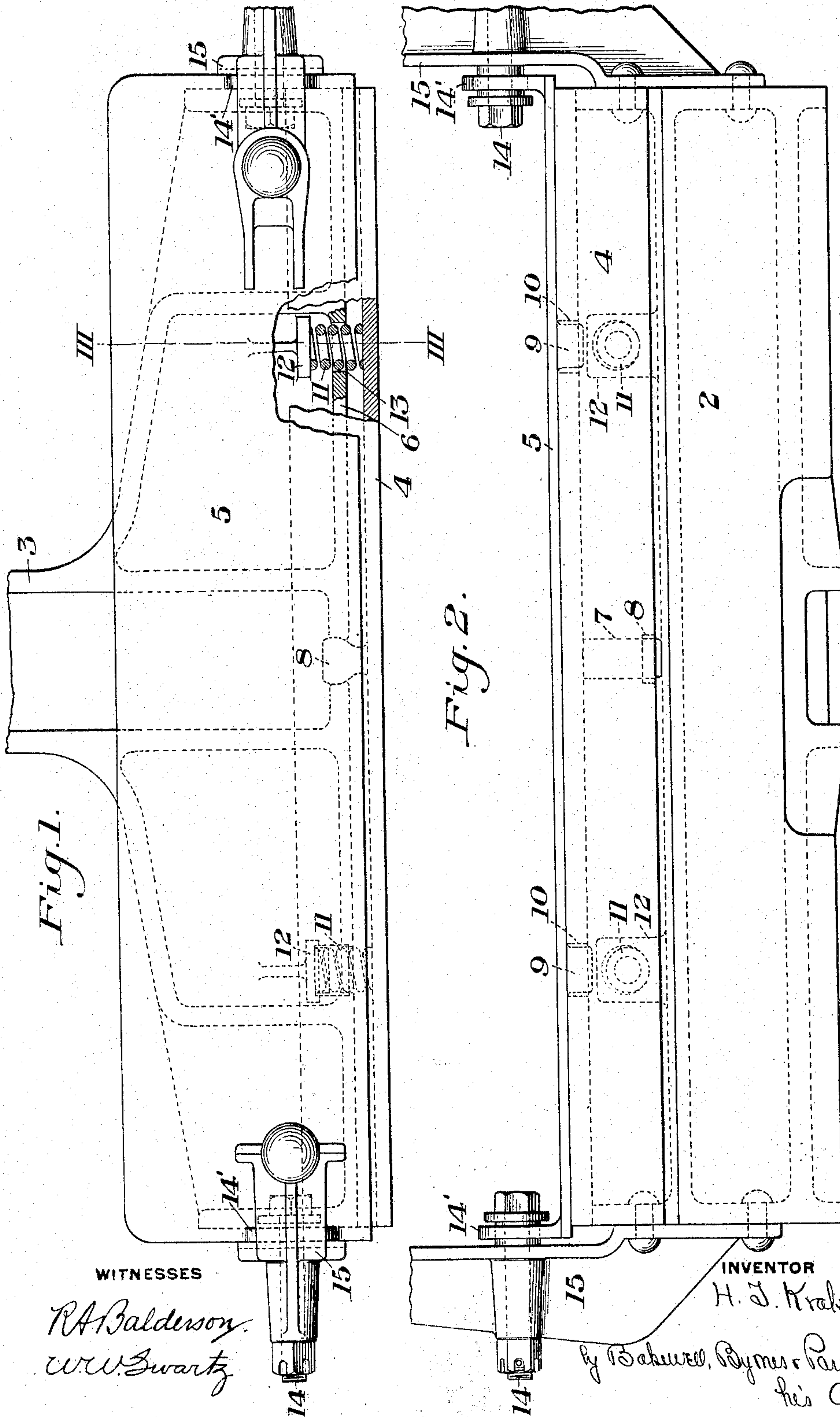


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 BUFFER FOR RADIAL DRAFT GEARS.  
 APPLICATION FILED JULY 24, 1908.

947,245.

Patented Jan. 25, 1910.

3 SHEETS—SHEET 1.



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3 SHEETS—SHEET 2.

