

No. 690,669.

Patented Jan. 7, 1902.

J. F. STECKENREITER.
ATTACHING DEVICE FOR DRILL BRACES.

(Application filed June 3, 1901.)

(No Model.)

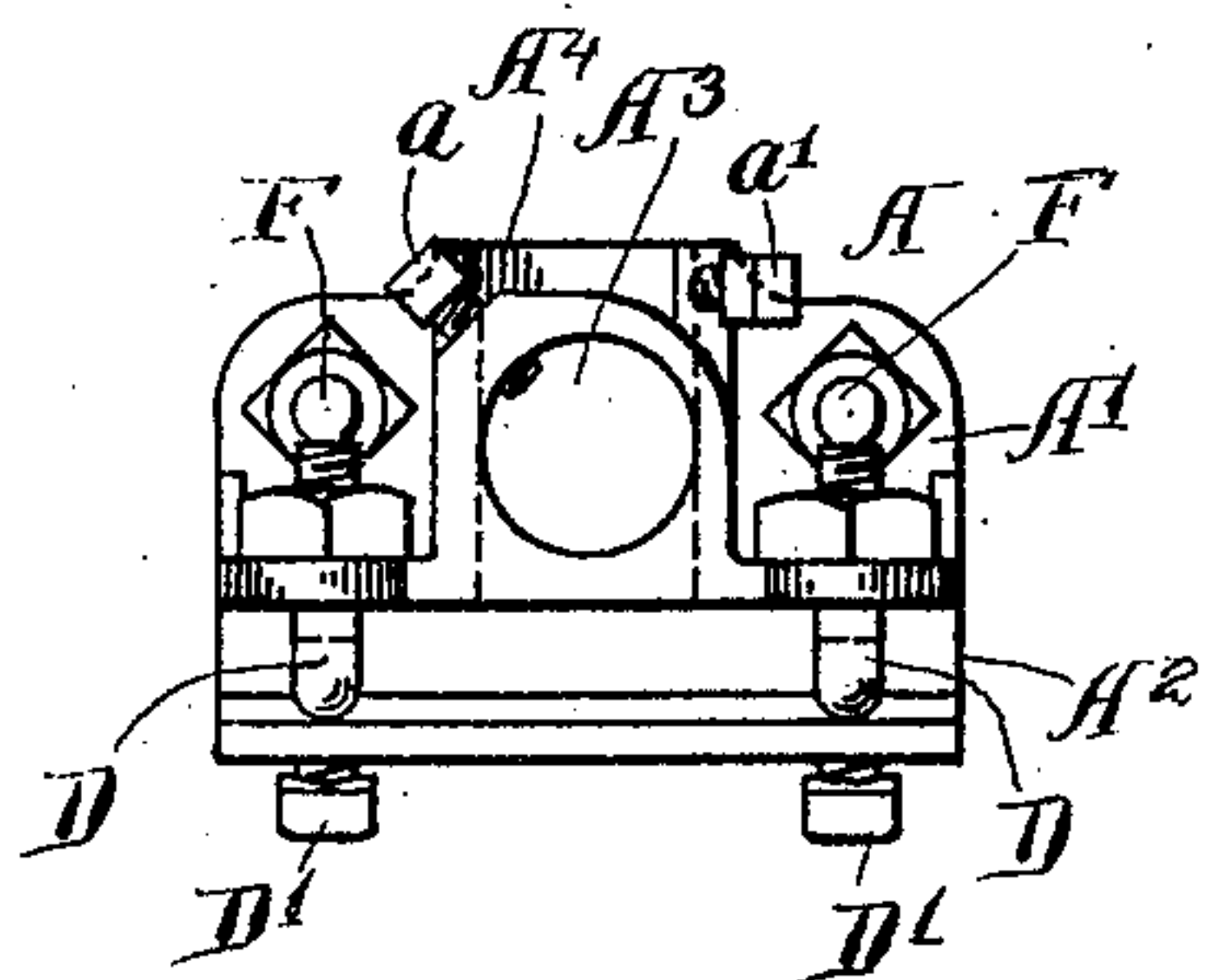


Fig. 2.

