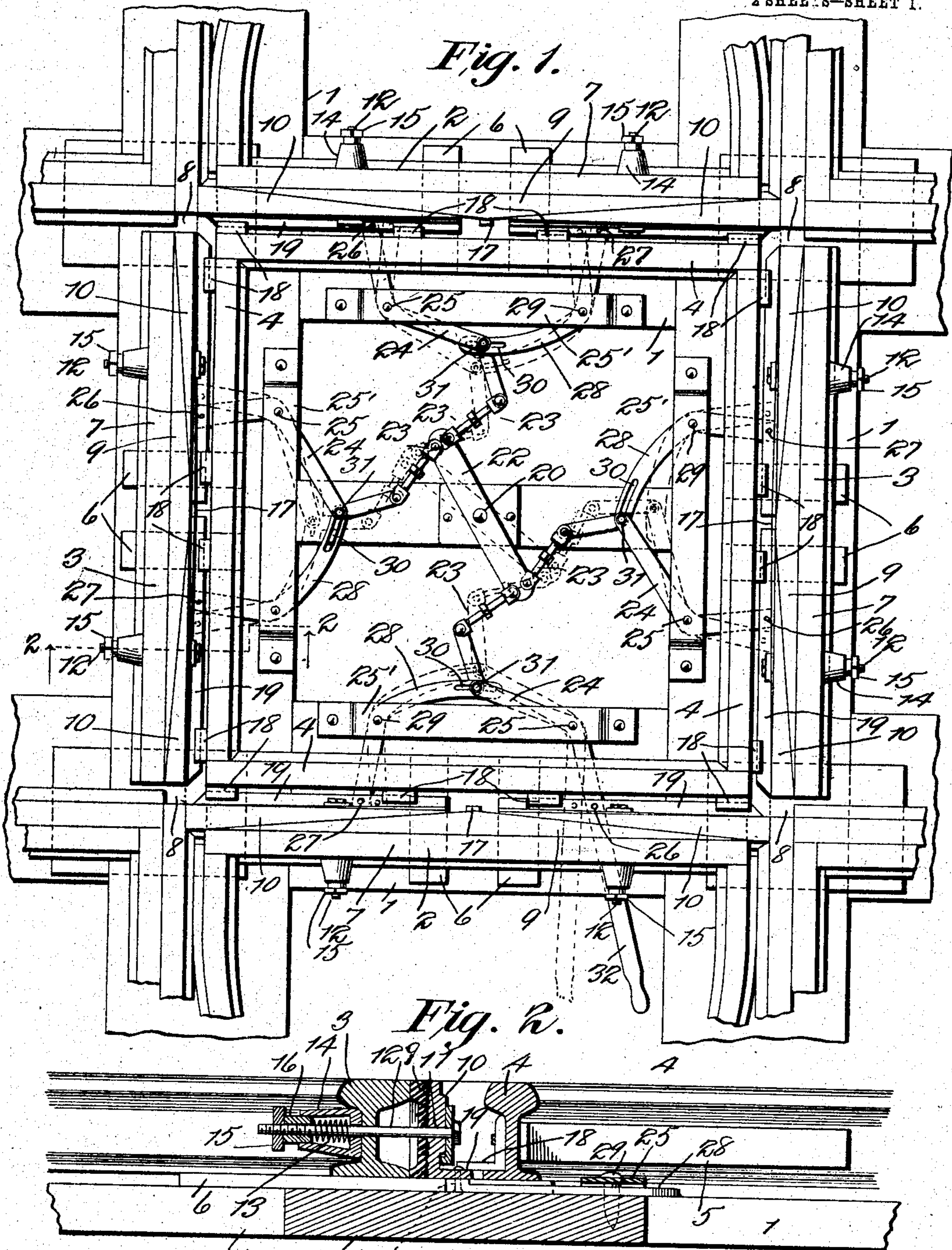


No. 796,090.

PATENTED AUG. 1, 1905.

