



938,848.

Patented Nov. 2, 1909.  
 2 SHEETS—SHEET 2.

Fig. 4.

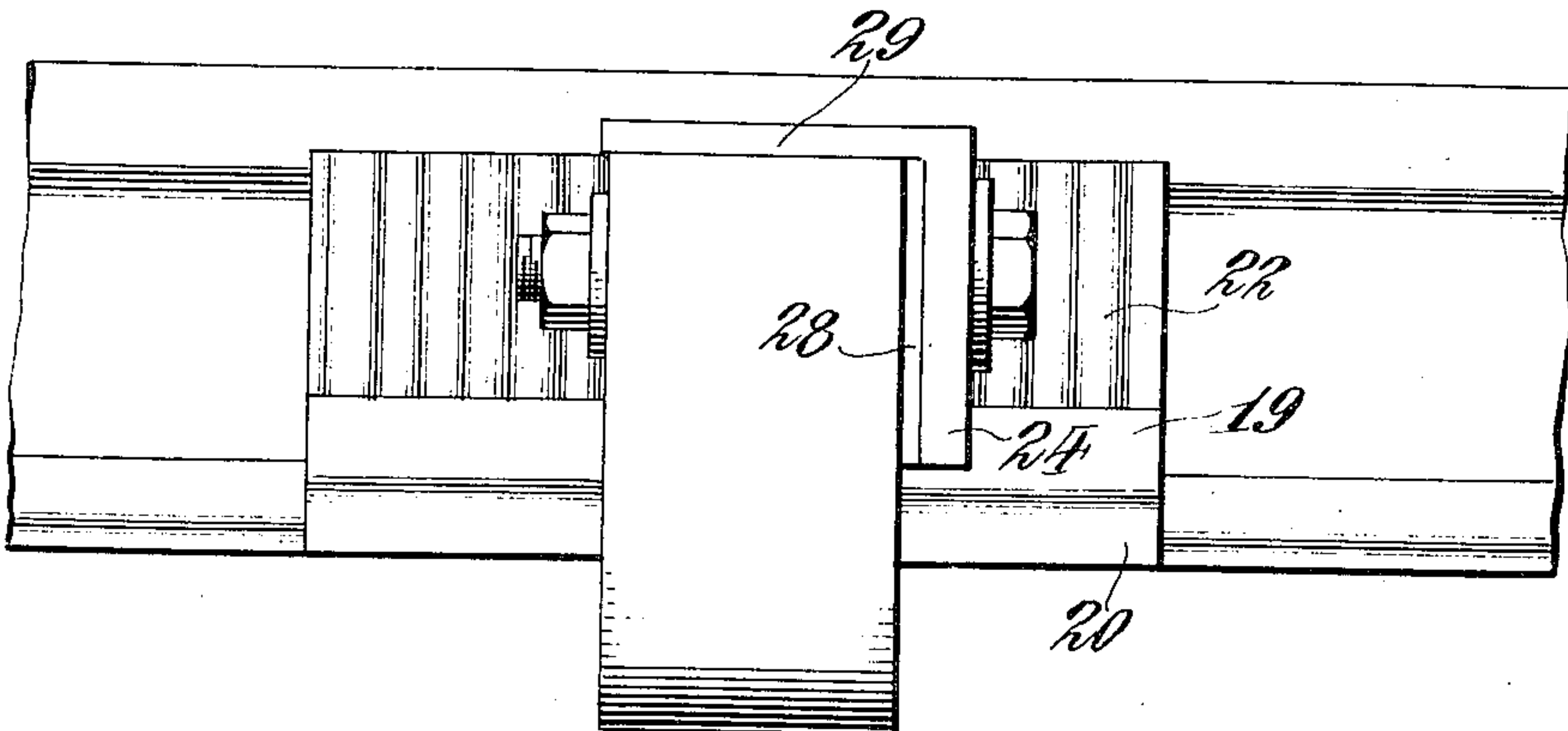


Fig. 5.

