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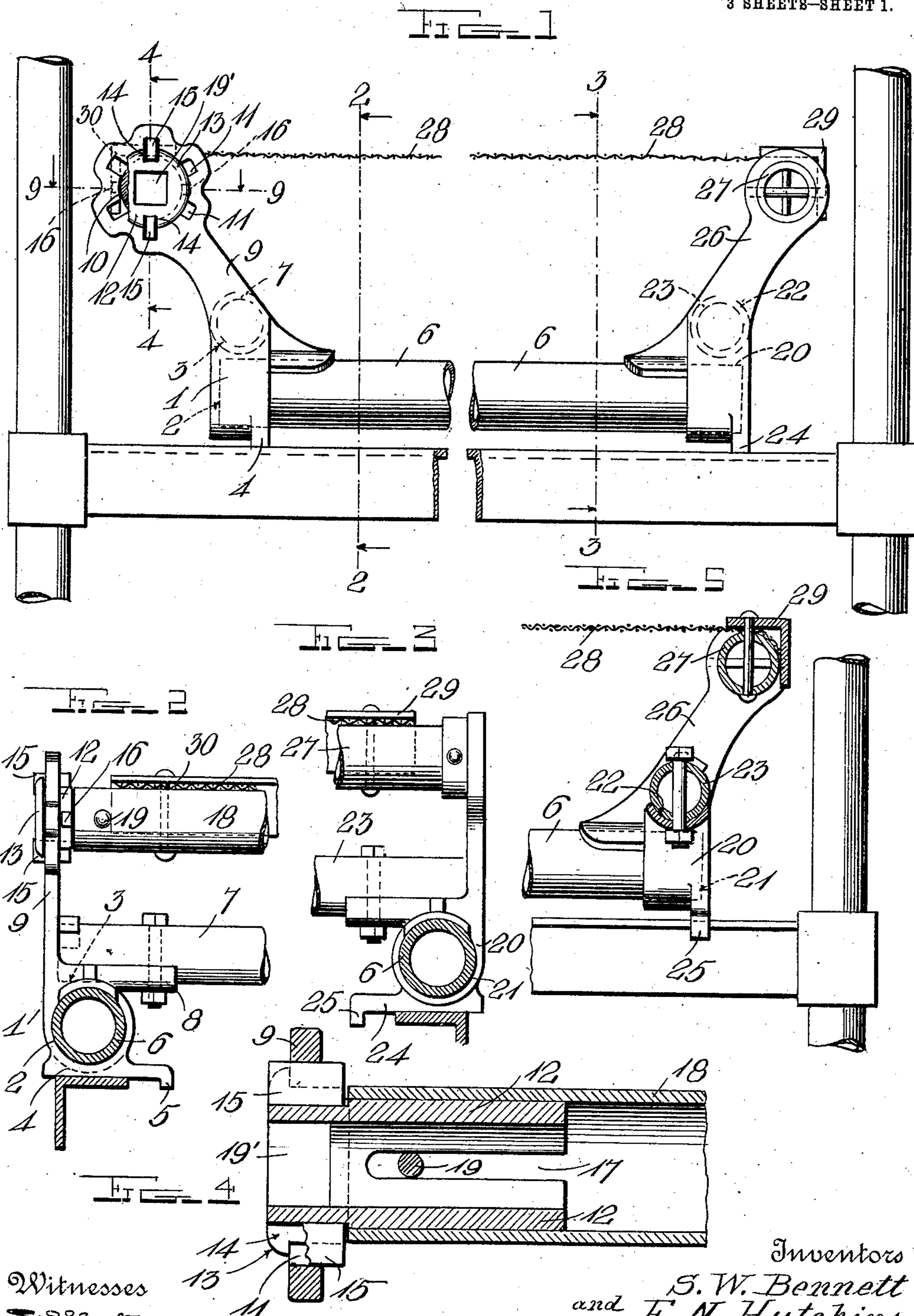
BED SPRING TIGHTENER.

APPLICATION FILED MAY 6, 1909.

985,130.

Patented Feb. 28, 1911.