P. J. SANDHOFER.
RAILROAD CROSSING.
APPLICATION FILED JUNE 30, 1904.

2 SHEETS—SHEET 1.



Witnesses
E. H. Stewart
J. J. Elmore

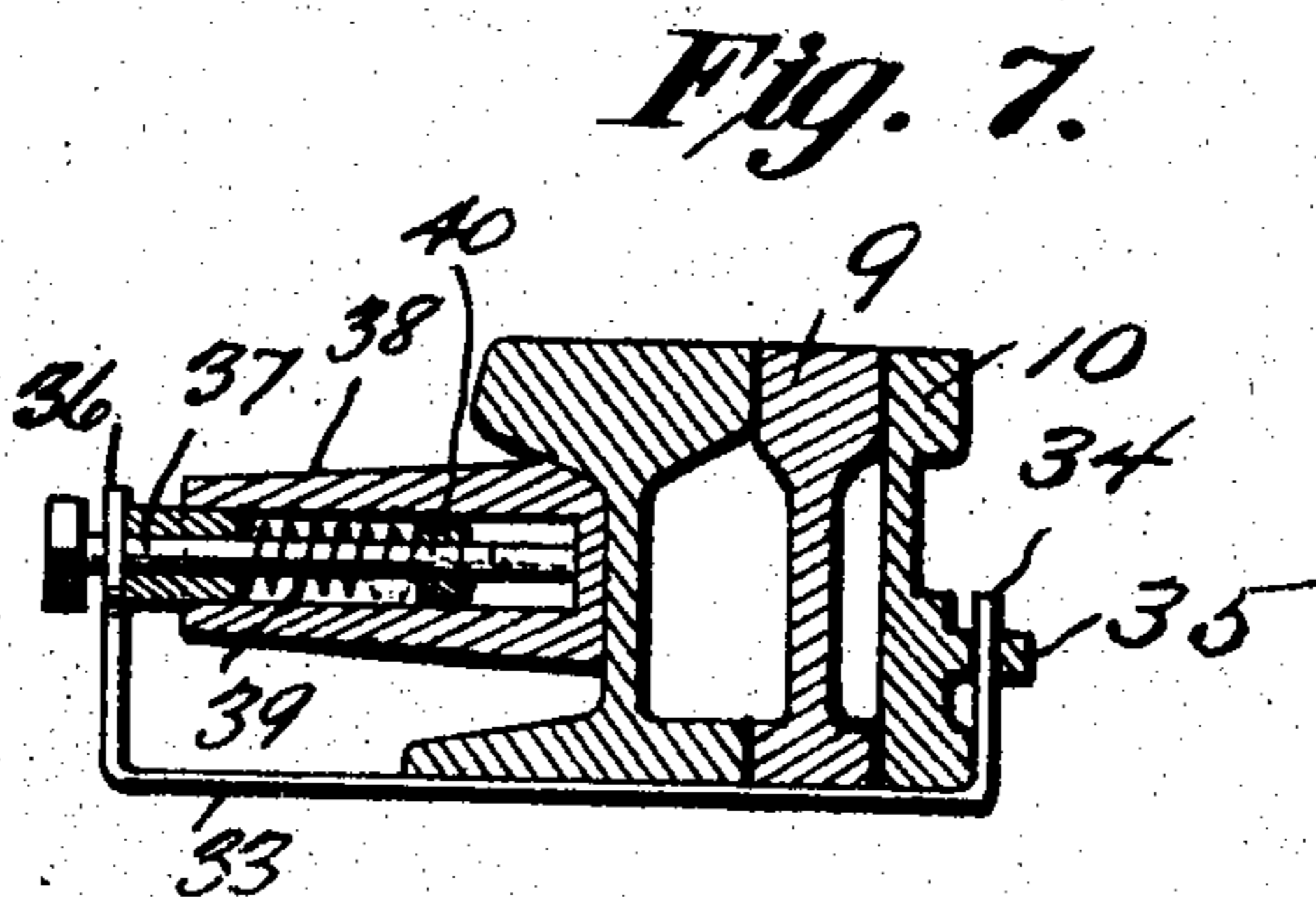
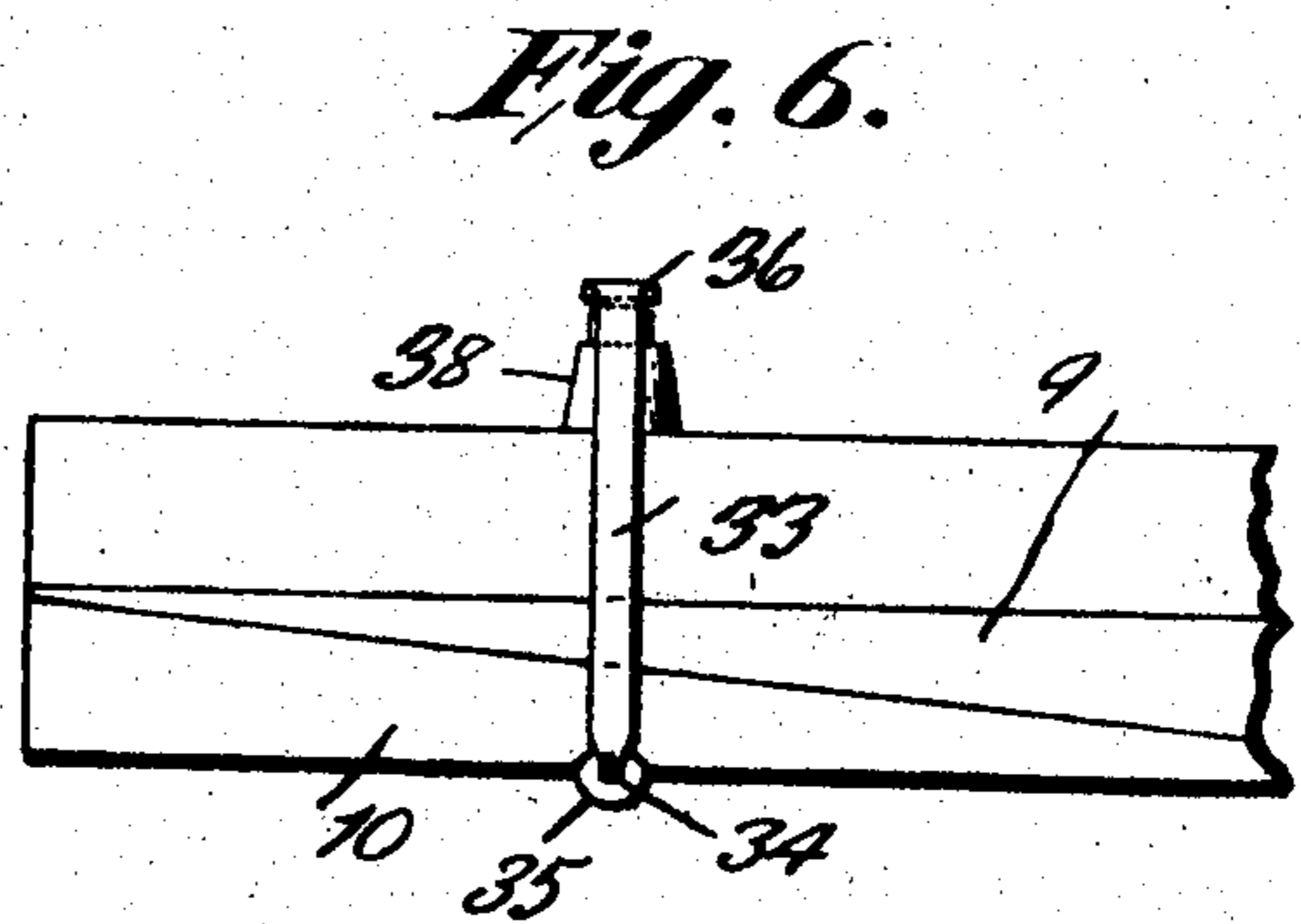
