

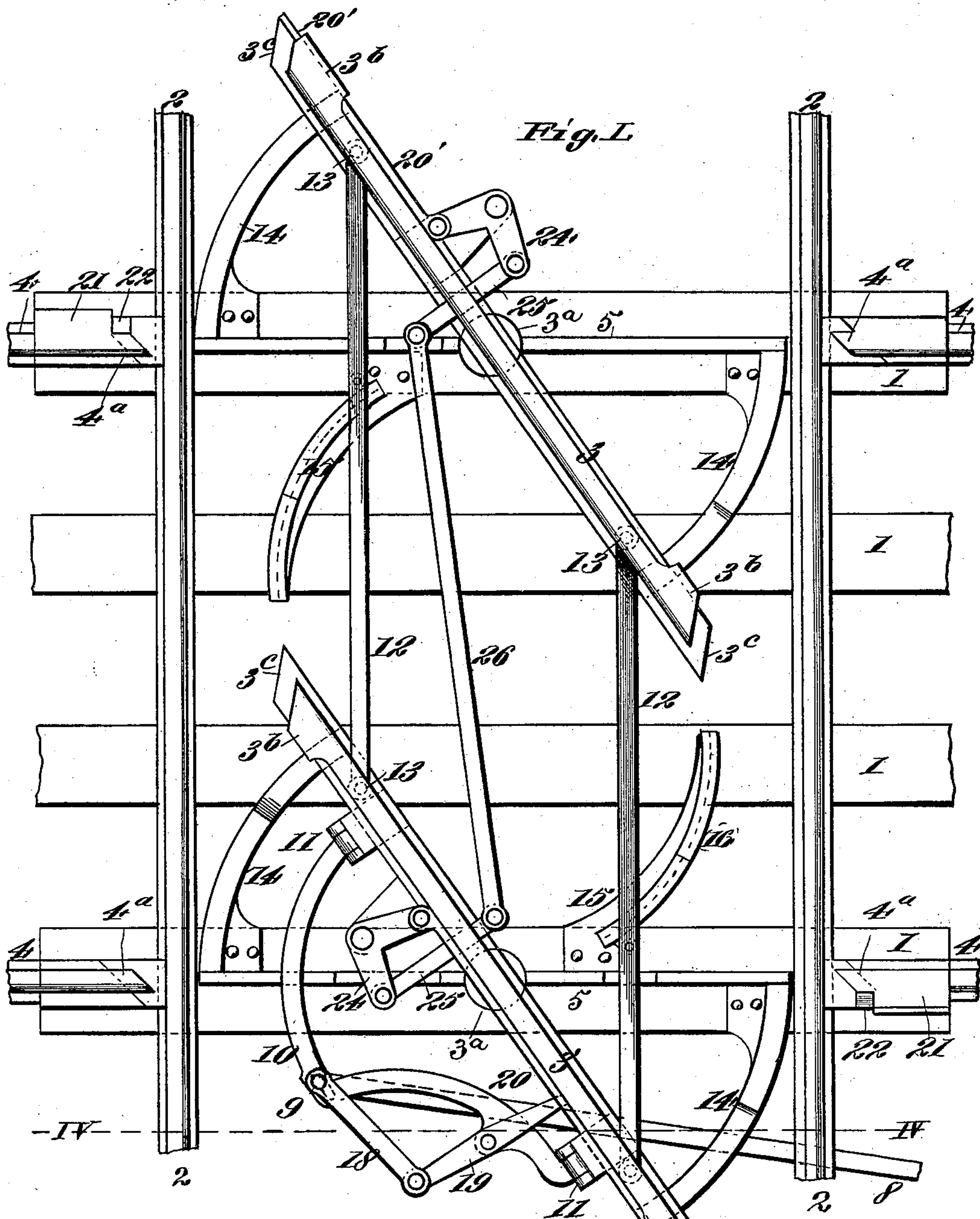
(No Model.)

3 Sheets—Sheet 1.

S. J. AUSTIN.  
RAILROAD CROSSING.

No. 592,622.

Patented Oct. 26, 1897.