3 SHEETS—SHEET 1.



Witnesses  
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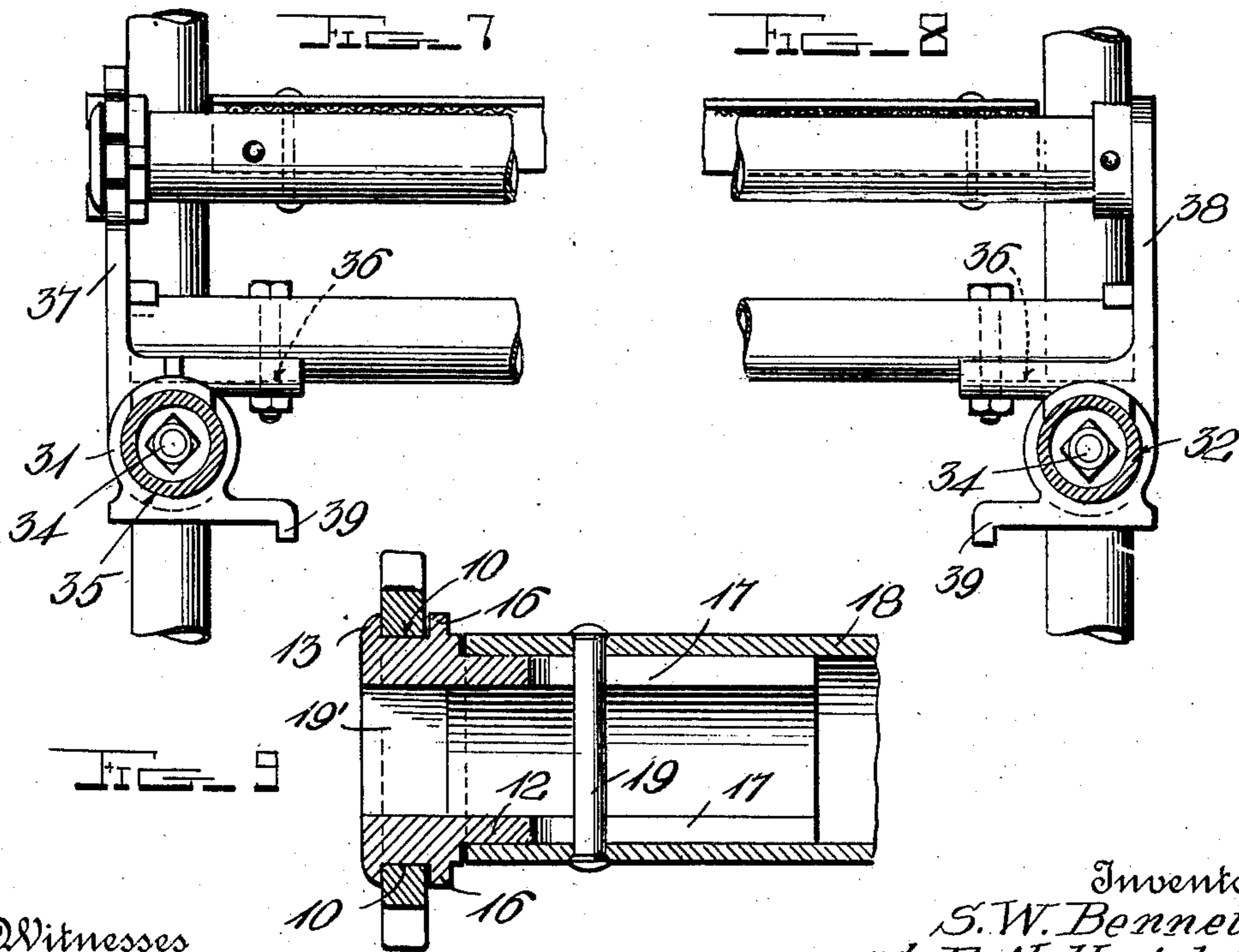
