

SCIENTIFIC AMERICAN

A WEEKLY JOURNAL OF PRACTICAL INFORMATION, ART, SCIENCE, MECHANICS, CHEMISTRY AND MANUFACTURES.

Vol XXXIV.—No. 4.
[NEW SERIES.]

NEW YORK, JANUARY 22, 1876.

[\$3.20 per Annum.
[POSTAGE PREPAID.]

NEW RAILROAD DEPOT.

We present herewith a view and a plan [see page 51] of the depot recently erected at Worcester, Mass., for the joint use of the Boston and Albany, the Norwich and Worcester, and the Providence and Worcester Railroads. The design, as will be seen in our engraving, is picturesque and effective, and the work is remarkably solid and substantial. We extract the following particulars from the *Worcester Gazette*:

"In the center of the front is the main passenger entrance to the building. About 15 feet from the entrance, and directly in front, is a granite archway supported by double columns of granite. This is connected with the round part by a trussed roof, making three archways. The two at the sides are to be used as a driveway, thus enabling passengers to arrive and depart at all times without being exposed to the weather. On the outside of the round part a stationary awning has been built, which will cover a walk 10 feet wide, which is to be built under it. At the northwest corner of the building is a stone tower, the cap stone of which is 159½ feet from the ground. Above this rises a wooden extension covered with slate, 40 feet in height, and surmounted with a rod and vane of 13 feet, making a total of 212½ feet. In the construction of the stone work of the building and tower, there were used 600,000 brick, 12,000 tons of stone, and 3,000 barrels of lime and cement. Near the top of the stone work of the tower a large clock room has been built. It has not yet been decided what kind of a clock will be placed in it. A strong effort is being made to have one with an illuminated dial.

"The roofs of the two sections are each supported by eight heavy trusses one end resting on the walls of the building, the other on the girders running over the heavy iron pillars placed through the center of the building. These two roofs are covered with slate, except a part of the two sides where they join in the center of the building. Over this part of the roof there has been built a second roof which begins at the east and west ends of the building where it is about 3 feet wide, and ascends with a gentle slope to the

center of the building, where it is about one third the width of the building covered by the two roofs. This roof is made of concrete, and is built to catch the snow from the inner slopes of the two roofs, which would, but for this, slide down to the bottom of the pitch. The two roofs are surmounted with ventilators running the entire length of each. On the top of each is an ornamental iron railing, while over the top of each arch is a large vane. The roofs of the ventilators are covered with 7,200 panes of glass, 12 by 34 inches in size, set in 380 sashes."

The offices and waiting rooms are conveniently and handsomely fitted up, and the whole work reflects credit on the architects, Messrs. Ware and Van Brunt, of Boston, Mass. These gentlemen, and Mr. E. S. Philbrick, the engineer, have done their work under some difficulty, as the uniformity of their design has been broken by the arrangement of the side entrance for the Boston, Barre, and Gardner and the Nashua and Worcester Railroads. The *Railroad Gazette*, from whose pages we select the engravings, is our authority for stating that this unfortunate arrangement is due to the managers of these two railroads, who declined to accede to any other plan.

"Composito" Vessels for the Coast Survey.

