

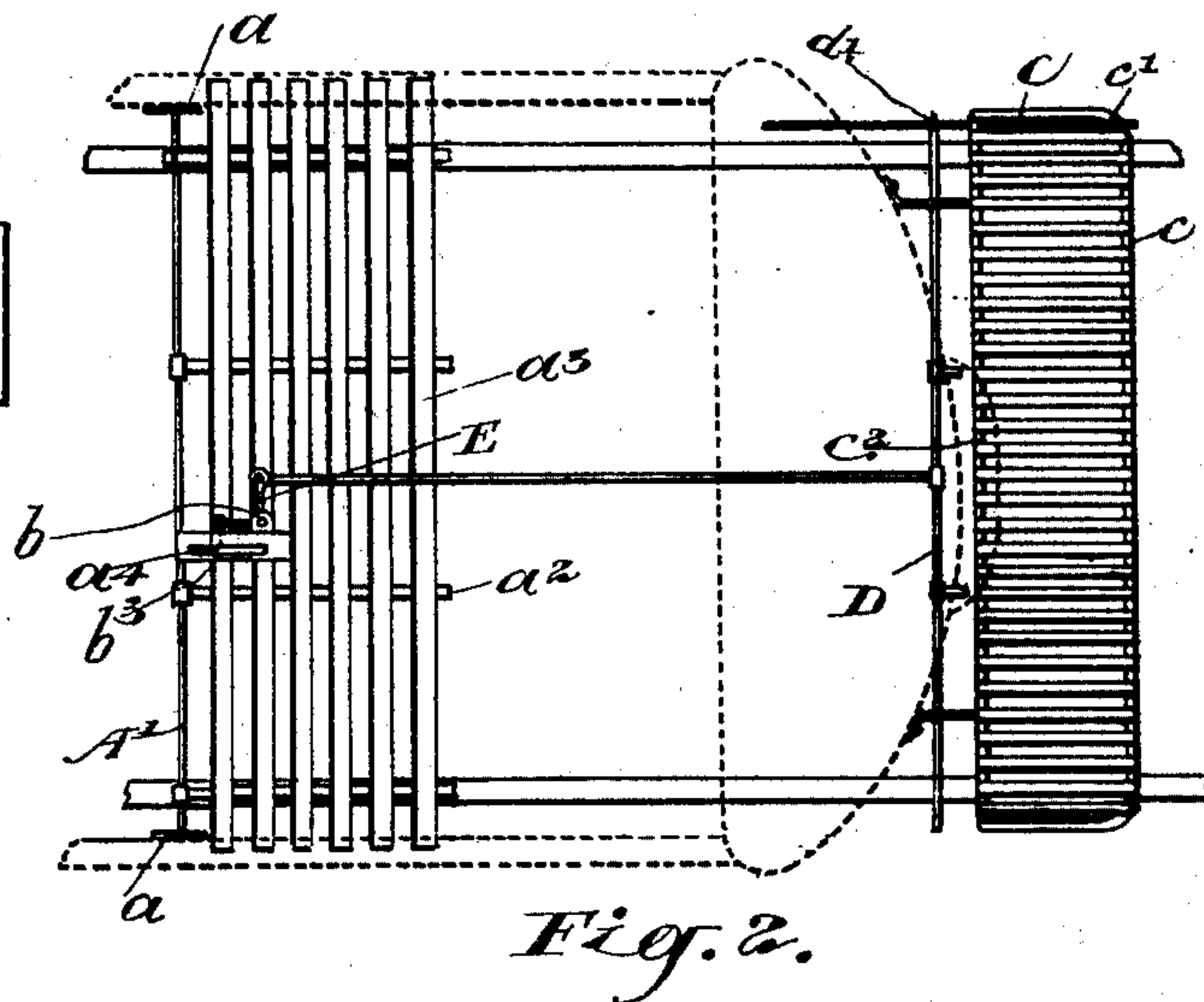