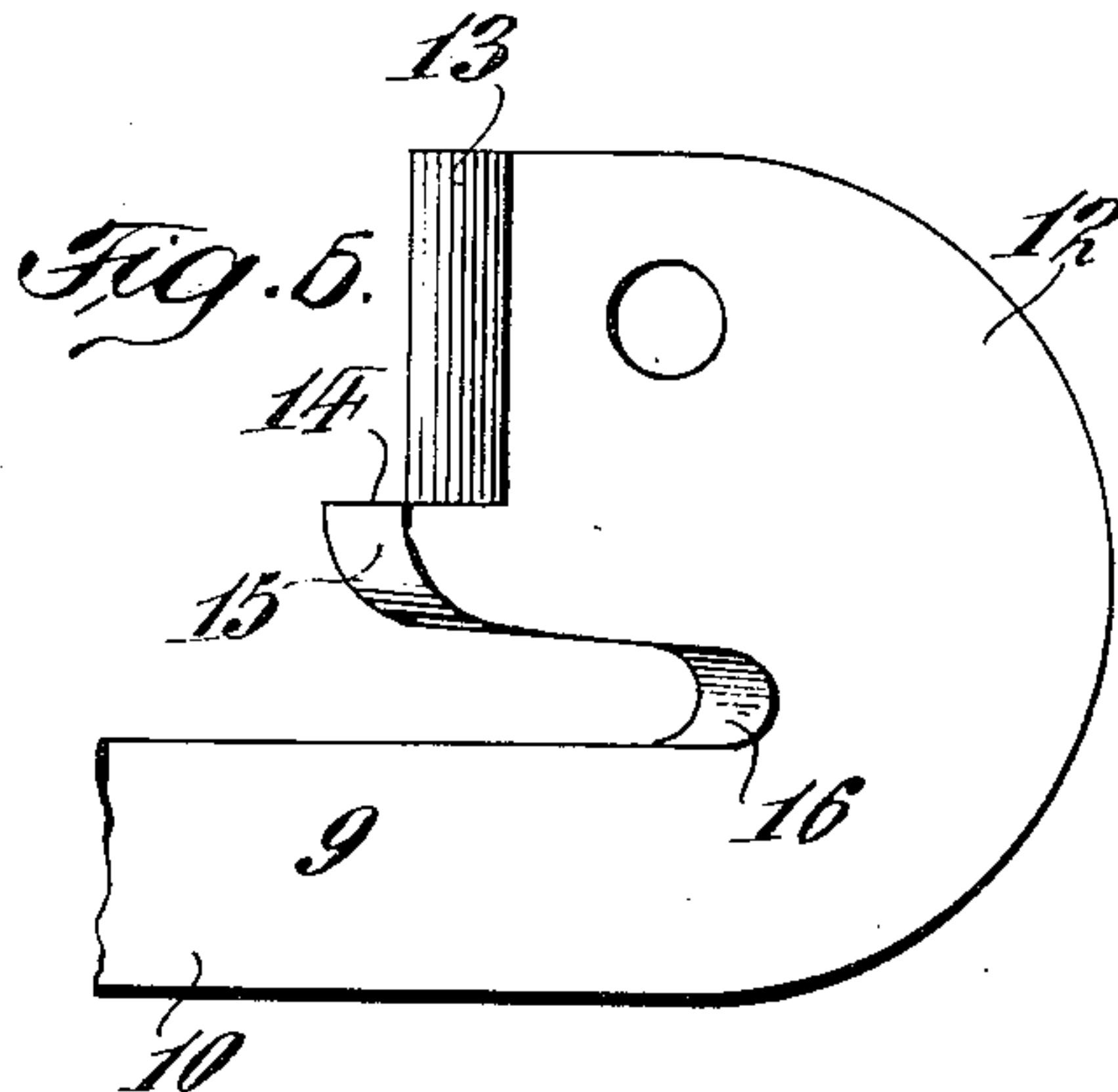
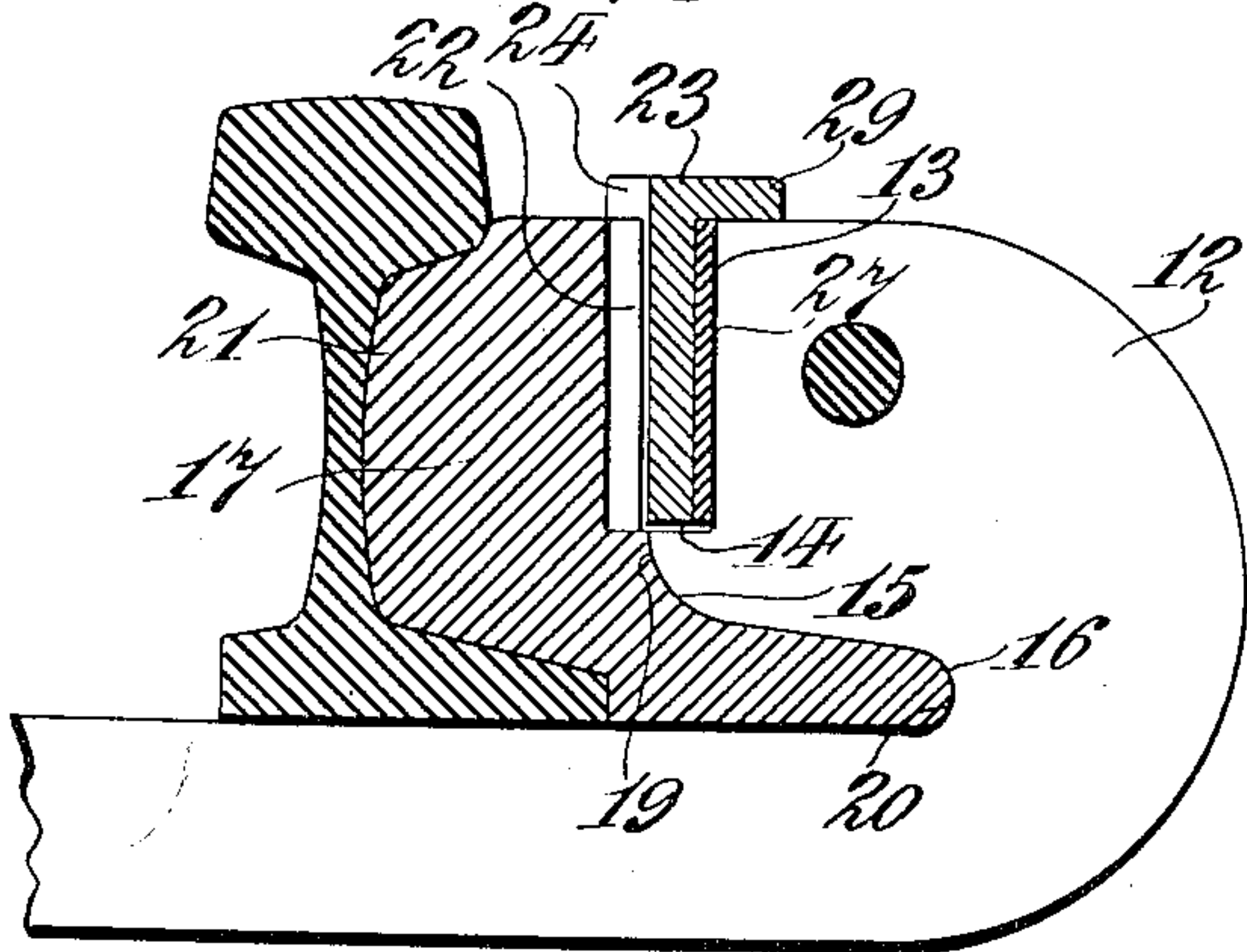


