

No. 671,807.

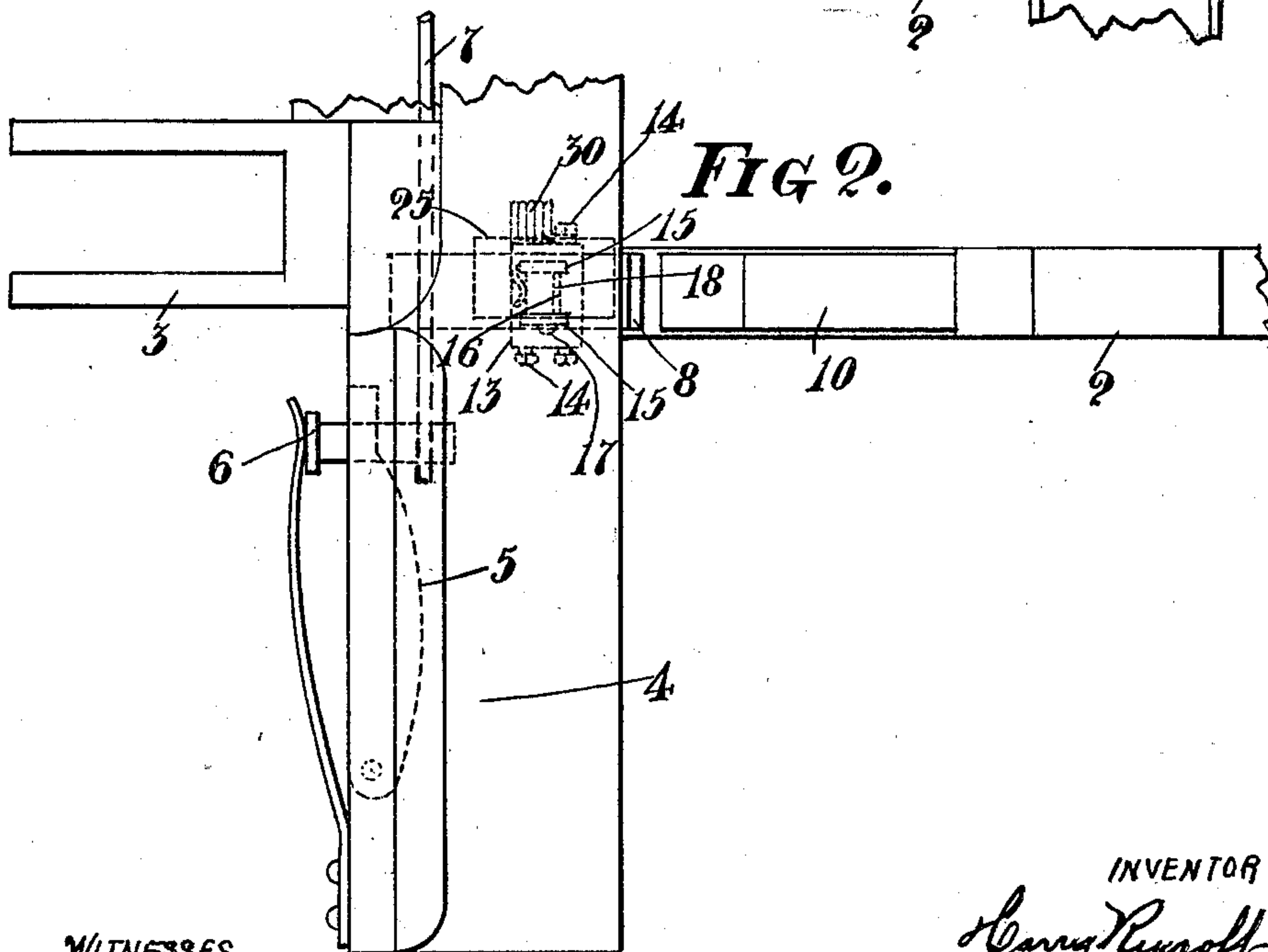
