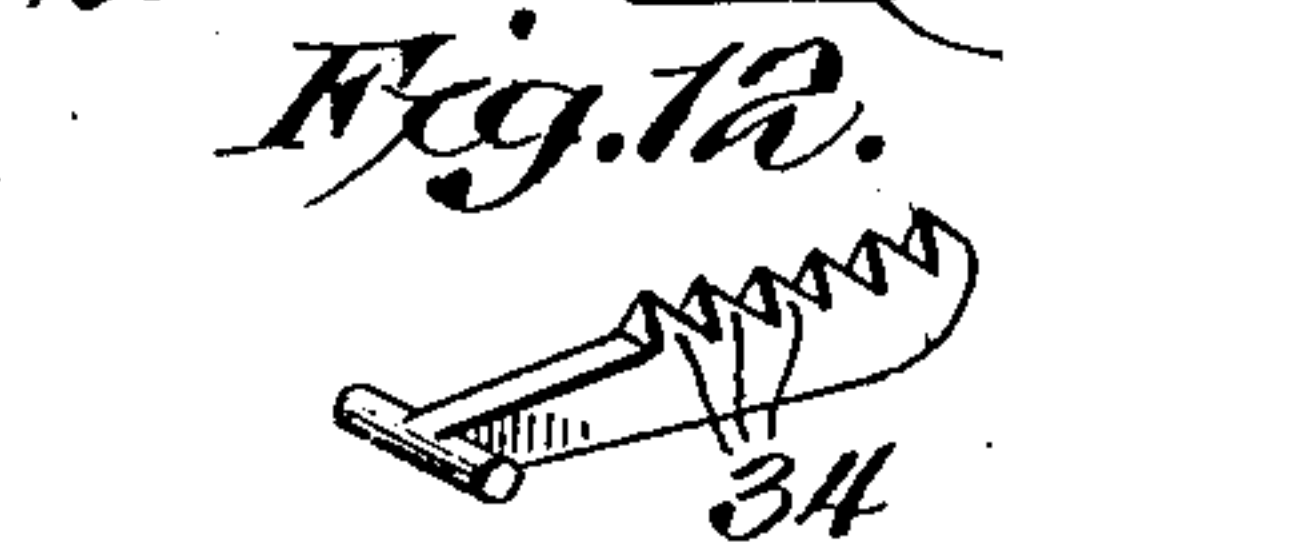
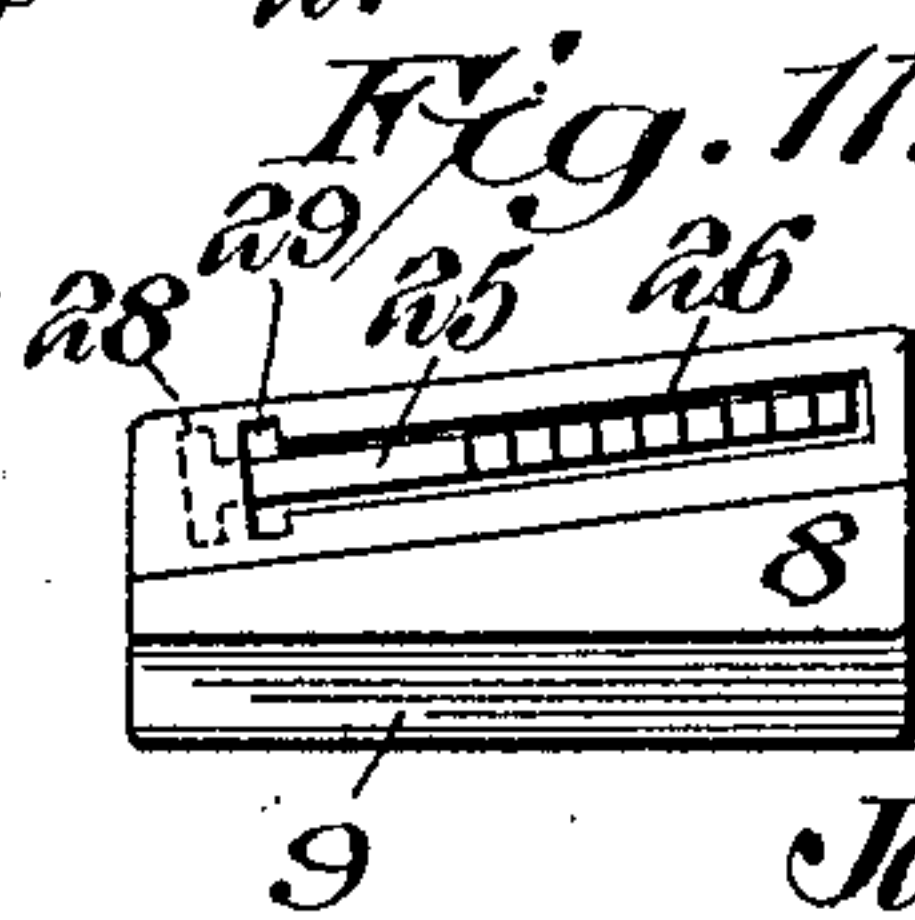