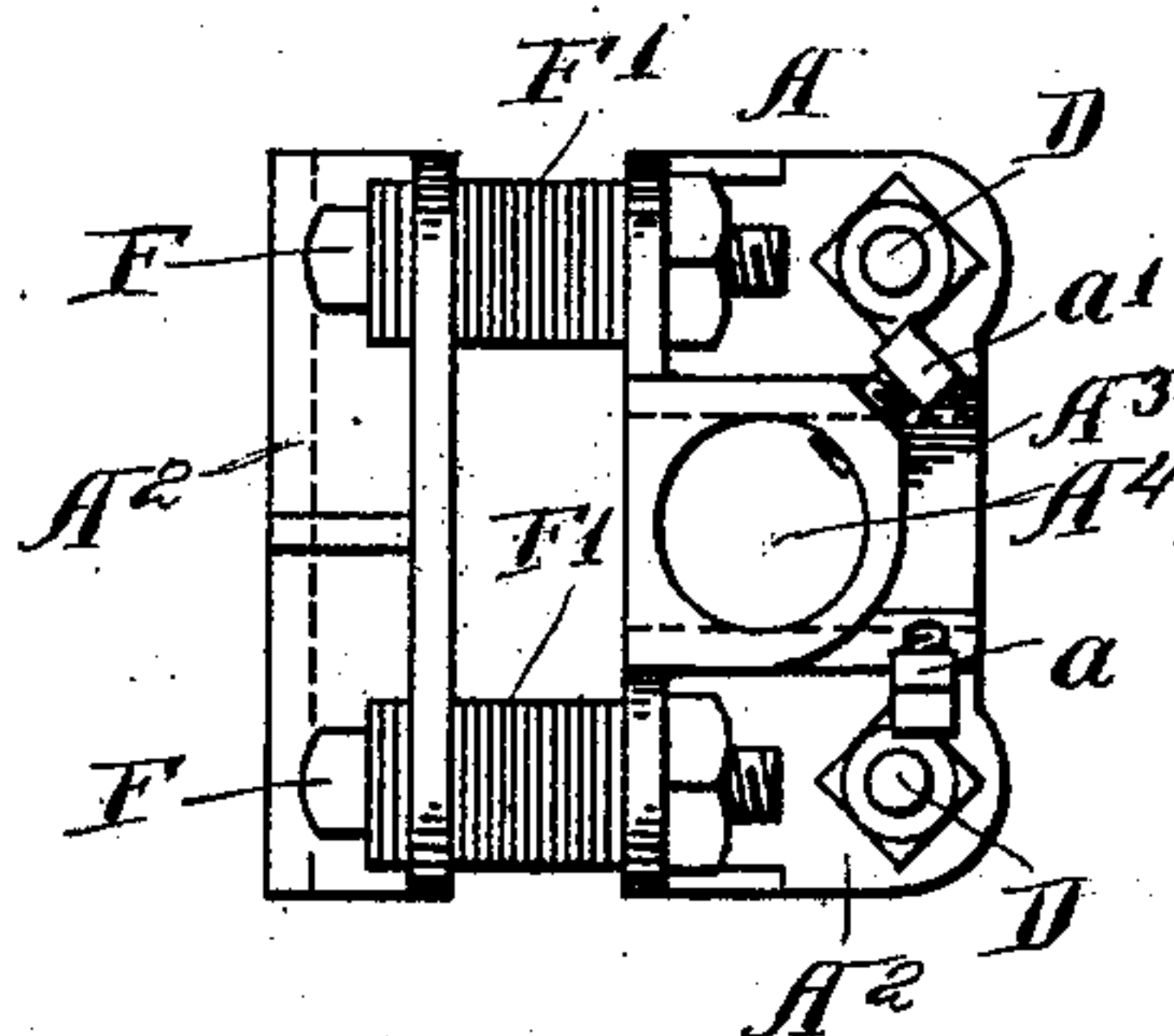


Fig. 3.