Attest;

*E. S. Knight*  
*Stanley Stoner*

Inventor;  
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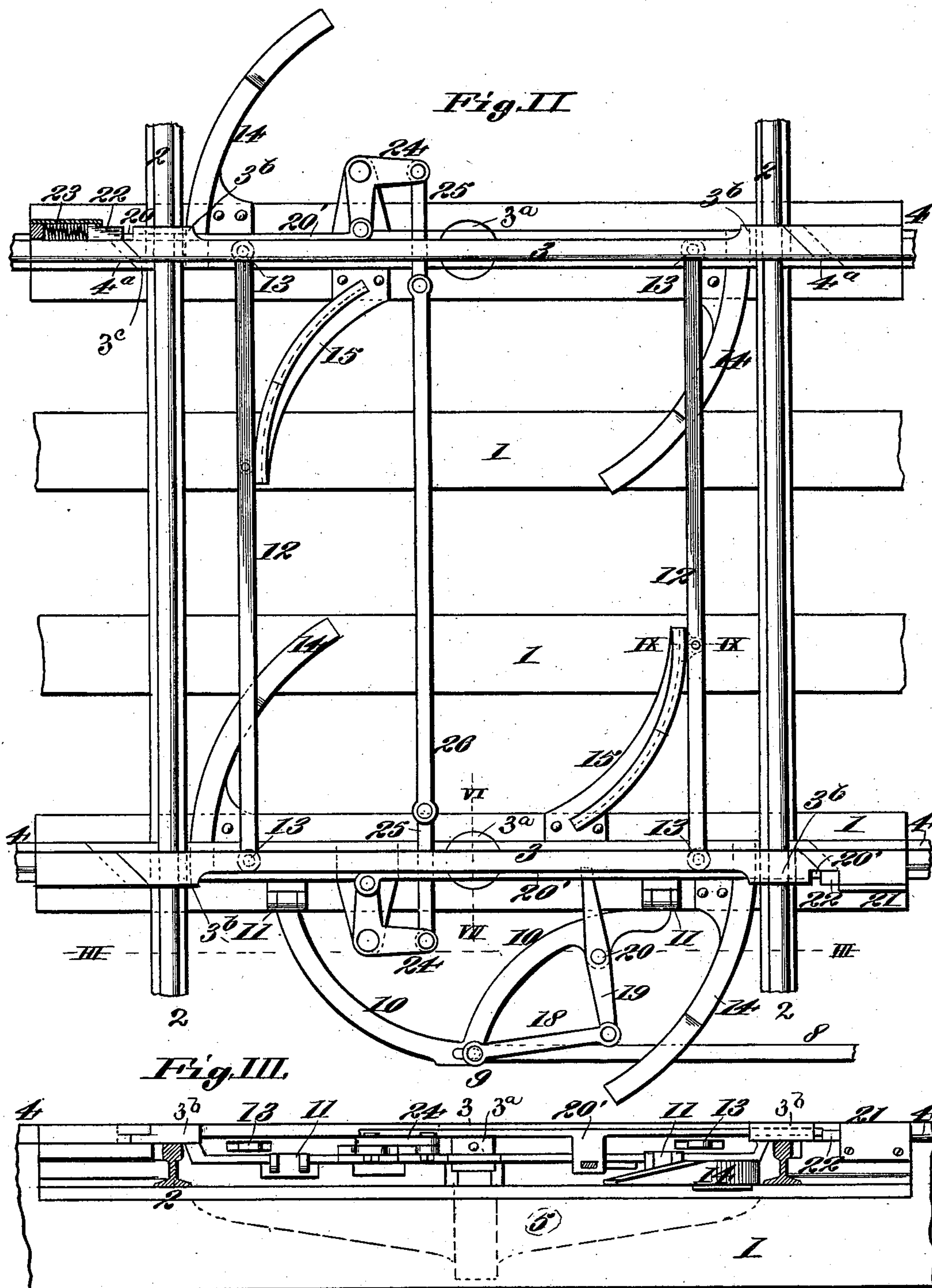
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**3 Sheets—Sheet 2.**

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(No Model.)

8 Sheets—Sheet 3.

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Fig. IV.

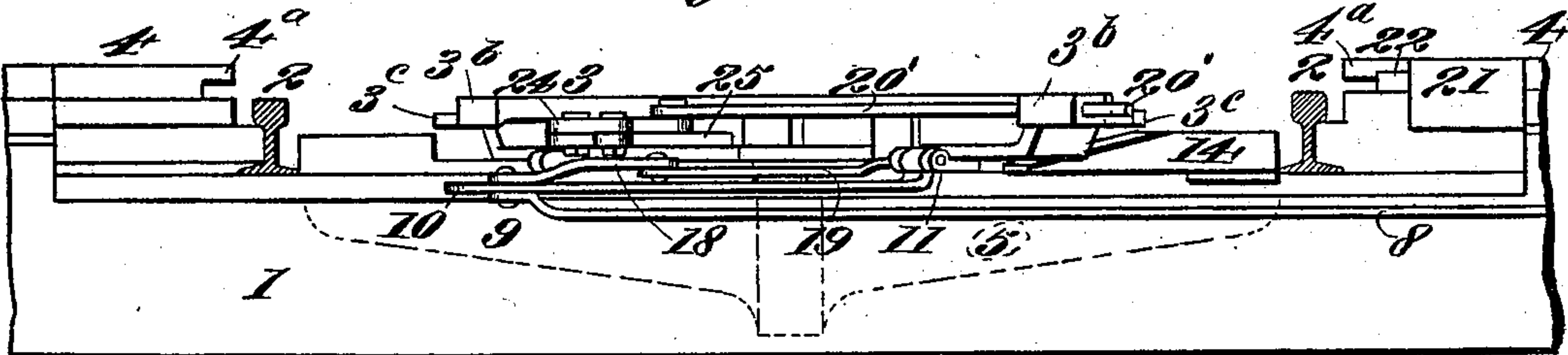


Fig. V.

