

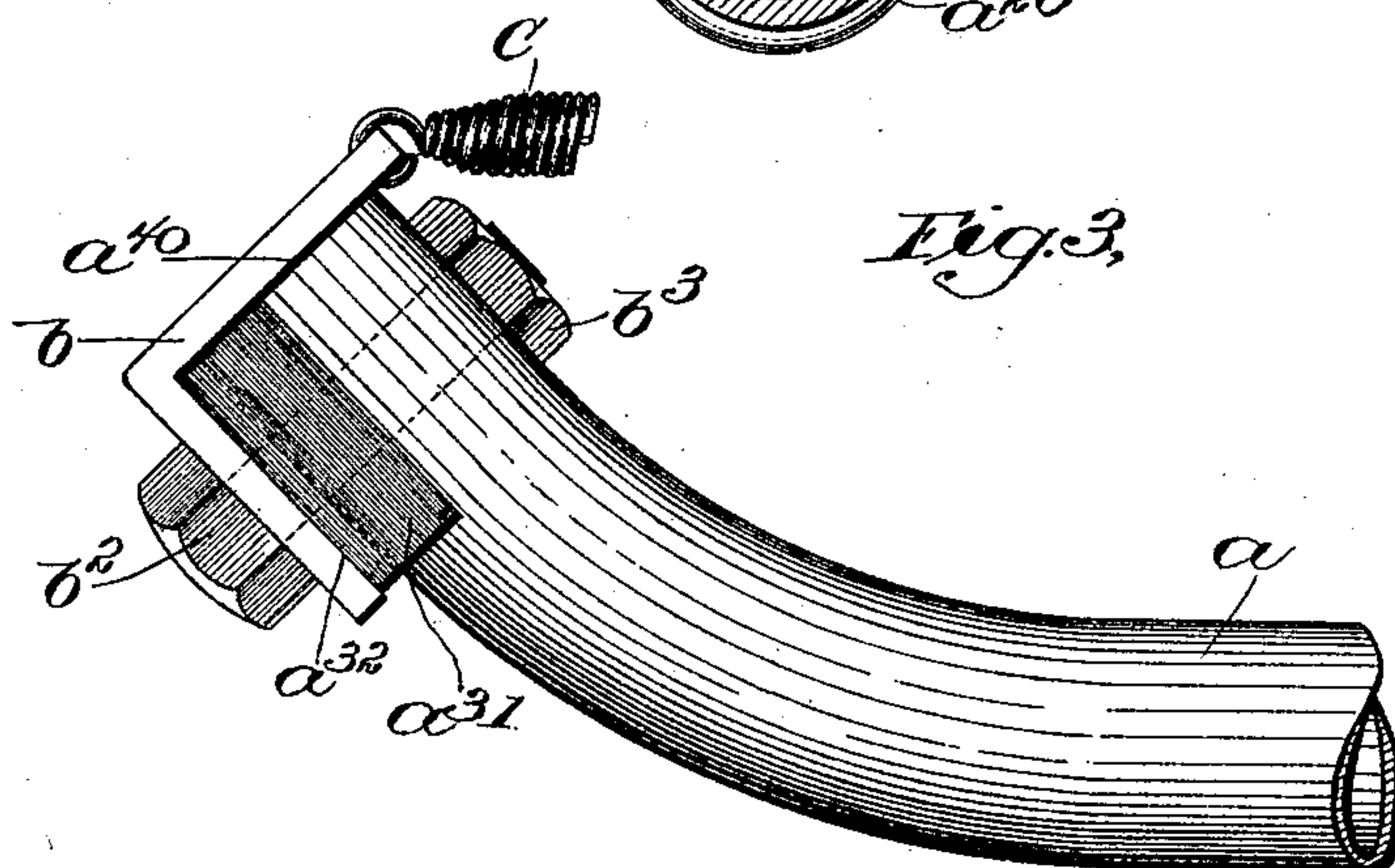