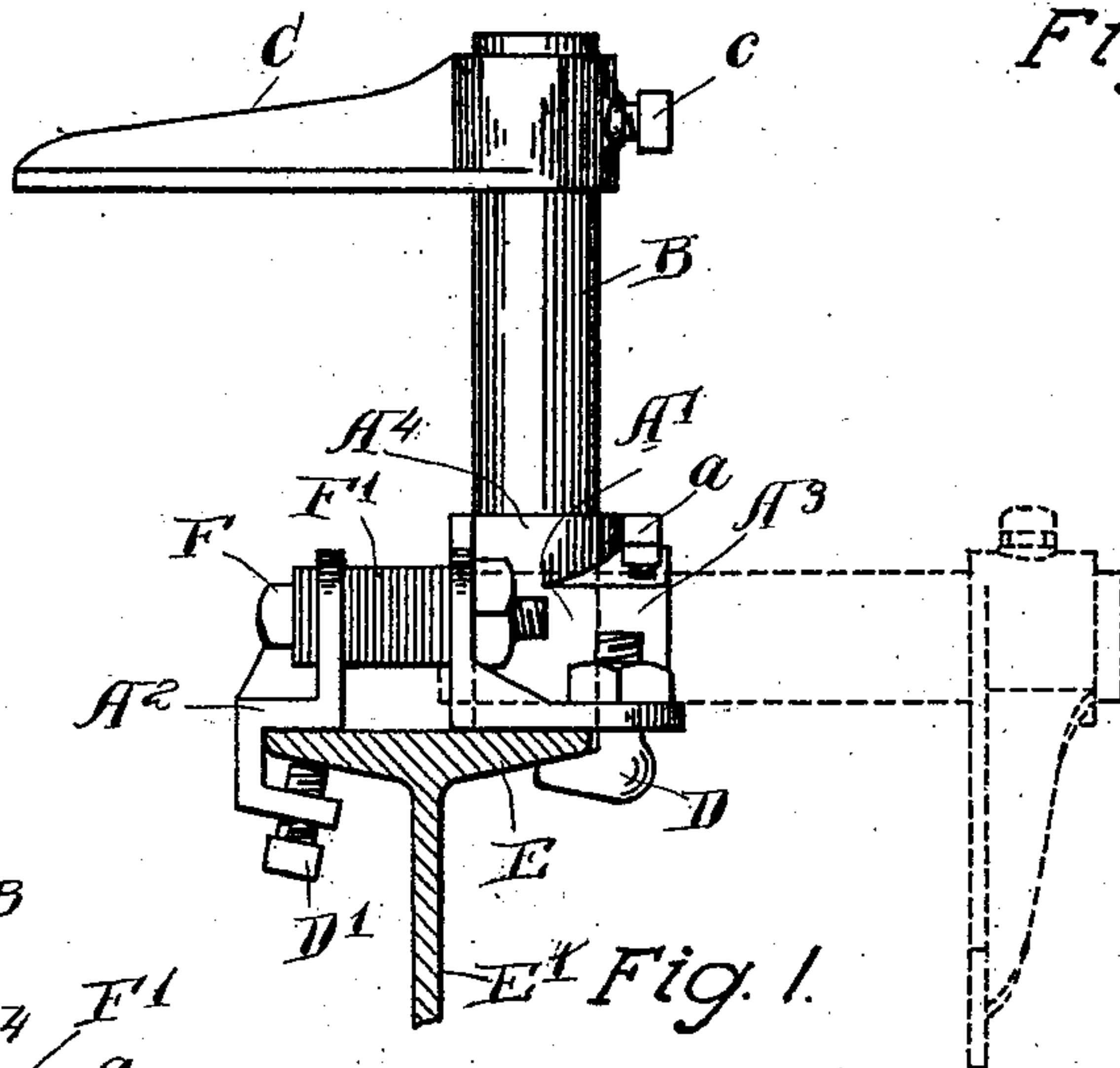


Fig. 1.

