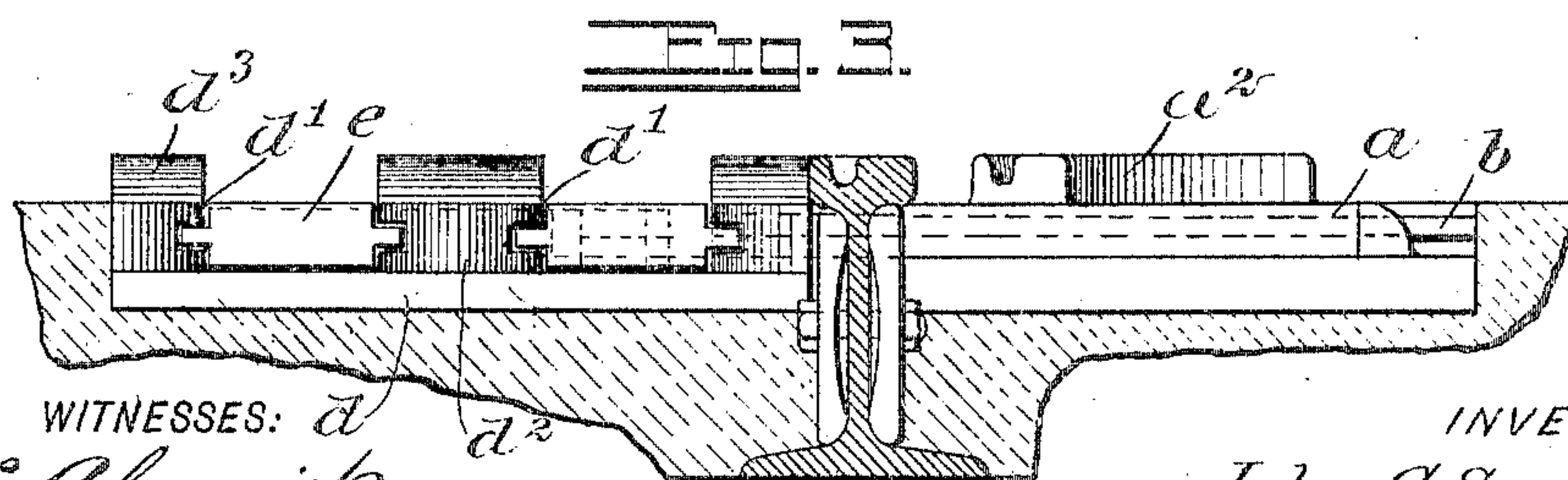
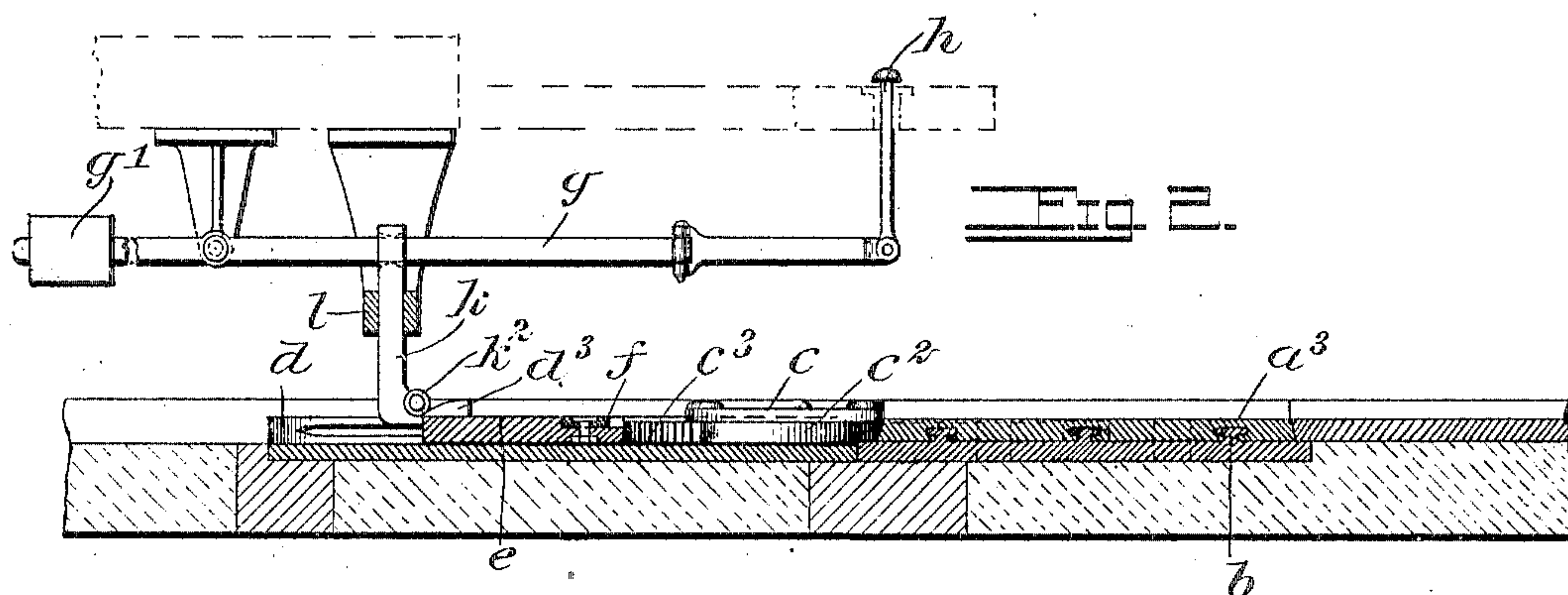
