to show a ticket. Passengers for suburban trains will be required to pay before getting on the train. It is expected that this arrangement will be very inconvenient for those who have property between the railroad and the lake, such as the several boat clubs, but aside from such objections the fence is most desirable for the protection of the throngs who will reach the Exposition by way of this road.

A New Double Throttle Valve.

Mr. A. J. Pitkin, Superintendent of the Schenectady Locomotive Works, has just received a patent for a simple and ingenious throttle valve which is shown in the engravings. The perspective view is from a photograph showing the double throttle with one valve open and one closed. The arrangement of parts is clearly shown in the sectional views and half plan. The reasons which have led to this device, and the purposes which it is proposed to accomplish, are clearly stated in the following extracts from the patent specifications.

"On large engines in order to supply sufficient steam to the cylinders, a very large valve has been employed, and much difficulty has been encountered in opening the valve, on account of the outside steam pressure, and it is difficult to keep the valve tight, owing to the expansion of metal in the pipe, valve seat and valve, and by reason of the high pressure on the large surface of the valve.

"According to my invention, I employ two valves instead of one to control the passage of steam from the dome to both cylinders of the engine, and I operate these valves successively or dissimultaneously by a single set of operating rods and levers, in order that sufficient steam may be first admitted to start the engine, and then a larger amount of steam admitted to continue the operation of the engine at high speed. By thus employing two valves, each of them may be smaller than the single large valve usually employed, but their total area is greater, so that steam is supplied to the connecting pipe to its full capacity, and the reduced size of each valve insures less tendency to leakage or expansion of metals."

The bell crank *K* is connected to the throttle lever in the cab. The valves themselves, *G* and *G'*, may be of the usual design. Both valve chambers communicate, as shown, with the dry pipe, and the valves admit steam from the dome into the valve chambers at both top and bottom. Each valve is connected with the crosshead *H*, and this in turn by the link *I* to the bell crank. It will be observed that the connection of the link to the crosshead is nearer to the connection of one valve than to that of the other; or, as shown in the sectional elevation, it is nearer to valve *G'* than to valve *G*. It follows that when the bell crank is first moved the valve *G'* will be opened without opening *G*. Enough steam is admitted to start the engine, and steam is also admitted to the inside of *G* and balances it. As the movement of the bell crank continues the end *A* of the crosshead *H* abuts against

the lug *B*, which acts as a fulcrum on which the crosshead turns, and thus the valve *G* is opened admitting steam through both *G* and *G'*.

Meeting of the American Society of Railroad Superintendents.

This society held a meeting in Chicago on Monday of this week, in accordance with the call recently issued by the Secretary, it having been deemed advisable to follow the example of the American Railway Association in holding a spring meeting in the West. The result was not very encouraging, however, only 25 members being in attendance.

The meeting was called to order by the Second Vice-President, Mr. C. H. Platt, General Manager of the New York, New Haven & Hartford, who presided throughout the session. The first business was the election of 52 new members. This large accession, like the accessions at previous meetings, came from all parts of the country, 20 different states being represented. From this and from the fact that the Treasurer has on hand a surplus of \$2,000 it appears that the superintendents of the country are quite ready to support this association with the sinews of war, whatever may be said about the more important feature of personal participation in its work.

The Society adopted the resolutions drawn up by the Executive Committee on the death of the late President, Mr. H. Stanley Goodwin, and Messrs. Platt, Sully and Morford delivered short eulogies on the deceased President. The election of a successor to Mr. Goodwin was postponed until the regular meeting, which comes in October next.