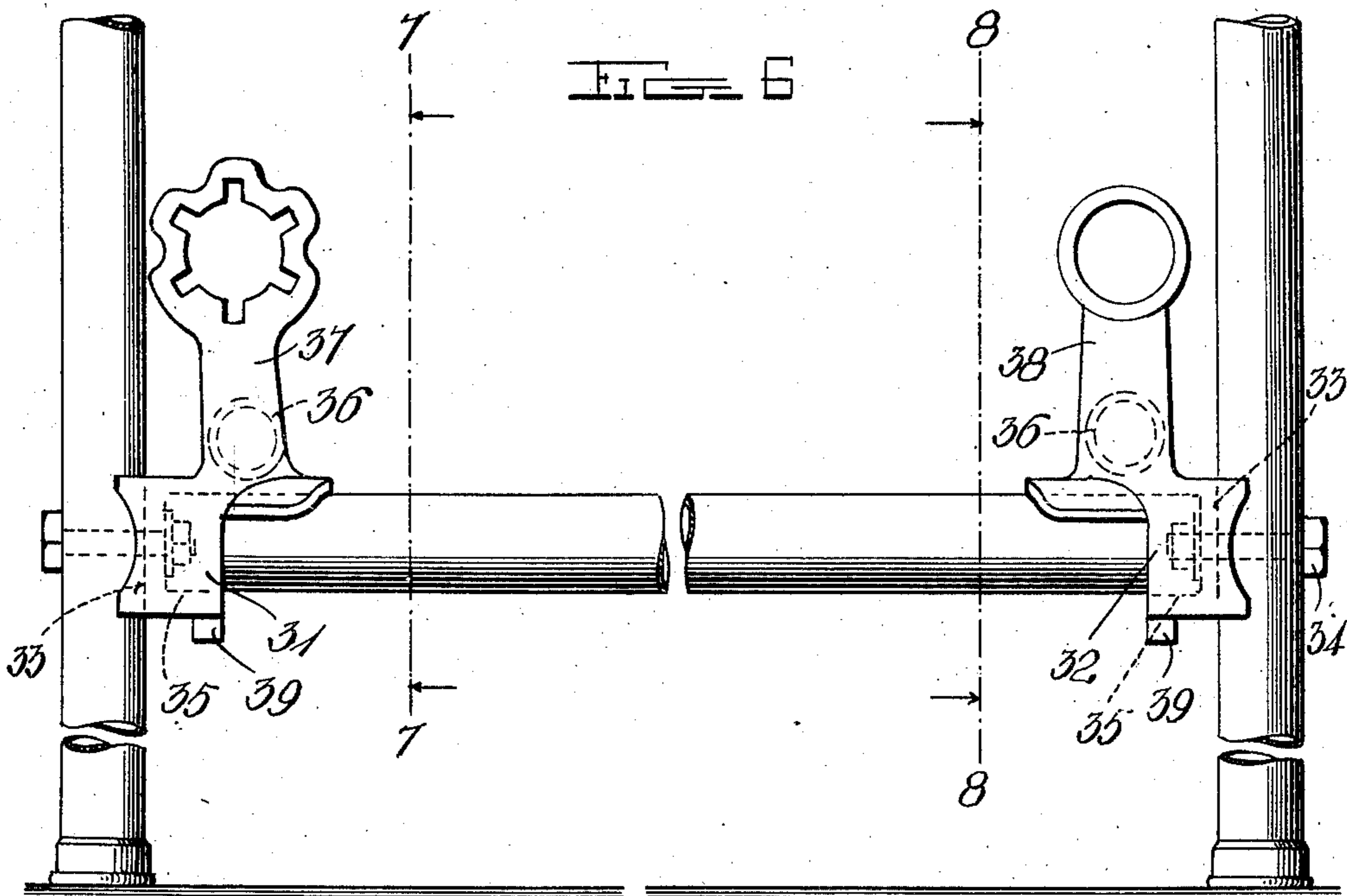
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3 SHEETS—SHEET 2.