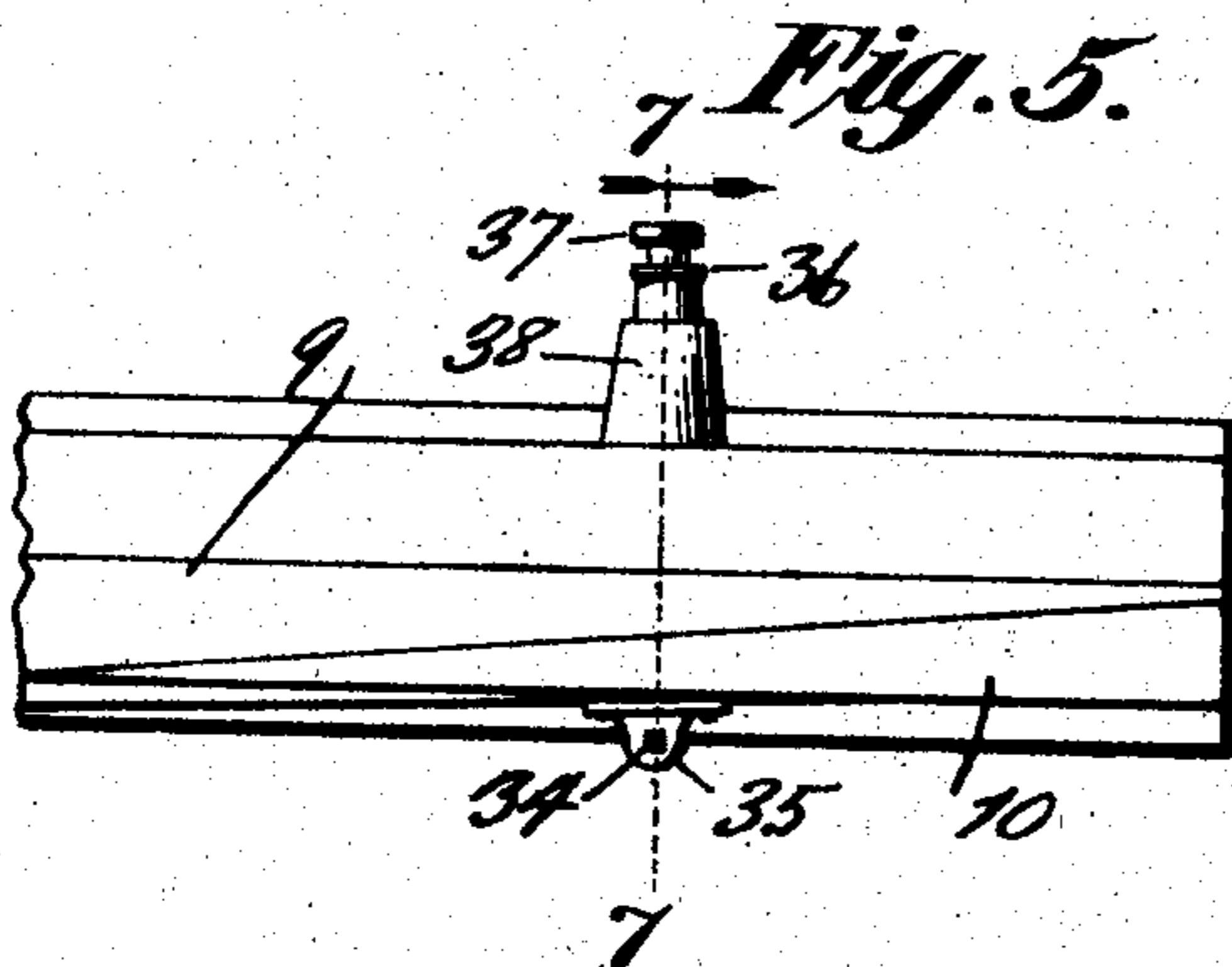
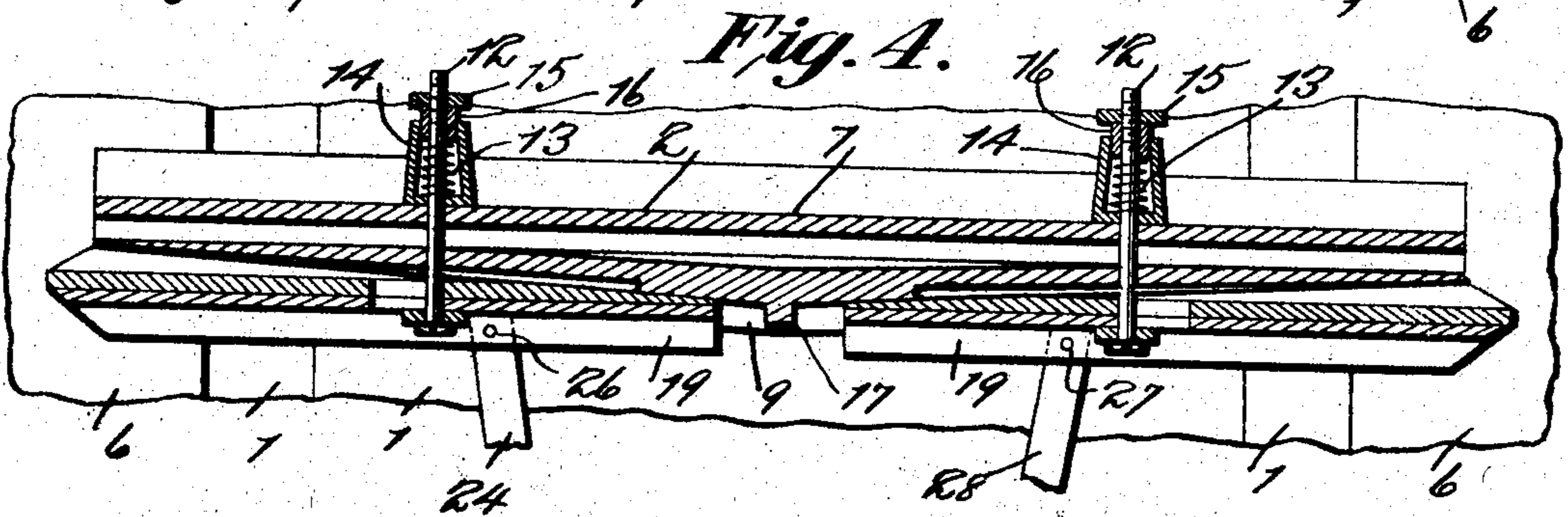
