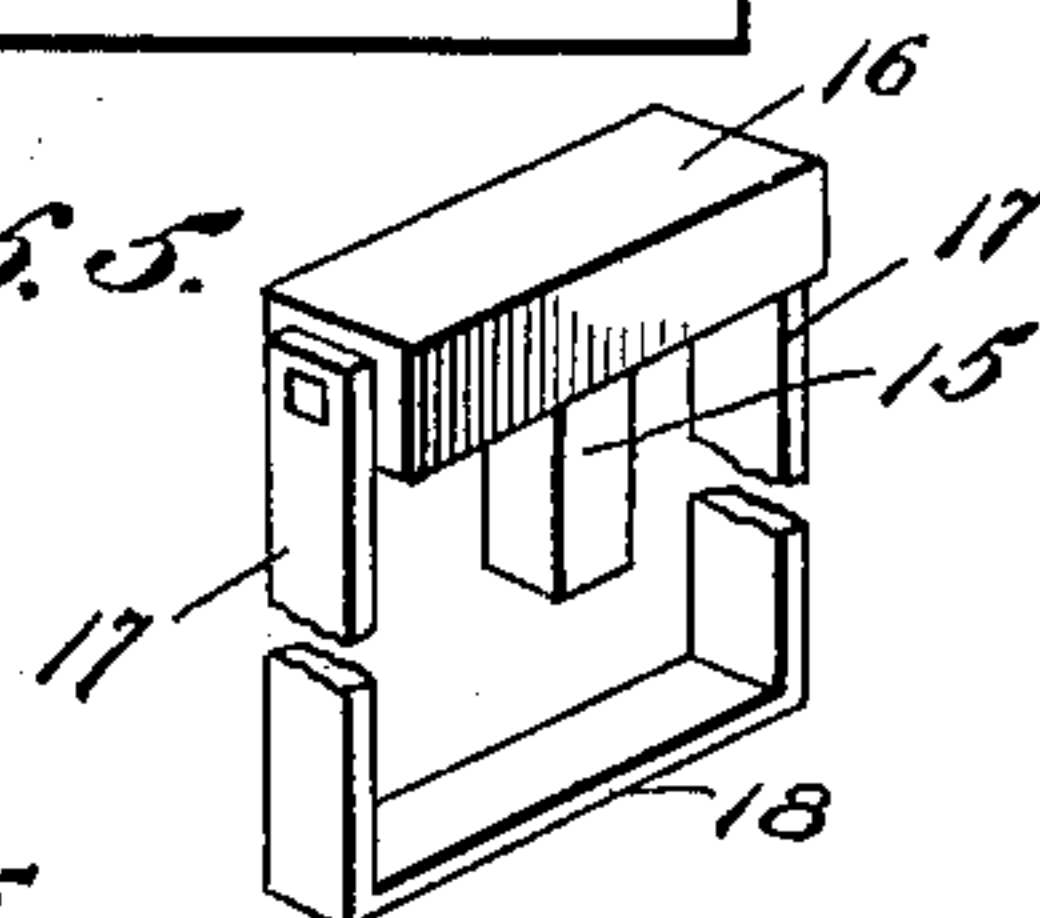