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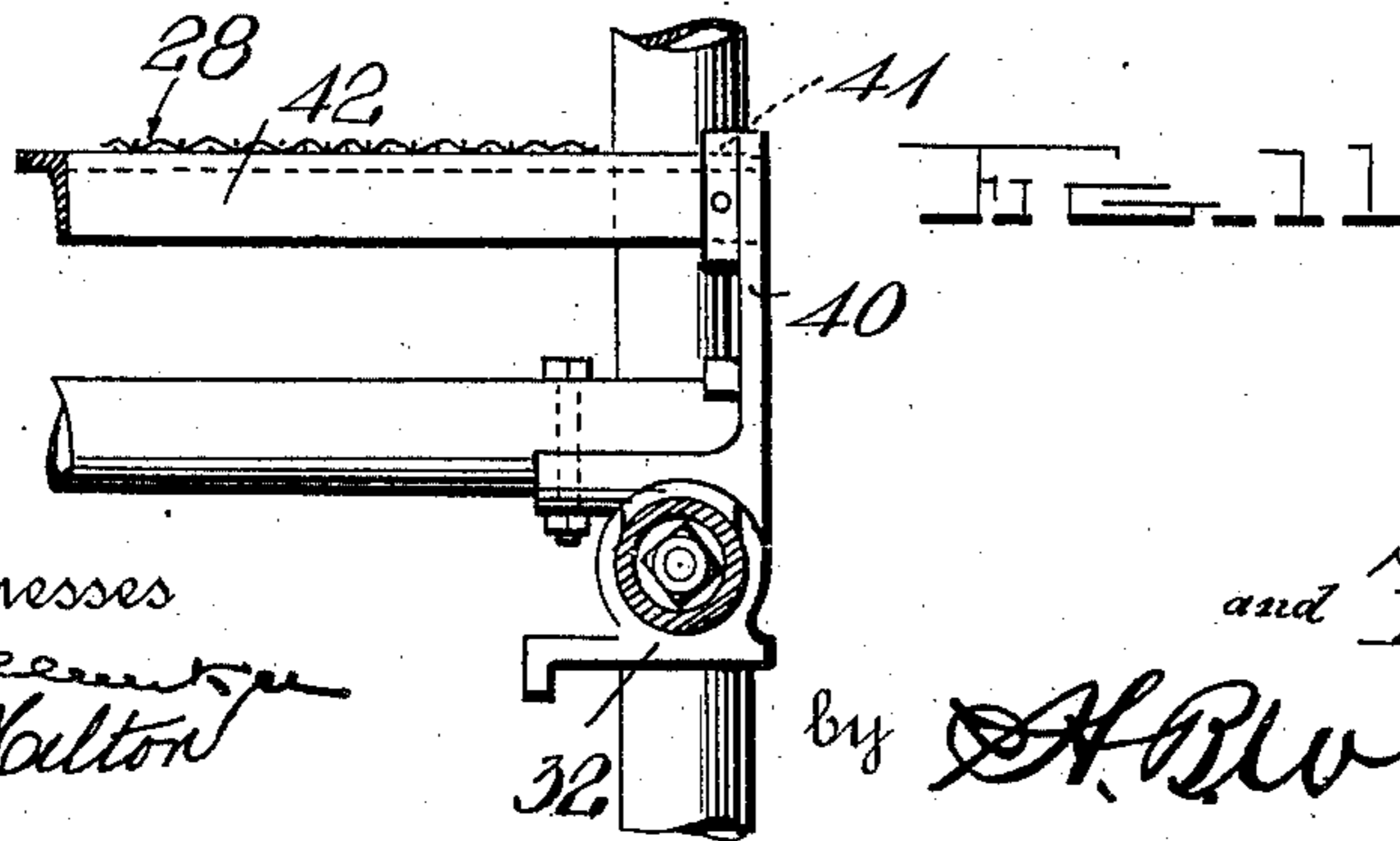