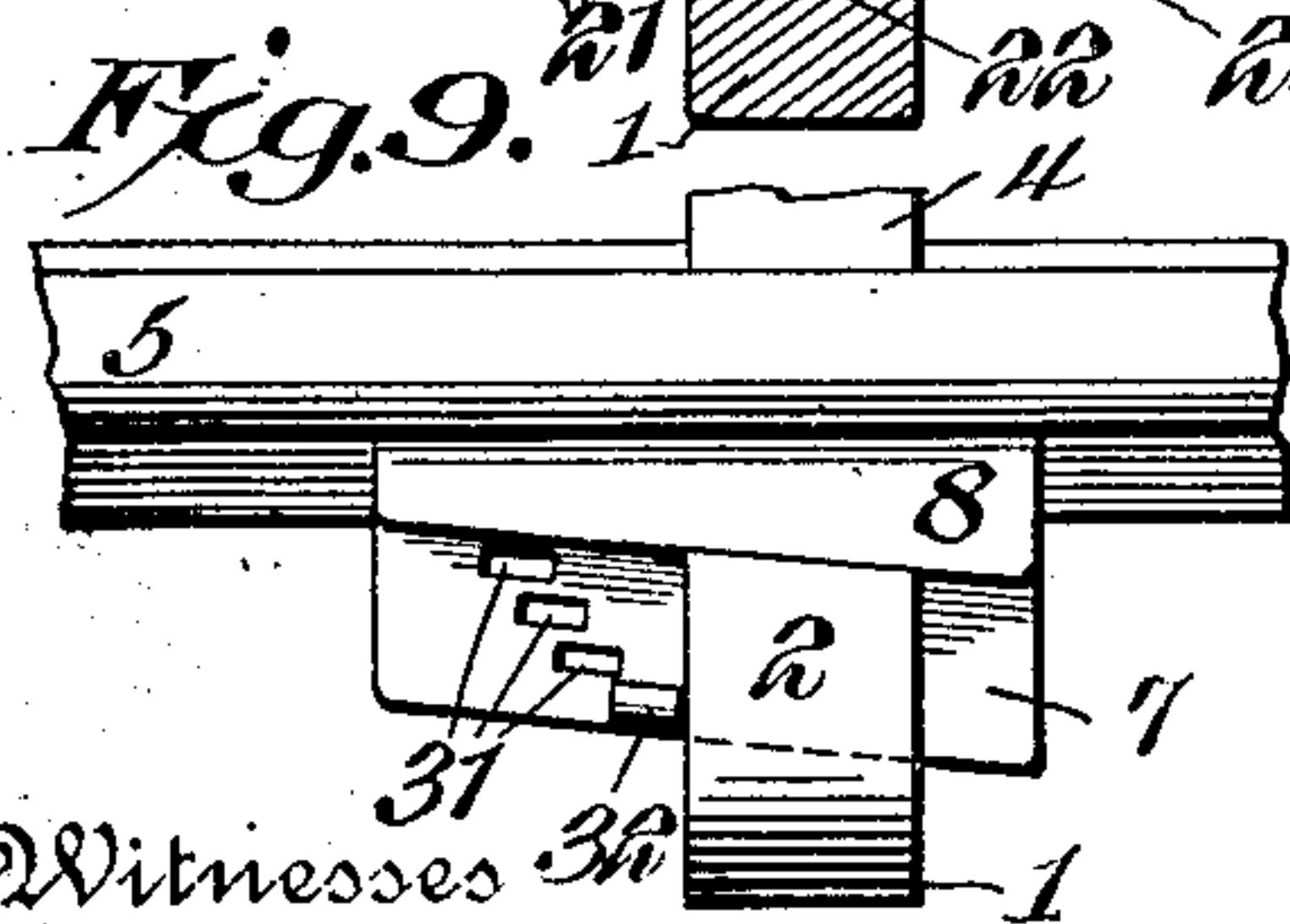
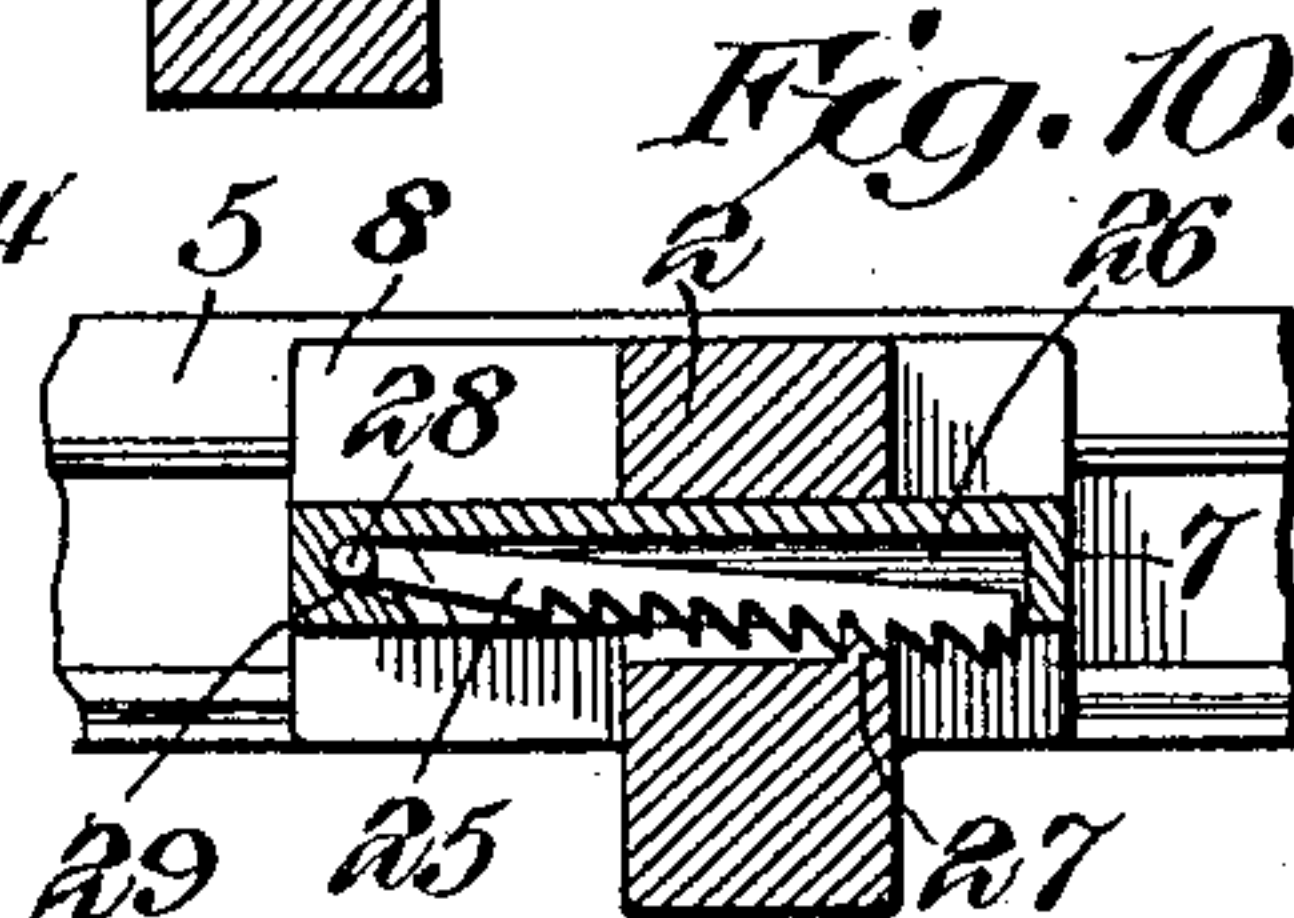