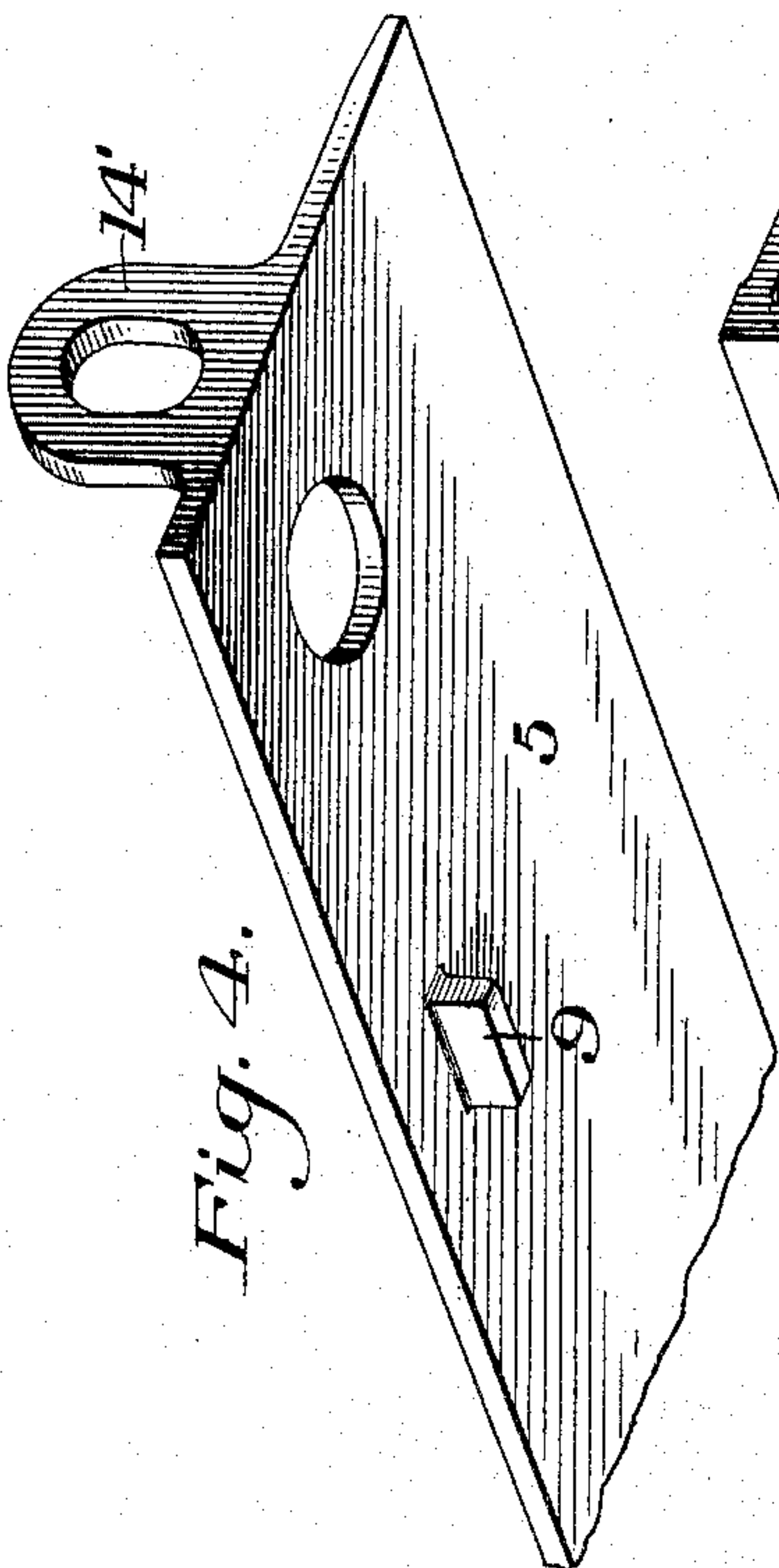


Fig. 4.