Fig. 7.

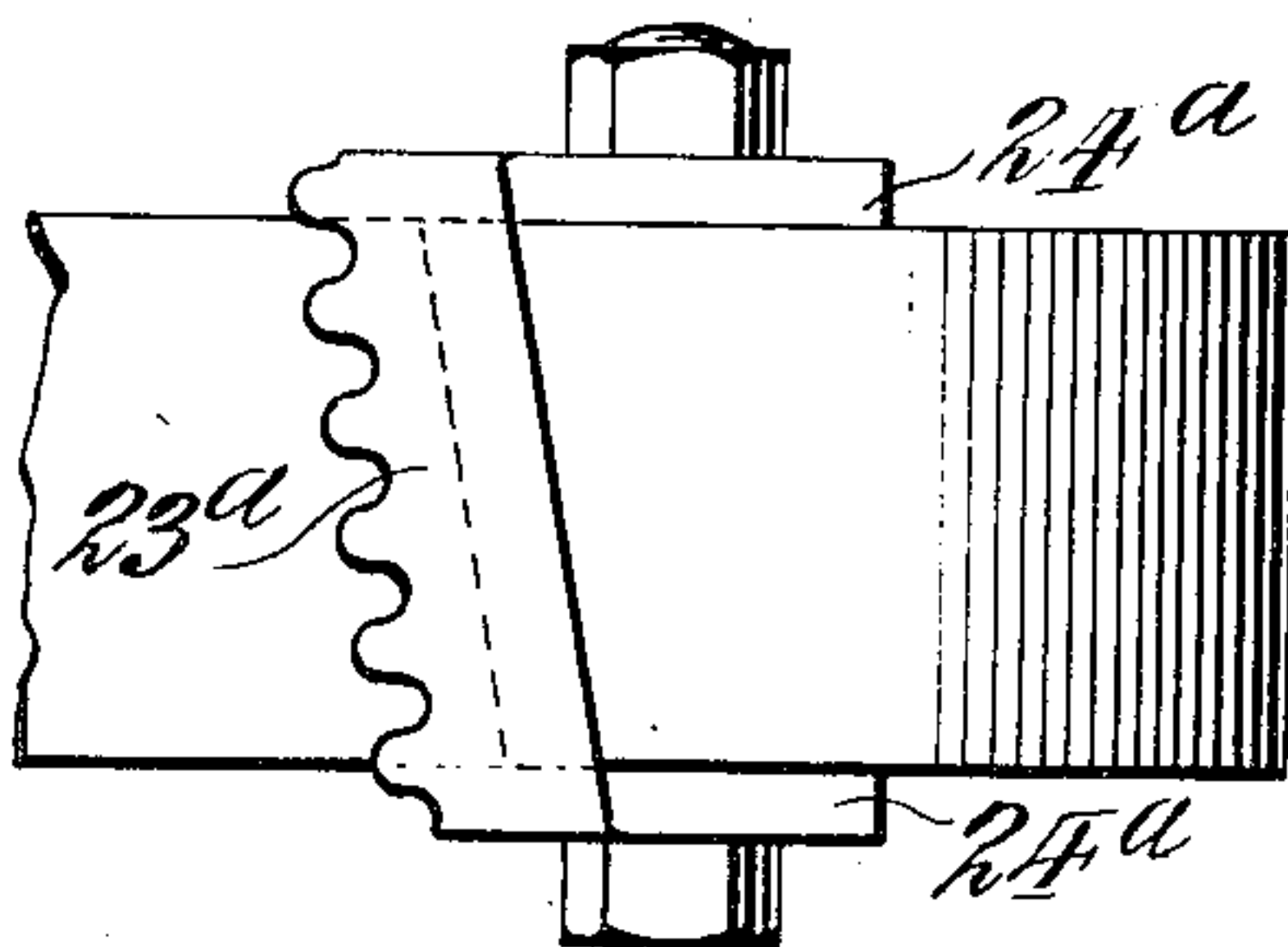
