

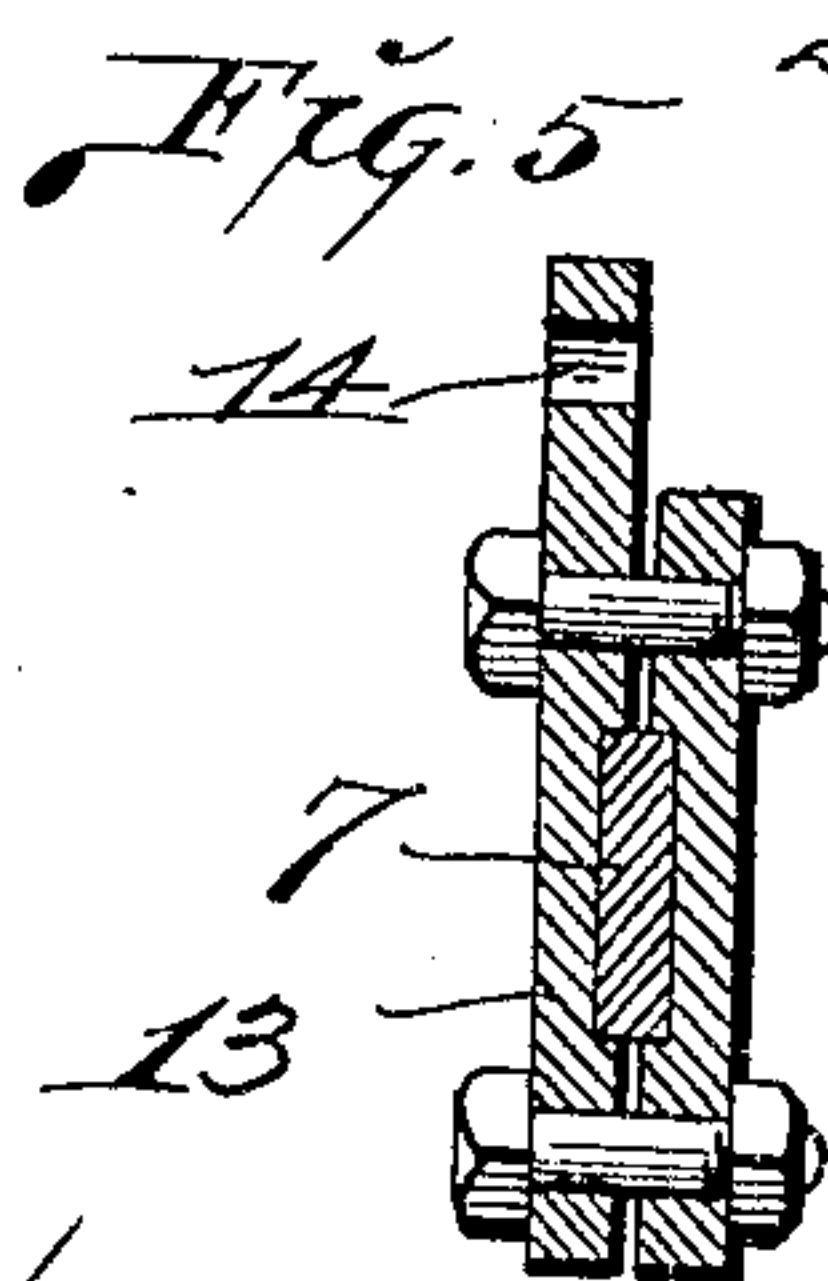