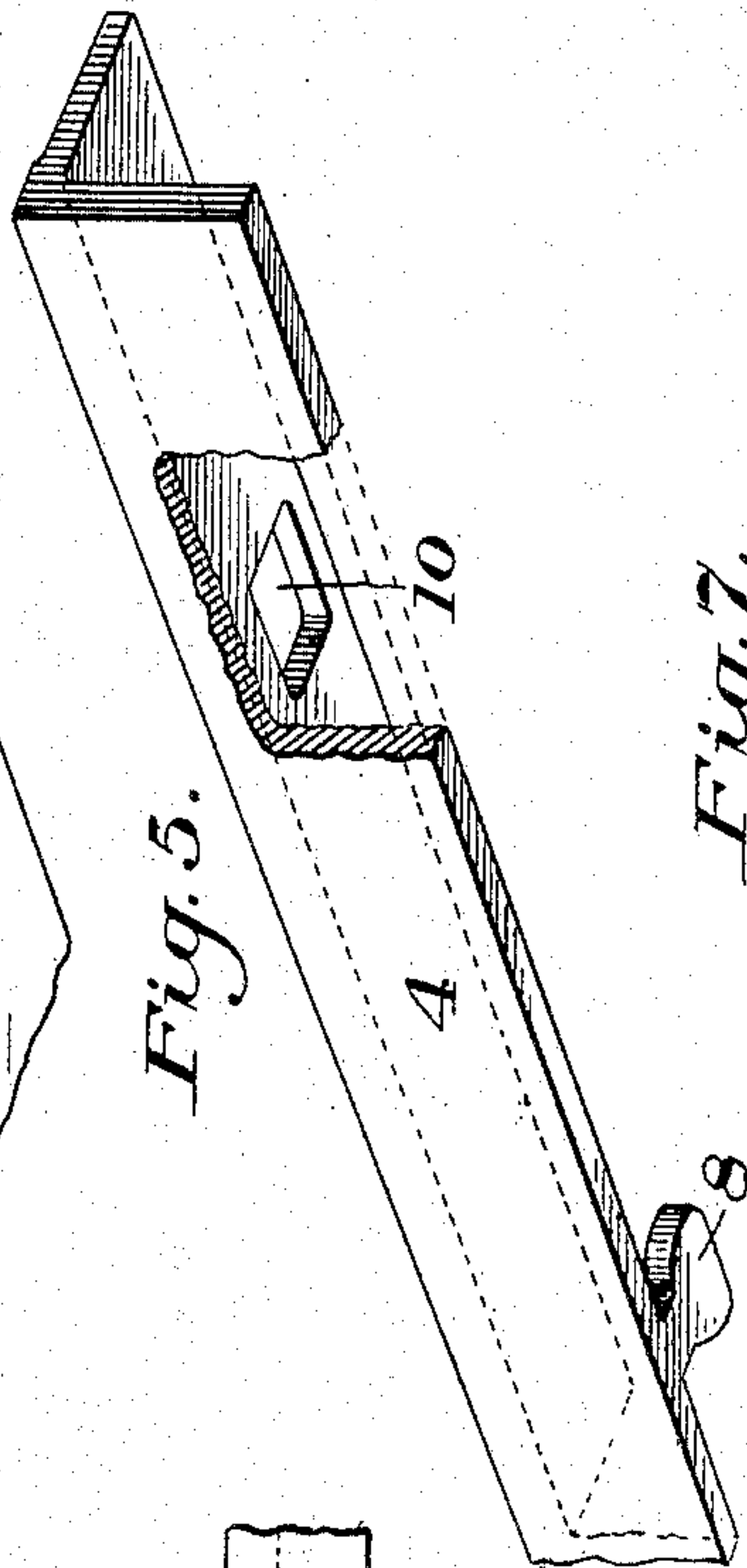


Fig. 5.

Fig. 7.

