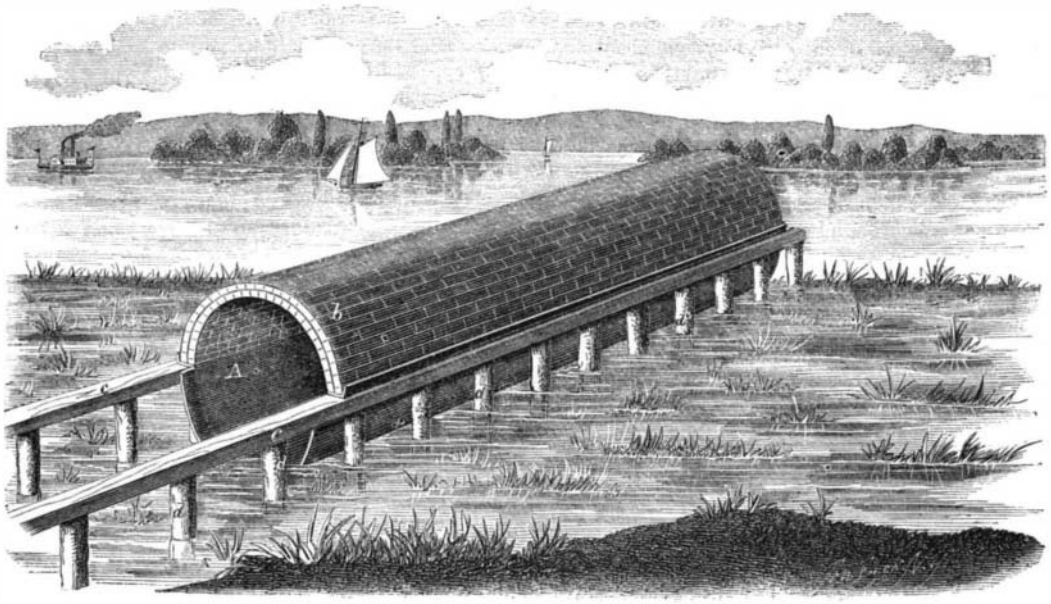
Improved Suspension Culvert.

One of the most disagreeable of all engineering operations is the construction of culverts in swamps and quicksands, and where coffer-dams are required to keep out the water, their construction and use is a matter of no small expense. The annexed engraving illustrates a plan by which culverts may be constructed either in marshes or quicksands in a cheap and substantial manner, and without any occasion for coffer-dams.

It consists simply in forming the lower arch of the culvert of iron—either cast or wrought; and where piles are required, in hanging this lower arch by flanges on stringers which are supported on the piles.



M'INTIRE'S SUSPENSION CULVERT.

The plan is so plainly shown in the engraving that a description is hardly required. A represents the lower arch of iron, with the flanges at its upper edges resting upon the stringers, *c*, supported by the piles, *d d*. The masonry arch, *b*, rests upon the flanges of the iron arch, A.

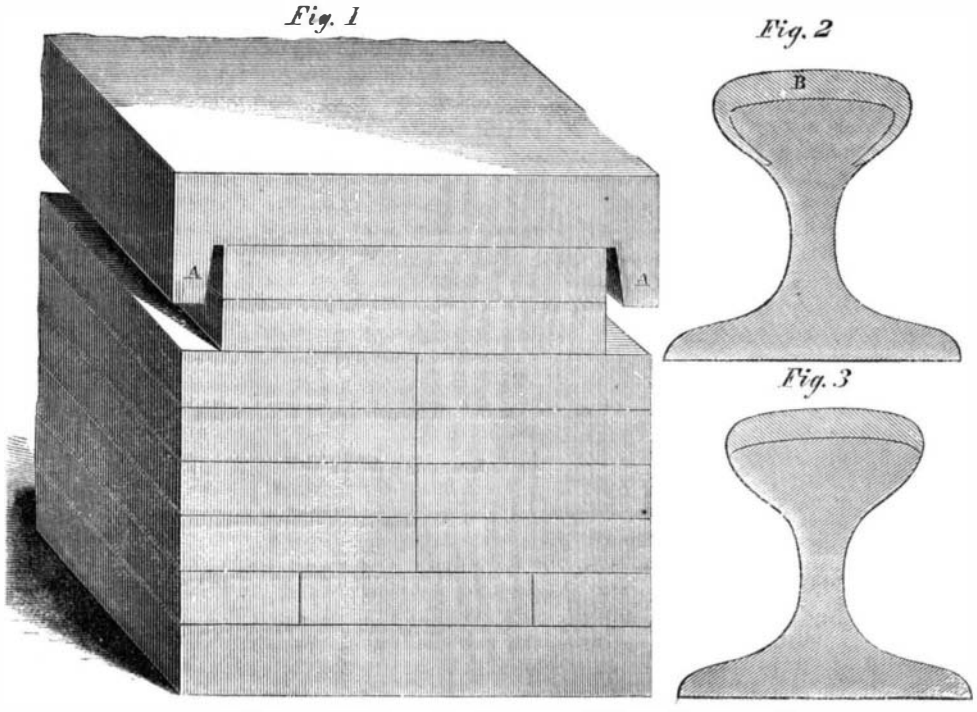
The iron arch may be perforated with small holes in case it is desired to admit water for drainage.