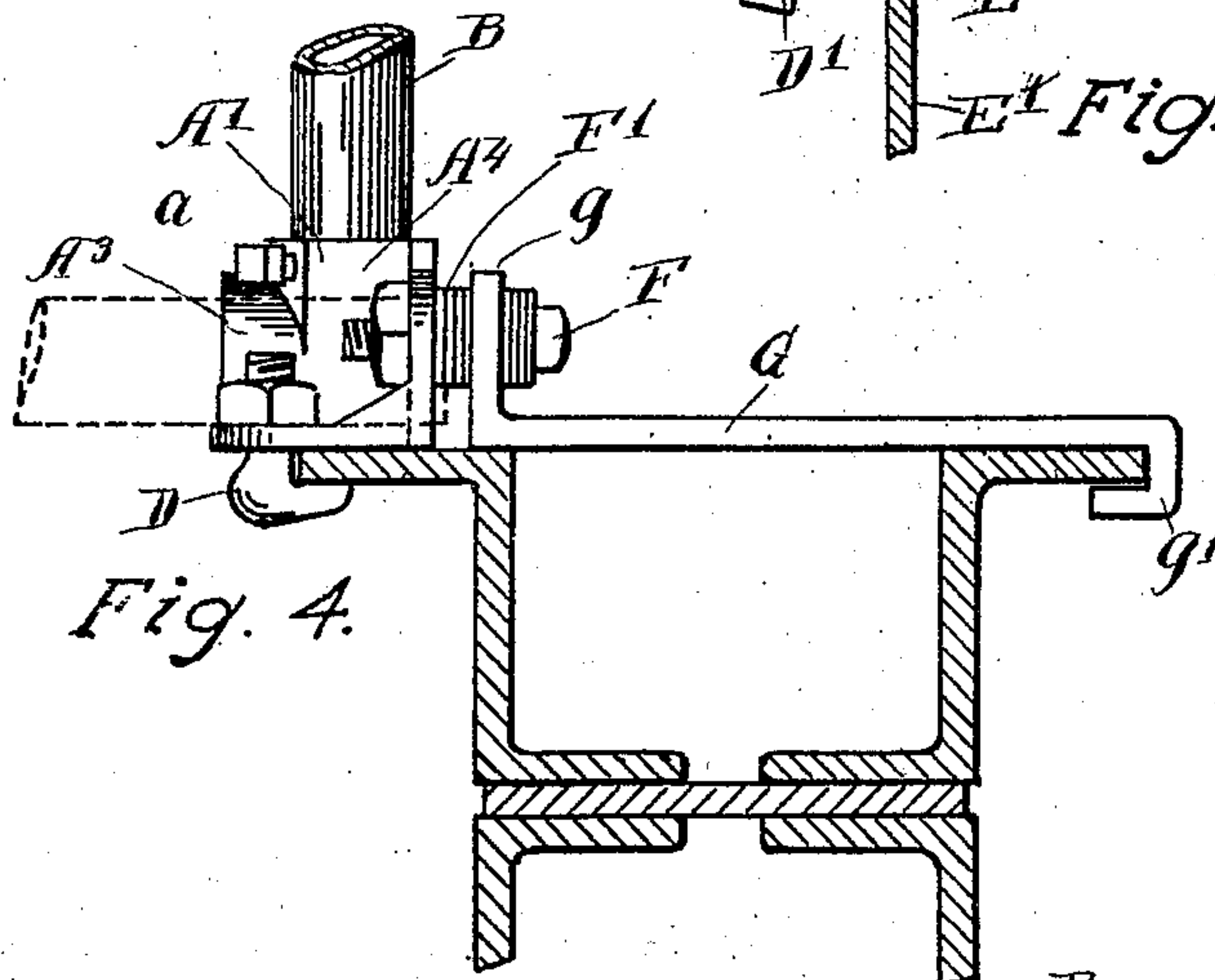


Fig. 4.