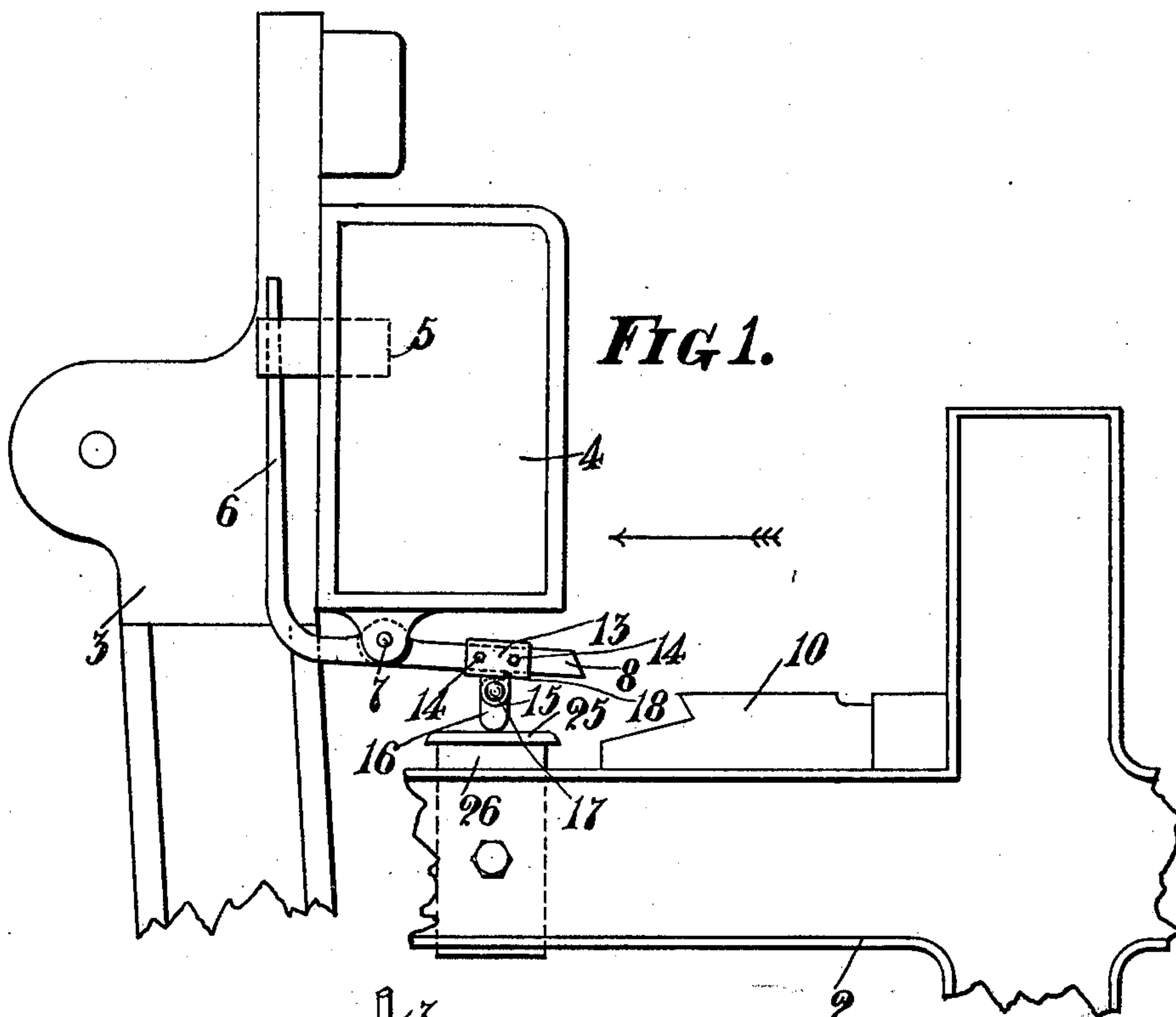
Patented Apr. 9, 1901.