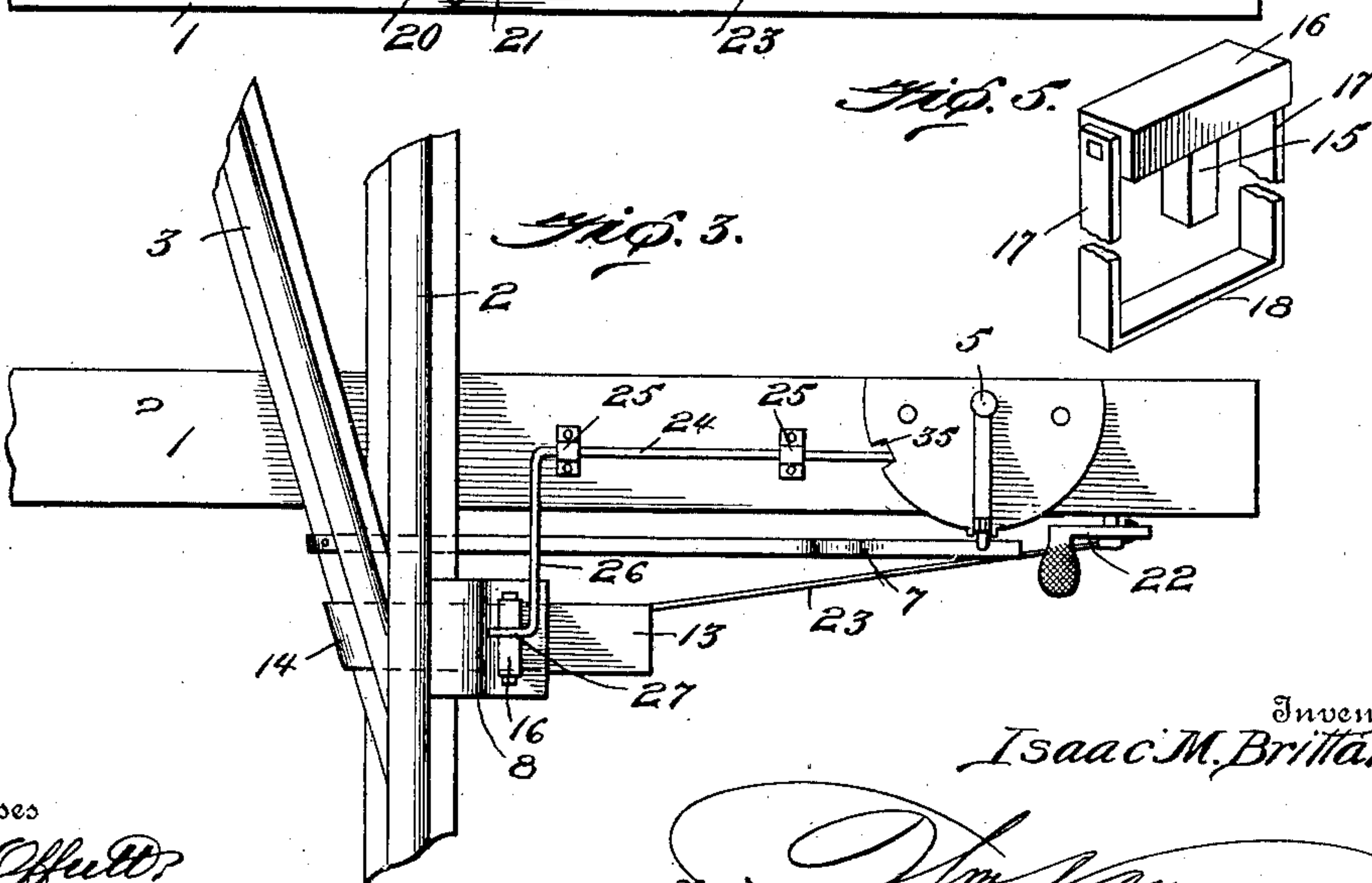