Mr. J. W. Dawson, of the Kanawha & Ohio, sent a communication asking the Society to take action on the question of the expediency of appointing to responsible places men who belong to secret brotherhoods and who may therefore be liable to be actuated by prejudice in administering discipline. This communication was re-

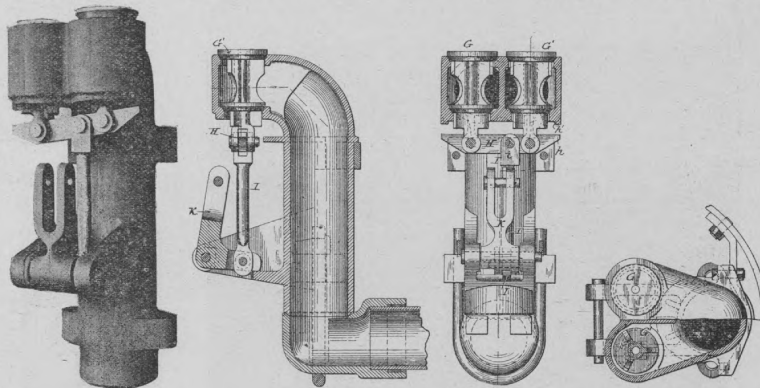
sible to give this permission until the derailing switch has been set and the other operations performed in proper order.

Mr. Wrenne, of the Nashville, Chattanooga & St. Louis, gave a brief description of his method of running a large number of trains on a six-mile stretch of single track between Chattanooga and Wauhatchie, where his road is used by the trains of the Cincinnati, New Orleans & Texas Pacific, and of the Memphis & Charleston. This piece of road is divided into two-mile sections and the men in the towers not only operate the block system, but, under the direction of a despatcher or chief operator, give all meeting orders to the train by means of the outdoor signals, no written orders being issued. Orders for slow trains to make way for faster trains are also given entirely by the outdoor signals. This plan is similar to that in use on the Louisville bridge for several years.

This subject was next taken up by Mr. C. H. Platt, who, as our readers will remember, was formerly General Manager of the Grand Central station in New York City, who read an interesting paper, principally devoted to a description of the very elaborate block signal apparatus recently applied in the Fourth Avenue tunnel, New York. This paper we print in another column.

The Block Signals in the Fourth Avenue Tunnel.*

Mr. Platt began with a short historical sketch of block signaling, referring to the original patents of Mr. Sykes (England 1875, United States 1881), and Sykes' improvement (patented in 1880 and 1881), by which the plunger was added, enabling station B to not only lock A, but to lock his own lever by the act of plunging. The improved Sykes instruments were placed on the signals in the tunnel in 1882, the track circuit being put in (just beyond each tower) instead of the track lever, designed by Sykes, because it was by this means possible to pro-



Pitkin's Double Throttle Valve.

ferred to the Executive Committee. Mr. Dawson also sent a communication setting forth the need of a committee to introduce ordinary members to the "railroad magnates" whom he finds at the meetings. The meeting recognized the need of a Reception Committee and authorized the Chairman to appoint one. He named Major R. M. Sully, of the Richmond & Petersburg; Mr. F. S. Gannon, of the Staten Island Rapid Transit, and Mr. Waterman Stone, of the Kansas City Elevated.

The Hall Signal Company sent a letter inviting the members to go by special train to inspect the Hall automatic block signals on the Chicago & Northwestern road, but the members could not agree upon a time when more than a few could go in a body, and the invitation was therefore declined with regrets. The members were also invited to inspect the Moller semaphore signal, on exhibition in the Grand Pacific Hotel. Mr. H. F. Royce, representing the Reception Committee of the railroads of Chicago, invited the members to visit the World's Fair grounds on either Tuesday or Thursday afternoon, a special train being tendered by the Illinois Central. This invitation was accepted, and a party of 75 went on the excursion, including members of the American Railway Association.

The afternoon was given up to discussion on signaling practice. Mr. C. H. Platt described the method by which the New York, New Haven & Hartford protects outlying switches by connecting them to the Sykes locking apparatus. This device, as heretofore noted in the *Railroad Gazette*, has been applied on the New London Division of this road to all side tracks located away from towers. Each switch lever for such a side track is in a small cabin and its lock is electrically connected by a circuit extending from the tower on the east to the tower on the west. A conductor who wishes to use such a side track enters the cabin at the switch and notifies the operator at the tower in the rear by a bell code, who then unlocks the switch; the train then backs in and after backing it has backed over a derailing switch, fixed beyond the fouling point, the conductor rests the main switch and permits the operator at the tower to admit a following train. It is mechanically impos-

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