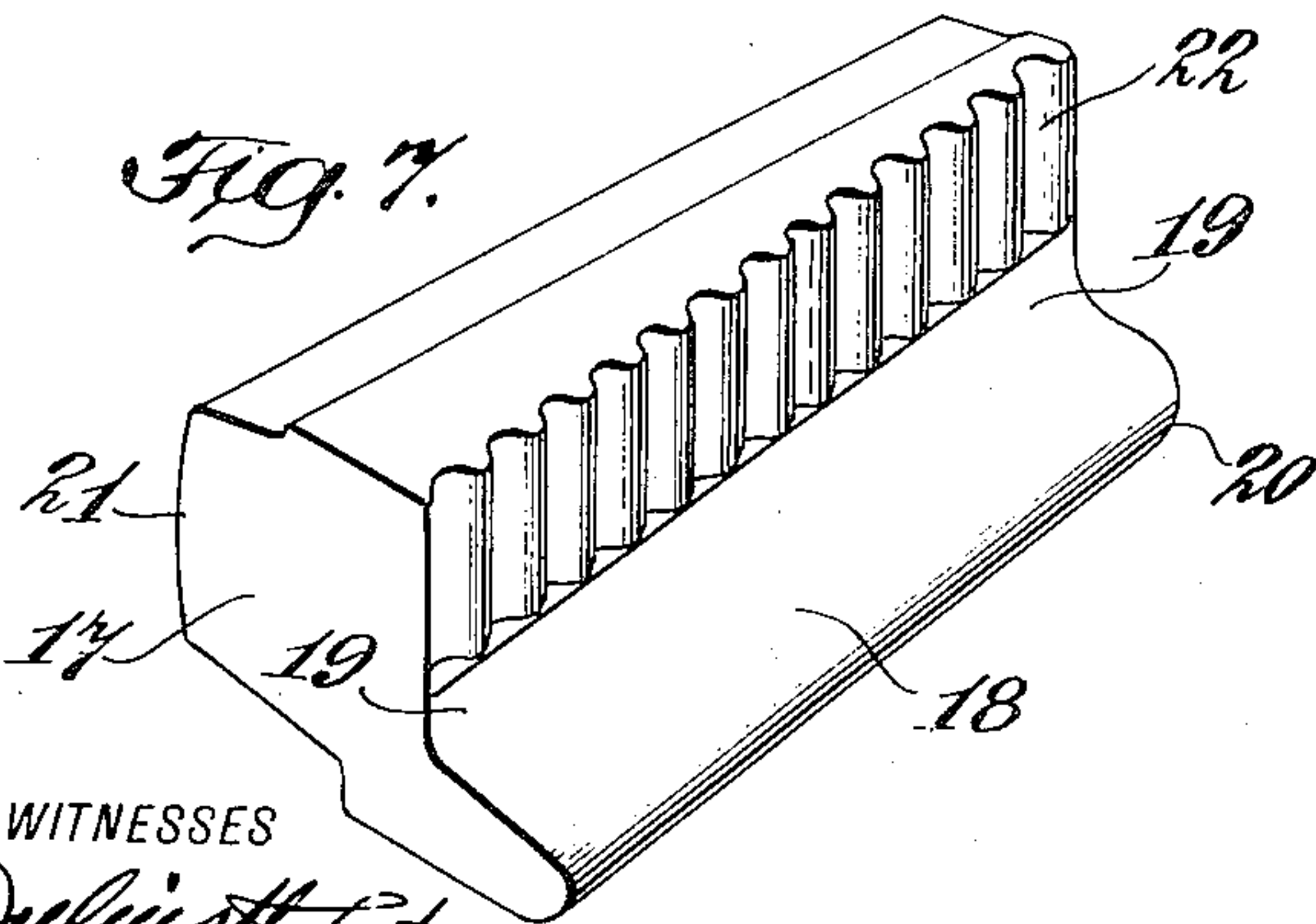