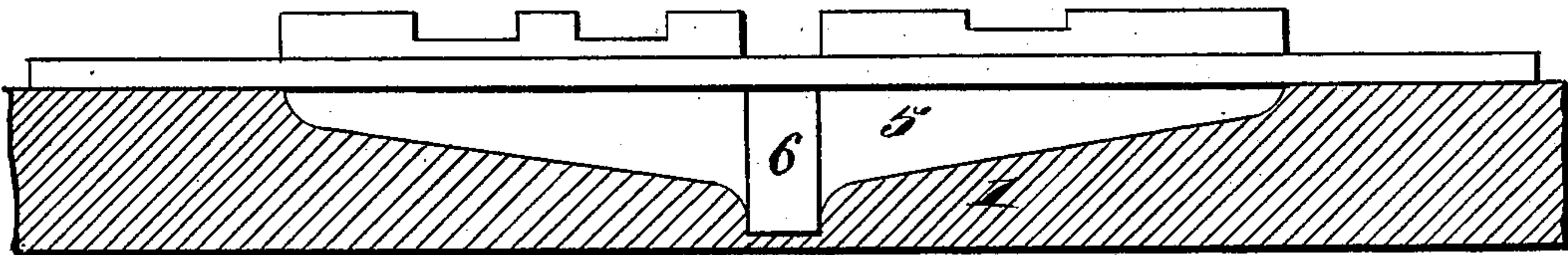


Fig. VI.

Fig. IX.

Fig. VII.

