No. 691,531. Patented Jan. 21, 1902.

H. C. CLARK.

STEEL CONSTRUCTION.

(Application filed July 12, 1901.)

(No Model.)

Fig. 1.

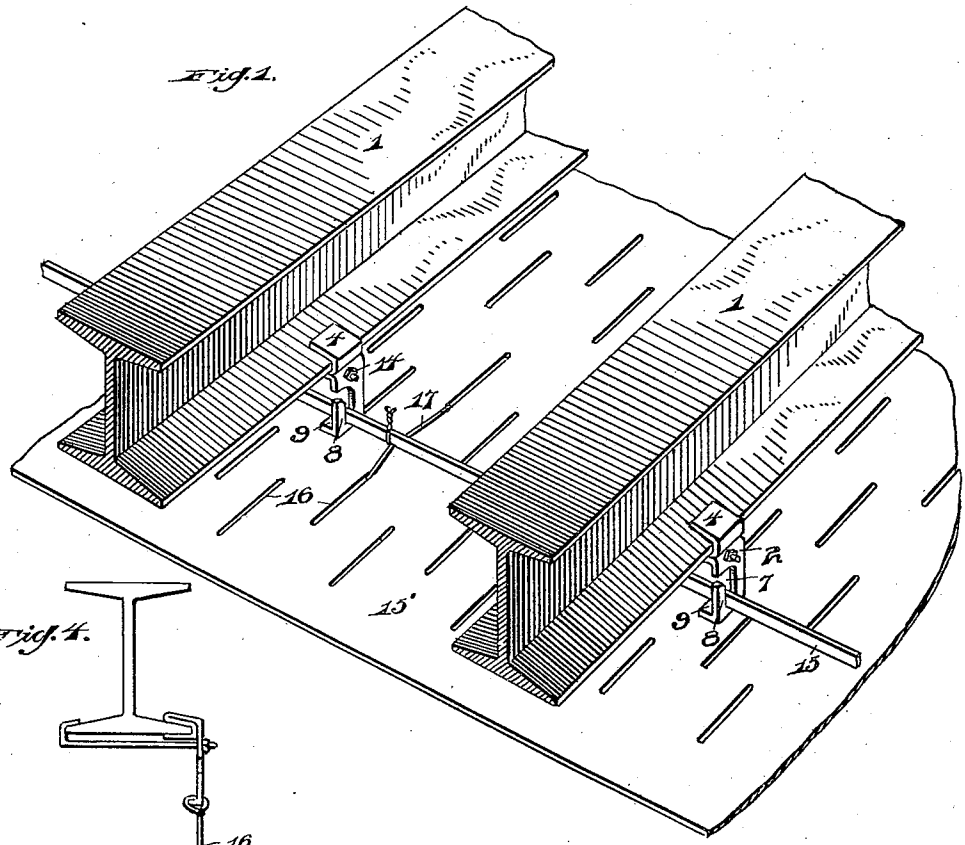


Fig. 4.

Fig. 2.

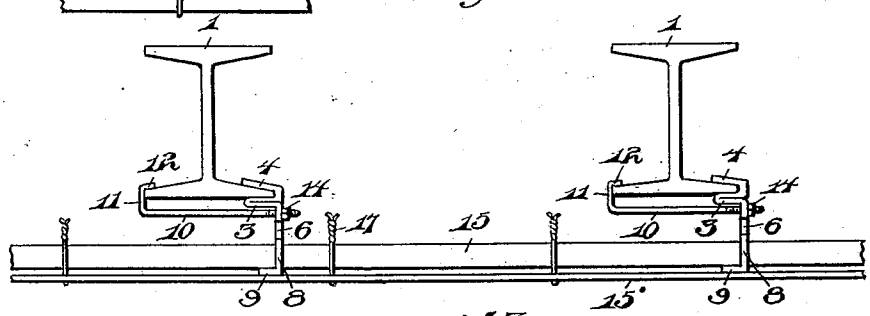
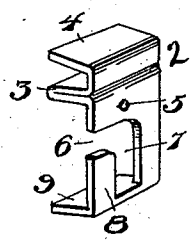


Fig. 3.



Witnesses:

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UNITED STATES PATENT OFFICE.

HARRY C. CLARK, OF BELLEVIEW, PENNSYLVANIA.

STEEL CONSTRUCTION.

SPECIFICATION forming part of Letters Patent No. 691,531, dated January 21, 1902.

Application filed July 12, 1901. Serial No. 68,012. (No model.)

To all whom it may concern:

Be it known that I, HARRY C. CLARK, a citizen of the United States of America, residing at Belleview, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Steel Constructions, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in steel, iron, and wood constructions, and relates more particularly to the clamps forming the connection between the I-beams and channels, wood, iron, or steel beams, but can be advantageously employed in connection with I-beams, T-beams, steel braces, channel-bars, and other forms of steel and wood constructions.

The present invention is particularly designed to be employed in connection with steel, iron, and wood constructions for buildings and the like; but I do not wish to limit myself to this particular use, as I find the invention affords great advantages when attached to rails or employed in connection with steel constructions of bridges and like structures.

The invention consists principally in the novel clamp employed for connecting beams together; and the invention still further consists in the novel combination and arrangement of parts to be hereinafter more fully described, and specifically pointed out in the claims.