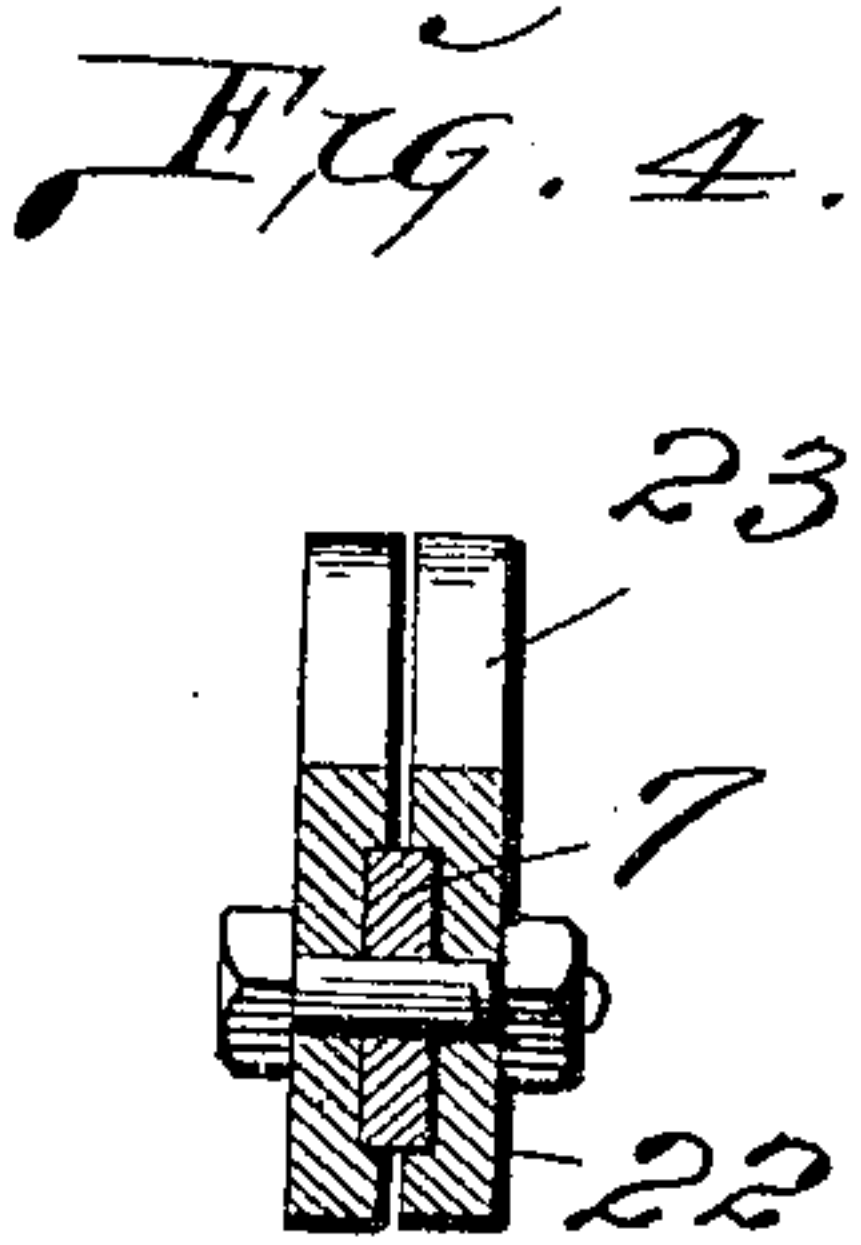
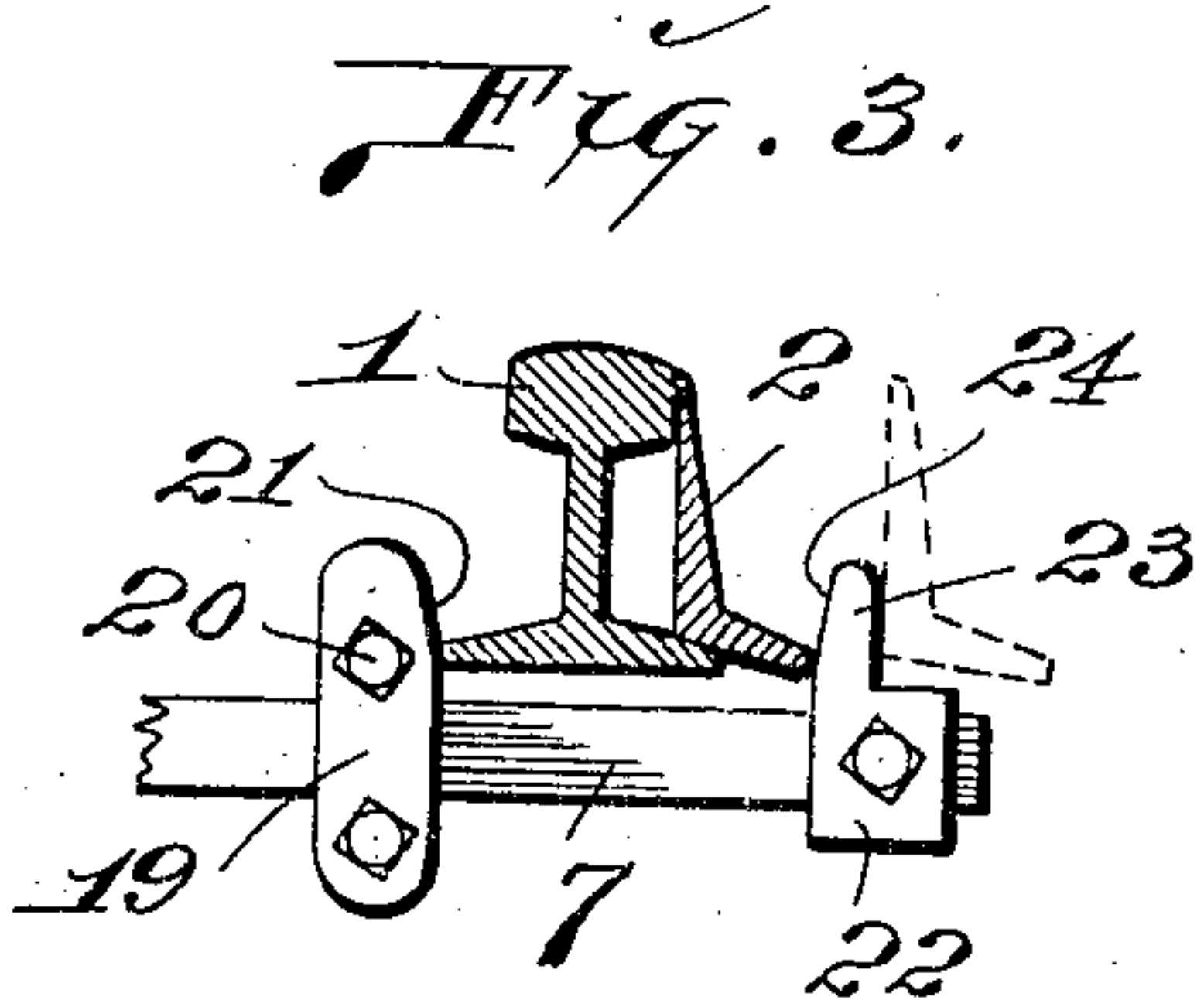