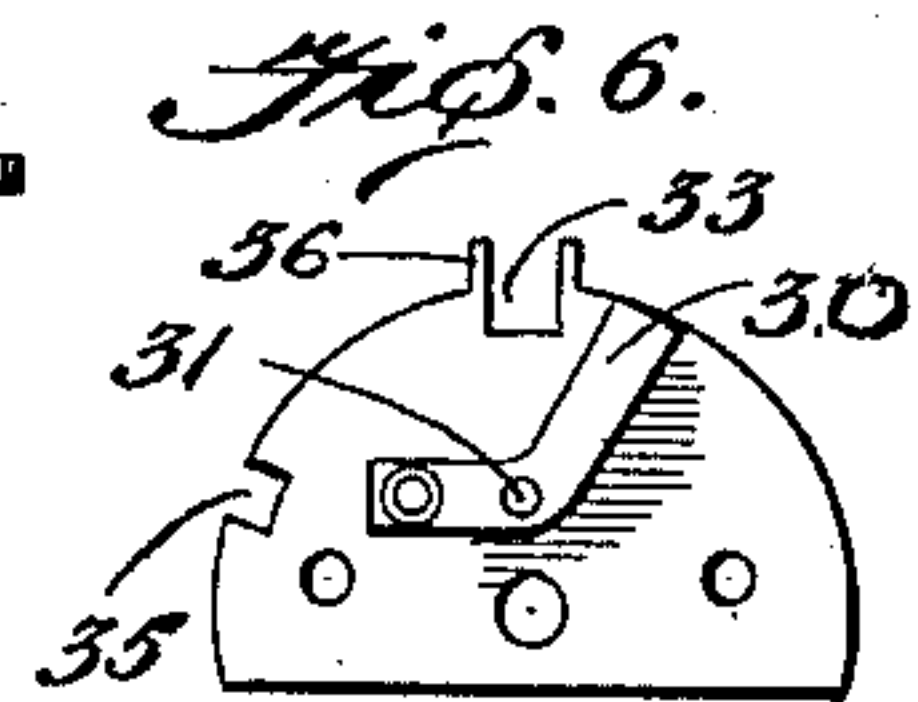
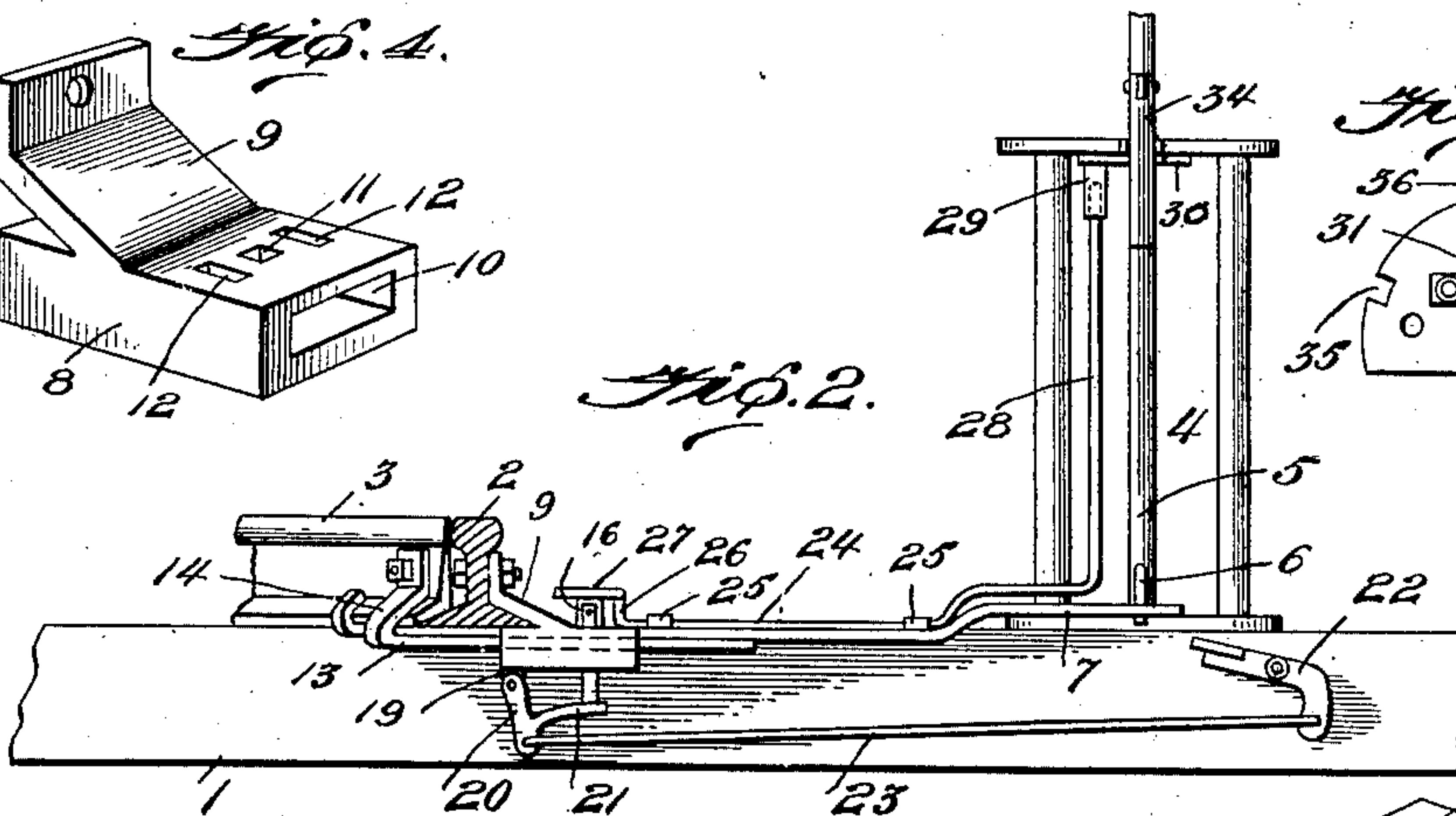