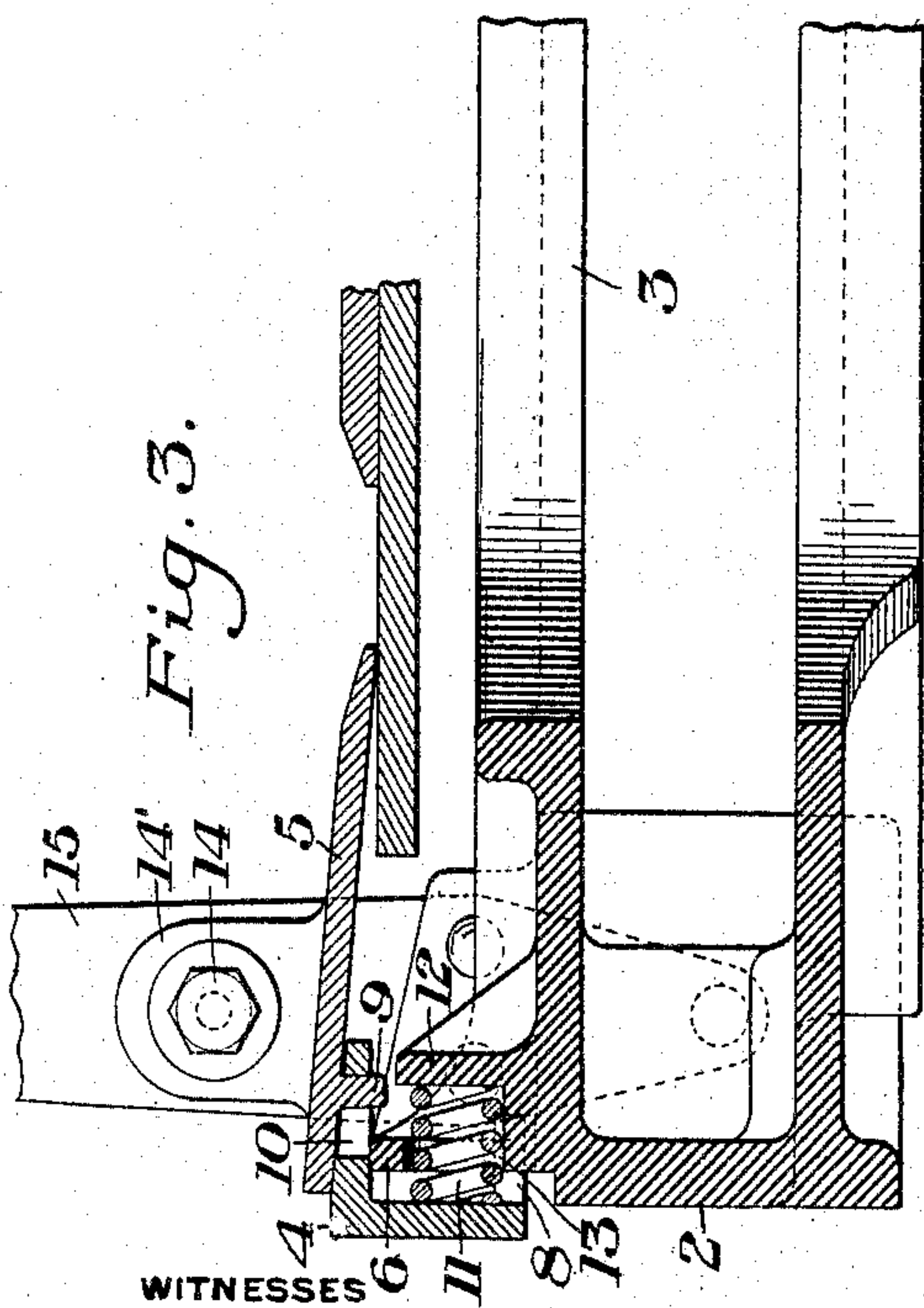
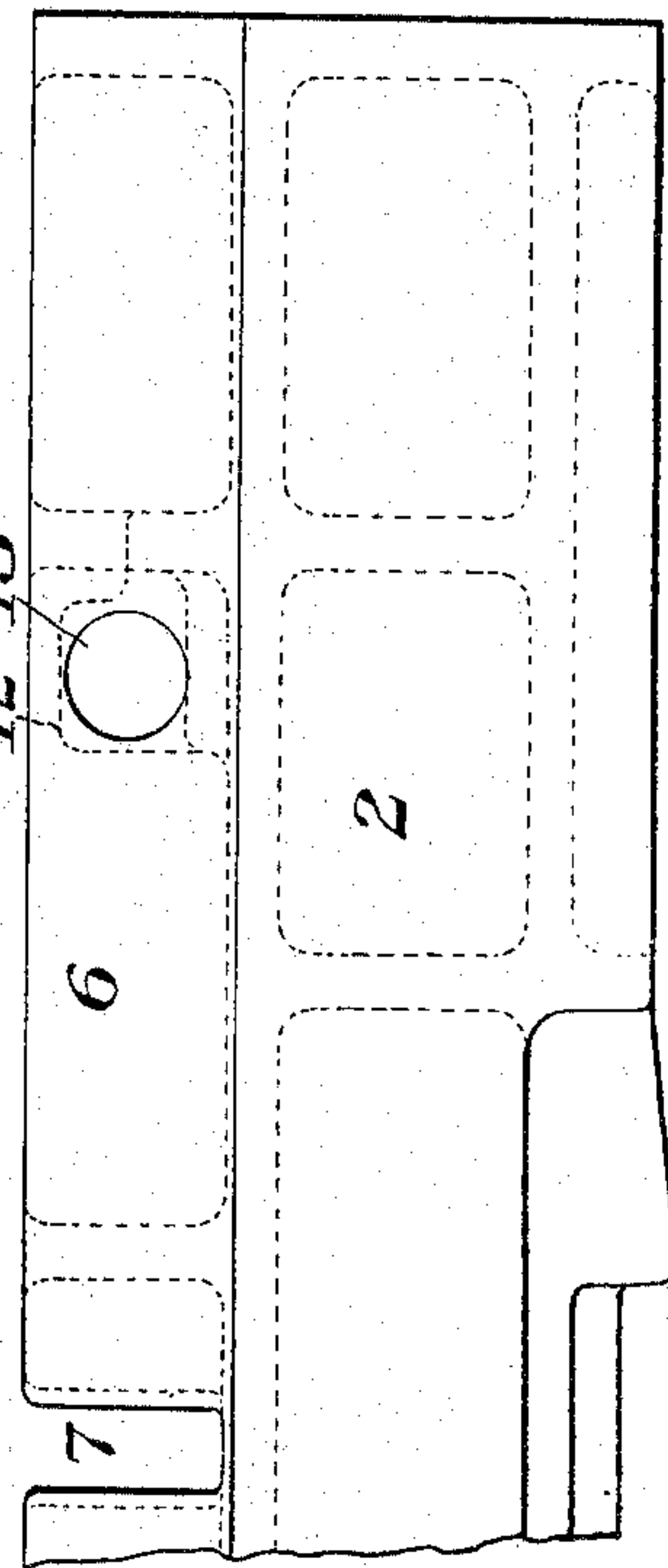


Fig. 3.