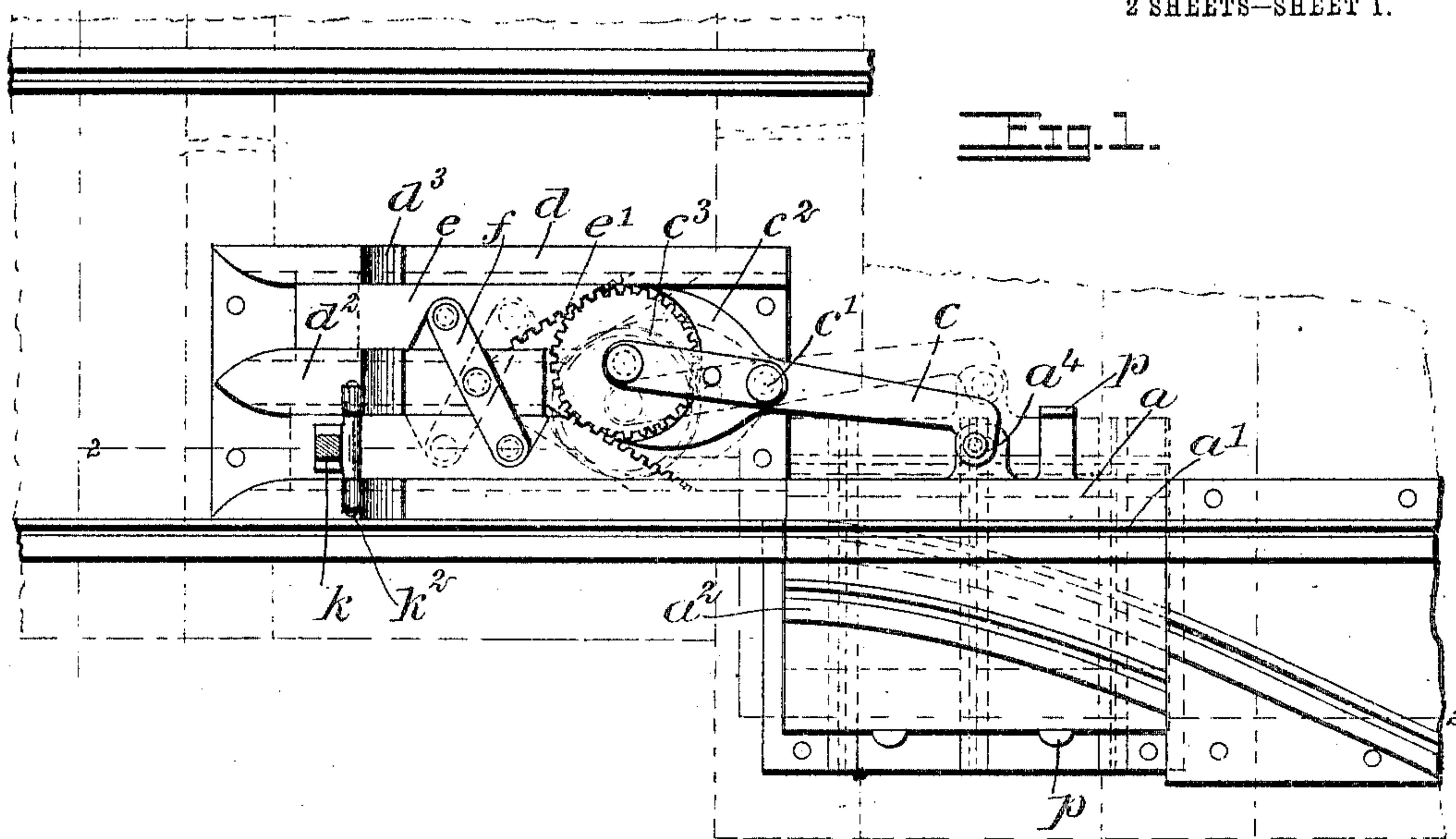