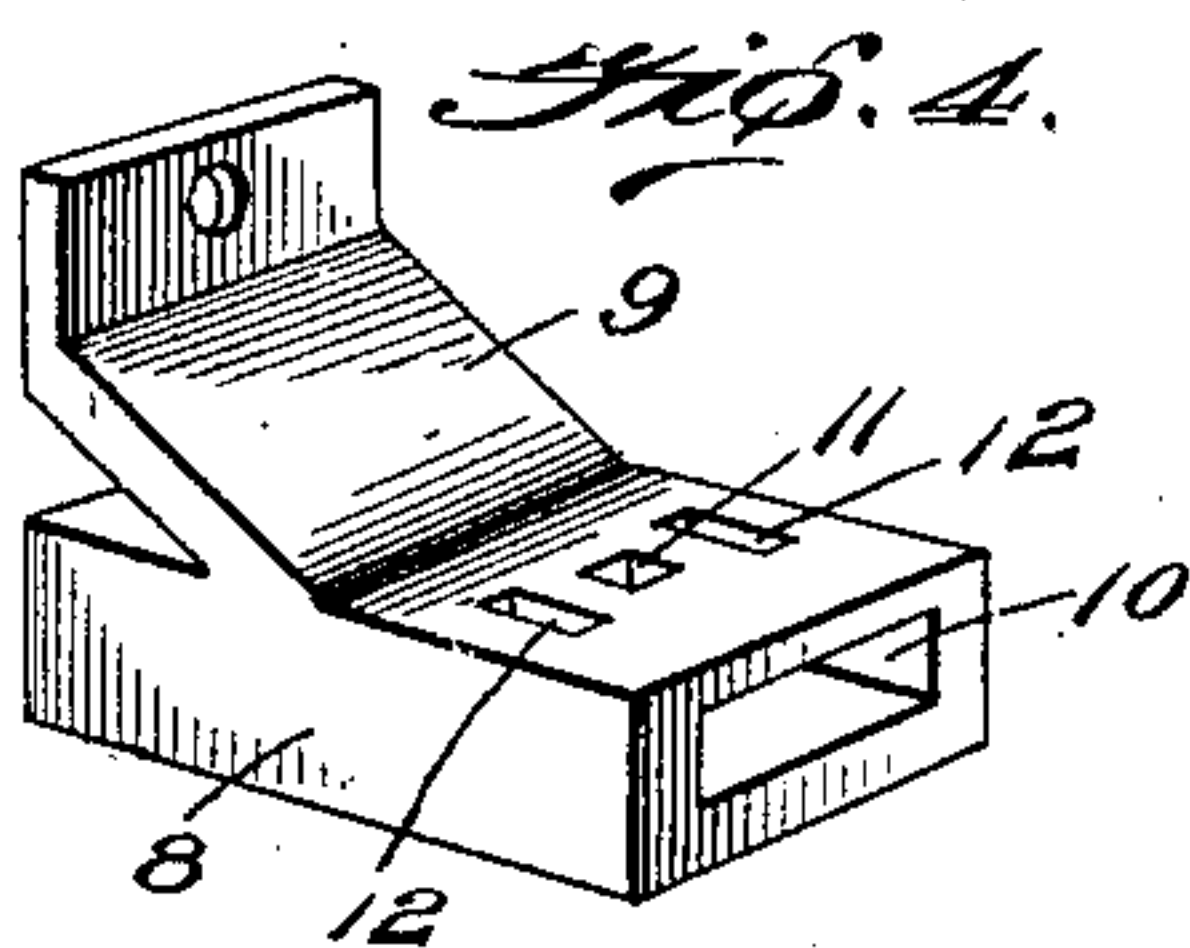