Fig. 8.

WITNESSES

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# UNITED STATES PATENT OFFICE.

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## GUARD-RAIL CLAMP.

938,848.

Specification of Letters Patent.

Patented Nov. 2, 1909.

Application filed March 24, 1909. Serial No. 485,369.

*To all whom it may concern:*

Be it known that I, GEORGE L. HALL, a citizen of the United States, and resident of the borough of Manhattan, city, county, and State of New York, have invented certain new and useful Improvements in Guard-Rail Clamps, of which the following is a specification, reference being had therein to the accompanying drawings, in which—

Figure 1 is an end elevation showing the clamp applied; Fig. 2 a plan view, the heads of the track rail and the guard rail being removed and the arm of the locking block being shown in section to more clearly show the construction of the device; Fig. 3 a detail perspective view of one of the spacing pieces employed; Fig. 4 an end elevation showing the guard rail clamp in position; Fig. 5 a detail vertical sectional view on the line V—V of Fig. 2; Fig. 6 a detail side elevation of a portion of the clamp yoke; Fig. 7 a detail perspective view of the clamp wedge; and Fig. 8 a plan view showing a modified form of the clamp locking-block.

This invention relates to that class of devices known as guard rail clamps, and which are used for the purpose of clamping a guard rail to the adjacent track rail, a filler block or spacing means being interposed between the two rails to hold them a fixed distance from each other.

One of the objects of this invention is to provide means by which the clamp may be rigidly held in position without spiking the clamping means to the tie, or keying or bolting it to the guard rail.

Another object of the invention is to provide means whereby the clamp will be held tightly in place by a wedge and the wedge will be locked in position by a locking device, said device being in turn connected to the clamp yoke by any suitable means.

Referring to the various parts by numerals, 1 designates the track rail and 2 the guard rail. To space the guard rail a suitable distance from the track rail I employ the two-part filler block 3. This block is composed of two parts, 4 and 5, which are separated vertically on a diagonal line, the adjoining surfaces thereof being ribbed and grooved vertically so that the two parts may be interlocked to prevent independent endwise movement of said sections or members.

The member 4 is provided midway be-

tween its upper and lower edges with an outward extending horizontal rib 6 which extends the entire length of the block; and the co-acting member 5 is formed with a corresponding groove 7 to receive said rib, whereby the two members will be held against independent vertical movement. The member 4 is considerably longer than the member 5 to provide for a considerable range of adjustment. It will be seen that by adjusting the blocks on each other the guard rail may be spaced various distances from the track rail. The shorter member 5 is provided with depending lugs 8 which engage the sides of the clamp bar proper to hold said member stationary during the adjustment of the clamp.

