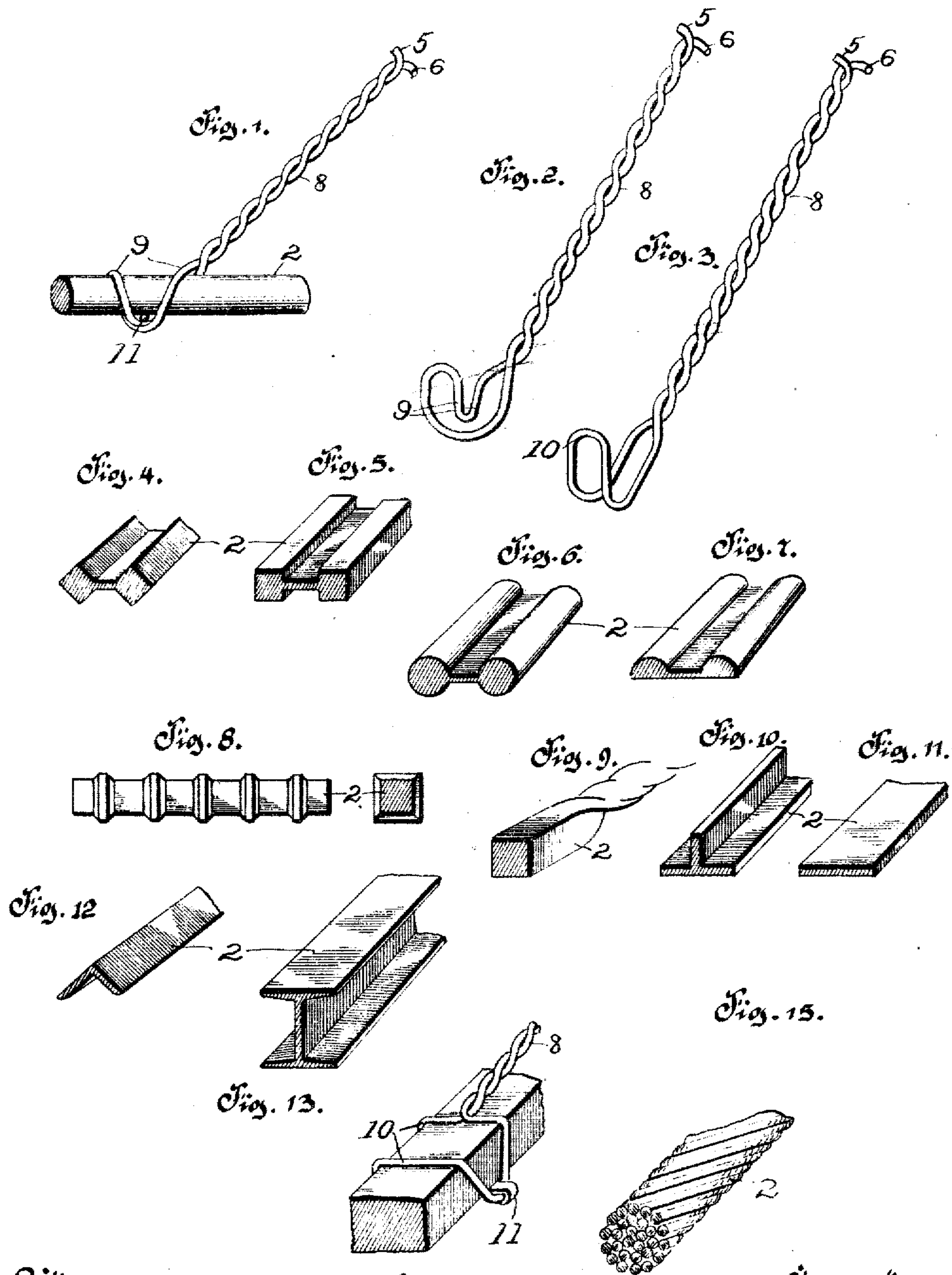


No. 811,560.

PATENTED FEB. 6, 1906.

J. B. HINCHMAN.
CONCRETE BUILDING CONSTRUCTION.
APPLICATION FILED JUNE 24, 1904.



Witnesses:
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UNITED STATES PATENT OFFICE.

JAMES B. HINCHMAN, OF DENVER, COLORADO.

CONCRETE BUILDING CONSTRUCTION.

No. 811,560.

Specification of Letters Patent.

Patented Feb. 6, 1906.

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To all whom it may concern:

Be it known that I, JAMES B. HINCHMAN, a citizen of the United States of America, residing in the city and county of Denver and State of Colorado, have invented certain new and useful Improvements in Concrete Building Construction, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to certain new and useful improvements in shearing-arms for tension-rods, and more particularly to that class of tension-rods employed in connection with fireproof building construction, being constructed with especial reference to fireproof floorings, ceilings, beams, tanks, walls, columns, culverts, slabs, independent blocks, gutters and curbs, bridges, and, in fact, for almost any use in which concrete and metal are employed; and it has for its primary object to provide a shearing-arm that is comparatively inexpensive to manufacture and one which at the same time may be applied to the various bar shapes used in building construction.