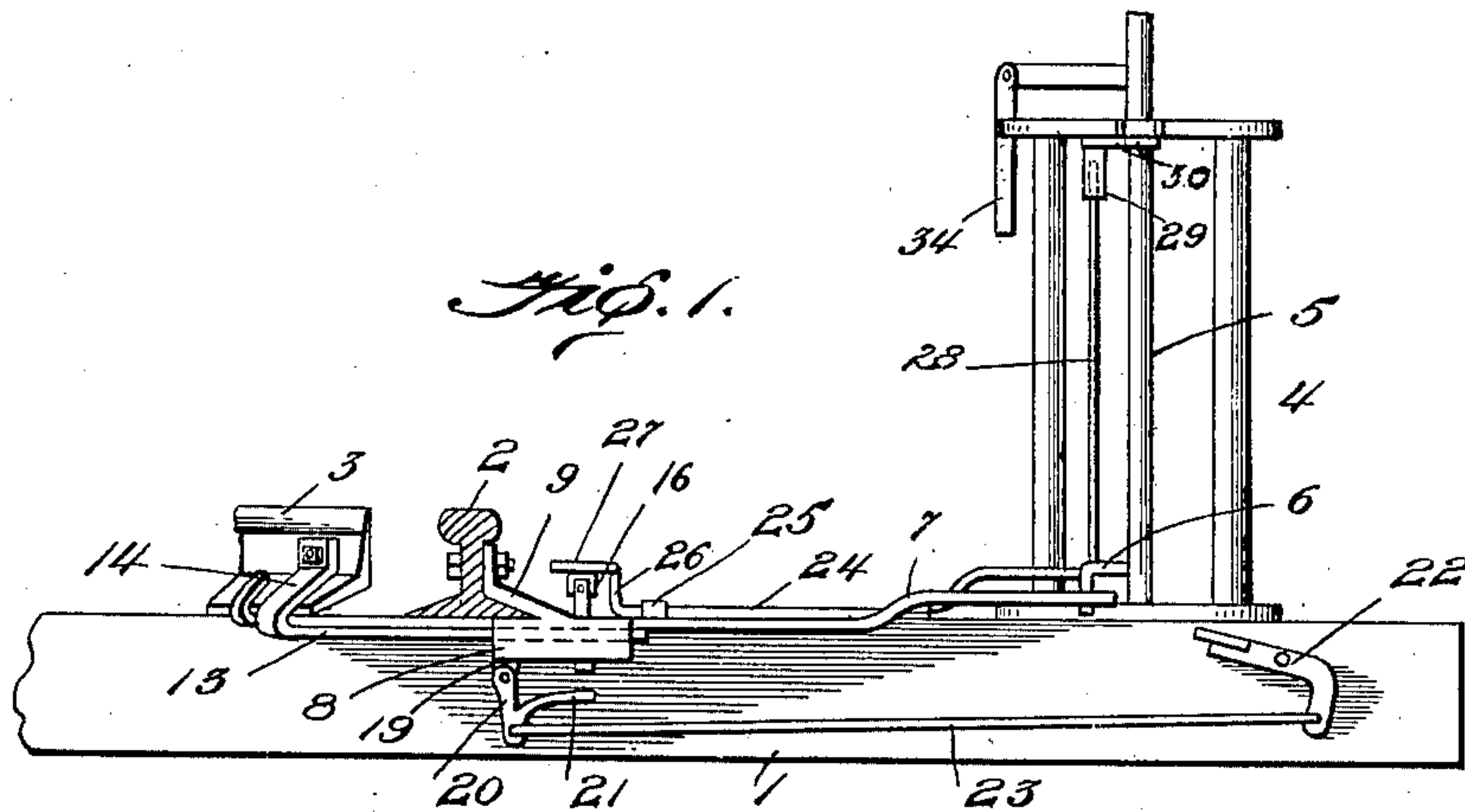