The clamp bar or yoke 9 is formed with a main horizontal portion 10 which extends under the two rails, as shown clearly in Fig. 1. One end of the clamp bar is formed with an upwardly extending yoke-shaped arm 11 which is adapted to engage the web of the track rail. The other end of the clamp bar is formed with the upwardly extending yoke-shaped arm 12, the end of said arm being turned inwardly toward the guard rail, its vertical face 13 being oblique to the longitudinal line of the guard rail, as shown clearly in Fig. 2. This vertical face is cut out from the upper surface of the arm 12 downward a suitable distance to form the horizontal shoulder 14. Said arm is also undercut from the end of the shoulder 14 to form the wedge surfaces 15 and 16, said surfaces being parallel with the oblique face 13 of the arm.

In the space between the guard rail and the end of the arm 12 is fitted a clamping wedge 17. This wedge bears against the web of the guard rail and is formed with the outward-extending wedge portion 18 at its lower end, said wedging portion being formed with the surfaces 19 and 20 which engage the corresponding surfaces 15 and 16 of the clamping yoke, said surfaces 19 and 20 being oblique to the vertical face 21 which engages the web of the guard rail and corresponding to the inclination of the oblique faces of the clamp yoke. The wedge block is also formed with an oblique face 22 which is vertically corrugated as shown, the bottom of said corrugations being in substantially the same horizontal plane as the shoulder 14.



To hold the wedge in its position I provide a locking block 23 which is adapted to fit between the face 13 of the clamp yoke and the corrugated oblique face 22 of the wedge.

5 This locking block is corrugated on one face as at 24 to adapt it to engage the similarly corrugated face 22 of the wedge block. The locking block 23 is provided with an outwardly extending arm 24 adapted to lie  
10 against the side of the clamp yoke, said arm being slotted at 26 for the passage of a securing bolt 25 and to permit of its adjustment on the clamp. The arm 12 of the clamp yoke is formed with an aperture for  
15 the passage of the securing bolt 25.

Should it be impossible to drive the wedge inwardly sufficiently to permit the ribs on the locking block to enter the desired grooves in the wedge I provide a spacing strip 27  
20 which may be inserted between the face 13 of the yoke and the outer or rear face of the locking block, as shown clearly in Figs. 2 and 5. These spacing strips may be provided with arms 28 extending outwardly and  
25 adapted to lie against the side of the clamp wedge, said arms being slotted for the passage of the securing bolt 25, as shown in Fig. 2.

In Fig. 8 the locking block 23<sup>a</sup> is provided  
30 with two arms 24<sup>a</sup> which embrace the sides of the arm 12 of the clamp yoke. This form of locking block may be employed instead of the form shown in Figs. 2 and 4, it being, of course, understood that I do not wish to be  
35 limited to any specific form of locking block, except as the same may be specifically claimed herein.

In assembling the clamp the wedge is driven in between the clamp yoke and the  
40 guard rail and then the locking block is driven down between the face 13 of the clamp and the face 22 of the wedge, the ribs and grooves on the engaging faces of the two parts interlocking, thereby holding the  
45 wedge in its locked position. When the locking block has been driven down to its final position the securing bolt 25 is inserted and bolted to the yoke.

In order to strengthen the locking block and to provide a surface that may be constantly struck in driving the locking block in place I form said block with an outwardly  
50 extending strengthening cap or flange 29 which is adapted to extend outward over the upper end of the arm 12 as shown clearly in  
55 Fig. 5.

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

60 1. A rail clamp comprising a clamp bar formed at one end with means for engaging a rail and at its other end with an upwardly extending part or yoke, a wedge formed with a track-engaging side and with an ob-  
65 lique side adapted to engage the clamp bar,

and a locking part adapted to be inserted between the clamp bar and the wedge to lock the wedge.

2. A rail clamp comprising a clamp bar provided at one end with means for engag- 70  
ing a rail and at its other end with an upwardly extending part or yoke, a wedge formed with a track-engaging side and with an oblique side adapted to engage the clamp bar, a locking part adapted to be inserted 75  
between the clamp bar and the wedge to lock the wedge, and means for connecting the locking part to the clamp bar.