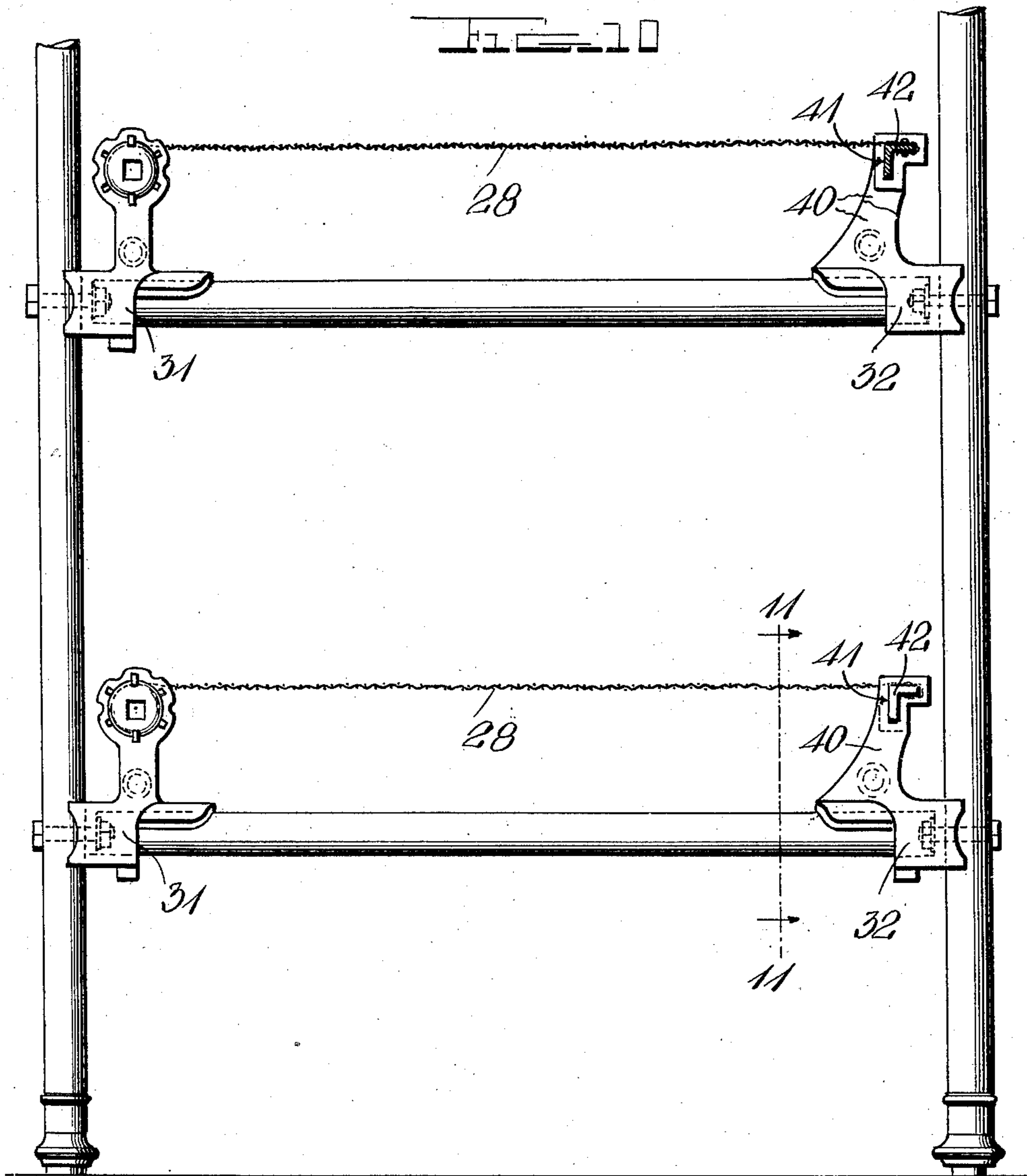
BED SPRING TIGHTENER.

