



No. 709,015.

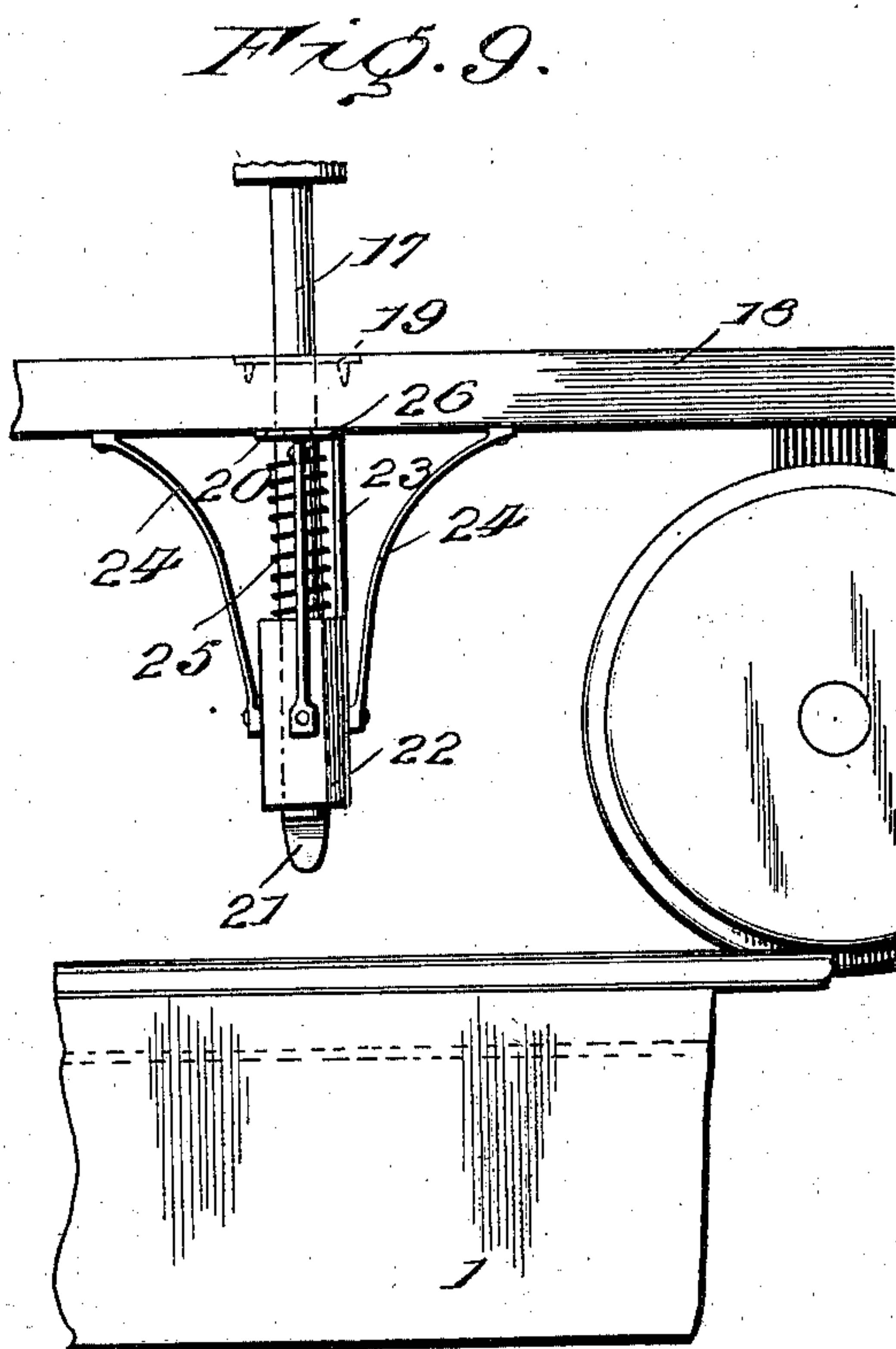