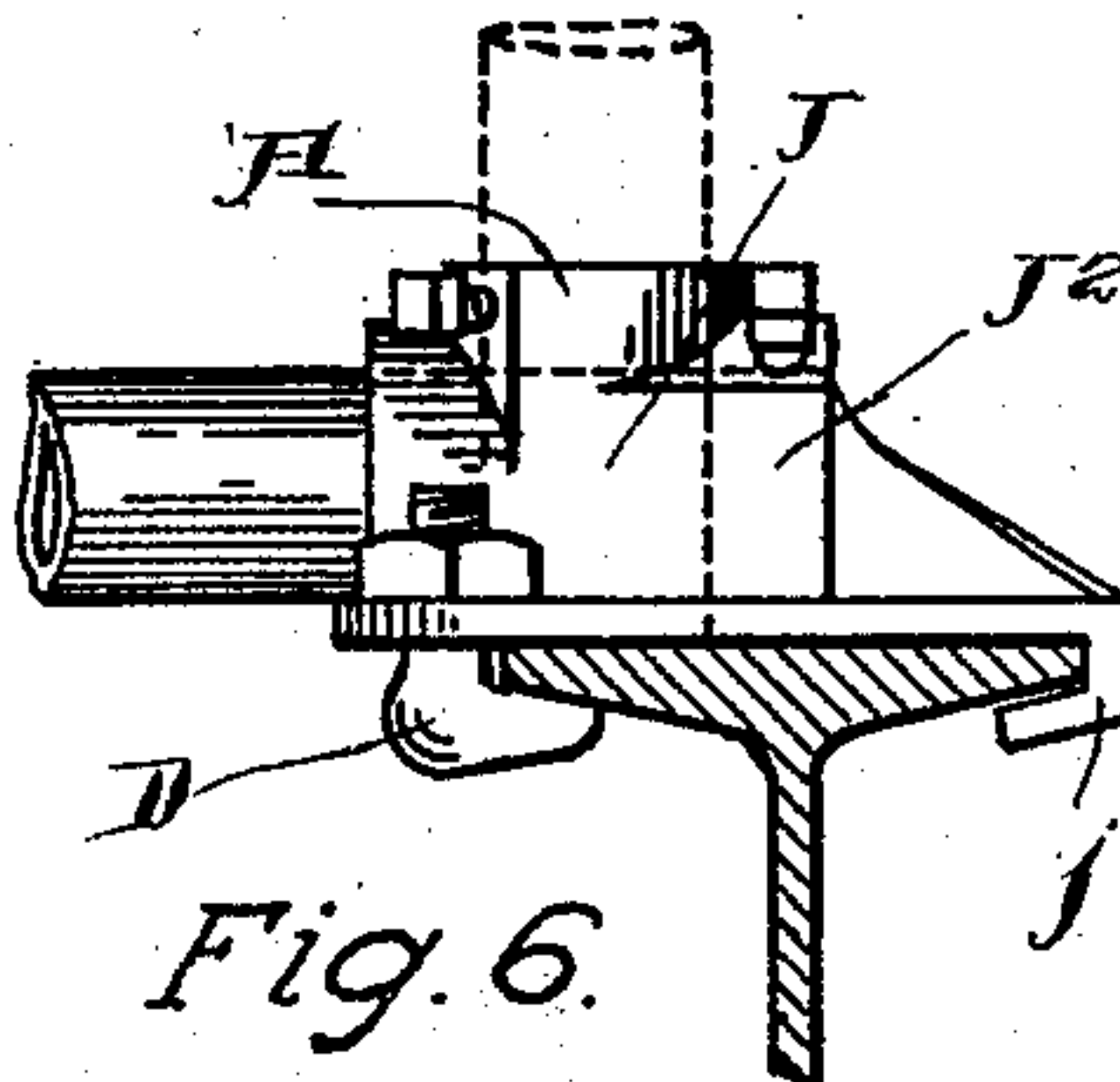


Fig. 6.