WITNESSES

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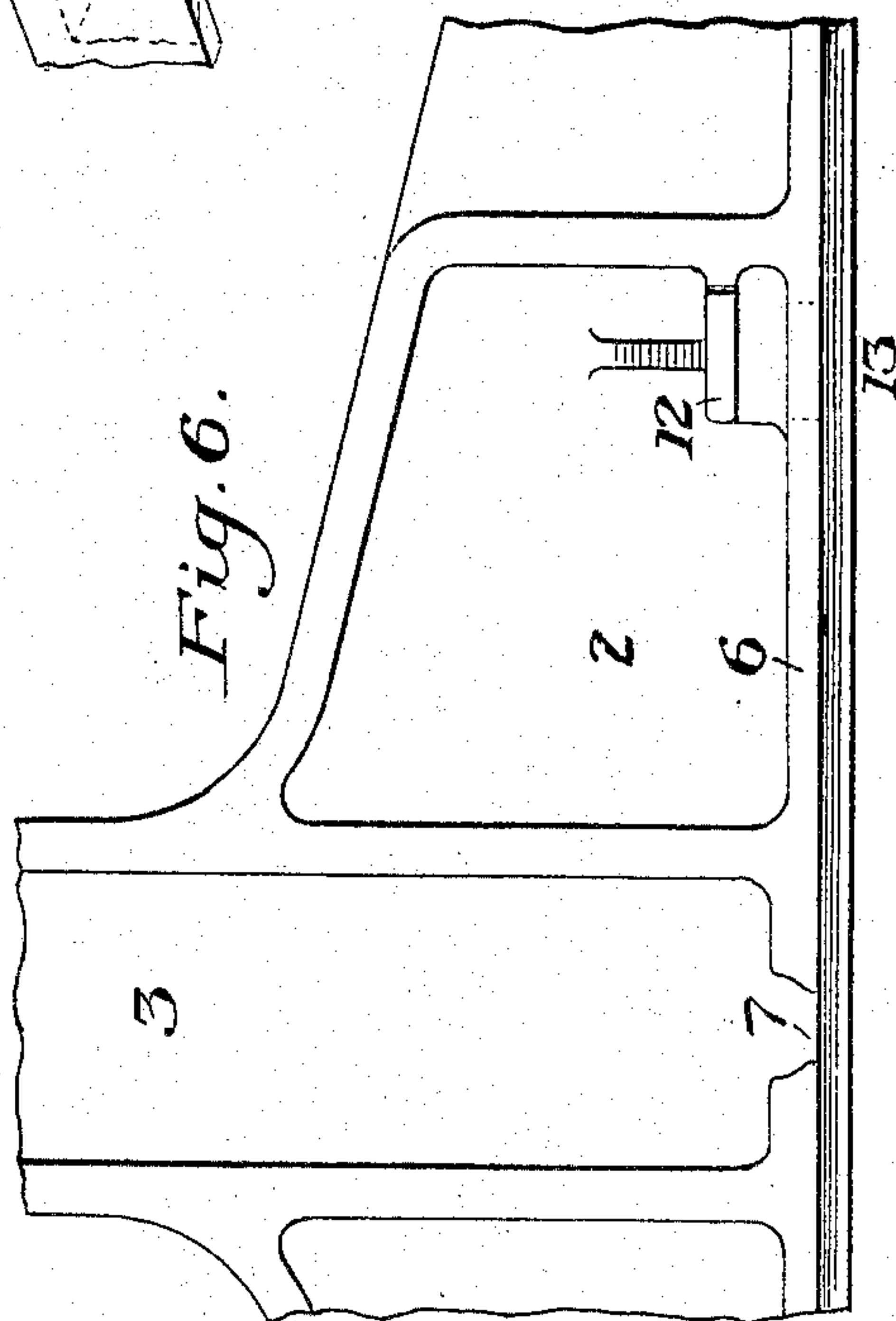


Fig. 6.