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985,130.

Patented Feb. 28, 1911.

3 SHEETS—SHEET 3.



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# UNITED STATES PATENT OFFICE.

SILAS W. BENNETT AND ELMER N. HUTCHINS, OF SOMERVILLE, MASSACHUSETTS.

BED-SPRING TIGHTENER.

985,130.

Specification of Letters Patent.

Patented Feb. 28, 1911.

Application filed May 6, 1909. Serial No. 494,281.

*To all whom it may concern:*

Be it known that we, SILAS W. BENNETT and ELMER N. HUTCHINS, citizens of the United States, residing at Somerville, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Bed-Spring Tighteners; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in bed spring tighteners.

The object of the invention is to provide an improved construction of bed spring supporting and tightening devices and means whereby said devices are held in position and engaged with the rails or corner posts of a bedstead.

A further object is to provide a spring supporting and tightening mechanism adapted to form part of a bedstead or couch frame.

With the foregoing and other objects in view, the invention consists of certain novel features of construction, combination and arrangement of parts, as will be more fully described and particularly pointed out in the appended claim.

In the accompanying drawings, Figure 1 is a side view of a spring holding and tightening mechanism constructed in accordance with the invention and showing the same applied to a bedstead; Fig. 2 is a sectional view on the line 2—2 of Fig. 1; Fig. 3 is a detail view of the castings at one side of the foot end of the bed, taken at right angles to and on the line 3—3 of Fig. 1; Fig. 4 is a detail sectional view on line 4—4 of Fig. 1; Fig. 5 is a detail sectional view through the spring holding and fastening bars at the foot end of the bed, showing an inner side view of one of the foot castings; Fig. 6 is a side view, with parts removed of a modified form of the invention, wherein the spring holding and tightening frame forms part of a bedstead or couch; Fig. 7 is a vertical sectional view on the line 7—7 of Fig. 6; with the parts in place. Fig. 8 is a similar view on the line 8—8 of Fig. 6; Fig. 9 is a horizontal sectional view through one of the head castings shown in Fig. 1 and the parts attached thereto. Fig. 10 is a side view of the form of the invention shown in

Fig. 6 illustrating the manner in which the invention may be employed to form a series of beds one above the other. Fig. 11 is a sectional view of one of the beds shown in this figure taken on line 11—11 of Fig. 10.

In the embodiment of the invention, we provide a frame comprising head castings 1 having formed therein sockets 2 and 3 which are arranged at right angles to each other, as shown. On the castings 1 is also formed a base flange 4 adapted to engage or rest on the side rails of the bedstead, said base flange 4 having on its inner end a stop lug 5 to prevent the frame from slipping off of the side rails of the bedstead. The sockets 2 are adapted to receive the tubular side bars 6 of the frame, while the sockets 3 are adapted to receive the ends of tubular cross bars 7 which connect the two head castings together. The castings 1 are further provided with laterally extending brackets 8 which form a continuation of the sockets 3 and to said brackets 8 are bolted or otherwise suitably secured the opposite ends of the tubular cross bars 7. The castings 1 are also provided with upwardly and outwardly projecting roll supporting brackets 9 in which are formed annular bearing apertures 10 and a series of radially projecting notches 11 which communicate with the bearing apertures 10, as shown. In the bearing apertures 10 are revolubly mounted short roll supporting and winding shafts or trunnions 12 which are provided with flanged heads 13, said heads having formed therein oppositely disposed notches 14 which are adapted to be brought into alinement with the notches 11 in the brackets 9 and into the alined notches 11 and 14 are inserted keys 15, by means of which the shafts or trunnions are held against rotation in the bearings 10. The heads 13 are also provided with retaining lugs 16 which, when the trunnions are engaged with the bearings 10, are passed through one of the notches 11 and engage the inner sides of the brackets 9, thus holding the trunnions or shafts 12 in operative engagement with the brackets. In the inner portion of the trunnions or shafts 12 are formed oppositely disposed slots 17. The inner ends of the trunnions or shafts 12 are adapted to be inserted into the opposite ends of a spring tightening roll 18 through which, near its opposite ends are arranged bolts or pins 19 with which the slots 17 in the ends

of the trunnions are engaged, thereby locking the roll against rotation on the inner ends of the trunnions. In the outer ends of the short shafts or trunnions 12 are formed square sockets 19' to receive the end of an operating crank or wrench whereby the tightening roll is revolved in the bearing brackets 9.

