(No Model.)

3 Sheets—Sheet 1.

P. S. ROGERS.

AUTOMATIC SWITCH.

No. 601,045. Patented Mar. 22, 1898.

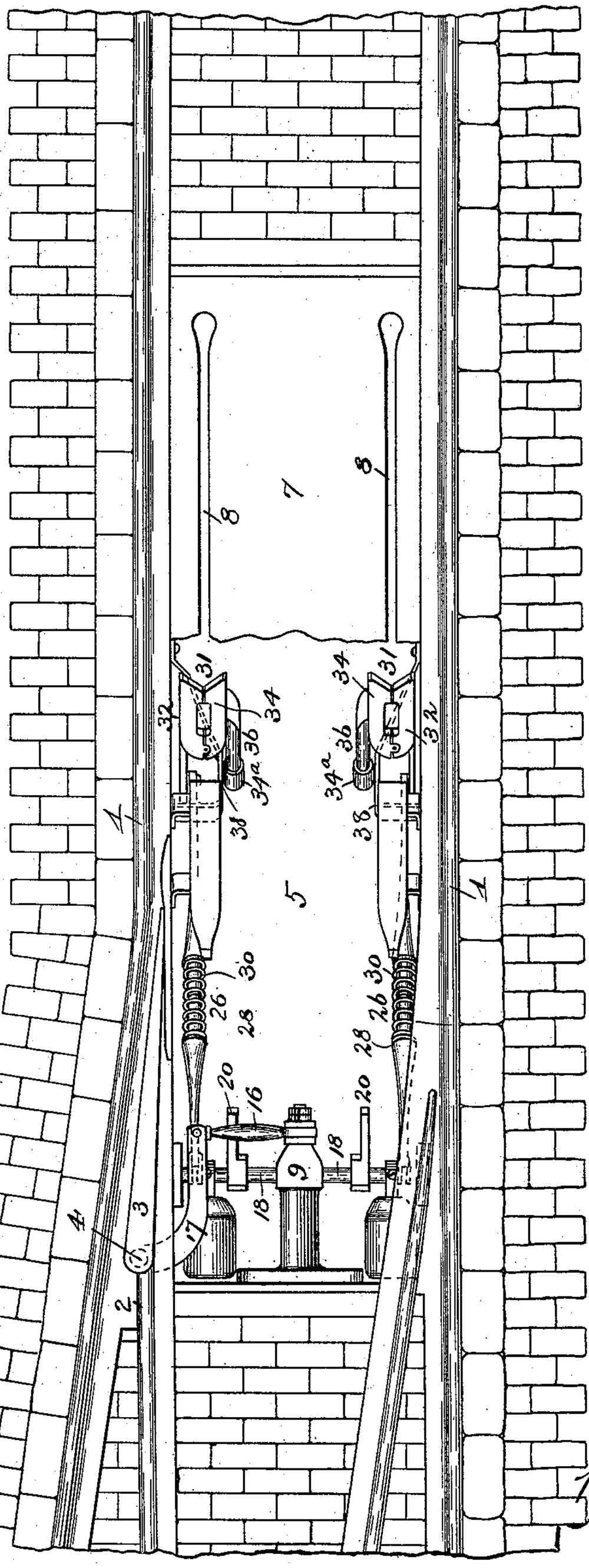

Fig. 1.

WITNESSES

Frank G. Parker

Frank S. Hattie

INVENTOR

Percy S. Rogers

per Chas. D. Parker.

Atty.

(No Model.)

3 Sheets—Sheet 2.

P. S. ROGERS.

AUTOMATIC SWITCH.

No. 601,045. Patented Mar. 22, 1898.