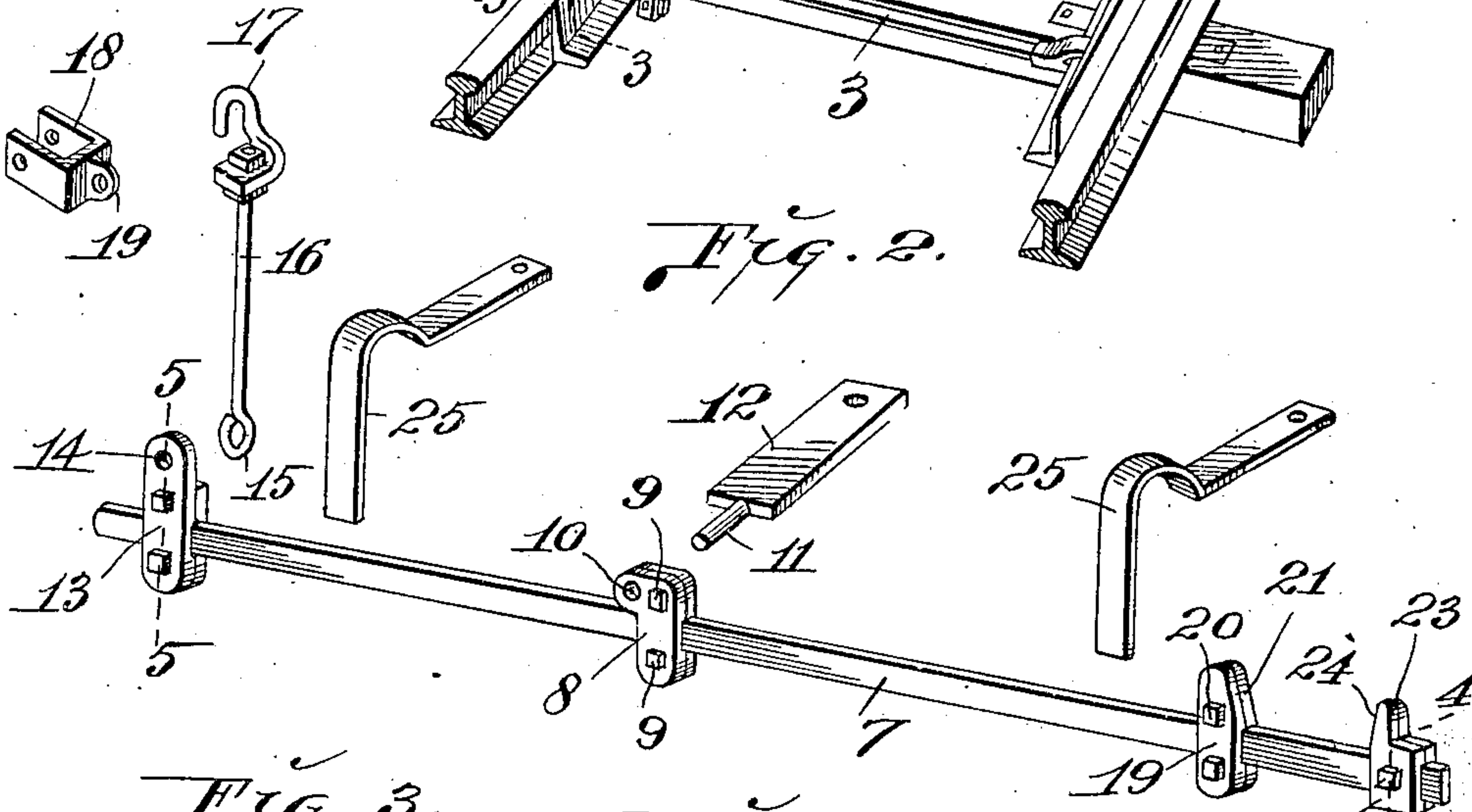