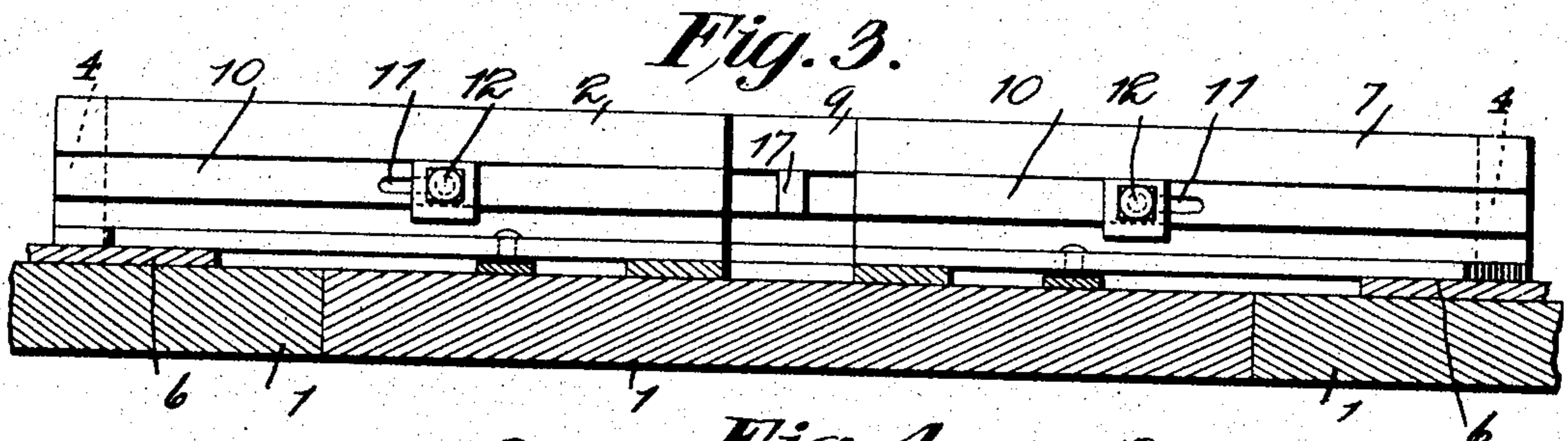
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