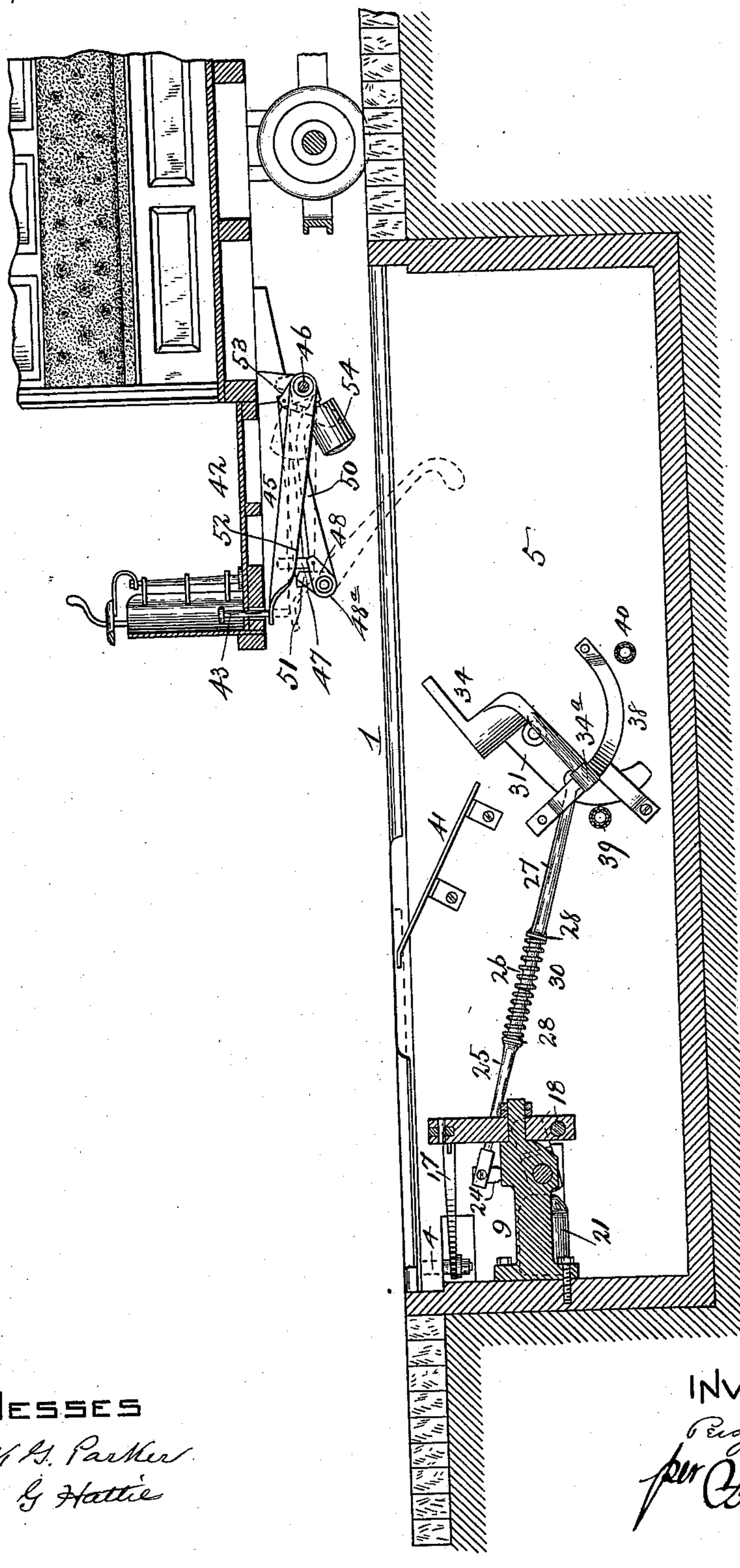

Fig. 2.

WITNESSES

Frank H. G. Parker

Frank G. Hattie

INVENTOR

Percy S. Rogers

per Rudolph Parker.

Atty.

(No Model.) 3 Sheets—Sheet 3.

P. S. ROGERS.

AUTOMATIC SWITCH.

No. 601,045. Patented Mar. 22, 1898.