No. 829,690.

PATENTED AUG. 28, 1906.

I. M. BRITTAIN.  
SAFETY CATCH FOR RAILWAY SWITCHES.

APPLICATION FILED APR. 27, 1906.



Witnesses

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# UNITED STATES PATENT OFFICE.

ISAAC M. BRITAIN, OF NORTH BEND, NEBRASKA.

## SAFETY-CATCH FOR RAILWAY-SWITCHES.

No. 829,690.

Specification of Letters Patent.

Patented Aug. 28, 1906.

Application filed April 27, 1906. Serial No. 313,987.

*To all whom it may concern:*

Be it known that I, ISAAC M. BRITAIN, a citizen of the United States, residing at North Bend, in the county of Dodge and State of Nebraska, have invented certain new and useful Improvements in Safety-Catches for Railway-Switches, of which the following is a specification.

My invention relates to improvements in safety-catches for railway-switches, and refers particularly to the class of switch known as "split" or "tapered" rail.

The primary object of this invention is the provision of a device of this character which will automatically and securely lock the movable rail against the stock-rail and which is provided with automatic means whereby the rails cannot become locked until the switch is in absolute closed position.

Another object of the invention is the provision of a catch or securing device which may be applied to any ordinary split-rail switch and which will be of simple, durable, and inexpensive construction, and thoroughly practical.

With these and other objects in view my invention consists, in the combination with a switch-stand, of a safety-catch comprising a block applied to the stock-rail, a bar secured to the split rail slidably engaged in said block, a locking-pin mounted in the block, a lever fulcrumed to the block adapted to raise said pin, means for operating the lever, and means to prevent locking of the switch-stand before closing of the switch.

My invention consists, further, of certain other novel features of construction, combination, and arrangement of parts substantially as herein disclosed.

Figure 1 is an elevation of my improved catch applied to an ordinary switch, the parts being in open position. Fig. 2 is a similar view of the same with the parts closed and locked. Fig. 3 is a top plan view of Fig. 2. Fig. 4 is a perspective view of the securing-block. Fig. 5 is a similar view of the locking-pin and mounting. Fig. 6 is a plan view of the lower side of the upper switch-stand plate.

In the drawings, the numeral 1 designates a railroad-tie having mounted thereon the stock-rail 2 and the tapered or split rail 3. A switch-stand 4 is mounted near the end of the tie, in which is supported the post 5, provided at its lower end with the single-arm 6. This arm serves to operate the link or rod 7, which

in turn is connected with the movable split rail.

The parts just described are in common use, and I will now proceed to describe in detail my improved safety-catch: Mounted upon the outer side of the stock-rail is a securing-block 8, formed with an angular upwardly-inclined jaw or extension 9 for securing the block in position. A longitudinal rectangular passage 10 extends throughout the length of the block, and passing through the block and intersecting said passage is the central pin-receiving opening 11, and on either side thereof the slots or openings 12. A slide or flat bar 13 is formed with an angularly-bent end 14, adapted to be secured to the split rail, and this slide passes beneath the stock-rail and engages the longitudinal passage in the retaining-block 8. As the switch is moved this bar slides within the retaining-block, and in order to lock the bar, and thereby secure the switch, I provide a locking-pin or lug 15, mounted upon the transverse bar 16. This pin engages the central opening 11 in the block, and the arms 17 of the U-shaped frame member 18 pass up through the slots in the block and are secured to the ends of the guiding-bar 16. Thus it will be seen the horizontal lower portion of the pin-supporting frame extends below the lower side of the block. A lug 19 is formed on the under face of the block, and to this lug is pivoted the bell-crank or lever 20, having the lateral horizontal extension 21, adapted to engage the protruding portion of the pin-supporting frame. An angular foot-lever 22 is pivotally secured to the side of the tie, and a link 23 connects said lever with the bell-crank or operating lever. An opening is formed in the slide 13 at the proper point, so that when the switch is closed the securing-pin engages said opening. The opening in the slide is slightly larger than the complementary openings in the block, so as to allow of the necessary expansion or creeping of the rail.