3. A rail clamp comprising a clamp bar provided at one end with means for engag- 80  
ing a rail and at its other end with an upwardly extending part or yoke, a wedge formed with a track-engaging side and with an oblique side adapted to engage the clamp bar, one face of said wedge being corrugated, 85  
and a similarly corrugated locking block adapted to be inserted between the clamp yoke and the corrugated face of the wedge to lock the wedge in position.

4. A rail clamp comprising a clamp bar 90  
provided at one end with means for engaging a rail and at its other end with an upwardly extending part or yoke, a wedge formed with a track-engaging side and with an oblique side adapted to engage the clamp 95  
bar, the outer vertical face of said wedge being vertically corrugated, and a similarly corrugated locking block adapted to be inserted between the vertical face of the clamp yoke and the corrugated outer face of the 100  
wedge to lock said wedge in position.

5. A rail clamp comprising a clamp bar provided at one end with means for engag-  
ing a rail and at its other end with an up- 105  
wardly extending part or yoke, a wedge formed with a track-engaging side and with an oblique side adapted to engage the clamp bar, one face of said wedge being corrugated, a similarly corrugated locking block adapt- 110  
ed to be inserted between the clamp yoke and the corrugated face of the wedge to lock the wedge in position, and means for secur-  
ing the locking block to the clamp yoke.

6. A rail clamp comprising a clamp bar provided at one end with means for engag- 115  
ing a rail and at its other end with an upwardly extending part or yoke, a wedge formed with a track-engaging side and with an oblique side adapted to engage the clamp bar, the outer vertical face of said wedge 120  
being vertically corrugated, a similarly corrugated locking block adapted to be inserted between the vertical face of the clamp yoke and the corrugated outer face of the wedge to lock said wedge in position, and a bolt 125  
connecting the locking block to the clamp yoke.

7. A rail clamp comprising a clamp bar provided at one end with means for engag-  
ing a rail and at its other end with an up- 130



wardly extending part or yoke, a wedge formed with a track-engaging side and with an oblique side adapted to engage the clamp bar, the outer vertical face of said wedge being vertically corrugated, a similarly corrugated locking block adapted to be inserted between the vertical face of the clamp yoke and the corrugated outer face of the wedge to lock said wedge in position, means for adjusting the locking block on the clamp yoke, and a bolt to secure the locking block to said yoke.

8. A rail clamp comprising a clamp bar provided at one end with means for engaging a rail and at its other end with an upwardly extending part or yoke, a wedge formed with a track-engaging side and with an oblique side adapted to engage the clamp bar, the outer vertical face of said wedge being vertically corrugated, a similarly corrugated locking block adapted to be inserted between the vertical face of the clamp yoke and the corrugated outer face of the wedge to lock said wedge in position, spacing strips adapted to be placed between the yoke and the locking block, and a bolt to secure the locking block to said yoke.

9. A rail-clamp comprising a clamp-bar formed at one end with means for engaging a rail, and at its other end with an upwardly extending part or yoke, a horizontal movable wedge formed with a track-engaging side, and with a forwardly inclined side adapted to engage the clamp-bar, a vertically moving locking part adapted to be inserted between the clamp-bar and the wedge to lock the wedge to the clamp-bar.

10. A rail-clamp comprising a clamp-bar provided at one end with means for engaging a rail, and at its other end with an upwardly extending part or yoke, a wedge formed with a straight track-engaging inner side, and its outer side inclining inwardly and forwardly toward the track-engaging side, a portion of said outer side being smooth, and serving as a wedge, the other part of said side being vertically corrugated, said smooth part of the wedge being adapted to engage the clamp-bar, and a vertically movable locking device adapted to engage the clamp-bar and the corrugations in the wedge.

11. A rail-clamp, the combination of a track-rail, and a guard rail, a clamp-bar formed at one end with an upwardly extending part or yoke, a wedge formed with a track-engaging inner side and with a forwardly and inwardly inclined outer side adapted to engage a clamp-bar, a locking part adapted to be inserted between the clamp-bar and the wedge to lock the wedge, and a pair of space-blocks between the track-rail and the guard-rail, said blocks being vertically divided on a line oblique to the rails, the adjoining faces of said blocks being correspondingly vertically corrugated.

In testimony whereof I hereunto affix my signature in the presence of two witnesses this 12th day of March 1909.

GEORGE L. HALL.

Witnesses:

WM. R. DAVIS,  
E. H. KAUFMANN.