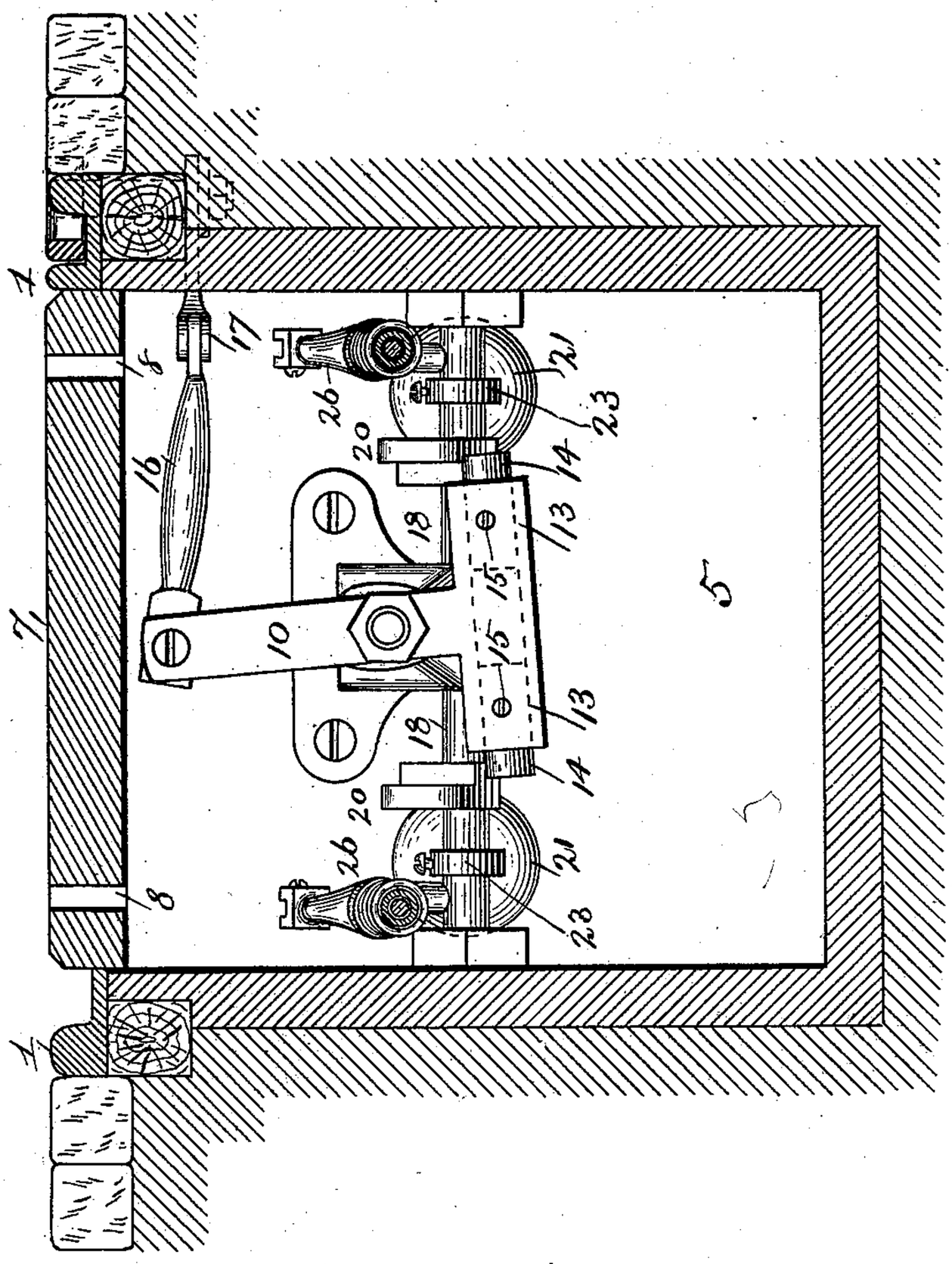

Fig. 3.

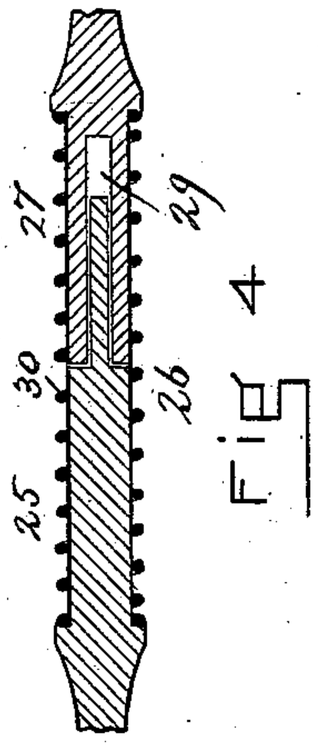

Fig. 4.

Witnesses
Frank G. Parker
Frank G. Hattie

Inventor
Percy S. Rogers
per Fred G. Parker
Atty

UNITED STATES PATENT OFFICE.

PERCY S. ROGERS, OF BOSTON, MASSACHUSETTS.

AUTOMATIC SWITCH.

SPECIFICATION forming part of Letters Patent No. 601,045, dated March 22, 1898.

Application filed June 9, 1897. Serial No. 640,051. (No model.)

To all whom it may concern:

Be it known that I, PERCY S. ROGERS, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Automatic 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.

My invention relates to automatic switches of that character or description for which I obtained Letters Patent February 23, 1897, No. 577,520, and which are operated by a moving car.

The present invention is designed as an improvement upon the invention disclosed in said patent; and its object is to provide an improved construction of the same which shall possess superior advantages with respect to efficiency in operation.

The invention consists in the novel construction and combination of parts hereinafter fully described and claimed.

In the accompanying drawings, Figure 1 is a plan view showing a switch constructed in accordance with my invention. Fig. 2 is a longitudinal sectional view also showing a portion of a car and the switch-throwing mechanism. Fig. 3 is a transverse sectional view. Fig. 4 is a detail view showing one of the rods which are operated by the grip.

In the said drawings, the reference-numeral 1 designates a pair of rails, 2 a frog, and 3 a switch-point pivoted at 4.