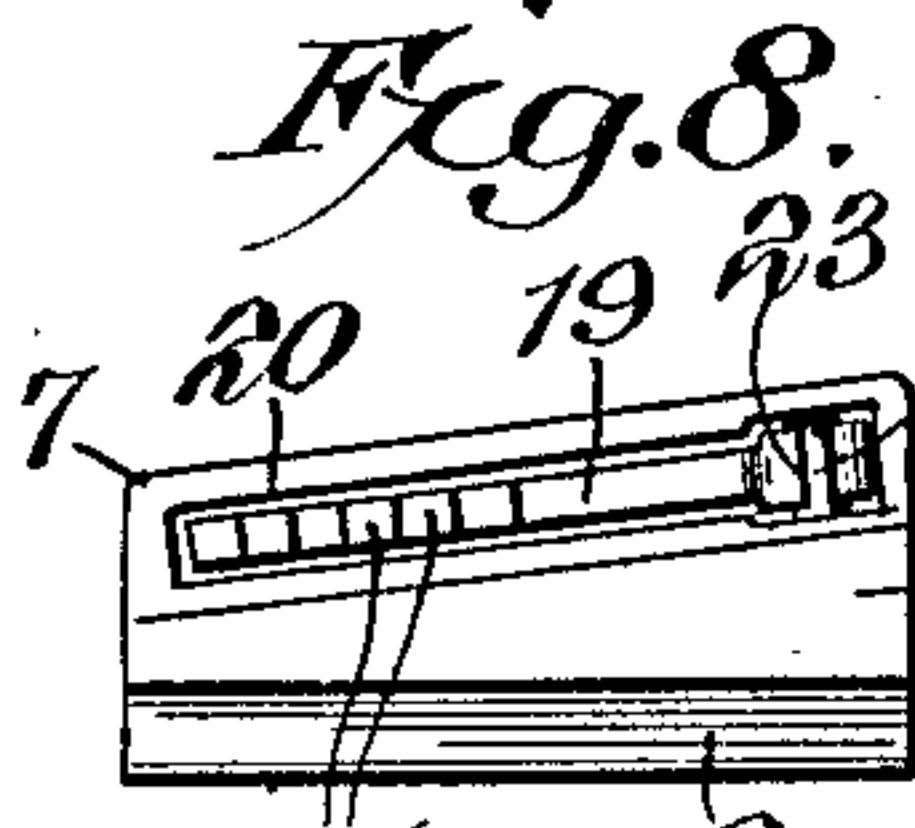
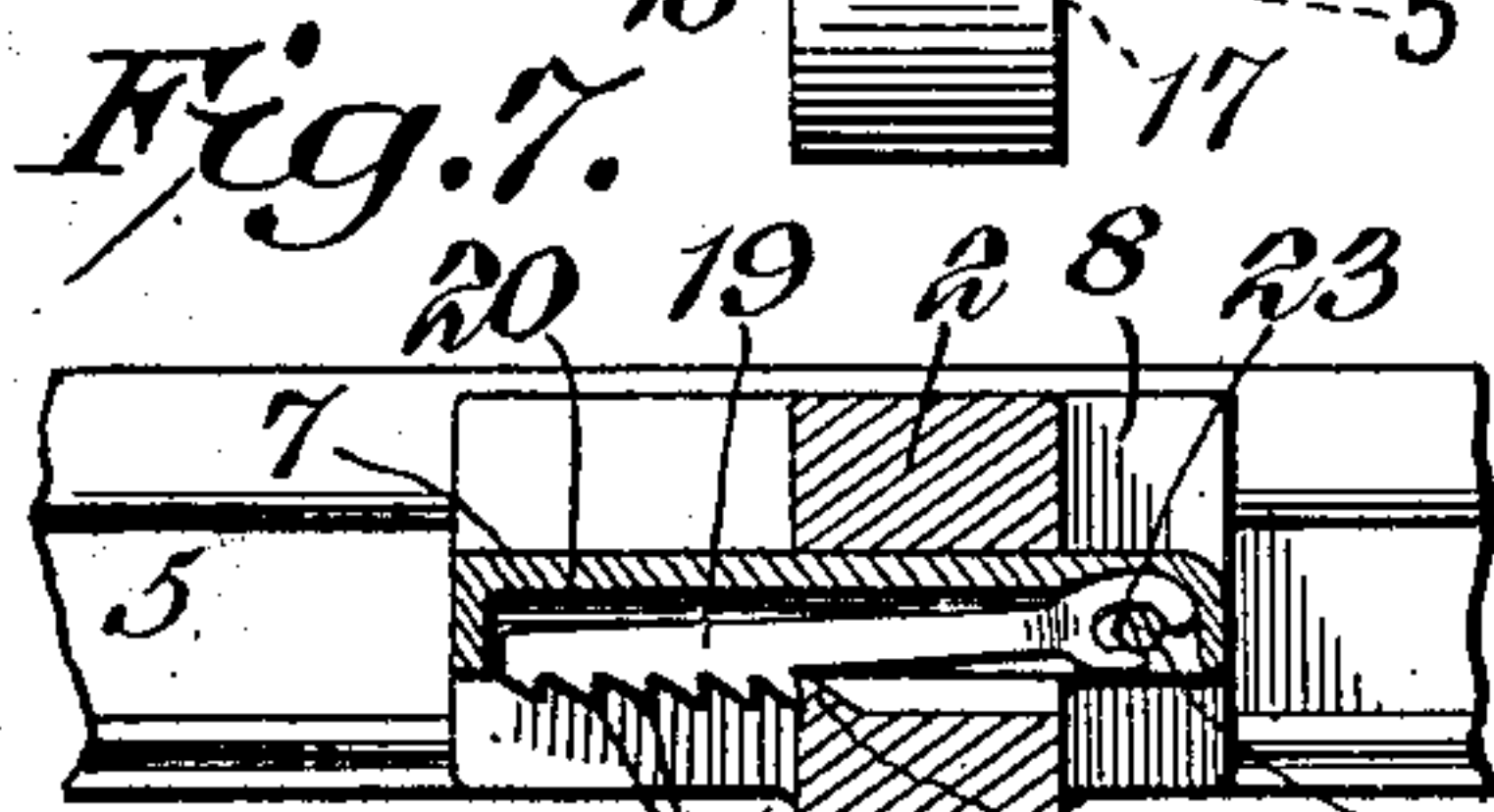