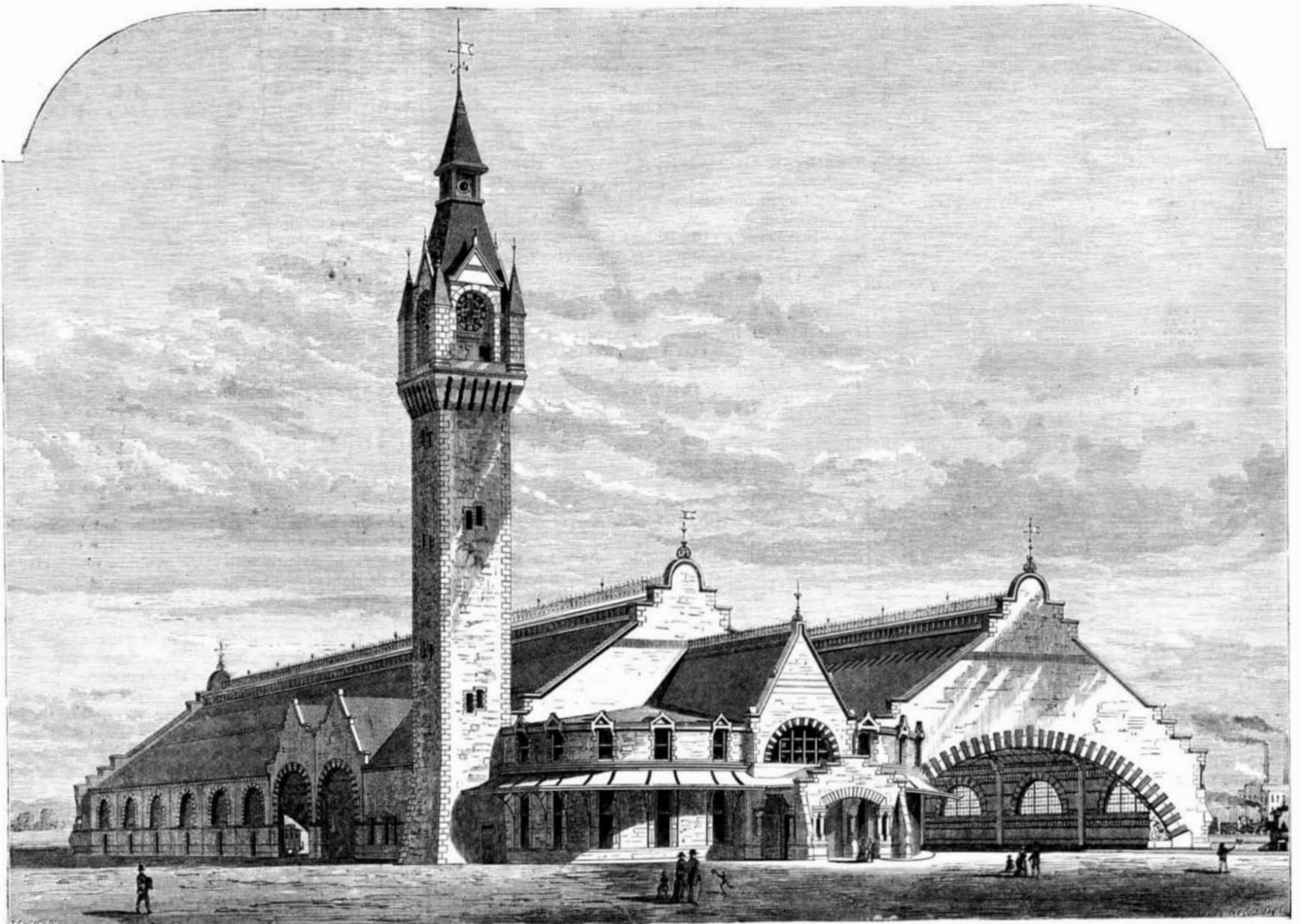
There was recently launched at Baltimore, for the United States Coast Survey, a "composito" vessel—that is, a vessel built partly of iron and partly of wood. It appears that this vessel was built upon recommendation of Captain Patterson, of the Coast Survey, whose views on the subject are of interest in adding to our knowledge of the important questions affecting the shipbuilding trade. He says that experience has shown composito vessels to be more economical and more durable than vessels built either entirely of iron or entirely of wood, and that this is more especially the case in our Southern waters. In the composito hull, the frame and beams are of iron, and the planking of wood. The waters of the Southern coast are found to seriously affect iron hulls, so that after about eight years the iron fails. Five or six

years ago two small composito vessels were built for the Coast Survey, in Baltimore, and they have proved very successful; one of these, the *Bibb*, withstood the terrible cyclone which recently destroyed *Indianola*. She was subject to its full severity for ninety hours, but passed through it unscathed. In the period of nearly six years that they have been afloat, the repairs to these two schooners have not exceeded \$600. Subsequently another composito schooner of 125 tons was built, and afterwards a composito steamer of 200 tons. Captain Patterson thinks that this class of vessels will in time be generally used, on account of their much greater durability than wooden vessels, which much more than balances the somewhat heavier first cost.

Spontaneous Centennial Celebrations.

There is considerable significance in the hearty welcome about to be given in big and little towns all over the country to the Centennial year. Preparations are making in scores of cities, villages and hamlets for illuminations, processions, salutes, and other appropriate ceremonies, and we have yet to hear of one in which there has been the smallest difficulty as to the collection of necessary funds.

It is evident that the people everywhere are ready to second efforts for voluntary and spontaneous Centennial ceremonies: so evident, indeed, that Congress can do the international exhibition no greater service than by declaring on the day of their reassembling that the exercises at Philadelphia shall be voluntary and not perfunctory. When Congress shall have said distinctly that no appropriation of government money shall be made to the exhibition, the people will not be slow to contribute every dollar needed for the proper conduct of the enterprise. So long, however, as the commissioners shall depend upon a government subsidy, they can expect little from the spontaneous enthusiasm of the people. This element of spontaneity is essential to the highest success of the exhibition, and there could be no surer way of destroying it than that for which the direct sponsors of the exhibition are mistakenly praying.—*New York Evening Post*.



THE UNION RAILROAD DEPOT, WORCESTER, MASS.