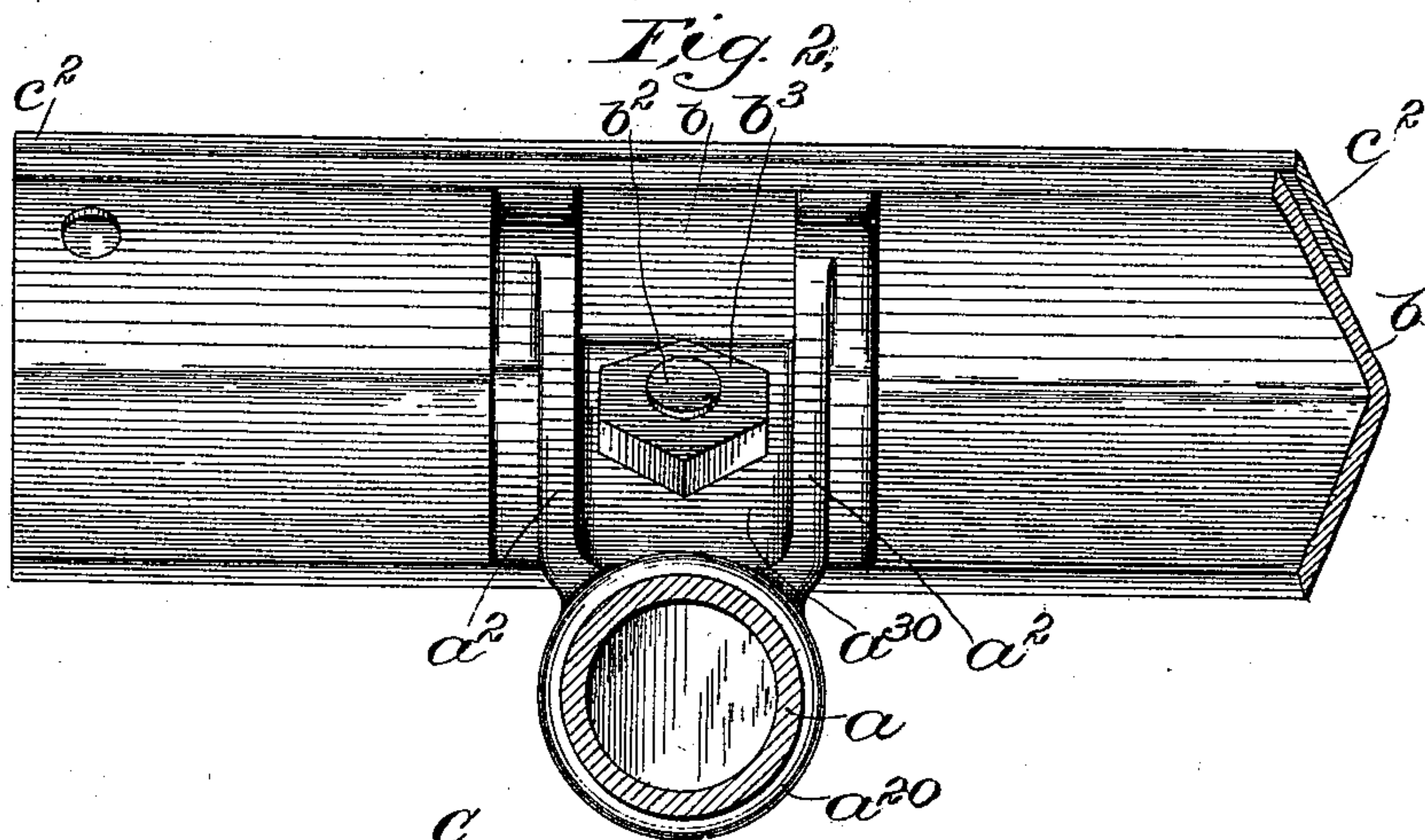