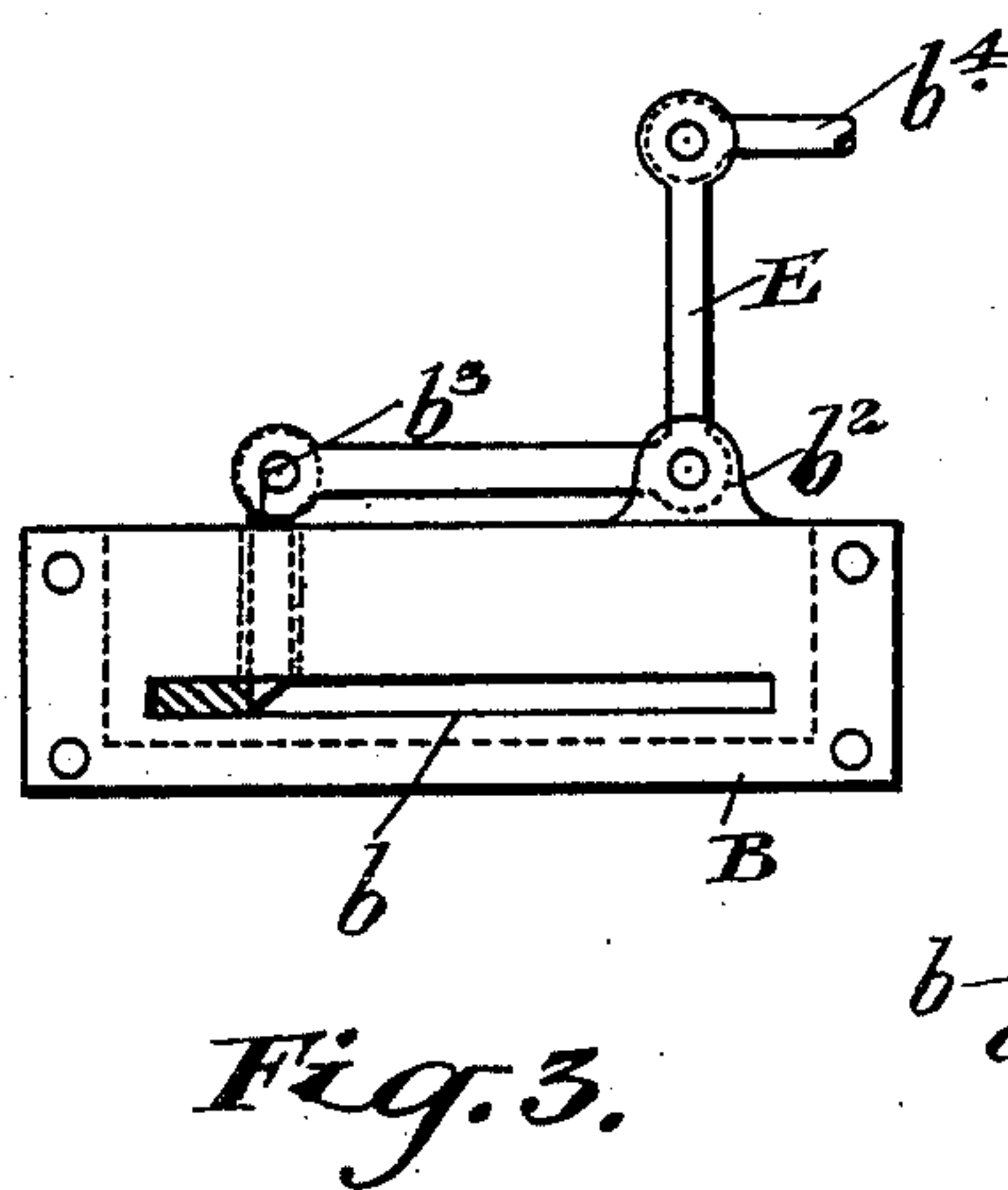