INVENTOR

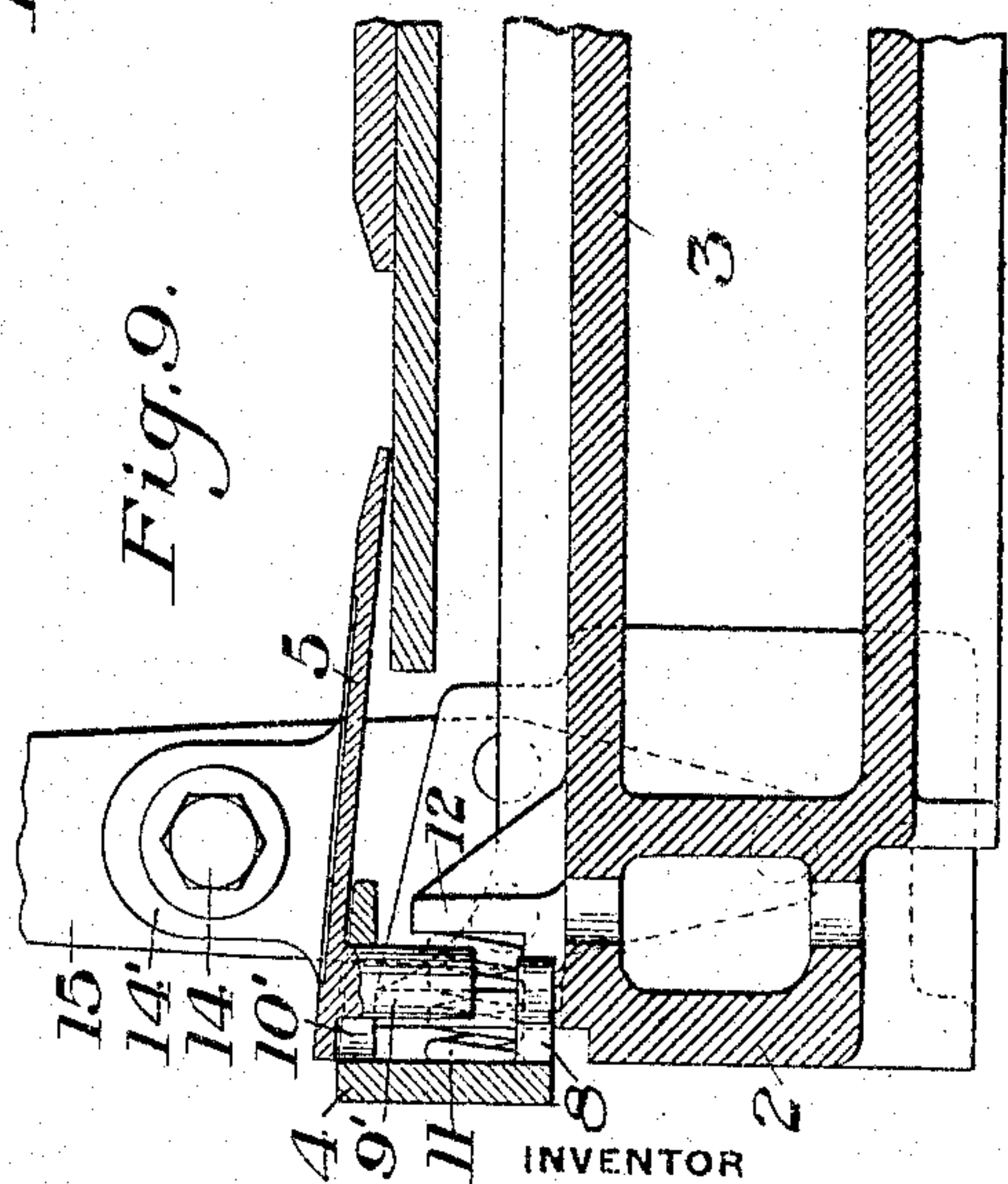
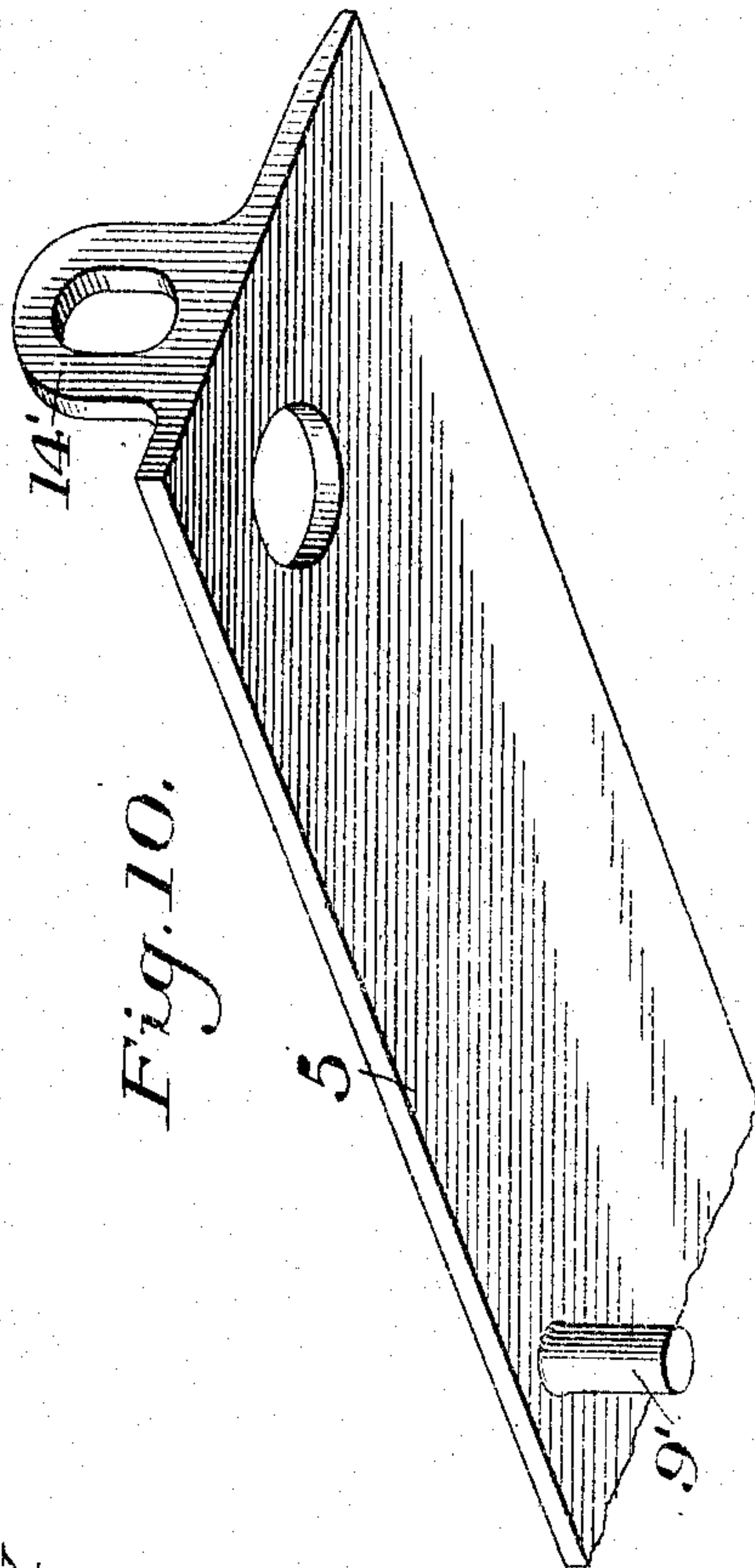