The inventor claims that this culvert can be constructed for about one half the expense of the common masonry culvert, and that in many situations it will be much less liable to destruction.

The patent for this invention was granted Sept. 16, 1862, and further information in relation to it may be obtained by addressing the inventor, Charles McIntire, at Easton, Pa.

Improved Pile for Rolling T-Rails.

In operating lines of railway the renewal of the rolling stock and of the rails themselves, required by their natural wear, involves a heavy annual expense. In laying the rails a space is left between the ends of one-fourth of an inch more or less, to allow for the expansion and contraction of the same during heat and frost; this causes short breaks in the line, and as the heads of the rails become depressed or elevated as the case may be, by the partial giving way of their supports, the wheels impart a blow in their passage to these projections which in a short time batters the end up, or else raises a long thin ribbon from the surface, which soon accomplishes its destruction and demands renewal; this is called lamination. The peculiar rolling attrition produced by the wheels makes a fine surface which, in dry weather, causes the train to bite well; when, therefore, this surface is destroyed by the cause above-mentioned, the iron oxidizes rapidly and becomes valueless. To prevent the mischief referred to, Messrs. John Price and William Lewis, of Danville, Pa., have invented the pile illustrated in Fig. 1. It consists, as will be seen, of several pieces; the bottom plate being the width of the intended pile, while the second course is divided into three pieces; the next four layers are in two parts, while the remainder run entirely across; the top or crown-piece, however, has two flanges, A A, these do not bind tightly against the fabric, but have a space between them; the length of the flanges is such that they lap slightly over the edges of the course below. Now, when the operation of rolling commences, these flanges are pressed down into the recess, thereby incasing two layers; the lap of the jaws over them prevents the pile from being displaced when charging into the furnace. The ends attained by this method of piling are these: the rails are made, as the inventors claim, thoroughly homogeneous throughout, and the fibers so closely interlaced that striation is rendered theoretically impossible.



PRICE & LEWIS'S PILE FOR ROLLING T-RAILS.

In Fig. 2 B represents a finished rail in section, made by the new process, in which the flanged layer of the pile is formed completely around the top, and runs well down toward the stem. Fig. 3 is a section of the rails made upon the old process, in which the surface merely joins the body or stem, without that security which Messrs. Price & Lewis claim is given by their invention. By using the flanged course on a pile at the top and bottom, I-rails may be constructed on the same principle, any modification in the size desired can be made when forming the pile.

Further particulars respecting this invention can be procured by addressing the patentees as above. The patent was issued through the Scientific American Patent Agency, Oct. 28, 1862.

Arrangements are being made to carry petroleum from the oil springs of Canada West in iron tank cars, on the Grand Trunk Railway, and down to Portland, Maine, thence to be shipped to Liverpool.

LABOR-SAVING INVENTIONS WANTED.

The great industrial wants of the country demand an increase of mechanical inventions. This want will be severely felt if the war is protracted through another year. A million of men fighting for the maintenance of the Government makes a serious breach in the productive power of the country, which can only be supplied by the introduction of labor-saving machinery. Inventors are called upon to work out such improvements as will effectually meet all the wants of the country. It strikes us that this is a most favorable time to develop good inventions. The business of the Patent Office is progressing favorably, and everything is encouraging to the prompt exercise of the inventive faculty.

Improvements in Omnibusses Wanted.

The omnibus, as at present constructed, is very far from satisfying the public needs; and we call the attention of our inventors to the matter, in the hope that they will devise something better. The inconveniences are many, and not the least is the difficulty ladies experience in getting in and out without exposure of their crinoline; another is the windows, which in rainy weather, permit a stream of cold and muddy water to ooze gently down the passengers' back; when the windows are opened in front, several pairs of dirty boots dangle against the faces of the public, defiling the air, and creating feelings of intense disgust; in some of the one-horse cars the box is built across the front, thus obviating that nuisance; we do not see any objection to carrying the principle out more fully. The objections alluded to are but a few among many; the whole affair is odious, inconvenient, and ought to be the remnant of a forgotten age.

Wagon Wheels.

We have received a letter from Mr. O. N. Chapell, of Prattsburgh, N. Y., asking for information upon the subject of setting wagon wheels so as to make them run easily on their axles. Mr. Chapell is of opinion that much depends upon the "dish" of the wheel, the taper of the arm, &c., and would be glad of any information upon the subject. We can only refer him to Chinnock's Ball Axle, which is designed for the purpose specified. Perhaps some of our readers can inform Mr. Chapell in respect to the other details.

Solvent for Old Putty and Paint.—Soft soap mixed with solution of potash or caustic soda; or pearl ash and slaked lime mixed with sufficient water to form a paste. Either of these laid on with an old brush or rag, and left for some hours, will render it easily removable.

On Saturday, Oct. 18th, no less than 21,026 pedestrians, 531 equestrians, and 4,378 carriages entered the N. Y. Central Park; total nearly 40,000 visitors.