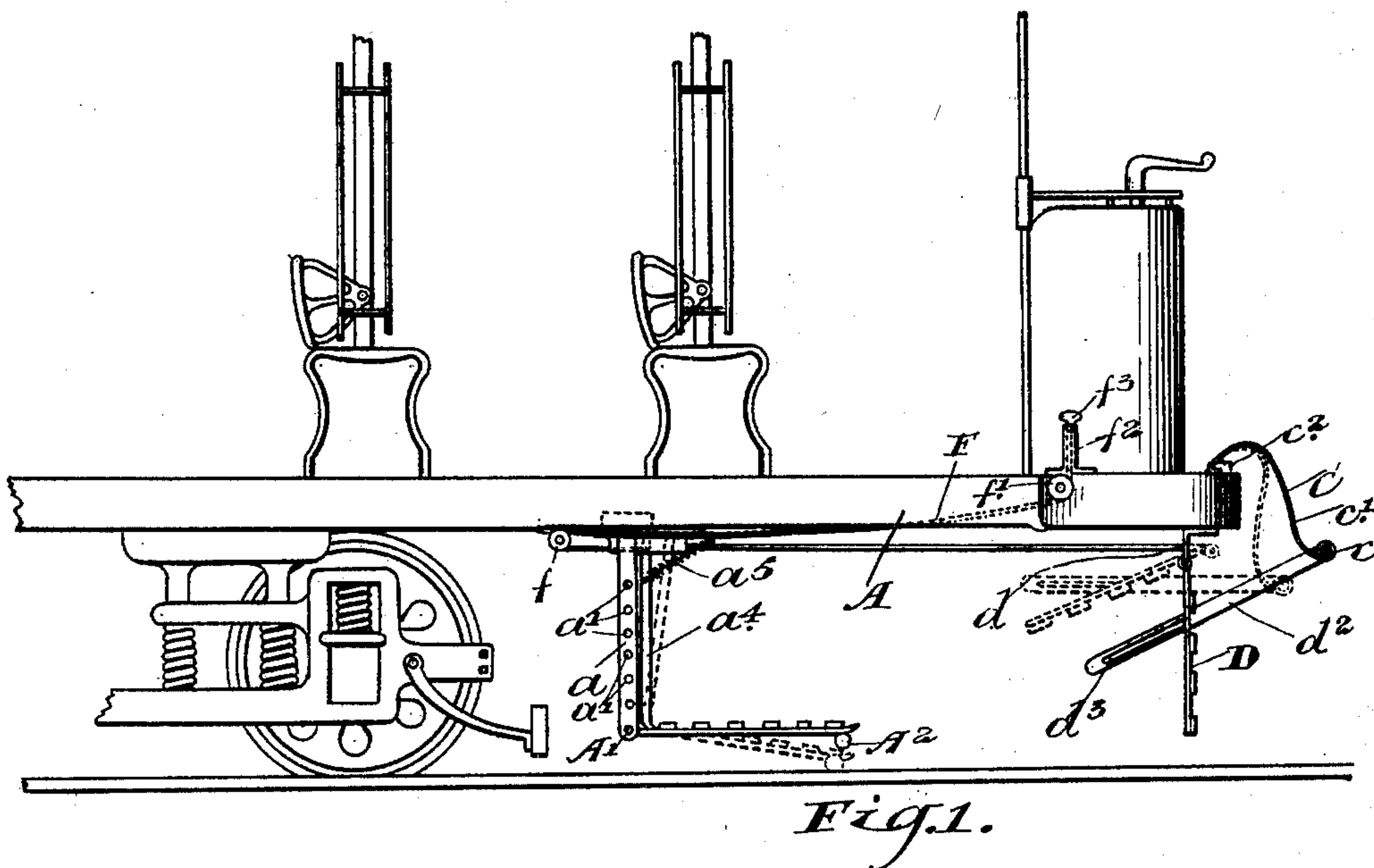
No. 756,411.