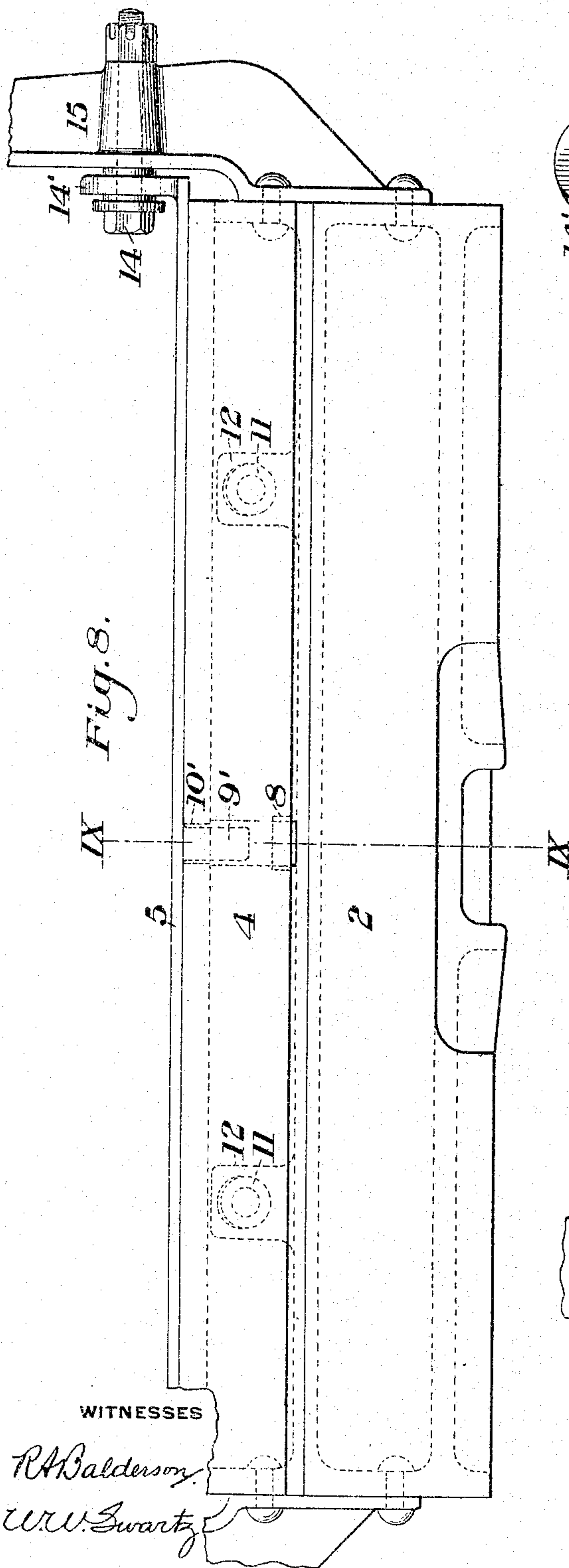
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947,245.