To prevent locking the switch-stand before the rail-point is in proper contact with the stock-rail and the switch is properly closed, I provide automatic means as follows: A trip-rod 24 is mounted in bearings 25 on the upper side of the tie, and the end of the rod adjacent the safety-catch is formed with an angular extension 26, which terminates in an end portion 27, parallel to the body of the rod and resting on the top of the locking-pin.



The other end of the rod is bent into an upright portion 28, which engages the collar 29, formed at one end of the angular slide or lever 30. This lever is pivoted to the top plate of the switch-stand at 31, and when the switch is open the plain end of the lever 30 is adapted to close the notch 33, formed in the arc-shaped edge of the said switch-stand plate. This notch is for the reception of the lever 34 for operating the switch, and a complementary notch 35 is also provided for the reception of the lever when the switch is open. The edges of the notch may be provided with ears or extensions 36 for the insertion of a lock to secure the lever in position, or other locking means may be employed.

Having thus described the parts of the device, the operation thereof will be readily understood. When it is desired to open the switch, pressure on the angular foot-lever causes the securing-pin to be lifted, thereby releasing the switch-point. The switch-post is then partially rotated to open the switch. The raising of the securing-pin causes the inner end of the trip-rod 24 to be raised, which in turn moves the slide-lever on the top plate of the switch-stand and causes it to block the notch in the plate to prevent locking of the lever therein until the switch is positively closed again. When the switch is properly closed, it is automatically locked, as the locking-pin falls by force of gravity and locks the slide in the retaining-block.

From this description, taken in connection with the drawings, it will be evident that I have accomplished all the objects herein set forth and have provided a safety-catch which materially adds to the strength of the switch and is efficient and positive in operation.

I claim—

1. In a switch-lock, the combination with a retaining-block secured to the stock-rail, a bar secured to the movable rail slidable in said block, and means mounted on the block for locking the bar therein.

2. In a switch-lock, the combination with a retaining-block secured upon the stock-rail, a slide secured to the movable rail engaging said block, means for locking the slide in the

block, and means for releasing the locking means.

3. In a switch-lock, the combination with a retaining-block secured to the stationary rail, a slide secured to the movable rail engaged in a passage in the block, and a locking-pin mounted on the block for securing the slide therein.

4. The combination with a movable rail and stationary rail, of a block secured to the stationary rail formed with a longitudinal passage, a slide mounted in said passage and secured at one end to the movable rail, a locking-pin mounted in the block adapted to engage complementary openings in the block and slide, and means for releasing said pin.

5. The combination with a stationary and movable rail, of a securing-block mounted upon the stationary rail formed with a longitudinal passage, a slide mounted in said passage secured at one end to the movable rail, a frame passing through the block and vertically slidable therein, a locking-pin mounted in the frame adapted to engage complementary openings in the block and slide, a bell-crank adapted to engage the lower side of the frame, and means for operating said crank.

6. In a switch-lock, the combination with a retaining-block mounted on the stock-rail, a bar carried by the movable rail slidable in said block, means for locking the bar in the block, of a switch-stand, and means for preventing locking of the switch-stand before the switch is closed.

7. In a switch-lock, the combination with a switch-stand, a stock-rail and movable rail, a retaining-block mounted on the stock-rail, a bar secured to the movable rail slidable in said block, means for locking the bar in said block, and means operated by said locking means for preventing locking of the switch-stand before the switch is closed.

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

ISAAC M. BRITTAIN.

Witnesses:

CHAS. L. DUNDEY,

G. W. MANCHESTER.