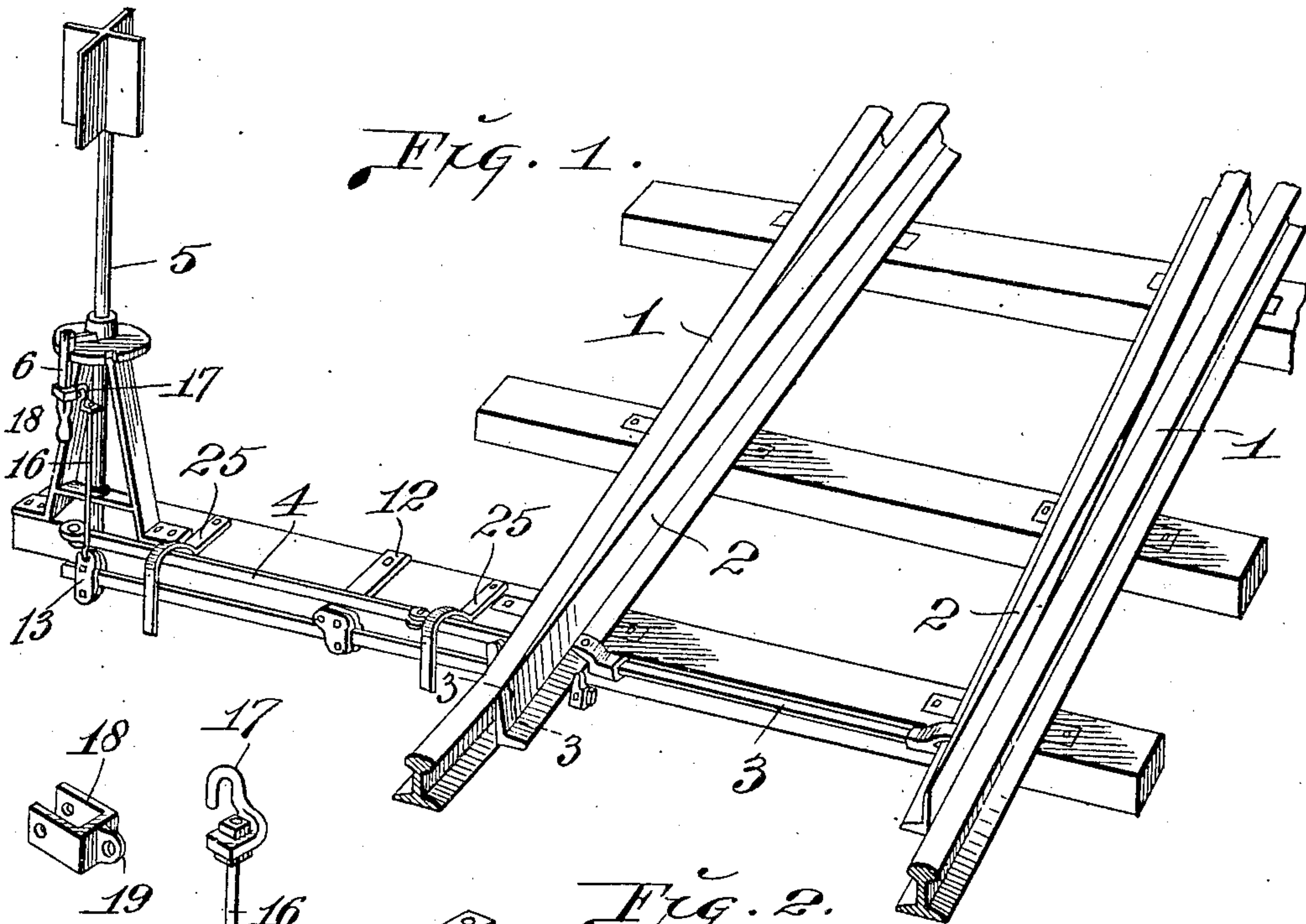
No. 849,491.