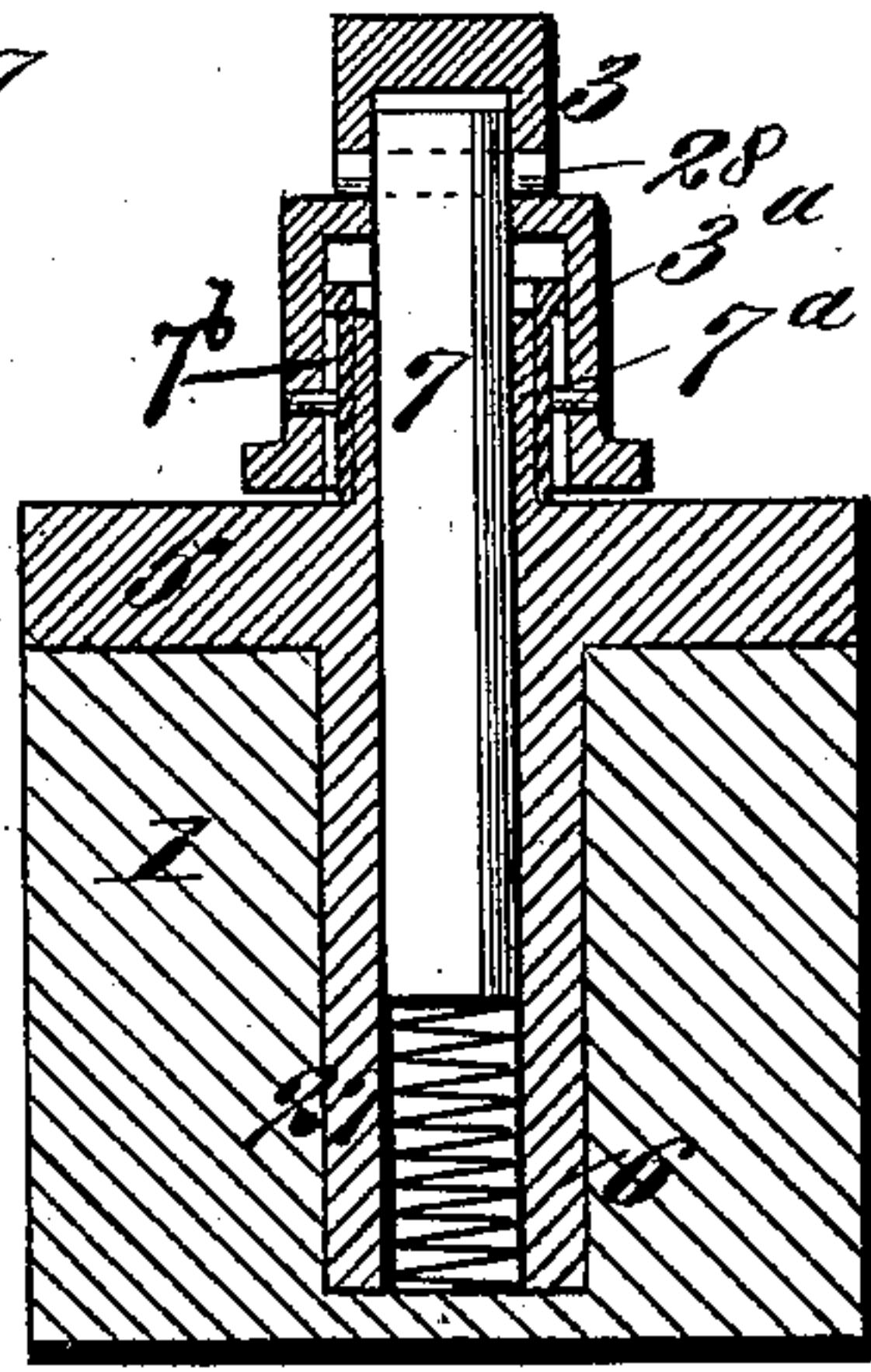
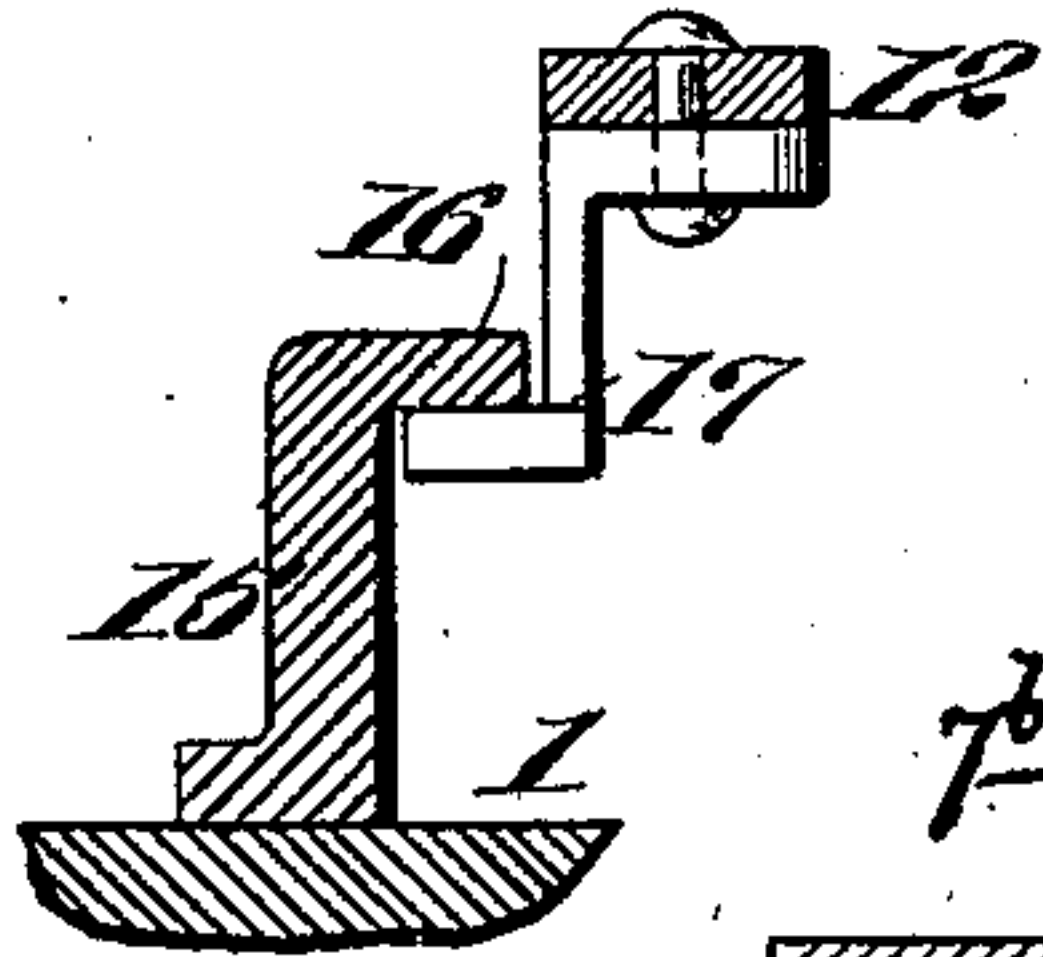