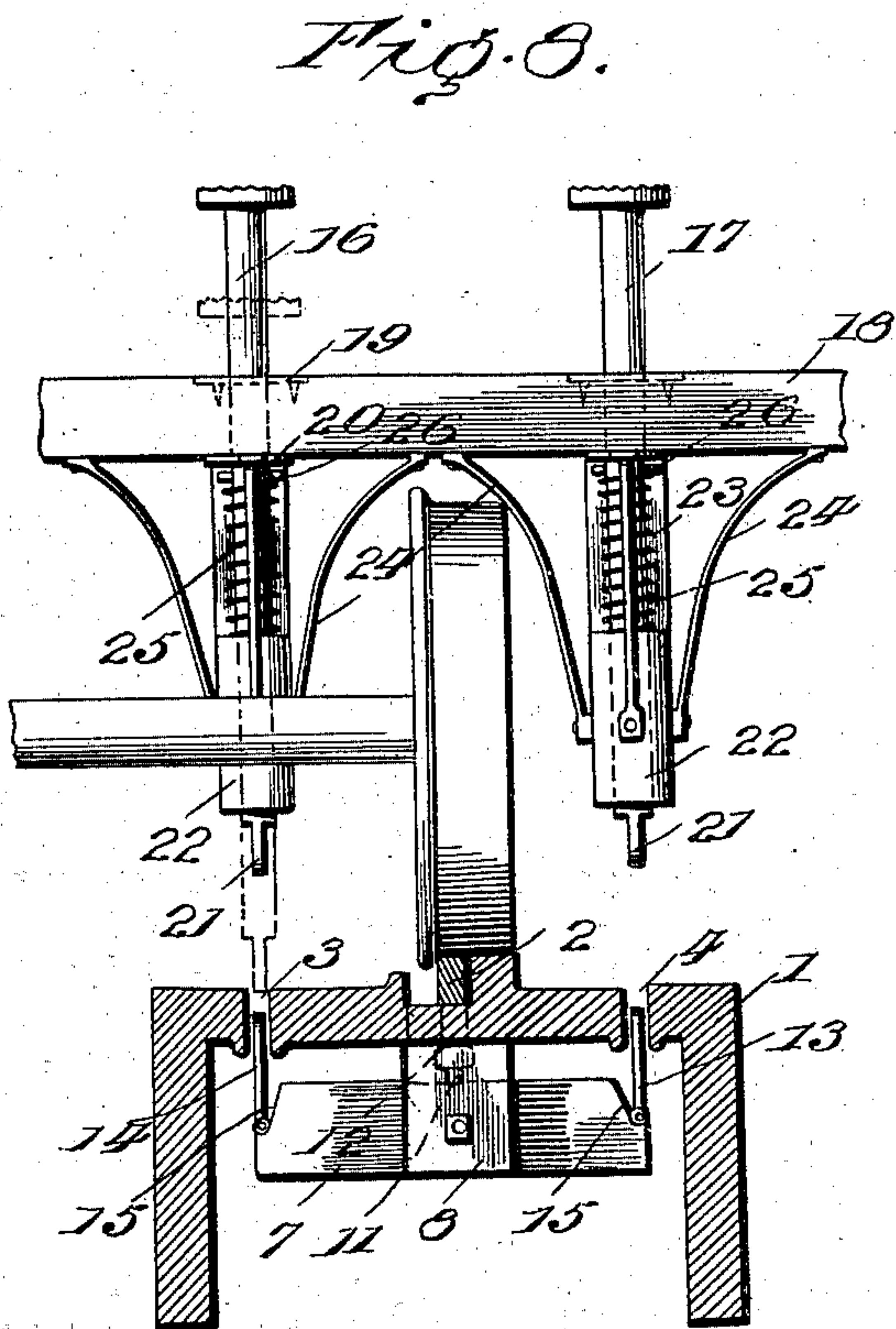
