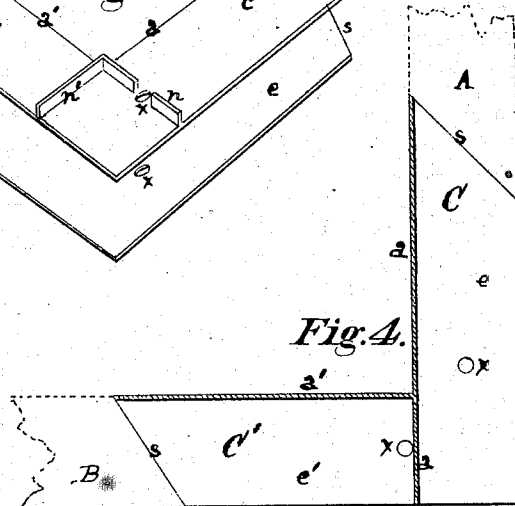
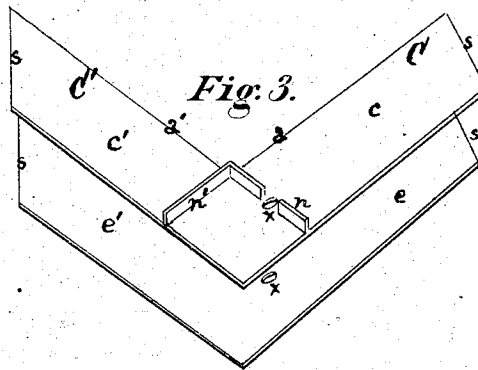
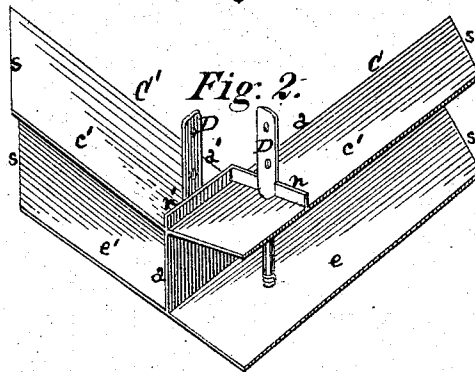
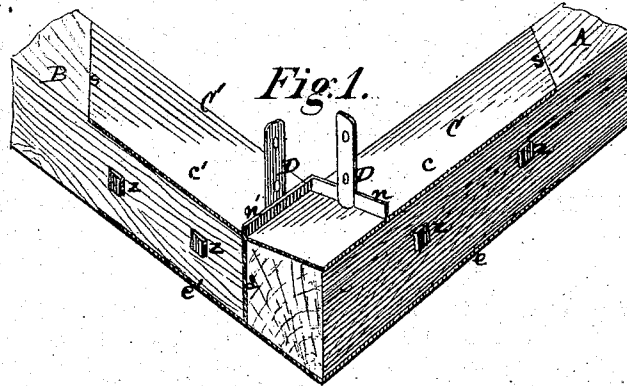


E. MARTIN.

Joint-Couplings for Timber-Frames.

No. 158,294.

Patented Dec. 29, 1874.



Witnesses: Alex. Selkirk  
Chas. J. Selkirk.

Elliott Martin  
Inventor.

# UNITED STATES PATENT OFFICE.

ELLIOT MARTIN, OF WATERVLIET, NEW YORK.

## IMPROVEMENT IN JOINT-COUPPLINGS FOR TIMBER-FRAMES.

Specification forming part of Letters Patent No. 158,294, dated December 29, 1874; application filed January 9, 1874.

*To all whom it may concern:*

Be it known that I, ELLIOT MARTIN, of Watervliet, county of Albany, State of New York, have invented a new Metallic Joint-Coupling for Timber-Frames; and I do hereby declare that the following is a description thereof, reference being had to the accompanying drawings forming a part of this specification, in which—

Figure 1 is a perspective view of the invention applied to the frame-work of a car, illustrating its application. Fig. 2 is a perspective view of the invention, illustrating all its parts. Fig. 3 is a perspective view of the same modified in some of its parts. Fig. 4 is a plan of the coupling in a sectional view in a horizontal direction.