PAUL JOSEPH SANDHOFER, OF FLORA, ILLINOIS.

RAILROAD-CROSSING.

No. 796,090.

Specification of Letters Patent.

Patented Aug. 1, 1905.

Application filed June 30, 1904. Serial No. 214,779.

To all whom it may concern:

Be it known that I, PAUL JOSEPH SANDHOFER, a citizen of the United States, residing at Flora, in the county of Clay and State of Illinois, have invented a new and useful Railroad-Crossing, of which the following is a specification.

My invention relates to railway-crossings, and has for its object to provide a comparatively simple, inexpensive, and readily-operable mechanism wherein the rails of one set forming the crossing will be opened to the latter simultaneously with the closing of the crossing to the other set of rails composing the same, and vice versa, and one wherein the treads of the rails, which are for the time being open, will be continuous.

With these and other objects in view the invention comprises the novel features of construction and combination of parts more fully hereinafter described.

In the accompanying drawings, Figure 1 is a top plan view of a railroad-crossing embodying the invention. Fig. 2 is a sectional elevation on the line 2 2 of Fig. 1. Fig. 3 is a vertical sectional elevation taken on a line between the rails and inner guard-rail. Fig. 4 is a horizontal section on the line 4 4 of Fig. 3. Figs. 5, 6, and 7 are detail views of a slight modification, Fig. 7 being taken on the line 7 7 of Fig. 5.

Referring to the drawings, 1 designates a supporting bed or base, upon which the pairs or sets of rails 2 and 3, which intersect each other preferably at substantially right angles, are secured, there being also attached to the base and within the rectangular space inclosed by the intersecting rails an appropriate number of guard-rails 4, arranged, respectively, in spaced parallel relation to the line-rails 2 and 3 and united at their meeting ends by angle-irons 5 to produce an open rectangular frame, which is spaced from the base 1 by means of spacing members or blocks 6 for a purpose which will hereinafter appear.

The main or line rails 2 and 3 have at the crossing sections 7 of a length substantially equaling the length of the sides of the guard-rail frame, these sections 7 being transversely out of alinement with the remaining portions of and spaced endwise, as at 8, from the remaining portions of the rails 2 and 3, whereby the flanges of the wheels traveling upon

one pair of rails may in crossing the other pair pass through the spaces 8.

Each of the sections 7 has attached to its inner side a bearing member or block 9, the inner face of which is beveled or inclined in reverse directions from its center outward toward its ends, and disposed for longitudinal reciprocation on the inclined faces of the bearing members are substantially wedge-shaped bars or elements 10, arranged in pairs, respectively, on the blocks 9 and in alinement longitudinally with the adjacent ends of the rails 2 and 3. These members 10, which are designed and operable for bridging the spaces 8, are slotted longitudinally, as at 11, for the reception of attaching-bolts 12, which pass through the members 9 and rail-sections 7 and are encircled beyond the outer faces of the latter by bearing-springs 13, housed within suitable casings 14, there being also disposed upon the bolts and held in place thereon by the adjustable nuts 15 movable sleeves 16, against which the adjacent ends of the springs bear in maintaining the members 10 yieldably in place. At this point it is to be noted that by manipulating the nuts 15 the tension of the springs may be varied, whereby the frictional contact of the members 10 against the adjacent faces of the bearing members 9 may be varied, thereby varying the readiness with which the members may be moved. The inward movements of the members 10 toward each other are limited by means of stop lugs or abutments 17, provided upon and adjacent to the longitudinal center of the bearing members 9, while aside from the guide-slots 11 the members 10 are guided in their movements by means of angle-iron members or clips 18, bolted to the webs of the guard-rails 4 upon the outer face of the latter and bearing upon inwardly-projecting guide-flanges 19, provided at the base of the members 10.

Pivoted at its center, as at 20, to the base 1 is a rotary or oscillatory member or lever 22, to the opposite ends of which there is pivoted connecting elements or links 23, arranged in pairs to project from the member 22 in reverse direction. The outer ends of the links 23 are pivotally connected, respectively, with the adjacent ends of primary bell-crank levers 24, pivoted, as at 25, to the bed 1 and beneath bearing-plates 25, secured to the latter and arranged, respectively, in parallel relation

with and upon the inner sides of the guard-rails 4. The plates 25 are angularly bent adjacent to their ends, whereby they are appropriately spaced from the base 1 to permit free play of the levers 24 beneath them in moving the sections 10, to which the levers are pivotally connected, as at 26. It is to be observed that the members 10 are, as before stated, arranged in pairs and that one member of each pair is connected with one of the primary bell-crank levers, while the other member of the pair is pivotally connected, as at 27, with the outer end of an auxiliary bell-crank 28, in turn pivoted at its elbow, as at 29, to the base 1 beneath the bearing-plate 25 and having at its inner end a guide slot or way 30, adapted to receive a connecting-bolt or analogous device 31, by which the primary and auxiliary bell-cranks are coupled in pairs, as shown.