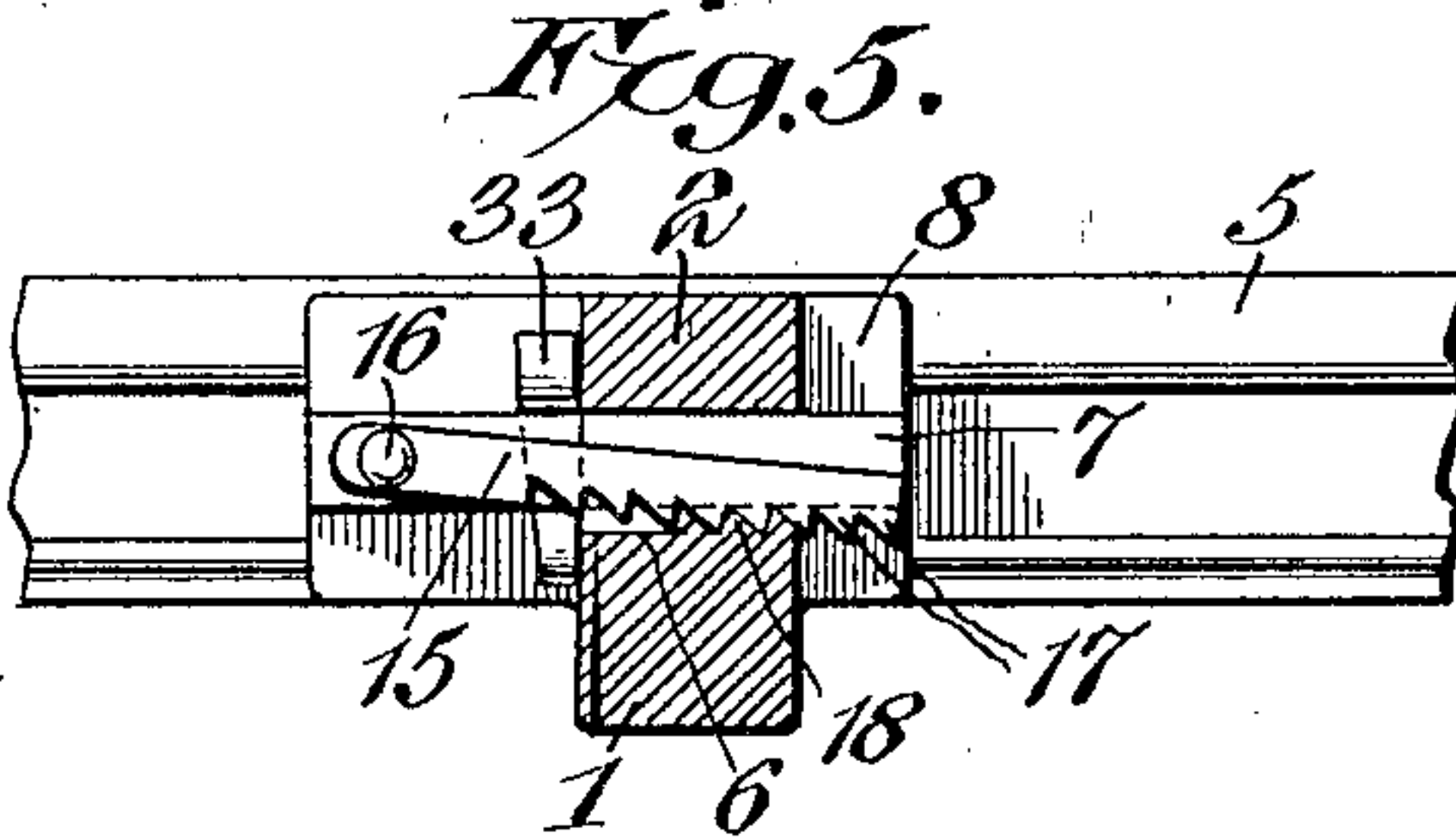