PATENTED APR. 9, 1907

J. NOBLE.

## SWITCH POINT LOCK.

APPLICATION FILED JULY 19, 1906.



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# UNITED STATES PATENT OFFICE.

JAY NOBLE, OF ST. LOUIS, MISSOURI.

## SWITCH-POINT LOCK.

No. 849,491.

Specification of Letters Patent.

Patented April 9, 1907.

Application filed July 19, 1906. Serial No. 326,926.

*To all whom it may concern:*

Be it known that I, JAY NOBLE, a citizen of the United States, and a resident of St. Louis, Missouri, have invented certain new and useful Improvements in Switch-Point Locks, of which the following is a specification containing a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to improvements in switch-point locks; and the object of my invention is to provide a simple, strong, and durable locking mechanism for the movable rails of switches, and which mechanism is adapted to lock one of the switch-point rails in either an opened or closed position.

My invention consists in a bar fulcrumed at a point adjacent its center, so as to swing vertically, and means arranged on one end of said bar for engaging the track and switch rails, and means at the opposite end of said bar for engaging the operating-handle of the switch-stand.

My invention further consists in certain novel features of construction and arrangement of parts, which will be hereinafter more fully set forth, pointed out in the claims, and illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of a portion of a railway-track with a switch therein and my improved lock in operative position between said switch and the switch-stand. Fig. 2 is a perspective view showing the various parts of my improved switch-point lock, the same being detached from one another. Fig. 3 is an enlarged vertical section taken approximately on the line 3 3 of Fig. 1. Fig. 4 is an enlarged vertical section taken on the line 4 4 of Fig. 2. Fig. 5 is an enlarged vertical section taken on the line 5 5 of Fig. 2.

Referring by numerals to the accompanying drawings, 1 1 designate the fixed track-rails, and 2 the movable switch-rails, the latter being connected in the usual manner by the spacing-bar 3, which is pivotally joined at its outer end to a connecting-rod 4, which latter is journaled to the lower end of the vertically-arranged rock-shaft 5 of the switch-stand. This rock-shaft 5 is manipulated in the usual manner by the hinged handle 6, which normally occupies a vertical position, as seen in Fig. 1.

All of the parts just described are of the usual construction and form no part of my invention.

7 designates the locking-bar of my improved switch-point lock, which is transversely arranged between the switch-stand and one of the track and switch rails, and adj- justably positioned upon the central portion of this bar 7 is a bearing-block 8, comprised of mating halves which are clamped on the bars 7 by means of bolts 9. Formed through this block is an aperture 10, which receives a trunnion 11, which is formed integral with a plate 12, the latter being rigidly secured to the tie which supports the switch-stand. This arrangement fulcrums the bar 7 at a point adjacent its center and in such a manner as that said bar swings vertically.

The outer end of the bar terminates at a point immediately below the operating-handle 6 of the switch-stand, and clamped on the outer end of said bar is a block 13, in the upper end of which is an aperture 14. Passing through this aperture is the loop 15 on the lower end of a vertically-disposed rod 16, and detachably secured to the upper end of said rod is a hook 17. Detachably secured to the handle 6 is an open-ended loop 18, provided on one side with an eye 19, through which the hook 17 engages. Clamped adjacent the opposite end of the bar 7 is a block 19, comprised of a pair of mating plates through which pass the bolts 20, and the upper inner face of said block is slightly inclined, as designated by 21. This block is intended to bear against the outer flange of the track-rail 1 nearest the switch-stand. Clamped upon the outer end of the bar 7 is a block 22, with which is formed integral an upwardly-projecting finger 23, the inner face of which is slightly inclined, as designated by 24, and this finger normally engages against the flange of the movable switch-rail adjacent the switch-stand. Guards 25 are secured to the tie on which the switch-stand is positioned, which guards extend outwardly and thence downwardly just inside the bar 7, which guards form a vertical guide for said bar 7 during its vertical swing and prevent it from swinging laterally.