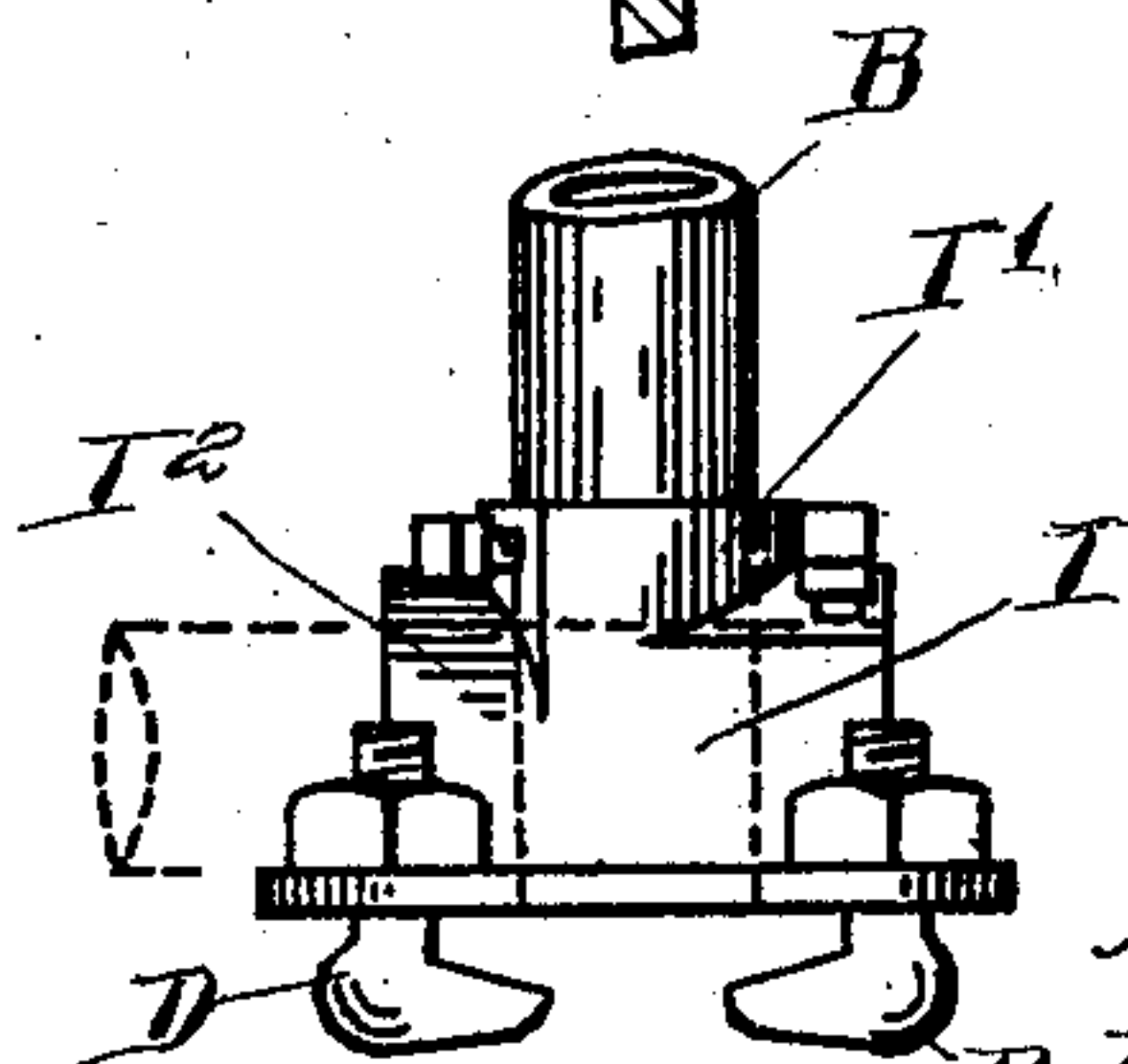


Fig. 5.

Witnesses:

Gertrude Bryce
W. Hall

Inventor:

John F. Steckereiter
by Pooler & Brown
his Attorneys

UNITED STATES PATENT OFFICE.

JOHN F. STECKENREITER, OF CHICAGO, ILLINOIS.

ATTACHING DEVICE FOR DRILL-BRACES.

SPECIFICATION forming part of Letters Patent No. 690,669, dated January 7, 1902.

Application filed June 3, 1901. Serial No. 62,848. (No model.)

To all whom it may concern:

Be it known that I, JOHN F. STECKENREITER, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Attaching Devices for Drill-Braces; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to a novel device designed, primarily, for attaching ratchet and power drill braces in place while drilling or reaming holes in structural iron, such as beams, round or square columns, chords of bridges, angle-bars, track-rails, and for like purposes.

Among the objects of the invention is to produce a device of the character mentioned, which can be readily set in place and removed therefrom, which is light and may be easily carried, and when once set in any position makes it possible to drill or ream holes in the part to which it is attached in position at right angles to each other without the necessity of changing the location of the device.

The invention consists in the matters hereinafter set forth, and more particularly pointed out in the appended claims.

In the drawings, Figure 1 is an end elevation of an attaching device made in accordance with my invention, showing a drill standard or brace attached thereto, said device being shown in position on a T-beam. Fig. 2 is a side elevation of the device. Fig. 3 is a top plan view thereof. Fig. 4 illustrates a modification of the device, which is designed for use on angular columns, bridge-chords, or the like. Figs. 5 and 6 illustrate modified means of attaching the device to a part to be operated upon.

First referring to the construction shown in Figs. 1 to 3, inclusive, A designates as a whole an attaching-base, consisting of a socket member A' and an angle member A², both made of cast metal, preferably cast-steel. The socket member is provided with two sockets A³ A⁴, adapted to receive the standard B of the brace, which standard carries at its outer end a radial arm C, adapted to support the outer end of the ratchet-drill. Said arm C is