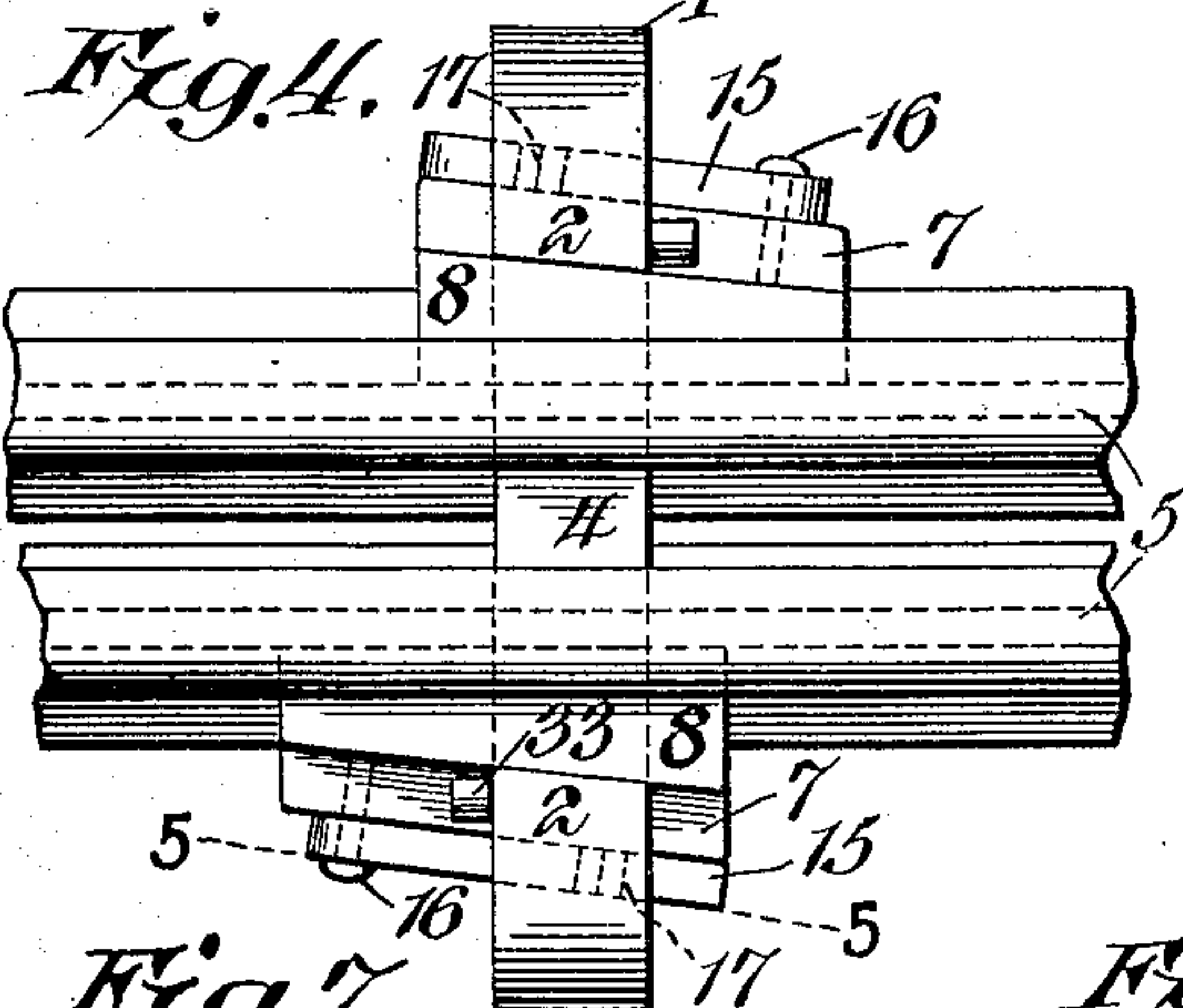
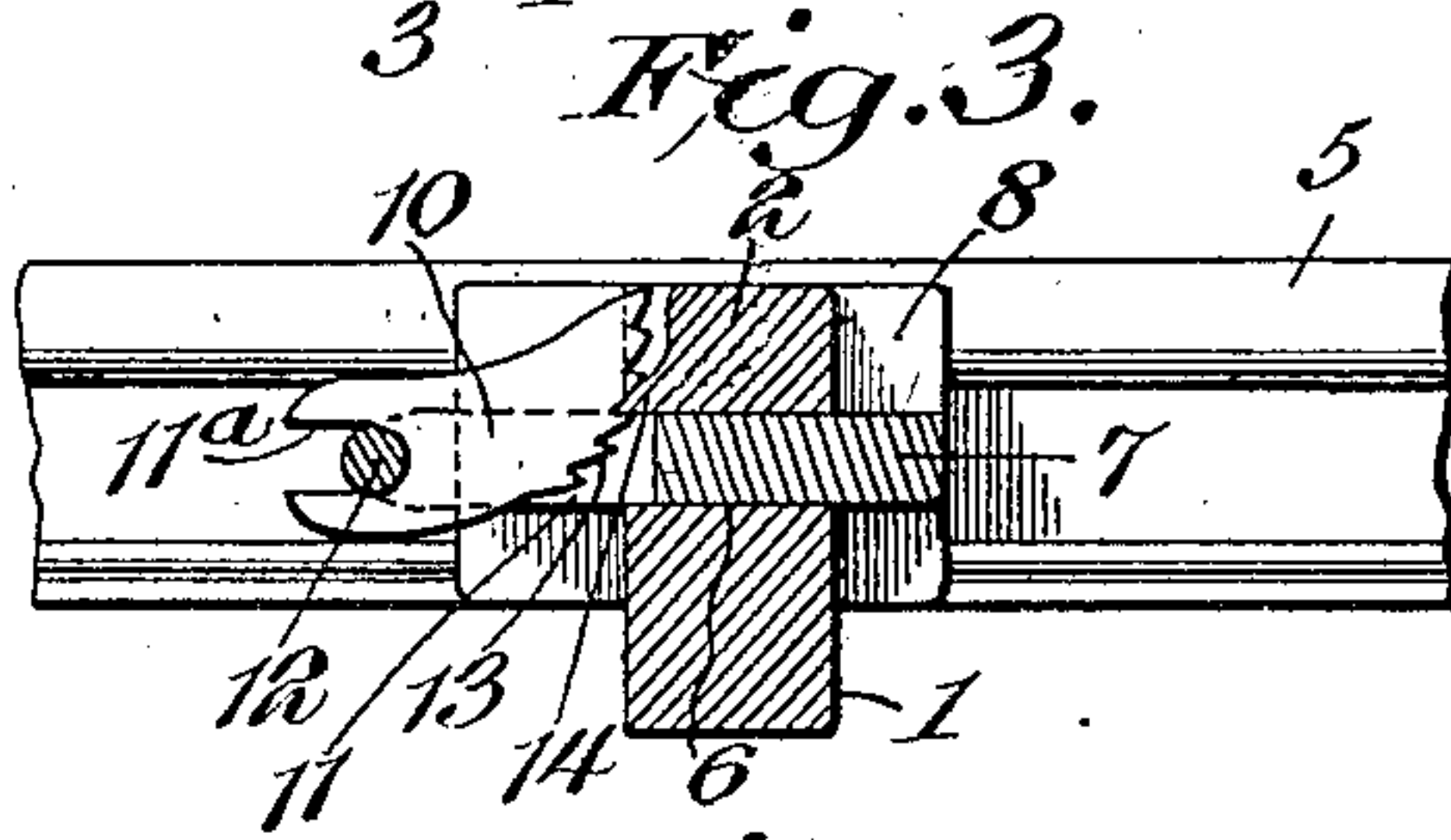