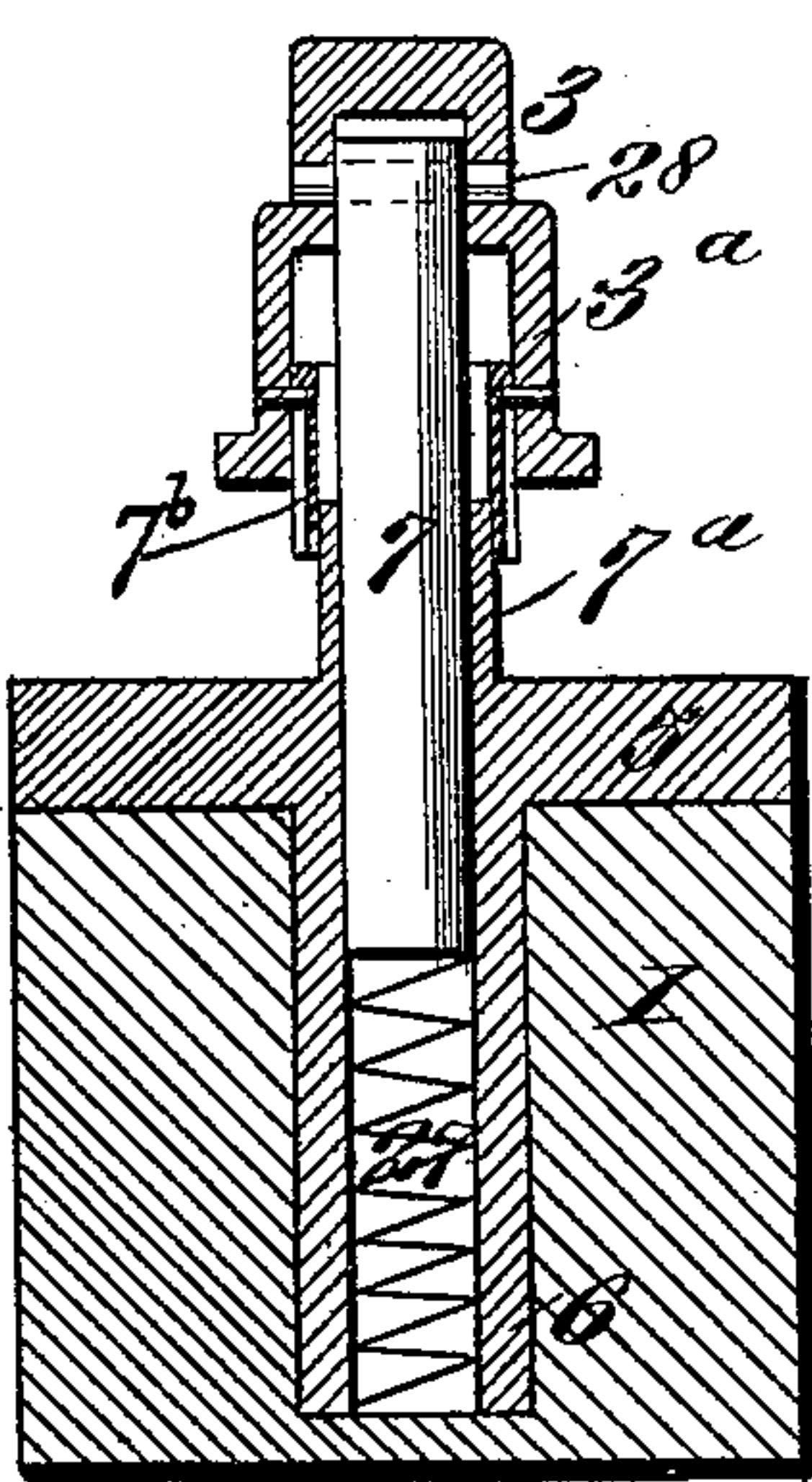
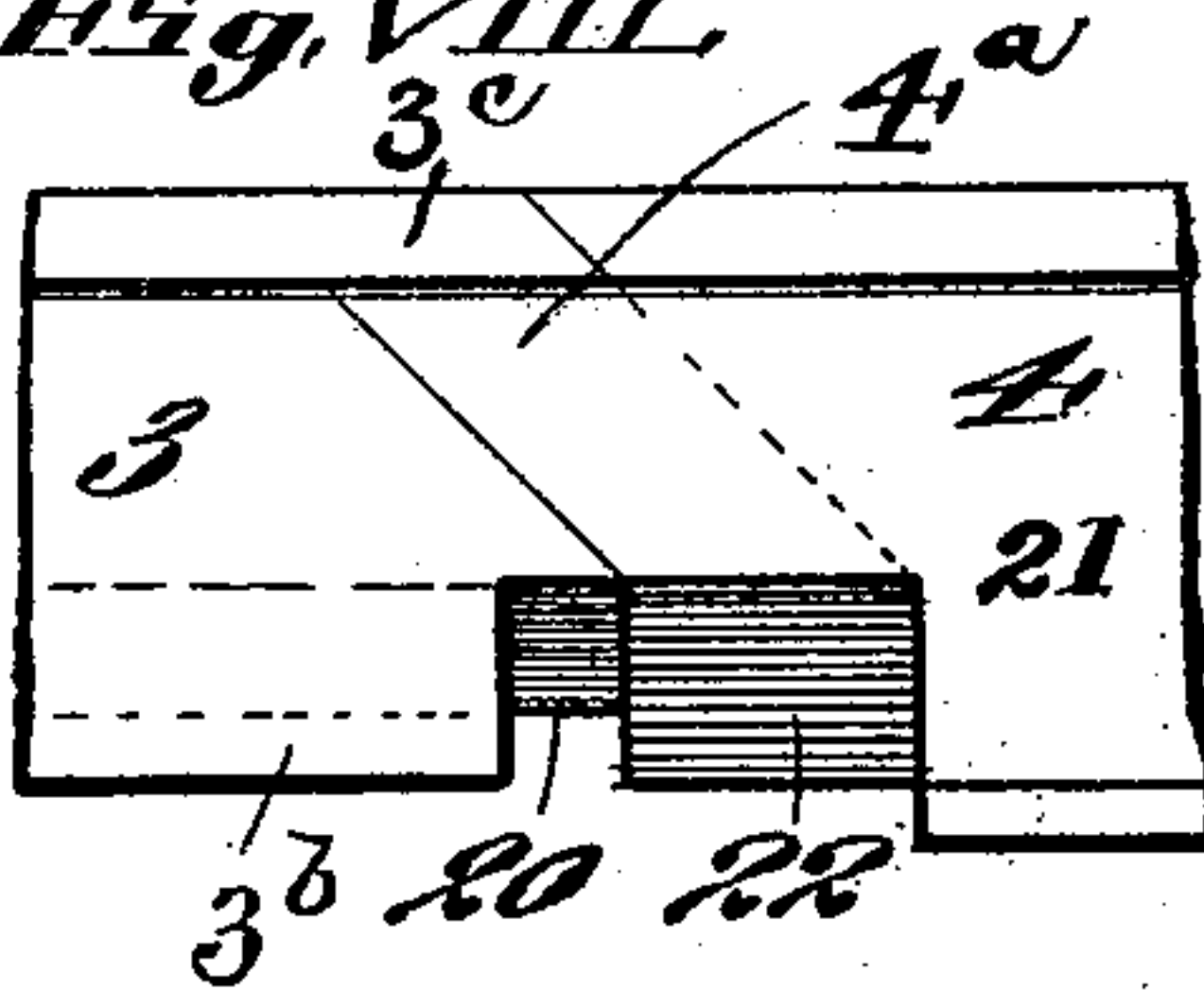