J. C. SCARGLE,  
SWITCH.

APPLICATION FILED JULY 12, 1905.

2 SHEETS—SHEET 1.



WITNESSES:

*L. Almqvist.*  
*A. E. Fay.*

INVENTOR

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No. 804,626.

PATENTED NOV. 14, 1905.

J. C. SCARGLE.  
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2 SHEETS—SHEET 2.

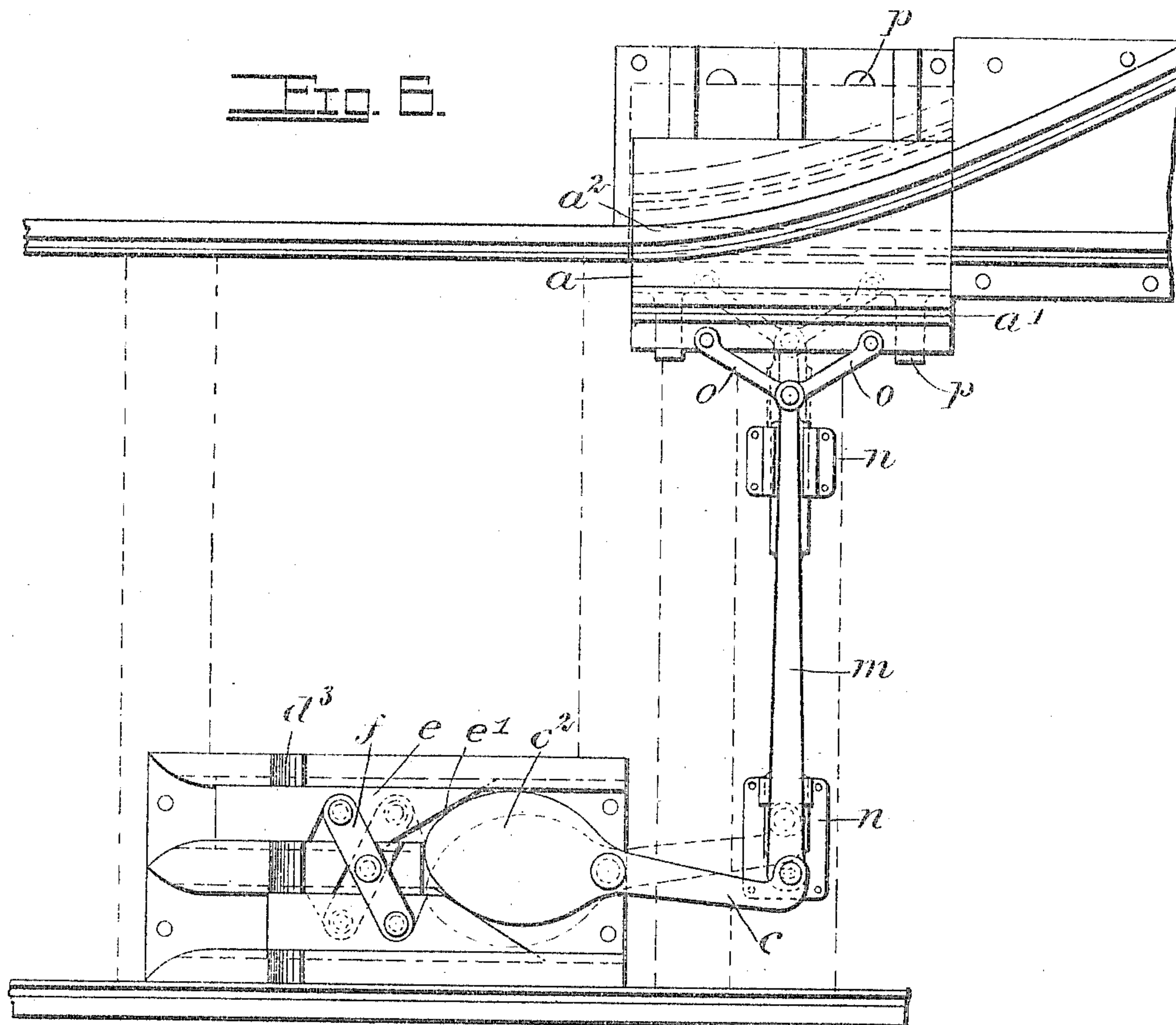
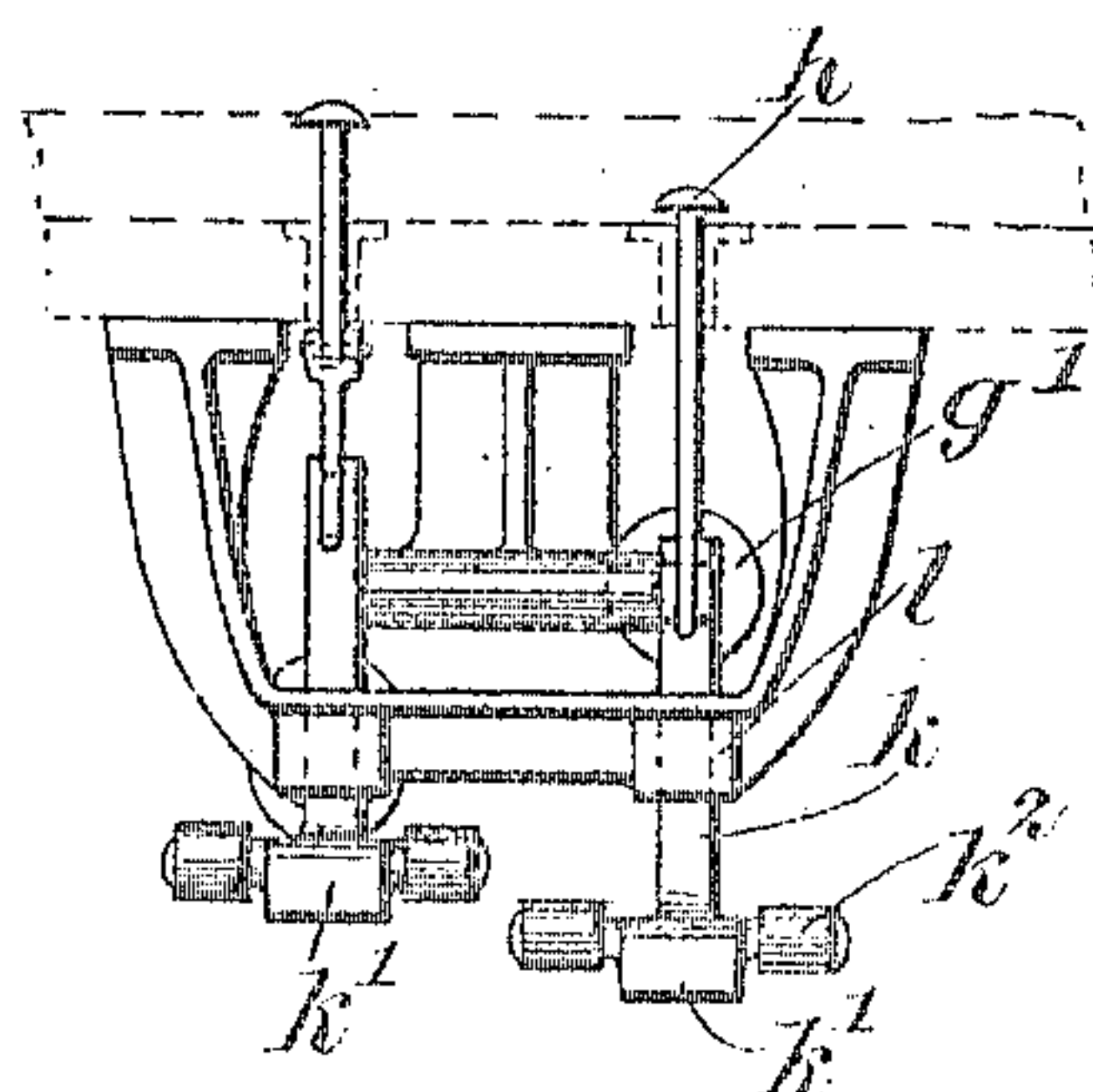