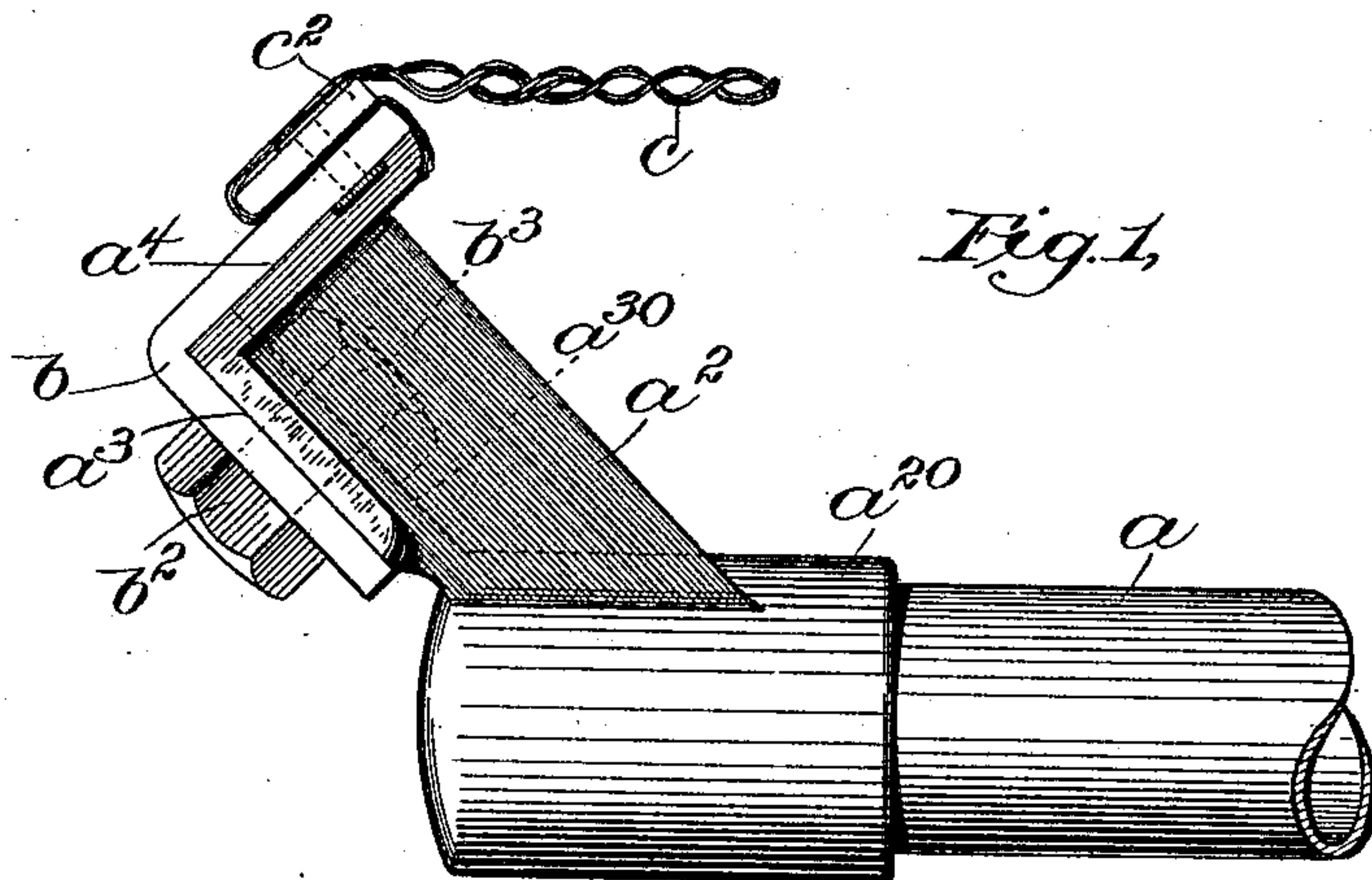
No. 636,734.