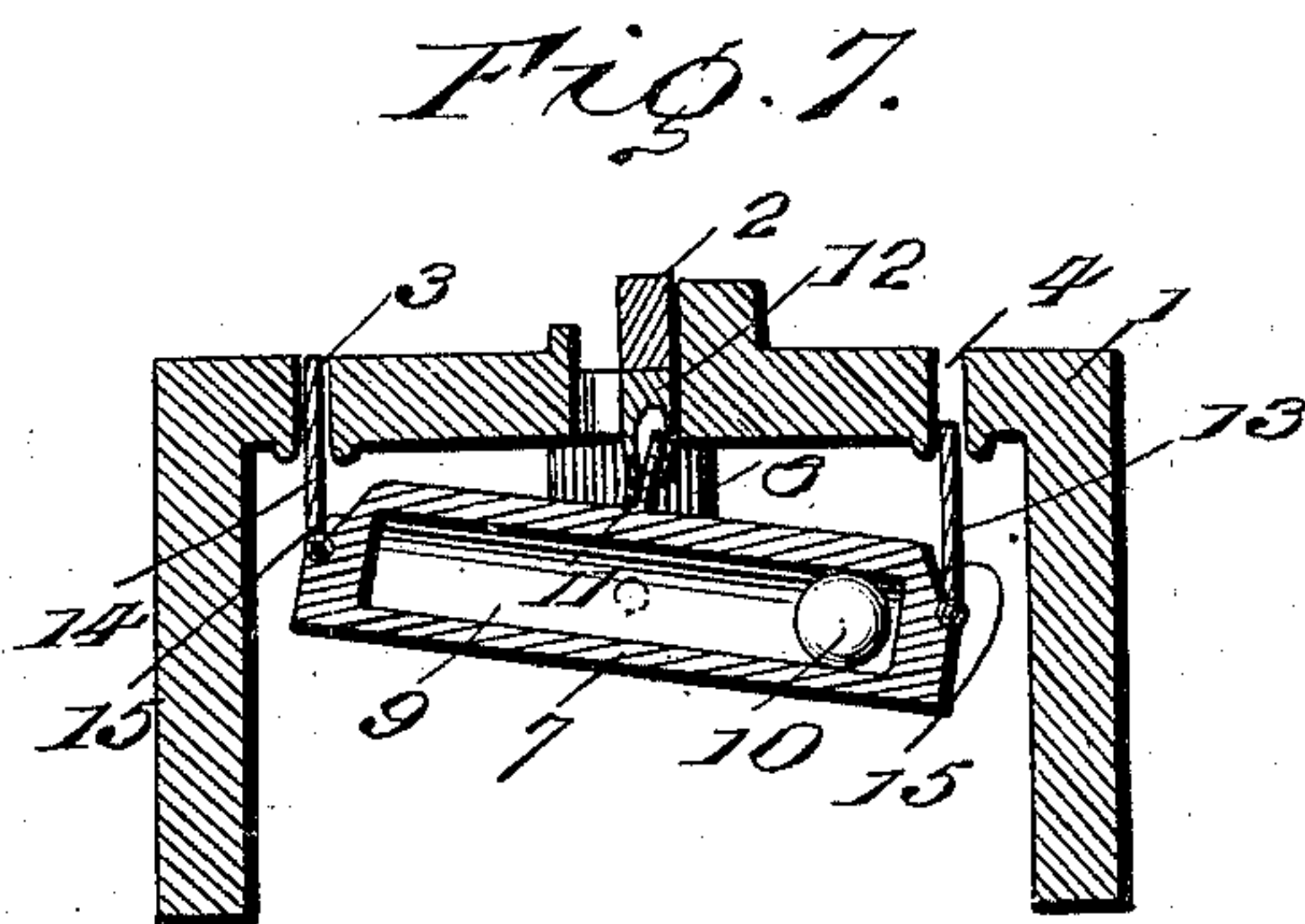
