A. HAY.

Compound Box-Girder.

No. 164,734. Patented June 22, 1875.

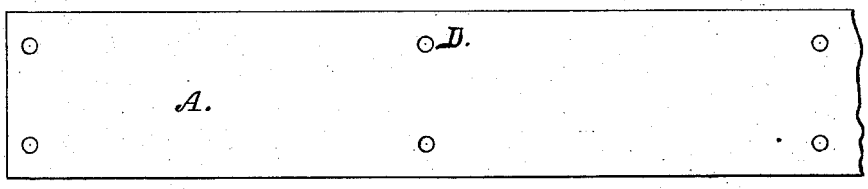

Fig. 1.

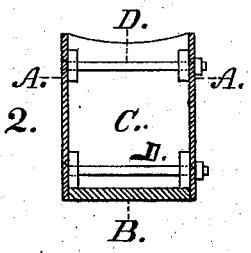

Fig. 2.

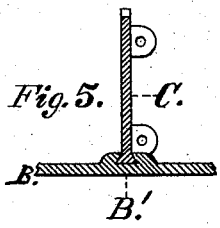

Fig. 5.

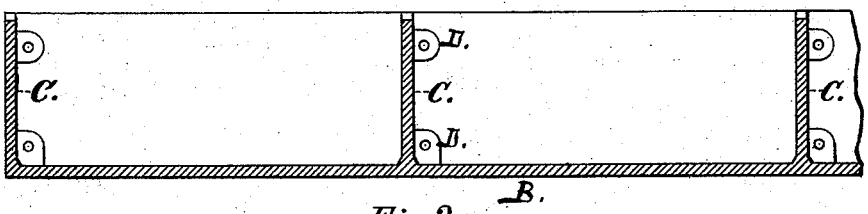

Fig. 3.

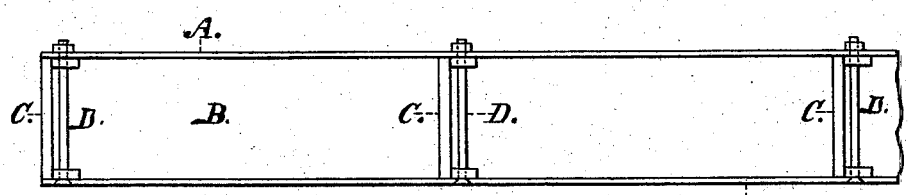

Fig. 4.

Witnesses
Horace Harris
A. L. Cross

Inventor
Adam Hay

UNITED STATES PATENT OFFICE.

ADAM HAY, OF NEWARK, NEW JERSEY, ASSIGNOR OF ONE-HALF HIS RIGHT TO PAUL G. BATTICHER, OF SAME PLACE.

IMPROVEMENT IN COMPOUND BOX-GIRDERS.

Specification forming part of Letters Patent No. **164,734**, dated June 22, 1875; application filed June 8, 1875.

To all whom it may concern:

Be it known that I, ADAM HAY, of Newark, in the county of Essex and State of New Jersey, have invented a certain Improved Compound Box-Girder, of which the following is a specification:

My invention consists in uniting wrought-iron and cast-iron in the formation of box-girders for walls, stone fronts, and other places, so that the strength shall be greatly increased.

Figure 1 is a front side view of the girder, with the heads of the bolts countersunk, to leave an even surface. Fig. 2 is a cross-section. Fig. 3 is a longitudinal section. Fig. 4 is a plan view. Fig. 5 is a section showing a modification that may sometimes be used.

The girders, as ordinarily made of cast-iron, are very difficult and expensive to cast in size as required, and are often liable to be spoiled in casting, or to be broken afterward. To remedy this difficulty is the object of this invention. I therefore make a union or compound girder, combining wrought-iron and cast-iron to meet the demand, as follows:

The base or flange B is made of cast-iron, and is cast with the ribs C attached at such intervals as may be required to stiffen and strengthen the sides. The sides A are wrought-iron plates bolted together, through or by the side of the ribs, with iron bolts D. As a modification of the cast-iron parts, Fig. 5 shows the flange B cast with dovetail slots B′ in them, and corresponding tenons in the ribs to slide into them. This even reduces the expense and liability in casting the base or flange B, and in some instances it will be found to add increased strength to the girder. The compound girder may be produced at about the same cost as those made entirely of cast-iron, and then the strength is very greatly increased. The wrought-iron sides and the bolts binding them to the cast-iron base and ribs accomplish a very valuable improvement.

I claim—

The compound girder embracing the cast-iron base B, and ribs C, and the wrought-iron sides A, united by the bolts D, substantially as and for the purposes specified.

ADAM HAY.

Witnesses:

HORACE HARRIS,

A. L. CROSS.