H. RYCROFT.  
SHUTTLE EASING DEVICE FOR LOOMS.

(Application filed Jan. 30, 1901.)

(No Model.)

2 Sheets—Sheet 1.



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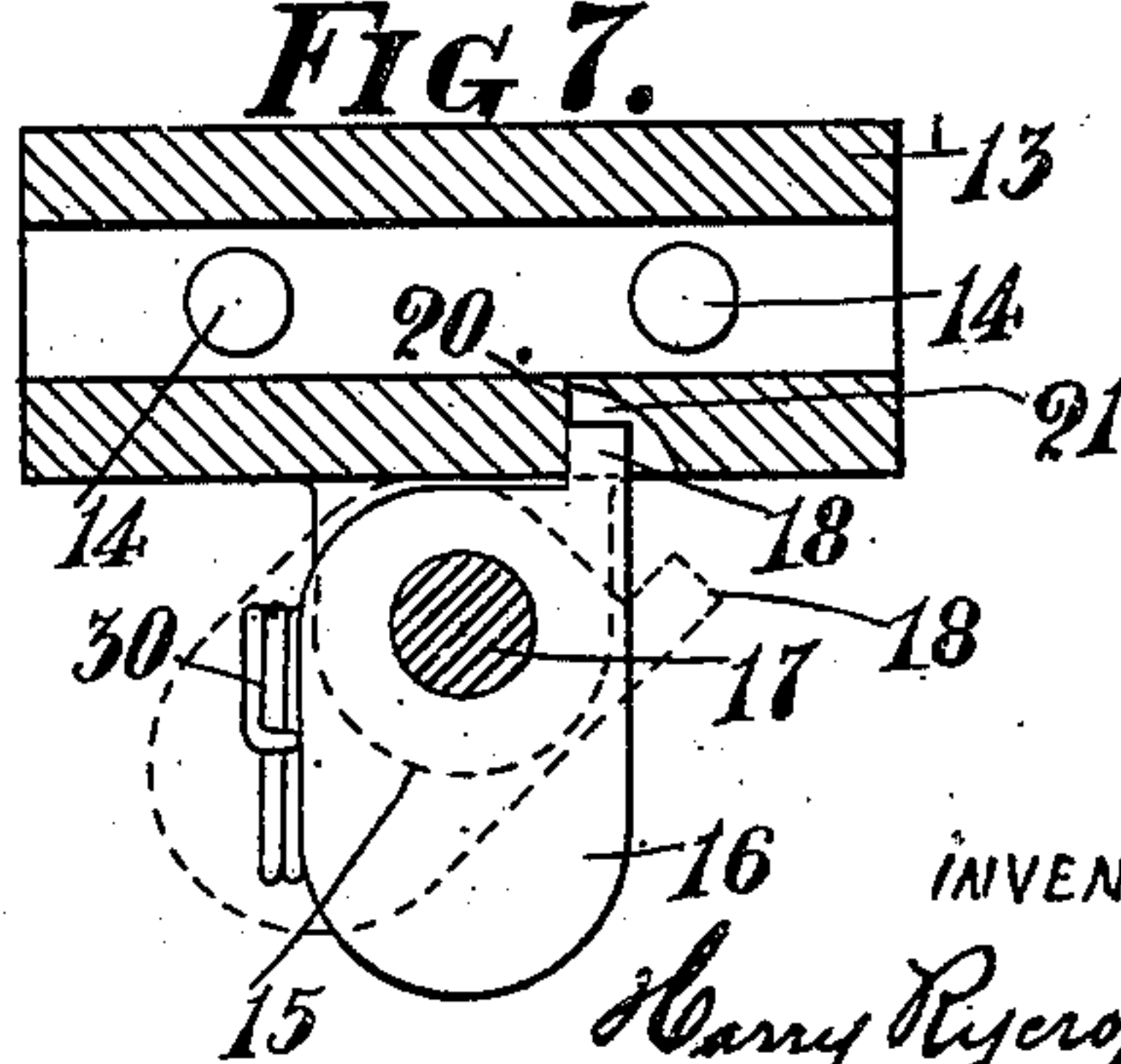
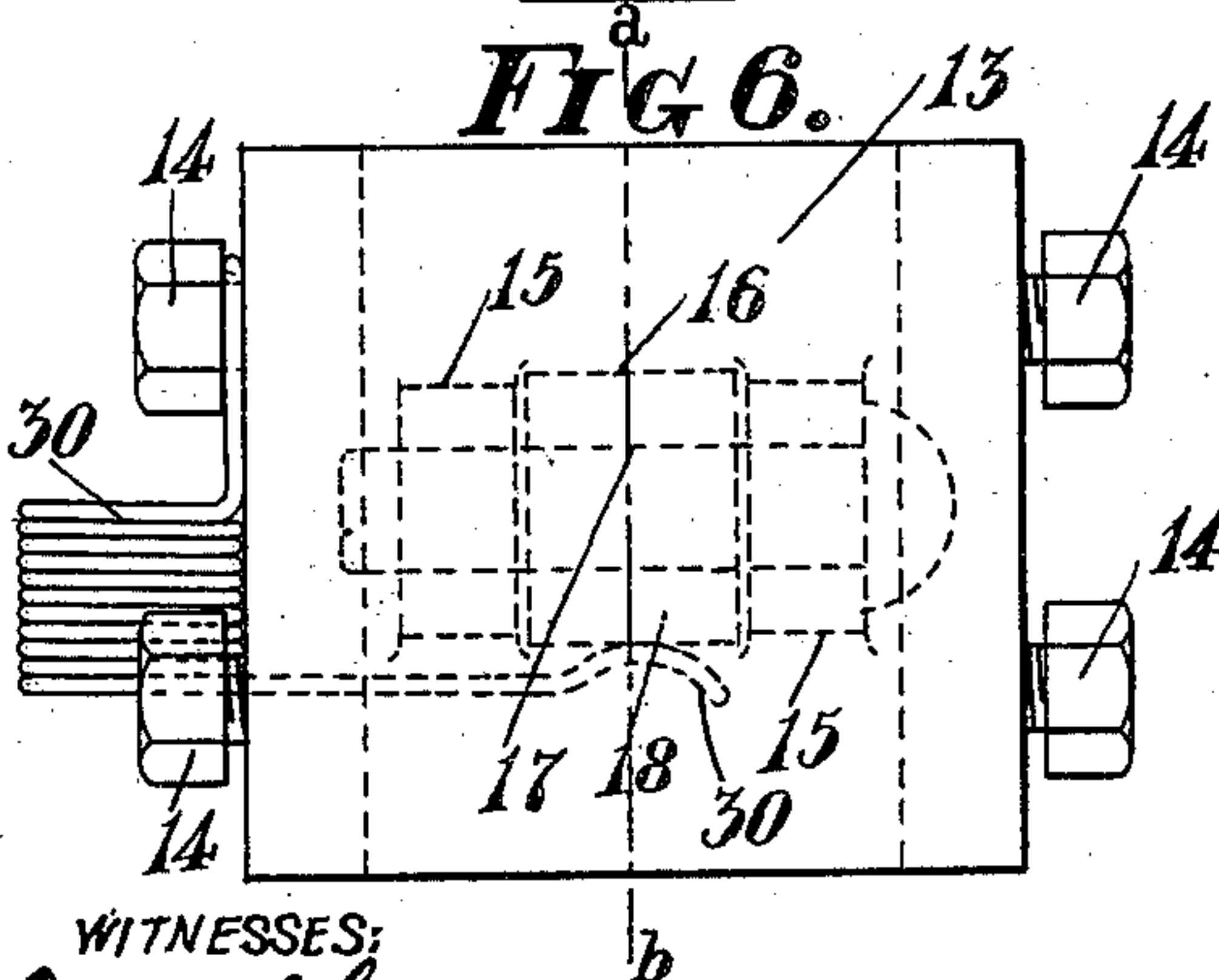