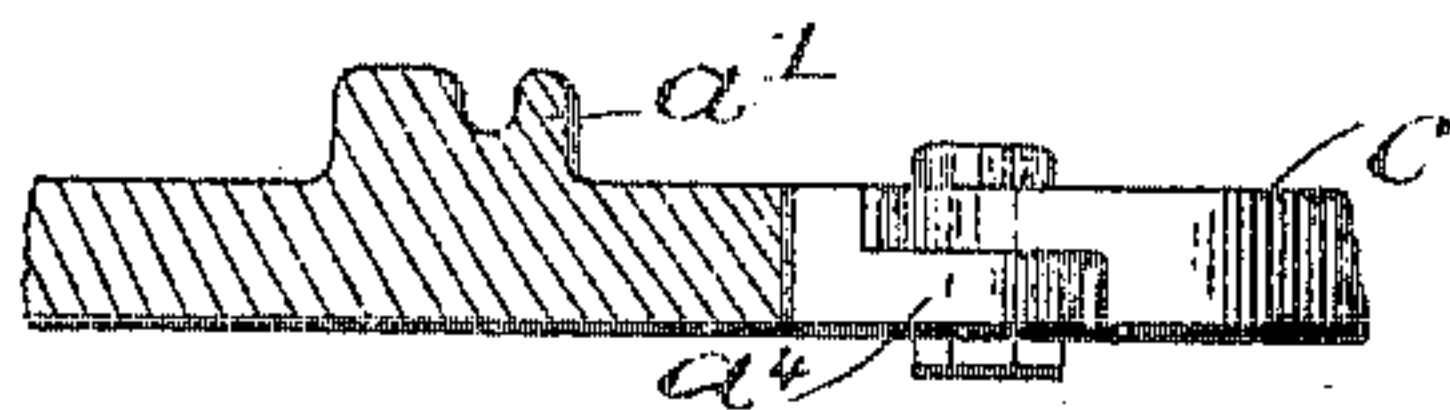
Fig. 4.



WITNESSES:

*L. Almquist.*  
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Fig. 5.



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# UNITED STATES PATENT OFFICE

JOHN C. SCARGLE, OF PHILADELPHIA, PENNSYLVANIA.

## SWITCH.

No. 804,626.

Specification of Letters Patent.

Patented Nov. 14, 1905.

Application filed July 12, 1905. Serial No 269,297.

*To all whom it may concern:*

Be it known that I, JOHN C. SCARGLE, a citizen of the United States, and a resident of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and Improved Switch, of which the following is a full, clear, and exact description.

My invention relates to a switch designed to be automatically operated by a passing car or train.

The principal object thereof is to provide means for efficiently operating the switch in a simple manner without greatly increasing the cost of the equipment and also to improve the form of the switch itself.

It is applicable to steam, electric, and, in fact, all other forms of railways.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan of a portion of a railway, showing one form of my invention applied thereto. Fig. 2 is a longitudinal sectional view of the same, showing certain equipment applied to a car for operating the switch. Fig. 3 is an end elevation of the switch, showing the parts in section. Fig. 4 is an end elevation of the mechanism shown in the upper part of Fig. 2. Fig. 5 is a fragmentary central sectional view of a detail, and Fig. 6 is a plan of a modification coming within the scope of my invention.

The track of the railway is shown as being provided with a space between two portions of the main track and also between the main track and a siding. In this space is mounted a reciprocating plate  $a$ . This plate is provided with a section of track  $a'$ , adapted when the plate is moved to the position shown in Fig. 1 to complete the main track at this point. It is also provided with a section of track  $a''$ , which when moved from the position shown in full lines in Fig. 1 to the position shown in dotted lines will complete the connection between the siding and the main track at the left. The sliding plate is provided with grooves  $a^3$ , running transverse to the track, and in these grooves fit a series of guides  $b$ , fixedly mounted upon the road-bed, these guides provided for restraining the plate to move in straight lines transverse to the track. In order to provide for automatically moving this plate, it is provided with a lug  $a^4$ , to which is connected a lever  $c$ , this lever being pivoted, by means of a rod  $c'$ , to a stationary