In describing the invention in detail reference is had to the accompanying drawings, forming a part of this specification, wherein like numerals of reference indicate corresponding parts throughout the several views, and in which—

Figure 1 is a perspective view of a pair of I-beams and channel-bar connected thereto, showing my clamps applied in position. Fig. 2 is an end view thereof. Fig. 3 is a detail perspective view of one of the clamps. Fig. 4 is a modification of my improved clamp.

In the drawings the reference-numeral 1 indicates a pair of I-beams having arranged on the base thereof my improved clamp, which consists of a top portion 2, bent upon itself and forming an inwardly-extending flange 3 and a clamp portion 4. The portion 2 has arranged therein an aperture 5 to receive the bolt, which will be hereinafter particularly described.

The reference-numeral 6 represents an opening formed in the side of the clamp, communicating with a vertical opening 7.

The reference-numeral 8 represents an upwardly-extending portion formed integral with the portion 2, and 9 represents an inwardly-extending base.

The reference-numeral 10 indicates a screw-threaded bolt having its end turned upwardly, as shown at 11, and inwardly, as shown at 12. The reference-numeral 14 represents a nut secured upon the screw-threaded portion upon the other end of the bolt.

The reference-numeral 15 represents a bar which is arranged in the opening 7 and is passed through the opening 6.

The numeral 15′ represents the ceiling as having securing-slits 16, by which the ceiling is fastened to bars 15 by wires 17 passed therethrough.

The operation of my improved device is as follows: The I-beams or other form of beams are engaged by their base by the clamp portion 4 and flange 3, the securing-bolt clamping the other end of the beam, which is tightened by means of the nut 14. The bar may be easily placed in position by passing the same through the opening 6 and seating it in the opening 7 of the clamp, thereby resting it upon the base 9. The advantages of this construction will be readily apparent, as it will be seen that the bar may be easily applied to the clamps without the necessity of placing it into position endwise through the clamps, but allowing it to pass over the upwardly-extending portion 8 through the opening 6 into the opening 7, as heretofore described.

In case it is desired to further lower the channel-bar than shown in Figs. 1 and 2 the hanger 16, as shown in the modified form in Fig. 4, may be employed, this hanger being secured in the opening 7 of the clamp, and for this purpose hangers of different lengths may be employed. The inwardly-extending flange 3 is preferably constructed in one piece, not bent over upon itself, as shown in the drawings, but formed solid with the body portion

of the clamp, as shown in Fig. 4 of the drawings. By this construction I also dispense with the second clamp, which has heretofore been employed, thereby materially lessening the cost of this form of construction.

The many advantages obtained by the use of my improved clamp will be readily apparent from the foregoing description, taken in connection with the accompanying drawings.

It will be noted that various changes may be made in the details of construction without departing from the general spirit of my invention.

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

1. In a steel, or iron construction, the combination of beams, a clamp consisting of a clamp portion, a bolt passing through said clamp portion, the end of said bolt engaging the other side of said beams, said clamp having an opening and a bar arranged in said opening.

2. In steel or iron construction, the combination with beams, of a clamp secured to one side of said beam, said clamp having a portion thereof bent upon itself upon which said beam rests, a bolt secured to said clamp with its other end engaging the other side of said beam, the said clamp having an opening formed therein, and a bar arranged in said opening, substantially as described.

3. In a steel, or iron construction, the combination of beams, clamps arranged to one side of said beams having an upwardly-extending portion with an opening formed in said upwardly-extending portion, bars arranged therein, an inwardly-extending flange arranged on said clamp, a bolt extending through said clamp engaging the other side of said beams, and a nut secured to said bolt, substantially as described.

4. In steel or iron construction, the combination with beams, of a clamp secured to one side thereof, said clamp having its ends bent inwardly and being doubled upon itself at an intermediate point, the said beam engaging said doubled portion and one of said ends, a bolt engaging said clamp and said beam, the said clamp having an opening formed therein extending to the other of said inwardly-bent ends, and a bar carried by said end, substantially as described.

5. In steel or iron construction, the combination with beams, of a clamp secured to one side thereof, said clamp having an inwardly-bent end and a portion bent over upon itself between which end and bent-over portion said beam is secured, a bolt secured to said clamp and engaging the other side of said beam, said clamp having a downwardly-extending portion, and a bar carried by said downwardly-extending portion, substantially as described.

6. In steel or iron construction, a clamp having inwardly-extending ends and an intermediate portion of itself doubled to form an inwardly-extending portion between which and one of said ends a beam is secured, the said clamp having a vertical and a horizontal opening formed thereon, and a bar carried by said other end of the clamp, substantially as described.

7. In steel or iron construction, a clamp which has a portion bent over upon itself and an inwardly-extending end between which end and bent-over portion a beam is adapted to be secured, the said clamp further having a downwardly-extending apertured portion, and a bar carried by said downwardly-extending portion, substantially as described.

8. In steel or iron construction, the combination with a beam, of a clamp comprising inwardly-extending ends and a portion bent over upon itself suitably secured to said beam, and a bar carried by one of said ends, substantially as described.

9. In steel or iron construction, the combination with a beam, of a clamp arranged on one side of said beam, a bolt engaging said clamp and extending parallel with the base of said beam and its end engaging the other side thereof, a base made integral with said clamp, and a bar carried by said base, substantially as described.

In testimony whereof I affix my signature in the presence of two witnesses.

HARRY C. CLARK.

Witnesses:
JOHN NOLAND,
E. E. POTTER.