PATENTED APR. 5, 1904.

A. G. ROBERTS.  
CAR FENDER.

APPLICATION FILED AUG. 17, 1903.

NO MODEL.



Witnesses  
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# UNITED STATES PATENT OFFICE.

ALBERT GEORGE ROBERTS, OF PETERBOROUGH, CANADA.

## CAR-FENDER.

SPECIFICATION forming part of Letters Patent No. 756,411, dated April 5, 1904.

Application filed August 17, 1903. Serial No. 169,765. (No model.)

*To all whom it may concern:*

Be it known that I, ALBERT GEORGE ROBERTS, cabinetmaker, of the town of Peterborough, in the county of Peterborough, in the Province of Ontario, Canada, have invented certain new and useful Improvements in Car-Fenders, of which the following is a specification.

My invention relates to improvements in fenders for cars; and the object of the invention is to provide a fender for cars which may be automatically operated immediately upon the front of the car coming in contact with the obstruction in the track of the same and which will at the same time be simple, cheap, and effective in its operation.

It consists, essentially, of a platform pivotally held at its inner end between suitable hangers suspended from beneath the body of the car, a swinging gate pivotally connected between suitable brackets intermediately of the height of the same, a spring-buffer secured to the front of the car, a slotted link connected to the lower end of buffer at one end and to the gate at its opposite end at a point below the pivot-point of the gate, a rod pivotally connected at one end of the gate above the pivot-point thereof and at the other end to a bell-crank pivotally secured to the body of the car, a slotted plate secured beneath the body of the car, an arm extending upwardly from the inner side of the fender into the slot and a bolt extending from the inner end of the bell-crank to the front of the said arm, a cord connected to the upper end of said arm designed to pass around suitable pulleys to the front of the car and to extend upwardly through the floor thereof, and a suitable handle secured to the end of the said rod.

Figure 1 is a side elevation of the car, showing my device attached thereto. Fig. 2 is a plan view of my fender. Fig. 3 is a detail of the locking mechanism for holding the fender in its normal position above the track.

In the drawings like letters of reference indicate corresponding parts in each figure.

A is the body of the car, provided with depending hangers  $a$ , located at either side of the body of the car, provided with cross-rods  $a'$ , extending between the said hangers to form the back of the fender.

$A'$  is a cross-rod secured within the said hangers, provided with forwardly-extending arms  $a^2$ . To the arms  $a^2$  are secured cross-slats  $a^3$  to form the platform of the fender. The forward end of the fender is provided with suitable rollers  $A^2$ , designed to come in contact with the rail when the fender is thrown into operative position.

$a^4$  is an arm extending upwardly from the rear of the platform in proximity to the under surface of the floor of the car.

B is a plate secured to the body of the car, provided with a slot  $b$ , into which the upper end of the arm  $a^4$  is designed to extend.

$a^5$  is a spiral spring, one end of which is connected to the upper end of the arm  $a^4$  and the other end to a suitable portion of the floor of the car.

C is a spring-buffer composed of the frame  $c$  and the spring-arms  $c'$ . The spring-arms  $c'$  are turned inwardly at their ends, which are secured beneath a bar  $c^2$ , secured to the front of the car.

D is a hanging gate pivotally supported intermediate of its height on the brackets  $d$ , secured beneath the car.

$d'$  is a pin extending out from the side of the gate D.

$d^2$  is a bar having a slot  $d^3$  in proximity to its lower end. The upper end of the bar  $d^2$  is secured to the front portion of spring-buffer C, as shown.

E is a bell-crank pivotally secured in the lugs  $b^2$ , forming part of the plate B.

$b^3$  is a bolt secured to the rear arm of the bell-crank E and designed to extend into suitable guideways formed in the plate B. The other arm of the bell-crank is connected by a rod  $b^4$  to the upper edge of the gate D.

F is a cord connected to the upper end of the arm  $a^4$  and designed to pass around the pulleys  $f, f'$ , journaled beneath the car and up through the floor of the same through a suitable guiding-socket  $f^2$ , the free end of the cord being provided with a suitable knot  $f^3$ .

Having described the principal parts involved in my invention, I shall briefly describe the operation of the same.

If the car should come in contact with any obstruction on the track such obstruction will strike against the spring-buffer, so as to de-



press it into the position shown in dotted lines in Fig. 1, thereby, through the arm  $d^2$ , tilting the gate D on its pivot-point, thereby drawing forwardly upon the rod  $b^4$ , connected to the outwardly-extending arm of the bell-crank E, so as to tilt the same on its pivot and draw the bolt  $b^3$  from in front of the arm  $a^4$ , thereby relieving the fender and allowing it to be forced into position upon the track, as shown in dotted lines in Fig. 1. If the obstruction in the path should be lying close to the ground, it will only come in contact with the gate D, which will be carried rearwardly, as before, the pin  $d$  sliding within the slot  $d^3$ , so as to operate the mechanism in a similar manner. To bring the fender back to its normal position, the motorman has merely to pull upon the cord  $f$ , secured to the upper end of the arm  $a^4$ , thereby bringing said arm back to its normal position behind the bolt  $b^3$ . Of course it will be understood that the gate D will drop back to its normal position by force of gravity, thereby bringing the bolt  $b^3$  into position to lock the arm  $a^4$  when brought back to normal.