part of the road-bed or the like. On the other end this lever is provided with a cam  $c^2$ . This cam is preferably located on a stationary plate  $d$ , which is provided with two sets of ways  $d'$  for the reception of a pair of slides  $e$ . These slides are provided with slanting surfaces  $e'$ , adapted to engage the rear curved surfaces of the cam  $c^2$ . They are movably connected together by means of a link  $f$ , which is pivoted to each slide and to a central piece  $d^2$  between the inner ways  $d'$ . It will be seen from this construction that it is impossible for both slides to be moved forward at once, as the forward motion of one moves the other to the rear. In Figs. 1 and 2 I have shown a loose cog-wheel  $c^3$  on the cam and meshing with teeth on the surfaces  $e'$  to lock the switch. I provide each train or car with means for engaging these slides, so as to turn the cam and operate the plate  $a$ . I have shown this device as comprising a lever  $g$ , mounted on the car and provided with a counterweight  $g'$  to keep one end in raised position. A pin  $h$  is provided for depressing the high end of the lever, and on the lever is mounted a slide  $k$ , having a shoe  $k'$ . This slide is mounted in a vertical guide  $l$ , affixed to the car. When the pin  $h$  is depressed, the shoe  $k'$  will be forced down into such position that it will engage the rear end of one of the slides  $e$ . As there are two slides, two of these devices are provided—one upon each side of the plate  $d$ . Each of the shoes is provided with a pair of rollers  $k^2$  upon its opposite sides. These rollers are designed to engage on an inclined surface  $d^3$ , located adjacent to the position which the ends of the slides take upon being moved inwardly. The operation of this part of the device will be readily understood. The operator on the car or train moves the necessary shoe  $k'$  downwardly, so that it will engage the rear end of the slide  $e$ , which is located in its path. When it engages this slide, it forces it forward and turns the cam  $c^2$ , so as to move the plate  $a$  into the proper position for switching the train onto the siding or keep it on the main track, as may be desired. When the shoe  $k'$  reaches such position that the slide  $e$  cannot move any farther, the inclined surfaces  $d^3$  engage the rollers  $k^2$  and force them upwardly out of the way of the slide. The device is thus automatically thrown out of operative position.

It will be understood that my invention may be set up in various ways—as, for example, two plates  $a$  can be provided upon two



sides of the track and connected together, so as to move simultaneously. Also the device for operating the slides will be somewhat modified in some cases from that shown in the drawings and can be changed to conform with existing conditions.

In Fig. 6 I have illustrated another form in which the invention can be applied. The plate *d* is located on the opposite side of the track from the sliding plate which it is to operate. In this case the lever *c* is connected with a rod *m*, movable in guides *n*, and in turn connected with links *o*, which are mounted on the plate *a*. The other parts in this form are exactly the same as those shown in the other figures.

In both forms I have shown a series of stops *p* for the sliding plate. These stops may be located on both sides of the plate.

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

1. A railway-switch, comprising a movable plate, a lever connected with the plate and having a cam-surface, a pair of slides each having a surface adapted to engage the surfaces on opposite sides of said cam, and means for projecting one of said surfaces into engagement with the cam when the other is withdrawn therefrom.

2. A railway-switch comprising a plate, means for guiding the plate to move transversely to the tracks, and means for moving the plate comprising a lever connected with the plate, a cam on the lever, a slide adapted to engage and move the cam, a shoe adapted to engage and move the slide against the cam, and means for moving the shoe into and out of position in line with the slide.

3. A railway-switch comprising a movable plate, track-sections thereon, a lever connected with the plate and having a cam-surface, a plate in which said cam-surface is mounted, said plate having a pair of ways, a slide in each set of ways, said slides having inclined

surfaces adapted to engage said cam-surfaces, and means for moving said slides against the cam.

4. A railway-switch comprising a slidable plate having track-sections thereon, a cam for moving said plate, a pair of slides having parallel surfaces for engaging opposite sides of said cam and moving it, a link pivotally connected with both of said slides and pivoted to a stationary element, means for engaging the slides to move them against the cam, and means for throwing said engaging means out of reach of the slides.

5. A railway-switch comprising a sliding plate, a pair of slides for operating said plate, a stationary part having ways for said slides and inclined surfaces located adjacent to the position in which the rear ends of said slides are located, and means for moving one slide in one direction when the other moves in the opposite direction.

6. A railway-switch, comprising a sliding plate, a pair of slides for operating the plate, said slides having surfaces oppositely disposed with respect to each other, a cam connected with said sliding plate between said surfaces and adapted to engage them, and means on the cam for locking the parts in any desired position.

7. A railway-switch-operating device, comprising a pivoted cam, a cog-wheel thereon, and a pair of slides having surfaces on opposite sides of the cam for engaging it, said slides being provided with teeth for engaging the cog-wheel and locking the switch.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN C. SCARGLE.

Witnesses:

HARRY FOSTER,  
GEORGE GEIKLER.