The rear ends of the side bars 6 are supported in foot castings 20 which are provided with sockets 21 to receive said ends of the side bars. The castings 20 are also provided on their inner sides with sockets 22 which are arranged at right angles to the sockets 21 and have secured therein the foot cross bars 23 of the frame. The castings 20 are provided with base or rail engaging flanges 24 on the inner ends of which are formed stop lugs 25 to prevent the frame from slipping off of the side rails of the bedstead. On the castings 20 are formed upwardly and rearwardly projecting brackets 26, on the upper ends of which are formed sockets to receive the ends of a tubular spring holding bar 27 to which the foot end of the spring 28 is secured. The end of the spring is preferably secured to the holding bar 27 by means of an angle iron bar 29 which is bolted or otherwise secured to the bar, as shown. The head end of the spring 28 is preferably secured to the tightening roll 18 by an angle iron fastening bar 30 which is bolted or otherwise secured to the roll, as shown. The angle iron bars 29 also serve to brace the bar 27 and the roll 18 so that said roll and bar may resist the strain of the spring when stretched by the tightening mechanism, hereinbefore described.

In Figs. 6, 7 and 8 of the drawings are shown slightly modified forms of the frame supporting castings. The head castings 31 and foot castings 32, as shown in the last mentioned figures, are provided on one end with a post engaging recess 33 which is adapted to fit around the corner posts or legs of the bedstead and are bolted to said posts or legs by bolts 34 which are inserted through the posts or legs and through apertures in the ends of the castings, as shown. The castings 31 and 32 are provided with sockets 35 and 36 which correspond with the sockets in the castings shown in the first figures of the drawings and are adapted to receive the ends of the side bars 6 and cross bars at the head and foot ends of the frame. The head castings 31 are provided with roll supporting brackets 37 which correspond to the brackets 9 shown in the first figures of the drawings, except that the brackets 37 project directly upwardly from the castings or are in a vertical position. The brackets 37 are provided with bearing recesses to receive the spring tightening roll and its operating and locking mechanism which is the same as that

shown in Figs. 1 and 2 of the drawings. The foot castings 32 are provided with brackets 38 which receive and support the spring holding bar at the foot end of the frame, the same as described in connection with the first figures of the drawings.

The spring frame shown in Figs. 6, 7 and 8 is adapted to form a part of the bedstead and by the use of the same, the side and end rails of the bedstead are dispensed with. The castings 31 and 32 are also provided with rail engaging flanges 39 by means of which this form of frame may be employed simply as a spring support and may be engaged with the side rails of the bedstead.

It will be obvious that the form of the frame shown in Figs. 6, 7 and 8 may be employed as a part of a couch frame, as well as a part of a bedstead and that the frame may be supported by legs to which the castings 31 and 32 are bolted in the same manner as they are bolted to the corner posts of the bedstead. The side end bars of the frame, as well as the spring holding bar and winding roll are preferably tubular in form, as shown.

In Fig. 10 of the drawings the device is shown as arranged to form a series of beds one above the other, the form of castings 31 and 32 shown in Fig. 6 being employed in connection with this arrangement of the device, except that the brackets 40 of the foot castings 32 which correspond with the brackets 38 of Figs. 6, 7 and 8 are provided with angular sockets 41 to receive an angle iron spring holding bar 42 to which the foot end of the spring is attached. In this form of the invention the spring fastening bars 29 and 30 are omitted from the head and foot spring holding bars and the ends of the spring secured direct by the holding bars in any suitable manner.

From the foregoing description, taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of the invention, as defined in the appended claim.

Having thus described our invention, what we claim is:

A bed spring tightener comprising head and foot castings, each having side and end bar receiving sockets arranged at right angles to each other, roll supporting brackets projecting upwardly from said head castings and having annular bearing apertures therein, roll supporting winding shafts revolvably mounted in said apertures, means for adjustably connecting said shafts to said brackets, the inner ends of said shafts being pro-

vided with oppositely disposed open slots, a  
spring tightening roll telescopically engaged  
with the ends of said shafts and having pins  
extending transversely through said roll and  
5 engaging the slots in said shafts to lock the  
roll against rotation and means for revolving  
said shafts to tighten or loosen the spring.  
In testimony whereof we have hereunto

set our hands in presence of two subscribing  
witnesses.

SILAS W. BENNETT.  
ELMER N. HUTCHINS.

Witnesses:

RUSSELL W. McMILLAN,  
ANNA F. LEACH.

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,  
Washington, D. C."

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