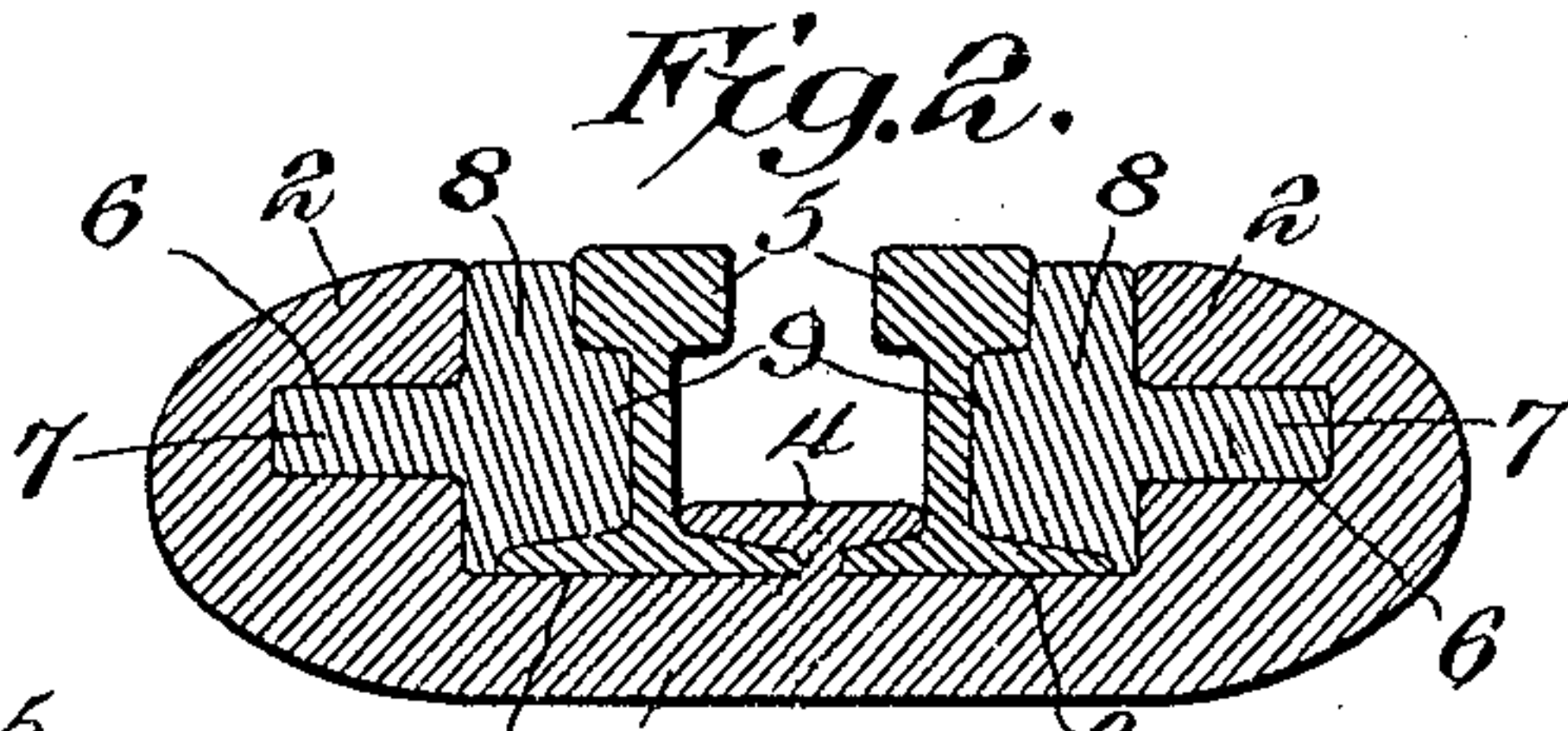
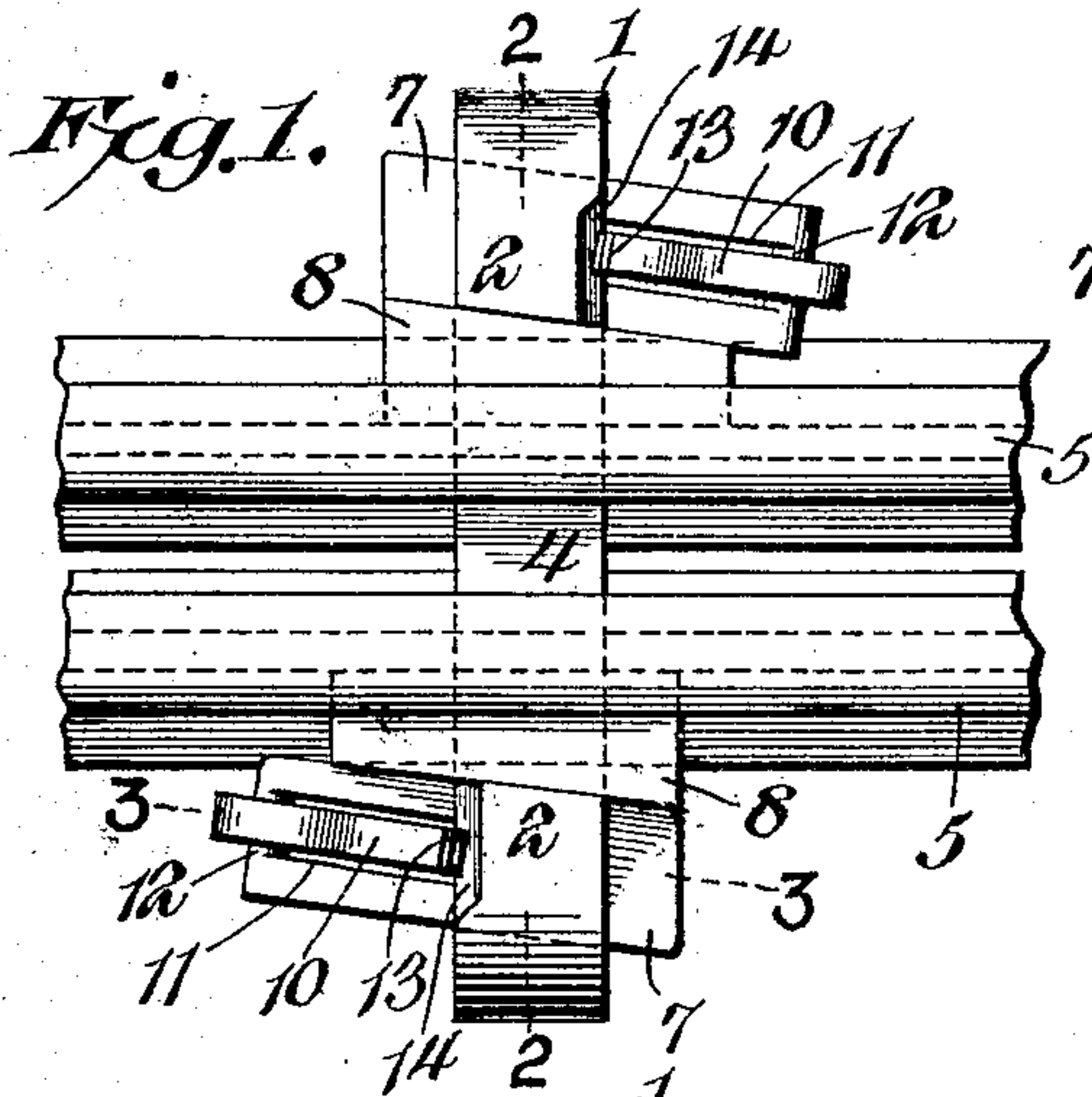