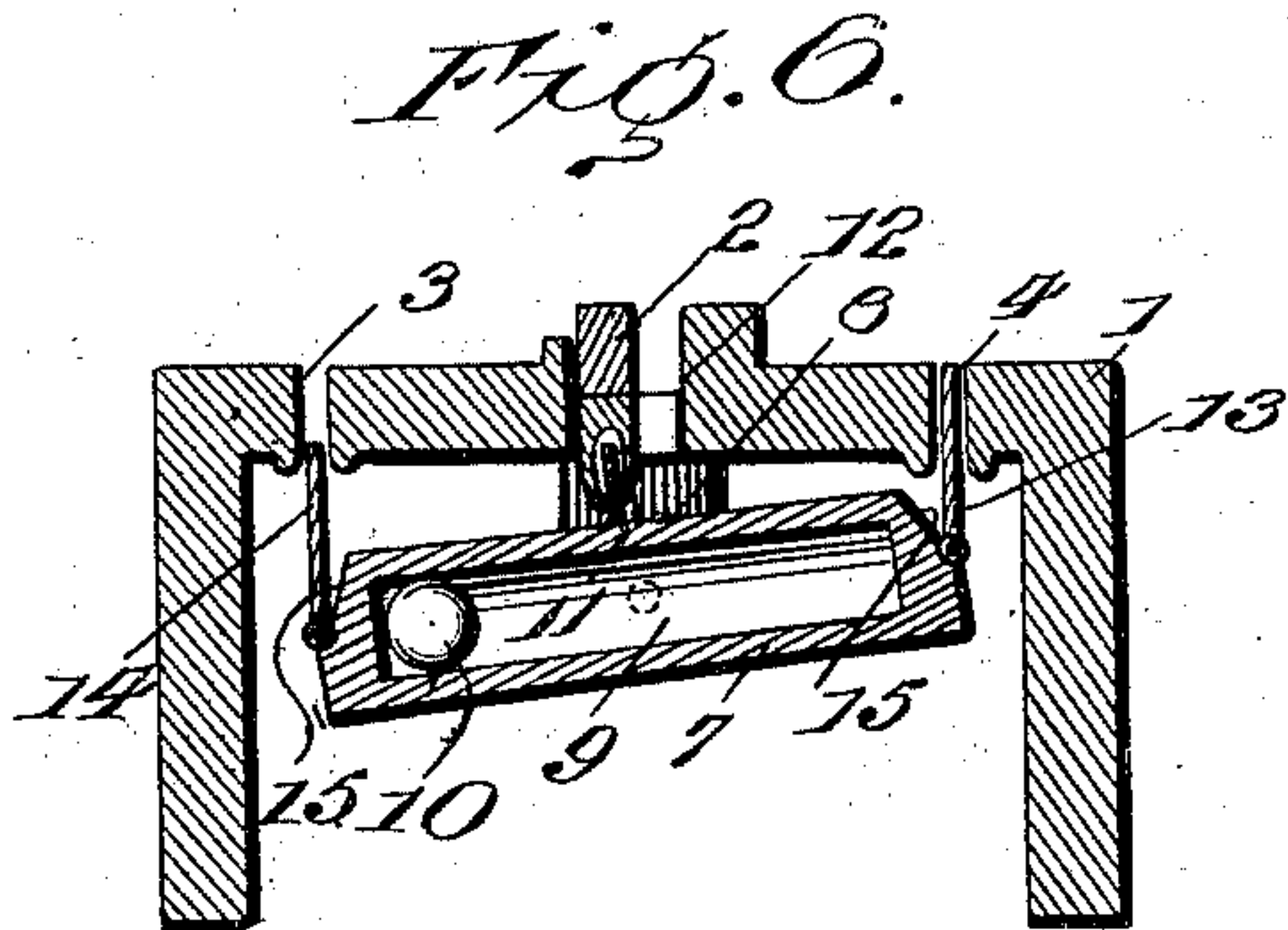
Patented Sept. 16, 1902.