It will be seen from this description that I have provided a fender for cars which will be absolutely automatic in its operation, leaving the motorman perfectly free to perform his required duties. The fender is also very simple, cheap, and effective in its operation. Another advantage is that practically the whole of the fender lies beneath the body of the car and does not extend at any time to either side of the track, thereby being liable to come in contact with objects lying to the outside of the track.

What I claim as my invention is—

1. In a fender for cars, the combination with the body of the car, a platform pivotally supported beneath the floor of the car, an arm extending upwardly into proximity with the floor of the car, means for engaging and locking the said arm in its normal position, means for automatically relieving the said arm, located at the front of the car operated by coming in contact with an obstruction in the track of the car, a connection extending from said means back to the locking means and means for bringing the fender back to its normal position as and for the purpose specified.

2. In a fender for cars the combination with the body of the car, of a platform pivotally supported beneath the floor of the car, a spring-buffer secured to the front of the car connecting locking mechanism located between the buffer and the platform for releasing the platform upon the depression of the said buffer and means for bringing the fender back to its normal position as and for the purpose specified.

3. In a fender for cars the combination with the body of the car, a platform pivotally supported beneath the floor of the car, an arm extending upwardly from said platform in

proximity to the car-floor, a bolt held in suitable guideways designed to normally extend in front of the said arm, a bell-crank pivotally secured beneath the floor of the car, one arm of which is connected to the said bolt, a rod connecting the other arm to the said buffer and means for bringing the fender back to its normal position as and for the purpose specified.

4. In a fender for cars the combination with the floor of the car, a platform pivotally supported beneath the floor of the car, a downwardly-extending gate pivotally supported intermediate of its length in suitable brackets supported from the floor of the car, an arm extending upwardly from the said platform in proximity with the floor of the car, locking means for the said arm engaging therewith and a connection from the upper end of said gate to the locking means, said connection being drawn positively forward by the backward swing of the gate and means for bringing the fender back to its normal position as and for the purpose specified.

5. In a fender for cars the combination with the body of the car, a platform pivotally supported beneath the floor of the car provided with an upwardly-extending arm, a bell-crank pivotally supported beneath the floor of the car, for controlling the upwardly-extending arm, a downwardly-extending gate or arm pivotally connected intermediate of its length in proximity to the front of the car, a connecting-rod connecting one arm of the bell-crank to the top of the gate and means for bringing the fender back to its normal position as and for the purpose specified.

6. In a fender for cars the combination with the platform pivotally supported at its rear end beneath the floor of the car, of a spring-buffer composed of a series of downwardly-extending arms located in front of the car, a depending arm or gate pivotally supported intermediate of its length beneath the floor of the car, a pin extending outwardly from the side of the said gate, a slotted connecting-link secured at one end to the said spring-buffer through the slot of which said pin is designed to pass and means for bringing the fender back to its normal position as and for the purpose specified.

7. In a fender for cars the combination with the platform pivotally secured at its inner end between suitable hangers secured to the floor of the car and provided with an upwardly-extending arm, a buffer located to the front of the car, locking mechanism located between the said buffer and the upwardly-extending arm of the fender, a cord extending up through suitable guideways through the floor of the car provided with a knot at its free end and a series of bars located between the supporting-hangers of the fender as and for the purpose specified.

8. In combination with a car a platform piv-

oted below the same, a spring-buffer at the front of the car, a gate pivotally supported and depending at the front end of the car, a connection between the gate and the platform  
5 and a connection between the spring-buffer and the gate, the latter connection serving to operate the gate and through it the platform

and the said gate being capable of operation independent of the buffer, substantially as described.

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