J. J. O'DONNELL.
GUARD RAIL FASTENING FOR RAILROADS.
APPLICATION FILED JAN. 7, 1909.

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Patented Mar. 23, 1909.



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UNITED STATES PATENT OFFICE.

JAMES JOSEPH O'DONNELL, OF PADUCAH, KENTUCKY.

GUARD-RAIL FASTENING FOR RAILROADS.

No. 916,187.

Specification of Letters Patent.

Patented March 23, 1909.

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To all whom it may concern:

Be it known that I, JAMES JOSEPH O'DONNELL, a citizen of the United States, residing at Paducah, in the county of McCracken and State of Kentucky, have invented a new and useful Guard-Rail Fastening for Railroads, of which the following is a specification.

The invention relates to improvements in guard rail fastenings for railroads.

The object of the present invention is to improve the construction of guard rail fastenings, and to provide a simple and comparatively inexpensive guard rail fastening of great strength and durability, capable of securely holding a guard rail and of effectually preventing the same from spreading or otherwise moving, whereby all liability of a train jumping the track at a frog is eliminated.

With these and other objects in view, the invention consists in the construction and novel combination of parts hereinafter fully described, illustrated in the accompanying drawing, and pointed out in the claims hereto appended; it being understood that various changes in the form, proportion, size and minor details of construction, within the scope of the claims, may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawing: Figure 1 is a plan view of a portion of a guard rail fastening, constructed in accordance with this invention. Fig. 2 is a sectional view on the line 2—2 of Fig. 1. Fig. 3 is a similar view, taken substantially on the line 3—3 of Fig. 1. Fig. 4 is a plan view, illustrating a modification of the invention, the locking devices being located at the outer sides of the wedges. Fig. 5 is a sectional view of the same, taken on the line 5—5 of Fig. 4. Fig. 6 is a detail view of a portion of the clamp shown in Figs. 4 and 5. Fig. 7 is a vertical sectional view, illustrating another form of the invention, the locking devices being mounted within the wedge. Fig. 8 is a reverse plan view of the wedge and the locking device, illustrated in Fig. 7. Fig. 9 is a plan view, illustrating the manner of adjustably locking the wedge in place by means of a key. Figs. 10 and 11 are detail views, illustrating another modification of the invention, the locking device being arranged within the wedge. Fig. 12 is a detail view of another form of the locking device.

Like numerals of reference designate cor-

responding parts in all the figures of the drawing.

The guard rail fastening comprises in its construction a clamp 1, constructed of suitable metal and having upwardly extending end portions forming arms or jaws 2. The clamp is provided between the arms or jaws 2 with a flat upper face forming rail seats 3, located at opposite sides of an approximately T-shaped rail-engaging head 4, interposed between rails 5 and engaging the adjacent bottom flanges thereof and the webs of the same at the inner faces of the latter, as clearly illustrated in Fig. 2 of the drawing. The head 4 is formed integral with the clamp and the rails are thereby rigidly interlocked with the same.

The arms or jaws 2 extend upward to substantially the plane of the treads of the rails, and are provided in their inner faces or portions with horizontal recesses 6 for the reception of webs 7 of wedges 8. The wedges 8, which are tapered longitudinally, have their inner faces 9 conforming to the configuration of the rails and fitting against the heads, the webs and the bottom flanges of the same, whereby the rails are firmly supported and held against outward movement. The wedges have their upper faces or edges arranged in the plane of the upper faces of the jaws or arms 2, and the webs 7 by fitting in the recesses 6 of the said jaws or arms interlock the wedges with the clamp. The rails, when properly engaged by the wedges, are maintained in their interlocking relation with the clamp and there is no liability of the rails spreading or otherwise moving, whereby a train is effectually prevented from jumping the track at a frog.