5 indicates a casing located between and below the tracks and consisting of a substantially rectangular metallic box.

7 indicates cover-plates for the casing provided with longitudinal guide-slots 8.

The numeral 9 designates a bracket secured to one end of said box, to which is journaled an oscillatory or rock-lever 10, provided at the lower end with two outwardly-extending arms 13, provided with removable lugs 14, seated in recesses in said arms and held in place by set-screws 15. The upper end of said lever is pivotally connected to a link 16, which in turn is pivoted to a curved arm 17, secured to the pivot of the switch-point 3.

The numerals 18 18 designate two independent transverse rock-shafts journaled in bearings 19, secured to the sides of the box and in the bracket 9, and each is provided with a trip-arm 20, adapted to strike one of the lugs 14 when said shaft is rocked and actuate the lever 10.

The numeral 21 designates weights on the ends of arms 23, secured to said shaft for returning the latter to normal position after having been operated by the trip-arms; also, secured to said rock-shaft are cranks 24. Pivotally connected with the cranks is one section 25 of the two-part arms 26, the other section 27 of which is pivotally connected with grips hereinafter described. Each of these sections is formed with a shoulder 28, and the end of one section is provided with a recess 29, in which works the reduced end of the other section. A coiled spring 30 is interposed between said shoulders 28, the object of which is to yieldingly connect the sections together.

The numeral 31 designates grips located at opposite sides of the box. These grips consist of two hinged jaws or hooks 32 and 34, provided with tailpieces 35 and 36. The tailpiece 35 is pivoted to a stud 37, secured to the side of the box. The tailpiece 36 of the movable or pivoted jaw 34 is provided at its lower end with an antifriction-roller 34^a, which engages with a cam-plate 38 to allow the jaws to open.

The numerals 39 and 40 designate stops for the grip.

Secured to the cover of the casing, at each side thereof, is a downwardly-inclined plate 41, with which the lever (hereinafter described) for operating the grips engages after being released by the grip, whereby the lever is elevated to prevent accidents should the operator fail to release the pressure on the foot-piece.

The numeral 42 designates a car-platform provided with a vertically-movable foot-piece 43, the lower end of which rests upon a lever 45, which is pivoted on a transverse shaft 46. This lever near its front or free end is provided with an arm 47, which is pivotally connected with a crank 48 of a hub 48^a, journaled on a shaft 49. This hub has secured to or formed with it a hooked arm 50, which is adapted to engage with and operate the grip.

Also secured to said hub is a crank 51, to which is secured a bar 52, which is pivotally connected with a crank-lever 53, journaled on shaft 46 and provided with a weight 54.

The operation is as follows: As the car approaches a switch the gripman or motorman depresses the foot-piece, which through its connections will lower the hook into alinement with the grip. As the car continues its movement the grip will be actuated and through its connections will operate the switch-point. The roller on the tail of the pivoted jaw of the grip will then engage with the cam-plate, opening said jaw and releasing the hook, which will ride up on the plate 41, so as to avoid accidents in case the operator fails to release the foot-piece. The weight 54 returns the hook to normal position when said foot-piece is released.

By the above construction the switch-point may be thrown in either direction, according to which one of the grips is operated.

The object of making the arms 26 in sections, as shown, is that they may yield or give should a stone or other obstruction get between the switch-point and rails and thus prevent said point from moving. By this means liability of injury to the parts is obviated.

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

1. In a switch-actuating mechanism, the combination with the casing, the pivoted grip comprising the hinged jaws, the sectional arm provided with a coiled spring secured to said grip, and the inclined plate for elevating the hook which operates the grip, of the switch-point, and mechanism intermediate the same and said arms, substantially as described.

2. In a switch-actuating mechanism of the character described, the combination with the casing, the pivoted grip provided with hinged jaws, the antifriction-roller on the tailpiece of one of said jaws, the cam-plate, the sectional arm connected with the other jaw, the coiled spring and the inclined plate for elevating the hook which operates the grip, of the rock-shaft, the crank thereon, connected with said sectional arm, the trip-arm, the weight, the oscillating lever having outwardly-extending arms at the lower end, the removable lugs fitting thereon, the switch-point, and the connections between the same and the lever, substantially as specified.

3. The combination with the pivoted tripping-hook, the crank-arm connected therewith, the pivoted lever having an arm pivoted to said crank, the foot-piece, the crank also connected with said hook, the rearwardly-extending bar connected therewith, the oscillating crank-lever with which said bar is connected, and the weight connected therewith, substantially as described.

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

PERCY S. ROGERS.

Witnesses:
LOUIS BERENSON,
JOHN E. ANDREWS.