adjustable longitudinally of the standard B, through the medium of a set-screw c, which passes through the hub or sleeve of said arm, and is adapted to impinge on the standard. The central axes of the sockets A³ A⁴ are in the same plane and intersect each other, as herein shown, at right angles, although the angle of intersection may vary. Said sockets, as herein shown, pass entirely through the castings. D D designate hook-bolts, which pass through the base of the socket member A' and are adapted to hook over the margin of the flange E of the beam E'. The angle-piece A² is formed to embrace the opposite margin of the flange of said beam and is provided with set-screws D', which pass upwardly through said angle-piece and impinge against the lower surface of said flange. The socket member and angle-piece are connected together by means of clamping-bolts F, said bolts affording means by which the parts of the device are adjusted to beams of different sizes. In order to insure a rigid connection between the angle-piece and socket member, the bolts are provided with a plurality of washers F', which fill the space between said parts and act to hold said parts when once adjusted at a fixed distance with respect to each other. The device is adjusted with respect to the size of the beam or other part on which it is to be used by interposing the required number of washers F' between the angle-piece and socket member. When the device is to be attached to a beam, the hook-bolts D are rotated ninety degrees from the position shown in Fig. 1, and the set-screws D' having been adjusted to suit the thickness of the flange E of the beam the angle-piece A² is hooked over one edge of the flange and the device set flat on the top of the beam. Thereafter the hook-bolts are turned inwardly into the position shown in Fig. 1, which serves to lock the device rigidly in place. In adjusting the device to a given-size beam the width of the same is desirably so adjusted as to leave a space between the margin of the flange and the shank of the hook-bolt, as shown in Fig. 1, and the set-screws D' are slightly out of contact with the lower face of the flange, as shown in said figure. With this construction when the hook-bolts D are turned or rotated ninety degrees from the po-

sition shown the device may be readily disengaged from the beam by slightly turning or rocking the same in the direction of the flange with which the angle-piece A^2 is engaged. A sufficient number of washers F' are provided to entirely fill the space between the angle-piece and socket member for the widest beam for which the device is adapted, and in adjusting the device to narrower beams the washers not required for the adjustment may be placed on the clamping-bolts F outside the flange member A^2 , said outer ends of the bolts serving as storage places for the washers. When the device has been attached to the beam in the manner described, the standard B may occupy either the vertical socket A^4 or the lateral socket A^3 and is held in said sockets by means of set-screws a a' passing through the sockets and impinging at their inner ends against the standard. When the standard is in a vertical position, as shown in full lines in Fig. 1, the arm thereof serves to support the ratchet-drill in position for drilling or reaming holes in the flanges E on either side of the standard. When it is desired to drill or ream holes in the web of the beam, the standard is inserted into the lateral socket, as shown in dotted lines in Fig. 1. The device may be readily slipped longitudinally of the beam from one position to another by turning the hook-bolt D outwardly and sliding the device along the beam. After reaching a new position it is fixed rigidly in place by again turning the hook-bolt inwardly.

In Fig. 4 I have shown my improvements as adapted for drilling and reaming holes in a column made up of a plurality of **Z**-bars. This form of the device may also be employed for drilling and reaming holes in the chords of bridges in floor-plates and like parts. The device in this instance consists of a socket-piece A' , made like the socket-piece shown in Fig. 1 and provided with the intersecting sockets A^3 A^4 and with hook-bolts D , adapted to engage the margins of the flange of the beam. In place of the flange-piece A^2 one or more angle-straps G are employed, which are provided at their inner ends with right-angle portions g , through which the clamping-bolts F are passed and are provided at their outer ends with hooked portions g' which pass over the outer margins of the flanges on the beams remote from the flanges engaged by the hook-bolt D . The clamping-bolts are in this construction shown as provided with the spacing-washers F , whereby the device may be adjusted to columns, chords, or plates of varying widths. When the standard B is in the position shown in full lines, the drill may be supported for drilling or reaming holes in the side flanges of the **Z**-bars and when in the position shown in dotted lines serves to support a drill when drilling or reaming holes in the webs of said beams. The parts G obviously correspond in functions to the angle-pieces A^2 of the construction previously de-

scribed, differing therefrom in shape to adapt the same to other uses.

I have shown in Figs. 5 and 6 two modifications of the device constructed for drilling or reaming beams or the like of standard sizes and cross-section. In Fig. 5, I designate a socket member provided with intersecting sockets I I^2 . The standard B may in this instance be inserted into either end of the lateral socket I^2 . The device is held in place by means of two or more hook-bolts D on either side of the base of the socket member. This form of device may be readily attached to and detached from the beam, as it is only required in attaching the device to lay the same flat on the flange of the beam or the like in connection with which it is used, with the hook-bolts D turned parallel to each other and at right angles to the position shown in Fig. 5. Thereafter said bolts are turned inwardly toward each other and under the flanges of the beam, which serves to rigidly secure the device thereto. In Fig. 6 the socket member J is provided with two sockets J' J^2 , made like that shown in Fig. 5, and is adapted to be attached to the beam by means of an integral hook or flange j at one side thereof and one or more hook-bolts D on the other side. In this instance the set-screw D' (shown in Fig. 1) may be omitted from the hook-flange j . Desirably in this construction the flange will be made to fit loosely upon the margin of the flange of the beam in connection with which it is used, so that, when the hook-bolts are turned outwardly to detach the device from the beam, sufficient space will be allowed between said parts to permit the device to be rocked upwardly slightly to disengage the parts from the beam.