Patented Nov. 7, 1899.

G. BROWN.
BED SPRING.

(Application filed Nov. 1, 1897.)

(No Model.)



Witnesses
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UNITED STATES PATENT OFFICE.

GEORGE BROWN, OF BOSTON, MASSACHUSETTS.

BED-SPRING.

SPECIFICATION forming part of Letters Patent No. 636,734, dated November 7, 1899.

Application filed November 1, 1897. Serial No. 657,058. (No model.)

To all whom it may concern:

Be it known that I, GEORGE BROWN, of Boston, county of Suffolk, and State of Massachusetts, have invented an Improvement in Bed-Springs, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

The present invention relates to a bed-spring and is embodied in a novel construction and arrangement of the supporting-frame for the spring proper, whereby greater strength is secured without increasing the weight or bulk, while the spring itself may be securely fastened when stretched to the necessary tension without being liable to tear away. Furthermore, the fastening bolts or screws for connecting together the several parts do not protrude so as to interfere with the wire spring or to catch and tear the bed-clothes.

In accordance with the invention the "angle-iron," as it is called, which extends across the end of the bed between the two side members to secure the said side members together, is connected with the said side members in such a manner that the apex of the angle points in a direction substantially parallel to the axis of the side members, the said angle-iron being above the side members, so that the spring, which is secured at its ends to the angle-iron, is suspended between the angle-irons at the opposite ends of the bed. By arranging the angle-iron, as stated, with its apex pointing in the direction of the axis of the side members the wire fabric of which the spring is commonly made can be securely fastened by means of a strip of metal overlying the same and much lighter fabric can be employed than in the metallic bed-spring frames heretofore constructed. Moreover, the fastening devices or bolts for securing the said parts together may be passed through the lower portion of the angle-iron, so that the heads thereof or projecting portions do not extend beyond the apex of the angle-iron, but lie wholly below the same, so that they do not protrude beyond the outer boundary of the bed-spring as a whole, while the spring proper, which is secured to the angle-iron along the top edge thereof, is suspended above

the other ends of said fastening devices, which are thus wholly out of the way.

Figure 1 is a side elevation of a portion of a bed-spring embodying the invention; Fig. 2, a sectional elevation looking toward the left of Fig. 1, the side member being shown in section; and Fig. 3 is a side elevation showing a modification.

The side members *a* of the frame for the spring are herein shown as tubes of metal, there being of course one of said tubes for each side of the frame, although but one is herein shown to illustrate the invention. The end members of the frame consist of the angle-irons *b*, extending transversely across from one side member to the other, one at each end of the frame, to afford a support for the spring *c*, which may be of any suitable construction and is connected to the upper edges of the angle-irons and suspended between them, being disconnected from the frame along the sides thereof after the usual manner of construction.

In accordance with the present invention the apex of the angle-iron *b* projects in a direction parallel to the axis of the side member *a*, the said side member having at its end an upward extension *a*², having supporting-surfaces *a*³ *a*⁴ to fit and conform to the angle-iron, which, as shown in Fig. 2, projects laterally somewhat beyond the side members, so that the spring *c* will completely cover the frame. When these springs are used in conjunction with iron bedsteads, they are supported upon the side bars of the bedstead, and the projecting ends of the angle-irons rest thereon, and the side members of the spring-frame extend along parallel to the inner side of the side bars of the bedstead. The upward extension *a*² may be formed in any suitable or usual way, it being essential only that the surfaces *a*³ and *a*⁴ should be at such an angle to each other as to fit and support the angle-iron with its apex projecting in a direction parallel to the axis of the members *a*. As shown in Figs. 1 and 2, the said upward projection is formed in a separate piece having a socket *a*²⁰, adapted to receive the end of the side member *a*, the said socket having formed integral therewith the wings which constitute the upward projection and are indicated by

the letter a^2 in Figs. 1 and 2, the said wings having the surface a^3 formed along their side edges and the surface a^4 formed along their ends, as best shown in Fig. 1. The angle-iron is secured to the upward extension by means of bolts b^2 and nuts b^3 , the said bolts extending through suitable openings in the lower face of the angle-iron and through openings in the lower corresponding surface of the upward projection from the side member a , so that the projecting portions of said bolts lie wholly within the outer end of the frame, being, as shown, below the apex of the angle-iron, so that the bed-spring as a whole is uniform on all sides, being bounded by the apices of the angle-irons at its ends and by the side edges of the spring c at its sides.