Fig. VIII.



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# UNITED STATES PATENT OFFICE.

STEPHEN J. AUSTIN, OF TERRE HAUTE, INDIANA.

## RAILROAD-CROSSING.

SPECIFICATION forming part of Letters Patent No. 592,622, dated October 26, 1897.

Application filed May 5, 1897. Serial No. 635,163. (No model.)

*To all whom it may concern:*

Be it known that I, STEPHEN J. AUSTIN, a citizen of the United States, residing at the city of Terre Haute, in the county of Vigo and State of Indiana, have invented a certain new and useful Improvement in Railroad-Crossings, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, which form a part of this specification.

The object of my invention is to provide a railroad-crossing of simple construction, easy to manipulate, and in which one pair of the rails is continuous, while the other pair, arranged on a different level, is adapted to be met by movable rail-sections.

My invention possesses features of novelty hereinafter specifically pointed out and claimed.

Referring to the drawings forming a part of this specification, Figure I illustrates a top plan view of the railroad-crossing, the movable rail-sections being turned to one side to allow the passage of a train over the unbroken pair of rails. Fig. II shows a top plan view with the said movable rail-sections thrown into contact with the corresponding fixed ones to allow the passing of a train over the second pair of rails. Fig. III is a side elevation taken along the line III III of Fig. II. Fig. IV is a similar side elevation, except that it is taken along the line IV IV of Fig. I, showing the movable sections out of line with their corresponding fixed rails. Fig. V is a side elevation showing the bed-plate in which the movable rail-sections pivot. Fig. VI is a vertical section, taken along the line VI VII of Fig. II, showing the pivot of the movable portion in the position it assumes when the rails are in place, as shown in said Fig. II. Fig. VII is a corresponding vertical section, taken along the line VI VII of Fig. II, but showing the pivot in the position which it assumes when the parts are displaced, as shown in Fig. I. Fig. VIII is a detail top view of the double locking device for securing movable sections to their corresponding fixed rails. Fig. IX is a detail vertical section, taken along the line IX IX of Fig. II, showing means for preventing the movable sections from rising from their places.