As long as the handle 6 remains in its vertical position the bar 7 occupies a horizontal position, with the blocks 19 and 22 engaging on the flanges of the main-track and switch rails 1 and 2 adjacent the switch-stand, and this arrangement very effectually prevents the switch-rail from moving away from the main-track rail.

When the switch-rails are shifted from the



position shown in Fig. 1, the operator after unlocking the operating-handle 6 swings the same into horizontal plane in order to disengage said handle from the notch in which it has been seated, and this movement necessarily elevates the hook 16 and rod 17 and correspondingly elevates the outer end of the bar 7. Said bar 7 is moved upon its fulcrum, which is the trunnion 11, and the inner end of said bar carrying the blocks 19 and 22 swings downwardly until said blocks are free from the flanges of the rails on which they engage. In order that said blocks will readily move downwardly away from the flanges, the inner faces of said blocks are inclined, as designated by 21 and 24. The handle 6 is now shifted laterally to rock the shaft 5, and by so doing the switch-rails 2 are shifted, after which the handle 6 is swung downwardly into a vertical position to engage in the opposite notch in the top of the switch-stand, and this action moves the outer end of the bar 7 downwardly and elevates the end carrying the blocks 19 and 22. This movement brings the finger 23 of the block 22 into a position against the inside of the switch-rail 2, and thus very effectually prevents the switch-rails from accidentally shifting back to their first position. During the vertical swing of the bar 7 the ends thereof bear against and are guided by the downwardly-bent ends of the guards 25, and thus the rod 7 is held to swing in proper position, and by its operation the switch-rails are very rigidly and effectively locked in both open and closed positions.

The blocks 8, 13, and 19 can be easily and quickly adjusted upon the bars 7 to suit various conditions, and the lock thus formed requires no attention while being operated and forms a very safe attachment for switches.

I claim—

1. The combination with a railway-switch and switch-stand, of a bar extending from the switch to the switch-stand and fulcrumed at a point intermediate its ends so as to swing vertically, a flexible connection between one end of the bar and the switch-stand-operating lever, and means on the opposite end of the bar for engaging one of the main-track rails and one of the switch-rails; substantially as specified.

2. The combination with a railway-switch and switch-stand, of a bar extending from the switch-stand to the switch and fulcrumed to swing vertically, means carried by the bar

for engaging one of the track-rails and one of the switch-rails, and means whereby the bar is swung upon its fulcrum when the switch-stand is actuated to throw the switch; substantially as specified.

3. A switch-point lock, constructed with a bar extending between the switch and switch-stand, and fulcrumed to swing vertically, means whereby said bar is actuated, means located on one end of said bar for engaging one of the track-rails and one of the switch-rails when said switch-rail is against the track-rail, and a part of which means engages between the track-rail and the switch-rail when the same are separated; substantially as specified.

4. The combination with a railway-switch and switch-stand, of a bar extending between said switch and stand and fulcrumed at a point intermediate its ends, means located on one end of said bar for engaging one of the track-rails and one of the switch-rails to lock said switch-rail in open and closed positions, a connection between the opposite end of the rod and the switch-stand-operating mechanism, and a swivel located in said connection; substantially as specified.

5. The combination with a railway-switch and switch-stand, of a fulcrumed bar extending from the switch to the switch-stand, connections between one end of the bar and the switch-stand-operating mechanism for shifting the bar upon its fulcrum when the switch-stand mechanism is actuated, and means located upon the opposite end of the bar for locking one of the switch-rails in both open and closed positions; substantially as specified.

6. The combination with a railway-switch and switch-stand, of a fulcrumed bar arranged between the switch and switch-stand, connections between one end of the bar and the switch-stand-operating mechanism for shifting the bar upon its fulcrum when the switch-stand mechanism, is actuated, means located upon the opposite end of the bar for locking one of the switch-rails in both open and closed positions, and vertical guides for the bar; substantially as specified.

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

JAY NOBLE.

Witnesses:

M. P. SMITH,  
E. L. WALLACE.