In the construction shown in Fig. 1 the wings a^2 are shown as connected together by a web a^{30} , upon the outside of which is formed the surface a^3 , the fastening-bolt b^2 extending through the said web, as shown, the protruding portion thereof above the angle-iron being inclosed between the wings a^2 .

The specific construction of the upward-projecting portion of the side members may obviously be modified without departing from the invention, and, as shown in Fig. 3, the said upward projection is formed integral with the side member, which is curved upward, as shown, to a position in which the apex of the angle formed between its end and its lower surface projects in a direction substantially parallel to the axis of the tube, along the straight portion thereof. The upper wing of the angle-iron will thus rest upon the surface a^{40} , (in this instance the surface of the end of the tube a ,) while the lower member is supported by the side of the tube a , which, as stated, is at the proper angle to the end.

To firmly hold the angle-iron in position, the tube a may be flattened, or, as herein shown, a block a^{31} , having a surface adapted to conform to the side of the tube and an opposite flattened surface a^{32} , may be interposed between the tube and the lower wing of the angle-iron, the fastening-bolt b^2 extending through the angle-iron and block a^{31} and the tube a , the nut b^3 engaging the upper surface of the said tube.

The wire spring c , which is preferably the ordinary woven-wire spring, may be securely held in position by means of a bar c^2 , extending along the angle-iron and riveted or otherwise secured thereto, the spring c being drawn over the upper edge of said bar and then around and between it and the surface of the angle-iron, the lower edge then being turned under the angle-iron, where it is out of the way. This mode of securing the wire spring to the frame is of advantage, since the spring is much less likely to pull out of place than in the constructions heretofore used, and this method of fastening is rendered practicable

by the novel arrangement of the angle-iron in accordance with this invention, since the slope of the surface is such that the fabric instead of tending to pull up the strip tends to hold it against the iron. Furthermore, the part of the spring which is bent around the edge of the angle-iron grips the said iron in such a way as to practically prevent the fabric from pulling out, and the necessary tension can be obtained with a much lighter fabric than has been commonly used, thus not only saving expense, but also making a lighter spring.

Where a bed-spring connected by coil-springs, as indicated at C, Fig. 3, is used, the said coil-springs may be hooked, as indicated, through openings along the edge of the angle-iron.

Bed-springs constructed in accordance with the invention are found to be more durable and less likely to become misshapen or bent than those heretofore constructed and at the same time are neat in appearance and free from protruding fastening devices or loose ends of the wire spring, such as are liable to become encountered in the bed-springs which have been heretofore commonly used.

I claim—

1. A bed-spring or wire mattress having a metallic frame the side members of which are provided with upwardly-projecting portions at their ends; transverse members connecting the upwardly-projecting portions of the side members and consisting of angle-irons secured to said side members and having the apex of the angle pointing in a direction substantially parallel with the main portions of the side members; and a spring secured to the upper portions of said angle-irons, substantially as described.

2. A bed-spring or wire mattress having a metallic frame the side members of which are provided with upwardly-projecting portions at their ends; transverse members connecting the upwardly-projecting portions of the side members and consisting of angle-irons secured to said side members and having the apex of the angle pointing in a direction substantially parallel with the main portions of the side members; a fastening-strip for the spring adapted to be secured to the upper side of the angle-iron; and a woven-fabric spring stretched from one angle-iron to the other and passing around under said strip and being thereby fastened to said angle-iron, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GEORGE BROWN.

Witnesses:

H. J. LIVERMORE,
NANCY P. FORD.