In the form of the invention illustrated in Figs. 1 to 3 inclusive, the wedges are locked in engagement with the rails by means of cam-shaped dogs 10, operating in slots 11 of the webs of the wedges and extending longitudinally of the same. The dogs are provided at their outer ends with recesses 11^a, fitting pivots 12 of the webs, whereby the dogs are pivotally connected with the wedges. The end portions of the webs are rounded at the outer ends of the slots 11 to form the said pivots 12. The inner ends of the wedges are provided with curved engaging edges, equipped with teeth 13, which are adapted to engage the clamp. The wedges are reversely arranged, and the clamp is pro-

vided at opposite sides with projecting teeth 14. The pivoted dogs form gravity locking devices and automatically engage the clamps as the wedges are driven into place, and they effectually prevent the wedges from accidentally becoming unfastened. The recesses 11^a form a detachable connection between the dogs and the wedges and enable the parts to be readily separated and assembled. If desired, the metal at opposite sides of the recesses 11^a may be compressed or pinched after the parts are assembled to retain them in such relation.

In Figs. 4 to 6 inclusive of the drawing, the locking device 15 is in the form of a pivoted dog, located at the outer edge of the web of the wedge and connected to the same by a screw or pin 16 and provided at its lower face with teeth 17, adapted to engage teeth 18 formed in the recesses of the arms or jaws of the clamp. The dogs 15 are adapted to swing upward out of engagement with the teeth 18, and they form gravity locking devices for engaging the clamps as the wedges are driven into place.

In Figs. 7 and 8, the wedges are equipped with a pivoted dog 19, arranged within a longitudinal recess 20 of the web portion of the wedge and provided at its lower edge with teeth 21, adapted to engage a tooth 22 of the clamp. The dog 19 is provided at one end with a head having a recess 23 for the reception of a rounded pivot portion 24 of the wedge. This construction forms a gravity lock and enables the dog 19 to be readily applied to and removed from the wedge.

In Figs. 10 and 11, the locking dog 25 also operates in a longitudinal recess 26 of the web portion of the wedge and is provided at its lower edge or face with teeth for engaging a tooth 27 of the clamp. One end of the dog is provided with a head 28, rounded to form opposite pivots and operating in a suitable bearing 29 of the wedge. The bearing is formed by recessing the wedge and forms a detachable connection between the dog and the wedge.

In Fig. 9 of the drawing, the wedge is equipped with a plurality of slots 31, located at different distances from the ends of the wedge and adapted to receive a key 32, which engages the clamp. A key 33 may also be used to supplement the locking devices heretofore described, as illustrated in Figs. 4 and 5 of the drawing, and it will increase the efficiency of the guard rail fastenings.

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. A guard rail fastening including a clamp provided at its center with an upwardly extending approximately T-shaped rail-engaging head and having rail seats at opposite

sides thereof, said clamp being also provided with terminal jaws extending upward to substantially the tread of the rails and having inner horizontal recesses, wedges located at the outer sides of the rails and conforming to the configuration of the head, web and bottom flange of the same and provided at an intermediate point between their upper and lower faces with longitudinal webs fitting in the recesses of the jaws, and means for locking the wedges in their engaging position.

2. A guard rail fastening including a clamp provided at its center with an upwardly extending approximately T-shaped rail-engaging head and having rail seats at opposite sides thereof, said clamp being also provided with terminal jaws extending upward to substantially the tread of the rails and having inner horizontal recesses, wedges located at the outer sides of the rails and conforming to the configuration of the head, web and bottom flange of the same and provided at an intermediate point between their upper and lower faces with longitudinal webs fitting in the recesses of the jaws, means for locking the wedges in their engaging positions, and locking devices mounted on and carried by the webs of the wedges and engaging the clamps for retaining the wedges in engagement with the rails.

3. A guard rail fastening including a clamp provided at its center with an upwardly extending substantially T-shaped rail-engaging head of a size to extend across the space between the webs of two rails so as to engage the webs and the bottom flanges, said clamp being provided at its ends with upwardly extending jaws having horizontal recesses, wedges conforming to the configuration of the rails and extending upward to the tops of the jaws and provided with webs fitting in the recesses of the said jaws, and locking devices carried by the webs of the wedges and engaging the clamp.

4. A guard rail fastening including a clamp provided with terminal jaws having horizontal recesses in their inner faces, said clamp being also provided with central rail-engaging means and having rail seats at opposite sides thereof, wedges extending from the rail seats to the tops of the jaws and having intermediate horizontal webs fitting in the said recesses and provided beyond the same with slots, and dogs operating in the slots and engaging the clamp.

5. A guard rail fastening including a clamp provided with upwardly extending terminal jaws having horizontal recesses and provided at opposite sides with teeth, reversely arranged wedges having webs fitting in the recesses and provided with slots, and gravity dogs pivotally connected with the webs and operating in the slots thereof for engaging the teeth of the clamp.

6. A guard rail fastening including a clamp
provided with upwardly extending terminal
jaws having horizontal recesses and pro-
vided at opposite sides with teeth, wedges
5 provided with webs arranged in the recesses
of the jaws and having slots, said wedges be-
ing provided at the outer ends of the slots
with rounded portions forming pivots, and
dogs operating in the slots and provided
10 with recesses receiving the pivots and having
teeth for engaging the teeth of the clamp.

7. A rail guard fastening including a clamp
provided with terminal jaws having inner

recesses, and rail-engaging wedges provided
with webs fitting in the recesses, and pivoted 15
gravity acting locking devices mounted in
the webs and provided with teeth arranged
to engage the clamp.

In testimony, that I claim the foregoing as
my own, I have hereto affixed my signature 20
in the presence of two witnesses.

JAMES JOSEPH O'DONNELL.

Witnesses:

D. H. HUGHES,
R. H. DORSEY.