One of the bell-cranks 24 is prolonged or extended beyond the outer face of the adjacent rail to provide an operating-handle 32, to which a signal-tower lever or crossing-gate may be attached, and in practice when this handle is swung from side to side the member 22 will be rocked upon its pivot, thereby simultaneously actuating the operating-levers connected therewith through the medium of the links 23, which are adjustable, as shown, for varying the throw of the operating-levers. When the operating-handle 32 is swung from left to right, the operating-levers will act to move two pairs of the bridging members 10—say, for instance, those carried by the rails 2—outward for closing the adjacent spaces 8 and simultaneously retracting the members 10 of the rails 3, whereby the crossing will be closed with respect to the latter rails and the treads of the rails 2 rendered continuous. A movement of the handle 32 from left to right will obviously reverse the movements of the parts, thereby closing the crossing relative to the rails 2 and opening the same to the rails 3, the treads of which latter will be made continuous by their respective members 10.

From the foregoing it is apparent that I produce a simple efficient device admirably adapted for the attainment of the ends in view, it being understood that minor changes in the details herein set forth may be resorted to without departing from the spirit of the invention. For example, while I have shown and described the tracks as preferably crossing each other at right angles it is obvious that the mechanism may be employed in instances where the rails intercross at other angles and that such minor changes as may be necessary to adapt the structure for such an application will be within the scope of the invention. Furthermore, a cover (not shown) will in practice be applied over the shifting levers to protect them from snow, sleet, &c., and from becoming damaged by broken or

dragging brake-beams or other parts of the car-rigging.

In Figs. 5, 6, and 7 there is illustrated a modified arrangement for attaching the bars or elements 10 to position upon the inclined bearing members 9. In this construction there is extended transversely across and beneath the rails a clamping member or bar 33, the inner end of which is upturned in the form of a pintle 34, adapted for engagement with the eye of a perforated ear or lug 35, provided on the outer face of the bar or element 10, while the outer end of the member 33 is upturned and provided with a perforated head 36 for the reception of a bolt 37, extended into a tubular sleeve or casing 38, carried at the outer side of the rail, there being arranged upon the bolt a normally expanded spring 39, the inner end of which bears upon an adjustable nut or head 40, arranged within the sleeve 38. The spring 39 in tending to expand serves to move the clamping member 33 in a direction for maintaining the wedge bar or element 10 in firm but yieldable contact with the adjacent face of the bearing member 9. In other respects the construction and operation is identical with that heretofore described, it being noted, however, that under the modified arrangement the bolts 12, which pass through the rails and the slots 11 within the members 10, are dispensed with.

Having thus described the invention, what is claimed is—

1. In a railroad-crossing, crossing-rails each comprising a central stationary section and longitudinally-movable end sections substantially in alinement with the central section, and means for simultaneously moving such end sections to close the spaces of the crossing.

2. The combination in a railway-crossing, of crossing-rails each formed of a central stationary section and longitudinally-movable end sections, means for holding the end sections frictionally against the central section, and means for simultaneously moving said end sections.

3. The combination in a railway-crossing, of crossing-rails each comprising a central stationary section and longitudinally-movable end sections, springs tending to force the end sections into engagement with the central section, means for simultaneously moving said end sections, and auxiliary guiding devices for said end sections.

4. The combination in a railway-crossing, of crossing-rails each formed of a central stationary section, and a pair of longitudinally-movable end sections, twin levers for each crossing-rail, such twin levers being operatively connected to the end sections, a lever pivoted approximately at the center of the crossing, and links connecting said lever to the central sets of twin levers whereby all of said end sections are simultaneously operated.

5. In a device of the class described, the intersecting rails having spaces at the points of intersection, slidable wedge-shaped members movable for opening or closing the spaces and having their inclined faces disposed toward the rails, and means for attaching the members to and maintaining them yieldably in contact with the rails.

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

PAUL JOSEPH SANDHOFER.

Witnesses:

FRANKLIN VALBERT,
J. E. DAY.