Obviously other means may be employed for attaching the duplex socket members to a beam or other part in connection with which it is to be used, and I do not wish to be limited to the means herein shown for this purpose. Moreover, the device may be employed for attaching other parts in place, and I do not wish to be limited to the adaptation herein shown.

The device described is very simple in its construction, occupies but little room, and can be made very light, so as to be readily handled in and about a building or other structure in connection with which it is employed.

I claim as my invention—

1. An attaching device for ratchet-drill braces comprising a socket member provided with two or more sockets for receiving the drill-brace standard, the axes of which intersect at an angle and are located in the same plane, said socket member being provided with oppositely-extending base-flanges which are adapted to fit flat upon the articles to be drilled and means for removably attaching said flanges to said articles.

2. An attaching device for ratchet-drill braces comprising a socket member provided

with two or more sockets for receiving the drill-brace standard, the axes of which intersect at an angle and are located in the same plane, said socket member being provided with oppositely-extending base-flanges which are adapted to fit flat upon the articles to be drilled and attaching devices on the opposite margins of two of said flanges which are adapted to hook over the opposite margins of the article to be drilled.

3. An attaching device for drill-braces comprising a socket member provided with two or more sockets for receiving the drill-brace standard, the axes of which intersect at an angle and are located in the same plane and attaching means for said socket member comprising hook-bolts which are rotatively connected with the opposite margins of the socket member.

4. An attaching device for drill-braces comprising a socket member provided with two or more sockets for receiving the drill-brace standard, the axes of which intersect at an angle and are located in the same plane, attaching means for said socket member, and means for adapting said socket member to varying widths and thicknesses of beams and the like.

5. An attaching device for drill-braces comprising a socket member provided with two or more sockets for receiving the drill-brace standard, the axes of which intersect at an angle and are located in the same plane, said socket member being provided with an angle-piece at one side thereof adapted to engage one margin of a beam or the like, and a hook-bolt on the other side of said socket member adapted to engage the other margin of a beam.

6. An attaching device for drill-braces comprising a socket member provided with two or more sockets for receiving the drill-brace standard, the axes of which intersect at an angle and are located in the same plane, a rotative hook-bolt which passes through said member at one side thereof, an angle-piece at the other side of said socket member, and a clamping-bolt connecting said angle-piece and socket member.

7. An attaching device for drill-braces comprising a socket member provided with two or more sockets for receiving the drill-brace standard, the axes of which intersect at an angle and are located in the same plane,

a rotative hook-bolt which passes through said member at one side thereof, an angle-piece at the other side of said socket member, a clamping-bolt connecting said angle-piece and socket member, and washers on said bolt filling the space between said angle-piece and socket member.

8. An attaching device for drill-braces comprising a socket member provided with a socket for receiving a drill-brace standard, and means for attaching the same to a beam or the like comprising a rotative hook-bolt which passes through the socket member and adapted for engagement with one margin of a beam or the like, an angle-piece adapted to engage the other margin of the said beam, and a clamping-bolt passing through and connecting said socket member and angle-piece.

9. An attaching device for drill-braces comprising a socket member provided with a socket for receiving a drill-brace standard, and means for attaching the same to a beam or the like comprising a rotative hook-bolt which passes through the socket member and adapted for engagement with one margin of a beam or the like, an angle-piece adapted to engage the other margin of the said beam, a clamping-bolt passing through and connecting said socket member and angle-piece, and washers on said bolt filling the space between the angle-piece and socket member.

10. An attaching device for drill-braces, comprising a socket member provided with a socket for receiving a drill-brace standard, and means for attaching the same to a beam or the like comprising a hook-bolt which passes through the socket member and is adapted to engage one margin of a beam or the like, an angle-piece adapted to engage the other margin of said beam, set-screws passing through said angle-piece and adapted to bear at their ends against the inner face of the beam, and a clamping-bolt passing through and connecting said clamping member and angle-piece.

In testimony that I claim the foregoing as my invention I affix my signature, in presence of two witnesses, this 31st day of May, A. D. 1901.

JOHN F. STECKENREITER.

Witnesses:

WILLIAM L. HALL,
GERTRUDE BRYCE.