Patented Jan. 25, 1910.

3 SHEETS—SHEET 3.



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 his Attys



# UNITED STATES PATENT OFFICE.

HARRY T. KRAKAU, OF CLEVELAND, OHIO, ASSIGNOR TO THE NATIONAL MALLEABLE CASTINGS COMPANY, OF CLEVELAND, OHIO, A CORPORATION OF OHIO.

## BUFFER FOR RADIAL DRAFT-GEARS.

947,245.

Specification of Letters Patent.

Patented Jan. 25, 1910.

Application filed July 24, 1908. Serial No. 445,194.

*To all whom it may concern:*

Be it known that I, HARRY T. KRAKAU, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented a Buffer for Radial Draft-Gear, of which the following is a specification, reference being had to the accompanying drawings, in which—

Figure 1 is a plan view partly in section; Fig. 2 is a front view; Fig. 3 is a sectional view on the line III—III of Fig. 1, showing the connection between the face plate and buffer; Fig. 4 is a perspective view, partly broken away, showing the construction of the foot plate; Fig. 5 is a perspective view, partly broken away, showing the buffer face plate; Fig. 6 is a partial plan view of the main buffer casting; Fig. 7 is a partial face view of the main buffer casting; Fig. 8 is a front view, similar to Fig. 2, showing a modification; Fig. 9 is a sectional view of Fig. 8, the section being on the line IX—IX, and Fig. 10 is a perspective view, partly broken away, of the foot-plate shown in Figs. 8 and 9.

In Figs. 1–7 of the drawings, 2 is the main buffer casting which constitutes the transverse member of the buffer and has a rigidly attached shank 3, which projects rearwardly therefrom and is divided or forked. The upper forward portion of the main buffer casting is recessed as shown in Figs. 1 and 3 to admit a face-plate 4, set loosely between the buffer casting and the foot-plate 5. The transverse vertical rib 6 at the upper part of the buffer casting is slotted at 7 (Fig. 7) to receive a projecting tongue 8 on the face-plate (Fig. 5) which holds the face-plate in loose engagement with the buffer casting and permits it to rock horizontally in either direction on the tongue as a center, the rocking motion being limited by stop-projections 9 on the foot-plate within slots 10 on the horizontal portion of the face-plate. The face-plate is held yieldingly forward by springs 11, which are interposed between the vertical portion of the face-plate and shoulders 12 on the buffer casting, and pass through holes 13 on the recessed portion of the face of the buffer-casting. The foot-plate is held in place, preferably by bolts 14, which pass through lugs 14' on the foot-plate and secure it to the supports 15 of the hand-rail

face plate and the springs are held securely in place. 55

By the construction above described the buffer is provided with a spring-backed face which, being held in projected position by the springs, is adapted to bear constantly against a corresponding face-plate on an adjoining car when the cars are coupled together. This is important when the buffer is used with radial draft gear, for if the buffer face were entirely rigid and held inflexibly at right angles to the buffer-shank, the couplers, by reason of the clearance for the wheels on the track, might not meet in proper alinement when the cars are on curves, the couplers being guided by their guiding mechanism to the center of the track; and while under heavy buffing stress the buffer-faces would adjust themselves so as to bring the coupler-shanks and buffer-shanks into alinement, yet in case the pulling or buffing stresses were not sufficient to produce such alinement, the buffers might engage each other at one side but have a gap between them at the other side. This will not occur with my device, for the face-plate, being backed yieldingly by the springs, will be held thereby in contact from side to side so as to present no such gap, and they will do this without at all impairing the advantages which result from the rigid attachment of the main portion of the buffer to its shank which will still act to bring the couplers into alinement and to keep them in alinement under severe buffing stresses. 60 65 70 75 80 85

In the modification shown in Figs. 8–10, I secure the parts together by providing the foot-plate 5 on its under side with a round pin 9', which projects downwardly and enters an oblong hole 10' at the middle of the horizontal portion of the face-plate. The pin 9' and the tongue 8 hold the top and bottom of the face-plate at the middle, thus giving the ends of the face-plate greater play against the springs. 90 95

Other modifications of my invention will be suggested to those skilled in the art, since

What I claim is:

1. A buffer having a yieldingly backed face-plate and a foot-plate by which the face-plate is held in position, said foot-plate being connected to the face-plate by a loose connection constituted by a projection on one part fitting an opening in the other part. 100



2. A buffer having a rigidly connected transverse member and shank, a yieldingly backed face plate, and a foot plate by which the face plate is held in position.

5 3. A buffer having a rigidly connected transverse member and shank, a yieldingly backed face plate, and a foot plate by which the face plate is held in position, said foot plate being connected to the face plate by a  
10 loose connection.

4. A buffer having a rigidly connected transverse member and shank and a yieldingly backed face-plate, said face-plate having vertical and horizontal portions, and a  
15 foot-plate loosely connected to the horizontal portion of the face-plate.

5. A buffer having a transverse member and spring seats on the front thereof.

6. A buffer foot-plate having a downward projection to connect it to a face-plate. 20

7. A buffer having a rigidly connected transverse member and shank, and a yieldingly backed face plate carried by the buffer and leaving part of the transverse member exposed for buffing contact with another car. 25

In testimony whereof, I have hereunto set my hand.

HARRY T. KRAKAU.

Witnesses:

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LEROY GOULD.