1 1 are the rail-ties.

2 2 are the continuous fixed rails.

3 3 are the rotatable rail-sections.

4 4 are the second pair of fixed rails.

Adapted to be embedded in the ties and on which rest the ends of the rails 4 is a cast-steel bed-plate 5, in whose center is an opening that receives a bushing 6, in which is loosely seated a pivot-pin 7. The top of the pivot-pin 7 carries the before-mentioned rotatable rail-sections 3. The pivot-pin is adapted to ride up and down, as shown in Figs. VI and VII, to allow the change of level of the movable sections 3, and is held elevated or counterbalanced by a spring 27.

The pivot-pins 7 are surrounded by sleeves 7<sup>a</sup>, that surmount and rest upon the bushing 6. The central portion 3<sup>a</sup> of each rail-section 3 is recessed on the under side and receives the rings 7<sup>b</sup>, that fit over said sleeves and are capable of telescoping thereon in the vertical movement of the pivot-pins.

The rail-sections 3 are formed of cast-steel, and their ends are increased in width to strengthen such portions by forming lugs 3<sup>b</sup> at their outer sides. The ends of each section 3 have a tongue 3<sup>c</sup>, that engages beneath oppositely-formed opposing tongues 4<sup>a</sup> at the ends of the rails 4.

8 is a lever-arm adapted to be manipulated by any proper source of power and which at 9 receives a pin adapted to work in a slot opposite an arm 10 and which at 11 11 is hinged to the web of the rail-sections 3.

12 12 represent a pair of connecting-links pivoted to the webs of the rail-sections 3 at 13 13, which impart a parallel rule or isochronous movement to the said two rail-sections 3.

14 14 are curved inclines on which the ends of the movable rail-sections 3 are adapted to ride from the level shown in Figs. I, IV, and VII to that shown in Figs. II, III, and VI.

15 represents plates anchored to the railroad-ties, each of which plates is provided with a flange 16. (See Fig. IX.)

17 shows flanged feet hung from the connecting-links 12, adapted to engage under the projection 16. This construction prevents the rail-sections, when being operated, from rising and carrying the pivot 7 out of its seat.

18 is an arm pivoted at 9 to the lever-arm 8 and which, by reason of the before-mentioned slot at 9, enables a preliminary move-



ment to be imparted thereto before motion is imparted to the part 10. The other end of this arm 18 is pivoted to a rocking bar 19, pivoted at 20 to the arm 10 and whose opposite end is connected to a sliding rod 20', that extends to one end of the rail-sections 3. The ends of the rail-sections 3 are oblique in form and are adapted to abut the correspondingly oblique ends to the fixed rails 4. The ends of said fixed rails 4 are inclosed in boxes 21, that receive locking-keys 22, held extended by springs 23, Fig. II, which locking-keys are adapted to engage the ends of movable rail-sections 3. Isochronous motion is imparted to both of the rods 20' on the two movable rail-sections 3 by means of a bell-crank 24, links 25, and rod 26, which accomplishes a simultaneous movement thereof. 28 are pins by means of which the pivot-pins 7 are secured to the rail-sections 3.

By connecting the rail-sections to the pins 7 by means of the pins 28 a hinge-joint between said parts is effected and a limited vertical vibration of the rail-sections is permitted, and they are rendered more capable of seating correctly with reference to the fixed rails against which they abut.

The device is operated as follows: Assuming that the parts are in the position shown in Fig. II, motion is first imparted to the lever-arm 8. The preliminary motion of its lever-arm carries the pin 9 along its slot, imparting motion to the arm 18. This preliminary motion operates through the medium of the arms 19, 20, 24, 25, and 26, with the effect of impinging the rod 20' against the locking-keys 22, pressing the same back against their springs 23, releasing the movable rail-sections from engagement and alinement with the fixed rails 4, and the further motion of the arm 8 turns the said rail-sections 3 upon their pivot 7, while the said rail-sections 3 ride down the inclines 14 to the position shown in Fig. I. The connection 10, being hinged at 11 to the rail-sections 3, allows a vertical movement thereof, as well as an oscillatory movement. When the parts are swung in position shown in Fig. I, the movable rail-sections are below their original level and leave the continuous fixed rails 2 2 free to permit the passing of a train thereover.