I am aware that it is old to apply shearing-arms to a tension-rod, and I do not wish to be understood as claiming such a construction broadly.

My invention consists in the novel form of shearing-rod and the simple means for attaching the same to the various shapes of bar-iron. It has been the usual custom to rivet the shearing-rods to the bar-iron. This is a slow and expensive method, as the rivets have to be heated to a white heat, applied with a pneumatic hammer, and several workmen are necessary for each operation. In my invention no rivets are used and one workman can accomplish twice as much work in the same time as four workmen by the old method, my invention thereby saving labor, time, and expense.

Referring to the accompanying drawings, forming a part of this specification, and wherein like numerals designate like parts, Figure 1 is a side elevation showing my improved shearing-arm and the novel means for attaching the same to a tension-rod. Fig. 2 is an independent view of the form of shearing-arm shown in Fig. 1. Fig. 3 is a modification embodying a slight departure from the construction shown in Fig. 2. Figs. 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 show various shapes of bar-iron in connection with which my shearing-arm may be used. Fig. 14 is a view of the form

of shearing-arm shown independently in Fig. 3, this view showing the arm attached to a tension-bar and novel means for securing the same. Fig. 15 shows a view of a part of a wire cable which may be employed as a tension-rod.

Figs. 2 and 3 illustrate forms of shearing-arms which I deem most important, these arms comprising a piece of stout wire 8, twisted upon itself and having its one end bent into the form of a loop, the ends of the twisted portion extending in opposite directions. In Fig. 2 I have shown a double loop, as at 9, one member of the loop being bent downwardly at an angle to the body of the shearing-iron and the other member of the loop bent upwardly at an angle to the first-named member, as shown in Figs. 5 and 6. In Fig. 3 the shearing-arm has its arm bent into a single loop 10, the loop being bent downwardly on both sides and then upwardly, as shown.

Figs. 1 and 14 illustrate, respectively, the shearing-arms shown in Figs. 2 and 3 as applied to a tension-bar of any desired form. In each instance the loop is passed over the bar, and a nail, wedge, or other form of connecting-link 11 is inserted between the under surface of the bar and the loop.

Figs. 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, and 15 show a few examples of the numerous bar shapes in connection with which my improved shearing-bar may be used, Fig. 4 being a double diamond bar; Fig. 5, a double square; Fig. 6, a double circle; Fig. 7, a double semi-circle; Fig. 8, a corrugated square bar; Fig. 9, a twisted bar; Fig. 10, a T-iron; Fig. 11, a flat bar; Fig. 12, an angle-iron, and Fig. 13 an I-bar.

As stated above, the size of the loops in the wire-shearing arms or openings in the sheet-metal shearing-arms, as the case may be, can be varied to suit the various forms of bars in connection with which the shearing-arms are used.

Fig. 16 shows the wire cable which may be used as a tension-rod, and the shearing-bars may be secured thereto, as is shown in Figs. 1 or 14.

The only tool necessary is a hammer. One workman need only be employed, the sole operation being to place the shearing-arm over the bar and securely fasten it thereon by a nail driven in tight with a few heavy strokes of the hammer. It will be readily apparent that by removing the nail, wedge, or

other connecting-link, or by straightening the tenon, the shearing-arm may be readily removed intact.

It is obvious that the scope of my invention is so broad that many minor changes may be made without departing from the general spirit of the structure as claimed below.

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

1. A shearing-arm for tension-rods consisting of a single piece of wire twisted upon itself and having one end formed in a loop said loop being bent at an angle to the arm and back upon itself.

2. A shearing-arm for tension-rods consisting of a single piece of wire twisted upon itself and having one end formed in a loop, the said loop being twisted so as to form a double loop and being bent at an angle to the arm and back upon itself.

3. A tension-rod for composite building purposes, having shearing-arms removably mounted at angles thereon, each of said shearing-arms having one of its ends bent at an angle to itself, the said tension-rod passing through the said bent end, and a wedge for securing the shearing-arms to the tension-bar inserted between each of the said shearing-arms and the tension-bar.

4. A tension-rod for composite building purposes comprising shearing-arms removably mounted thereon, each shearing-arm

consisting of a single piece of wire twisted upon itself and having one of its ends formed in a loop the said looped end being bent at right-angles upon itself, the said tension-rod passing through the said looped end and means for securing the shearing-arm to the tension-bar inserted between the said arm and bar.

5. A tension-rod for composite building purposes comprising shearing-arms removably mounted thereon, each shearing-arm consisting of a single piece of wire twisted upon itself and having one end formed in a loop, the said loop being twisted so as to be divided into a double loop and being bent at right angles upon itself, the said tension-rod passing through the said looped end and a wedge for securing the shearing-arm to the tension-bar inserted between the said arm and bar.

6. The combination with the reinforcing-rods of a reinforced concrete beam, of stirrups or shear-bars bent partially around said reinforcing-rods and provided with registering loops or eyes, key-bars passing through said loops or eyes and engaging the under side of said reinforcing-rods to hold said stirrups in place, substantially as described.

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

JAMES B. HINCHMAN.

Witnesses:

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