G. E. JANES.  
AUTOMATIC RAILWAY SWITCH.

(Application filed Dec. 20, 1901.)

(No Model.)

2 Sheets—Sheet 2.



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# UNITED STATES PATENT OFFICE.

GEORGE E. JANES, OF CLEVELAND, OHIO.

## AUTOMATIC RAILWAY-SWITCH.

SPECIFICATION forming part of Letters Patent No. 709,015, dated September 16, 1902.

Application filed December 20, 1901. Serial No. 86,702. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE E. JANES, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Automatic Railway Switches; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention has relation to the type of switches adapted to be operated from the moving car by means of a trip adapted to be projected into the path of the switch-operating mechanism by means of the motorman or other person operating the car.

For a full description of the invention and the merits thereof and also to acquire a knowledge of the details of construction of the means for effecting the result reference is to be had to the following description and drawings hereto attached.

While the essential and characteristic features of the invention are susceptible of modification, still the preferred embodiment of the invention is illustrated in the accompanying drawings, in which—

Figure 1 is a plan view of an automatic railway-switch embodying the invention. Fig. 2 is a plan view of the frog on a larger scale, showing the relative position of the switch-point and switch-operating plates or bars. Fig. 3 is a section on the line X X of Fig. 2. Fig. 4 is a plan section on the line Y Y of Fig. 3. Fig. 5 is a transverse section on the line Z Z of Fig. 3, showing the pivoted switch-bar in horizontal position. Figs. 6 and 7 are views similar to Fig. 5, showing the switch-bar tilted, respectively, to the left and to the right. Fig. 8 is a detail view showing the trips and the switch. Fig. 9 is a detail view of the parts shown in Fig. 8 as seen in side elevation.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

The switch may be of any construction to admit of a car passing from the main track to a siding or branch, and vice versa. Inasmuch as the invention deals solely with the

switch-operating mechanism, the description is restricted to the cooperating parts.

The plate 1 of the frog provided with the switch-point 2 has parallel longitudinal slots 3 and 4 at each side of the outer rail of the main line. The seat for reception of the switch-point is provided with a series of parallel slots 5, through which ice, snow, dirt, and any foreign matter is free to pass, thereby preventing accumulation thereof and choking of the switch-point. These slots or openings 5 extend transversely of the frog, and the cross-bars 6, intermediate of the openings 5, have the sides of their upper portion beveled, so as to shed any matter alighting thereon and preventing its accumulation. The pit below the frog is ample to allow for an accumulation of matter, which is removed at stated periods or whenever necessary to obviate interference with the effective and free operation of the switch-actuating mechanism.

The switch-bar 7 is located below the plate 1 and is pivoted intermediate of its ends to a suitable support 8, which in the present instance is a lug pendent from the plate 1. This switch-bar is hollow or chambered, as shown at 9, and receives a traveling weight 10, which is adapted to overbalance the switch-bar and hold it tilted either to the right or to the left, according as the switch is thrown open or closed. This traveling weight 10 is preferably a ball, and its purpose is to insure a movement of the switch-point to the end of its throw in either direction and hold it in such position until positively actuated by a trip. The switch-bar has connection with the switch-point, whereby both have a simultaneous movement. As shown, a pin 11 projects vertically from the switch-bar midway of its ends and enters an opening in a stud 12, pendent from the switch-point and passing through an opening in the plate 1. Plates or bars 13 and 14 have pivotal or hinge connection with opposite ends of the switch-bar 7 and enter the respective slots 3 and 4 of the plate 1 for actuation by the trips carried by the moving car. The upper corners of the switch-bar are beveled, as shown at 15, to accommodate the parts 13 and 14 in the pivotal movements of the said switch-bar when in operation.

The trips 16 and 17 are of like construction



and similarly mounted and each consists of a bar slidably mounted in the platform 18 of the car, the upper end being broadened to provide a foot-rest, upon which the motor-  
5 man presses when it is required to throw the switch. Each trip is mounted for vertical movement in plates 19 and 20, attached to the upper and lower sides of the platform 18, and its lower end is reduced, as shown at 21,  
10 to enter a slot of the plate 1, shoulders being provided at each side of the reduced portion 21 to limit the entrance of the trip into the slot. A guide 22 is connected with the plate 20 by means of a tie 23, and braces 24 extend  
15 from said guide to the platform and are firmly attached to each, so as to stay the guide and prevent any movement thereof. A coil-spring 25 encircles the middle portion of the bar and is confined between the upper end of the  
20 guide 22 and a pin or bolt 26 and normally holds the trip elevated out of action.

A car equipped with trips for automatically throwing the switch when approaching the latter has the selected trip depressed by the  
25 motorman exerting a downward pressure thereon, and the lower end of the trip coming in contact with the plate or bar connected with the switch-point through the means hereinbefore stated causes the switch-bar to

turn and the switch-point to shift. Should 30 the motorman neglect to remove his foot from the trip, the latter will be thrown upward by coming in contact with the incline 27 at the rear end of the slot in the plate 1. The front end of the said slot is outwardly flared, 35 as shown at 28, to admit of guiding the trip into the slot. As the switch-bar turns the weight 10 will gravitate to the lower end of the space 9 and compel movement of the switch-point to the limit of its throw and will 40 hold said point in place until positively actuated by the trip of a moving car in the manner stated.

Having thus described the invention, what is claimed as new is— 45

In a railway-switch, and in combination with the switch-point, and a pivoted switch-bar connected with the switch-point for actuation thereof and having its opposite ends beveled, plates or bars pivotally connected 50 with the beveled ends of the said switch-bar, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE E. JANES. [L. S.]

Witnesses:

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