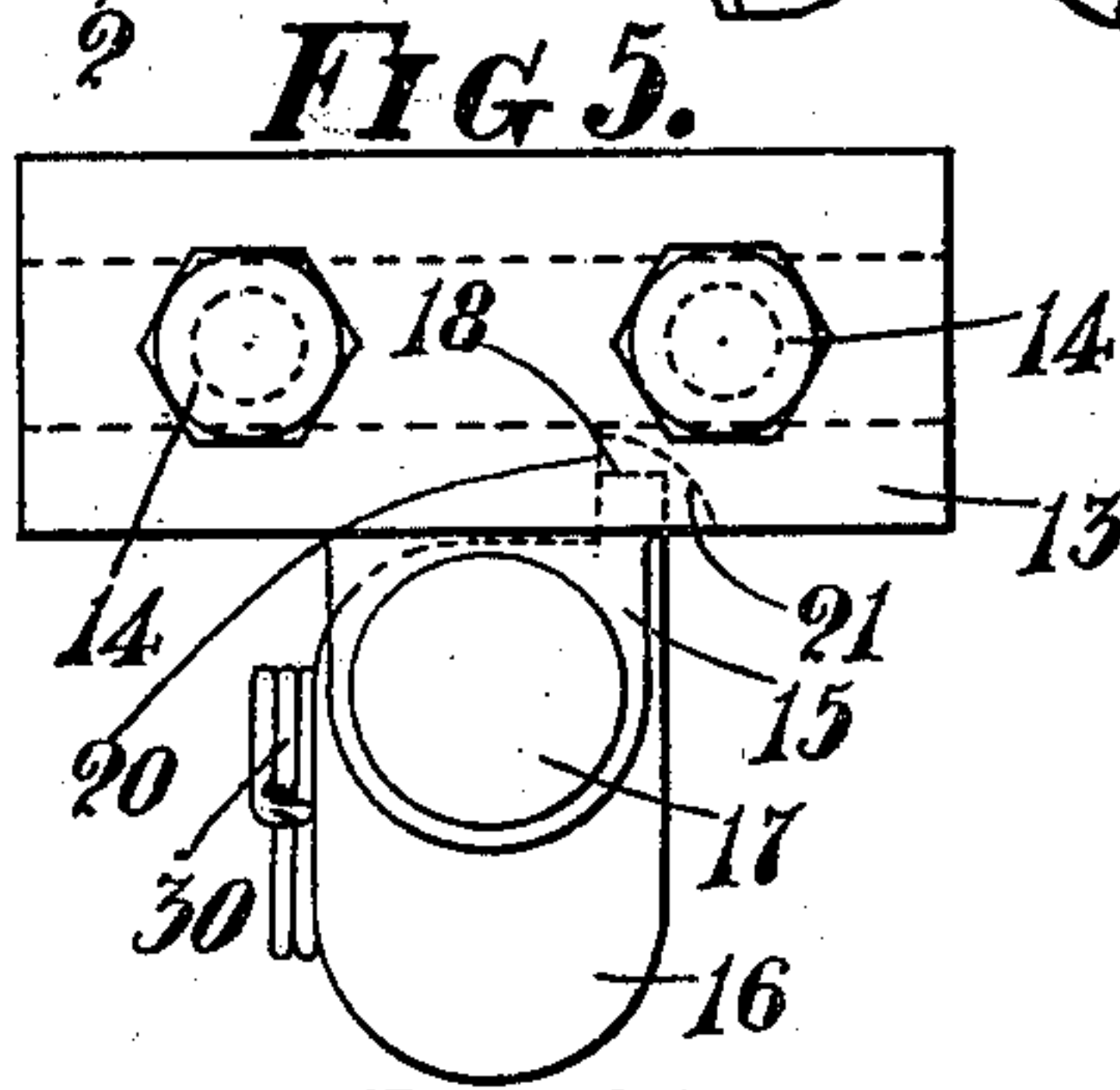
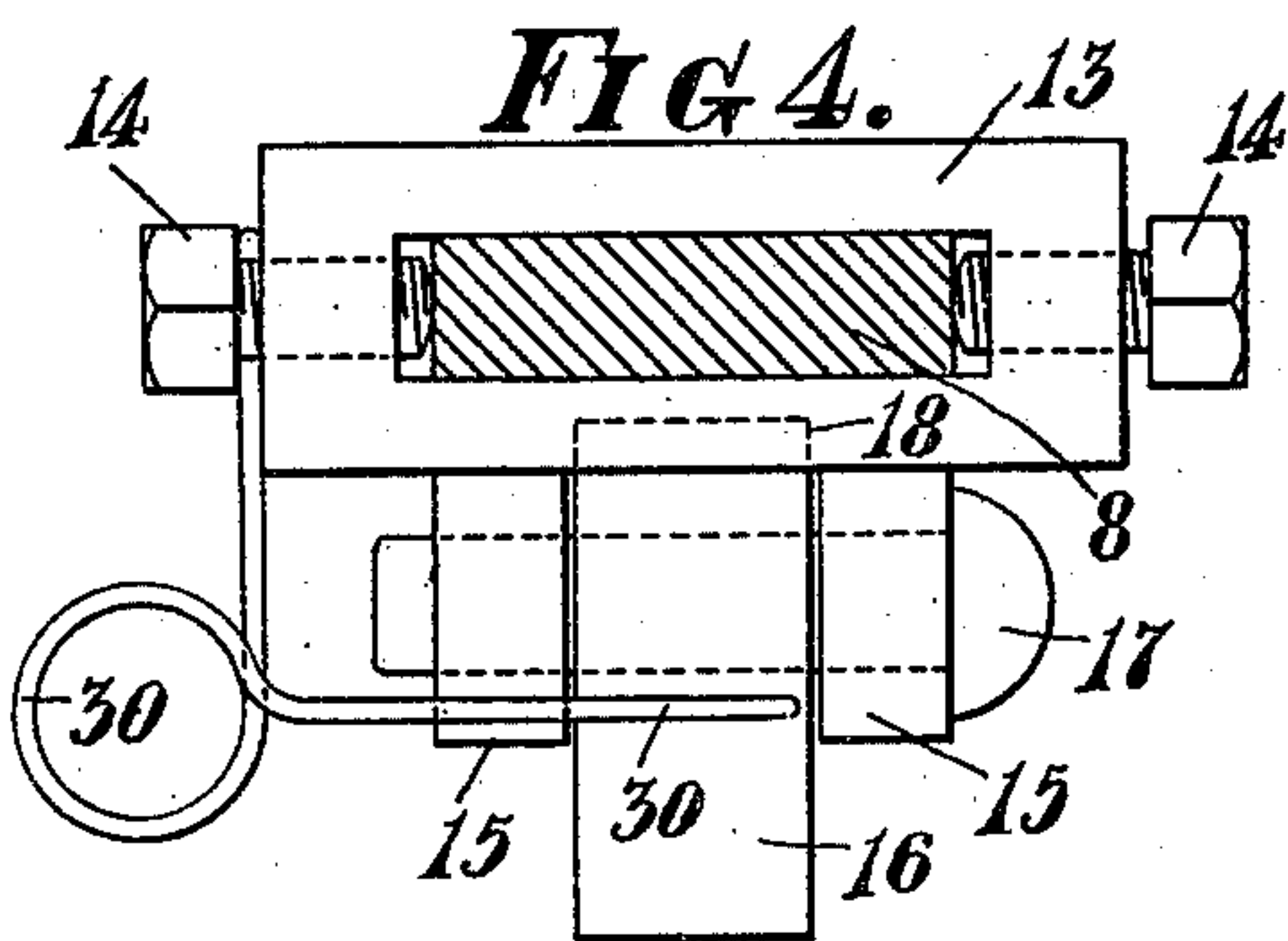
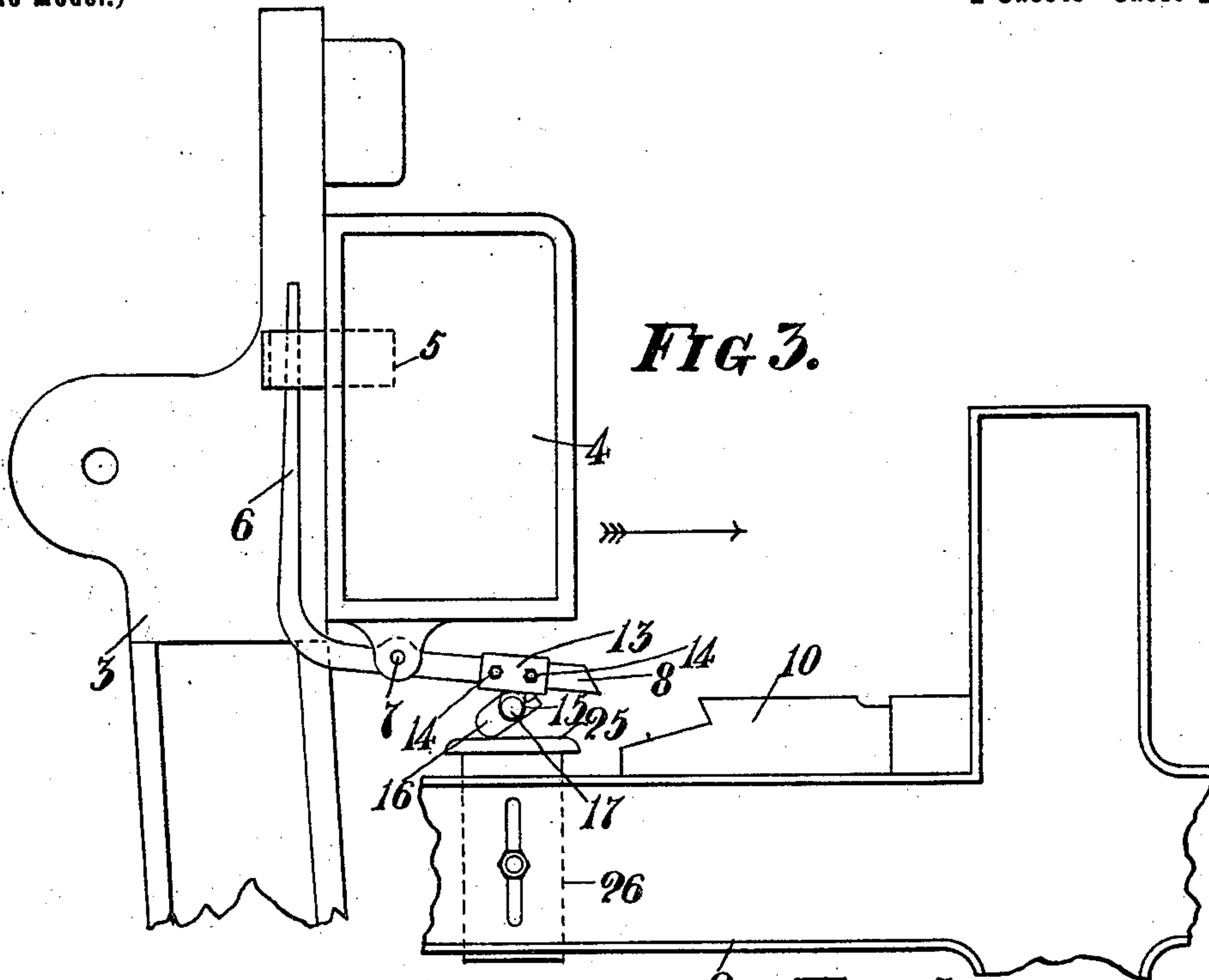
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2 Sheets—Sheet 2.