I have shown and described the connecting-links 12 pivoted to the webs of the rotatable rail-sections 3 and will make mention of a particular reason and advantage in so attaching the connecting-links. The attachment of the links in the webs of the rail-sections permits the rail-sections to descend into contact with the bed-plates, where they are turned upon their pivots, a condition that would not be permitted if such links were pivoted at a different elevation. The rail-sections are also held more firmly by reason of the pivotal connection being made in the web at a location near the vertical center of the rails.

I claim as my invention—

1. In a railroad-crossing, the combination

with a pair of fixed rails forming a continuous track, of a second pair of broken fixed rails, a pair of rotatable rail-sections, and means for counterbalancing said rail-sections, substantially as and for the purpose set forth.

2. In a railroad-crossing, the combination with a pair of fixed rails forming a continuous track of a second pair of broken fixed rails, a pair of rotatable rail-sections, pivot-pins carried by said rail-sections, springs on which said pins are seated, and means for actuating said rail-sections, substantially as described.

3. In a railroad-crossing, the combination with a pair of fixed rails forming a continuous track of a second pair of broken fixed rails, a pair of rotatable rail-sections, pivot-pins carried by said rail-sections, means whereby said rail-sections are loosely jointed or hinged to said pins, and means for actuating said rail-sections, substantially as described.

4. In a railroad-crossing, the combination with a pair of fixed rails forming a continuous track, of a second pair of broken fixed rails, a pair of rotatable rail-sections, pivot-pins carried by said rail-sections, pins connecting said rail-sections to said pivot-pins, and means for actuating said rail-sections, substantially as described.

5. In a railroad-crossing, the combination with a pair of fixed rails forming a continuous track of a second pair of broken fixed rails, a pair of rotatable rail-sections recessed at their central portions, pivot-pins carried by said rail-sections, sleeves surrounding said pivot-pins and over which the recessed portions of said rail-sections are adapted to telescope, and means for actuating said rail-sections, substantially as described.

6. In a railroad-crossing, the combination with a pair of fixed rails forming a continuous track, of a second pair of broken fixed rails, a pair of rotatable vertically-moving rail-sections provided at their ends with strengthening-lugs 3<sup>b</sup> formed at their outer surfaces, and means for actuating said rail-sections, substantially as described.

7. In a railroad-crossing, the combination with a pair of fixed rails, forming a continuous track, of a second pair of broken fixed rails, a pair of rotatable vertically-moving rail-sections arranged to be brought into alinement with said pair of broken fixed rails, tongues on the ends of said broken pair of rails, tongues on said rail-sections adapted to engage the tongues of said broken rails, and means for actuating said rail-sections, substantially as described.

8. In a railroad-crossing, the combination with a pair of fixed rails forming a continuous track, of a second pair of broken fixed rails, a pair of rotatable vertically-moving rail-sections, and an operating-bar vertically hinged to said rail-sections, substantially as described.

9. In a railroad-crossing, the combination with a pair of fixed rails forming a continuous track, of a second pair of broken fixed rails, a



pair of rotatable vertically-moving rail-sections, connecting-bars located above the base of said rail-sections, and provided with a pivotal connection in the web of said rail-sections, 5 and means for actuating said rail-sections, substantially as described.

10 10. The combination of movable rail-sections mounted on pivots, and a means of operating same consisting of a lever, parallel-rule connection between said movable sections, connection between one of said movable sections and said lever, a locking-pin on the fixed rails, and a key on said movable section, and connection between said key and 15 said lever, substantially as described.

20 11. The combination of movable rail-sections pivotally mounted, connecting-bars pivoted to the sections, inclines upon which said sections ride to the level of their fixed rails, and a means adapted to prevent displacement thereof, consisting of fixed plates 15, provided with flanges, feet carried by the connecting-bars, said feet being adapted to engage under said flanges, substantially as described.

25 12. The combination of bed-plates, verti-

cally-movable rail-sections pivotally mounted in said bed-plates, a means of locking said movable sections when coincident with their fixed rails, and a means of operating same whereby said lock is first released, and then 30 said movable rail-sections are swung out of alignment, substantially as described.

13. The construction consisting of bed-plates, movable rail-sections pivoted in said bed-plates and adapted to rest below the level 35 of their fixed rails when out of line therewith, inclines adapted to carry said movable rail-sections to the level of their fixed rails, means of operating same consisting of a hinged lever connection, and a means of locking same in 40 line with the said fixed rails, consisting of spring-actuated lugs carried on the fixed rails, and a means of disengaging said lugs from engagement with the movable sections operated by the preliminary movement of the said 45 lever connection, substantially as described.

STEPHEN J. AUSTIN.

In presence of—

GEORGE LICHT,  
JAMES KEENEY.