My invention relates to a device for joining the ends of timbers at their corners when framed together; and consists of a box form of angle-iron, made continuous and solid in all its parts, and with projecting ribs or flanges and strap-bolts, so formed and placed as to render the device easy for application to the timbers, and removal of the same for replacing with new timbers when required, all of which I will describe by reference to the drawings and the letters of reference marked thereon, the same letters indicating like parts.

In the drawings, A B represent the ends of the timbers to be joined, and made to form the corner of a frame when joined by the joint-coupling C C'. The said joint-coupling consists of a box-form angle-iron, made of cast metal, and comprised of the backs *a a'*, the upper angle-flange, *c c'*, and the bottom angle-flange, *e e'*, cast in a continuous and solid piece, as shown in Figs. 2 and 3. The ends of the flange portions *c c'* and *e e'* are made with oblique terminations *s s*, at an angle of forty-five degrees, or less, which will admit the joint-coupling to be removed from the timbers connected, when desired, by being driven or worked back toward the inside of the frame, and will also prevent a cross-breaking of the timber at the said terminations, by reason of the bearing of the flanges in a direction oblique with the direction of the grain of the said timbers.

In frames where one of the timbers, A, is of greater depth than its conjoined timber, B, as

in Fig. 1, I give the flange *c* an incline upward and outward from the back *a* to a height above the plane of the flange *c'* equal to the increase of the thickness of the said timber A over the timber B, as shown in said figure.

When the frame is to support a corner post (not shown) I run the back *a* past the back *a'* to the front of the flanges *c c'* and *e e'*, with the back *a'* intersecting with the said extended back *a*, as shown in Figs. 2 and 4, and thereby strengthen the said corner, so as to resist the vertical strain that may be brought upon the corner of the said frame.

To preserve the corner post (not shown) in place, from being shifted, I form on the flange *c*, and at right angles with the back *a*, the projecting rib or flange *n*, and also a second flange or rib, *n'*, running parallel with the back *a*, as shown in Figs. 1 and 2, and also provide the bolt-holes *x x*, which are to receive the strap-bolts D D. The upper ends *m* of the said strap-bolts are to be secured to the sides of the posts, supported by bolts, screws, or equivalent attaching devices, while their lower and screw-threaded ends are provided with screw-threaded nuts, which screw up against the lower side of the flanges *e e'*, to draw the said post down to the coupling.

With timbers of equal depth, the flanges *c* and *c'* may be made on the same plane, and in light frames the projecting of the back *a* past the back *a'* may be dispensed with.

The improvements in this invention can be applied with advantage to all frame-work requiring firm and strong corners, as in horse or steam cars and buildings.

This coupling is to be secured to the timbers A B by the bolts Z Z passing through the backs of the joint-coupling and the timbers, as shown in Fig. 1.

This joint-coupling will render the corner of the frame stronger than corners made in the usual manner, and is easy for application, cheap in construction, and renders the corner stiff to resist vertical strain.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A coupling-joint iron for uniting the ends of timbers, consisting of the parts C C', constructed with the backs *a a'* intersecting and

solid with each other, and the flanges *c c'* and *e e'* solid with the said backs, substantially as set forth.

2. In a coupling-joint iron having flanges *c c'* and *e e'* solid with the backs *a a'*, the back *a* running past the back *a'*, substantially as set forth.

3. A joint-coupling iron having the flanges *c c'* and *e e'* connected with the backs *a a'*, and

their ends bounded by the oblique lines *s s*, substantially as and for the purposes set forth.

4. In combination with a coupling-joint iron, the flanges *n n'* and strap-bolts *D D*, substantially as set forth.

ELLIOT MARTIN.

Witnesses:

ALEX. SELKIRK,  
CHAS. J. SELKIRK.