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# UNITED STATES PATENT OFFICE.

HARRY RYCROFT, OF BRADFORD, ENGLAND.

## SHUTTLE-EASING DEVICE FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 671,807, dated April 9, 1901.

Application filed January 30, 1901. Serial No. 45,354. (No model.)

*To all whom it may concern:*

Be it known that I, HARRY RYCROFT, a subject of the Queen of England, residing at Cross Lane Mills, Great Horton, Bradford, England, have invented certain new and useful Improvements in and Appertaining to Shuttle-Easing Devices for Looms, of which the following is a specification.

This invention relates to improvements in and appertaining to devices for relieving the pressure of the "swell" upon the back of the shuttle immediately before each pick is made. For this purpose I pivot a pendent piece to a lug on the under side of one of the stop-arms provided on the stop-rod to engage the "frogs" or stop-pieces of the usual stop-rod mechanism. The bottom of this pendent piece trails or rides to and fro over a plane or face fixed to the loom-frame, and the pendent piece is made with a knuckle-joint or is pivoted in such a way that when the going part is moved forward it is inclined and trails over the plane without lifting the stop-arm; but on the reverse movement of the going part the knuckle-joint prevents the said pendent piece from assuming an inclined position, and consequently it raises the stop-arm. The plane is of such a size and is so located that the stop-arm is only momentarily raised just as the pick is about to be made. A light spring may be used, tending to hold the pendent piece in position to raise the stop-arm.

To fully describe my invention reference is made to the accompanying sheet of drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in each of the views.

Figure 1 represents an end elevation of such parts of a loom as are necessary to illustrate my improvements. Fig. 2 is a plan view of the same. Fig. 3 is an end view similar to Fig. 1, but with the going part supposed to be moving forward—i. e., in the reverse direction to that in which it is supposed to be moving in Fig. 1. The arrows show the direction of motion referred to. Fig. 4 is a cross-section of the stop-rod tongue or arm, on a larger scale, with my improved attachment thereon. Fig. 5 is a separate side view, Fig. 6 a plan view, and Fig. 7 is a section on the broken line *a b*, Fig. 6, of such attachment.

The loom side frame 2, the going part 3, the shuttle-box 4, the swell 5, the stop-rod finger 6, the stop-rod 7, the stop-rod arm or tongue

8, and the frog or stop 10 are of any ordinary construction.

An attachment 13 is secured by the set-screws 14 upon the tongue 8, and a couple of lugs 15 project from its under side. The pendent piece 16 is pivoted by the pin 17 between the lugs 15, and the top of such pendent piece is provided with a projection 18, which abuts against the end 20 of the recess 21 in the under side of the attachment 13. This entirely prevents the pendent piece being swung on its pivot 17 in one direction, but leaves it free to be swung in the opposite direction in the manner shown by the broken lines in Fig. 7.

The plane or lifting face 25 is connected by its downwardly-projecting limb 26 to the end of frame 2 in such a position that while the pendent piece is moving over the plane in the direction shown by the arrow, Fig. 1, its lower end bears upon the plane and lifts the tongue 8 sufficiently to relieve the pressure of the swell upon the shuttle just before the pick is made. Before, however, the shuttle reaches the opposite box the movement of the going part is reversed, as usual, and the pendent piece 16 then immediately takes an inclined position, thus allowing the stop-rod tongue to assume any required position, the same as if such inclined piece and plane 25 were not present.

A light spring 30, secured to one of the set-screws 14, is provided to bear upon the pendent piece and tends to hold it in the position shown in full in Fig. 7.

Instead of mounting the attachment on the tongue 8 an arm may be provided upon the stop-rod especially for it.

I claim—

In combination in a loom, the shuttle-box, the swell therein, an arm connected to said swell, a block 13 threaded onto said arm and fixed thereto, said block having a shoulder 20 on its under side and pivot-ears, a pendent piece pivoted in said ears and having a projection 18 to engage the shoulder on the block, a spring for holding said pendent piece in position and a lifting-face 25, substantially as described.

In witness whereof I have hereunto set my hand in presence of two witnesses.

HARRY RYCROFT.

Witnesses:

DAVID NOWELL,  
SAMUEL DRACUP.