

C. E. BAGGESEN.

AUTOMATIC SAFETY ATTACHMENT FOR STREET CARS.

No. 507,201.

Patented Oct. 24, 1893.

Fig. 1.

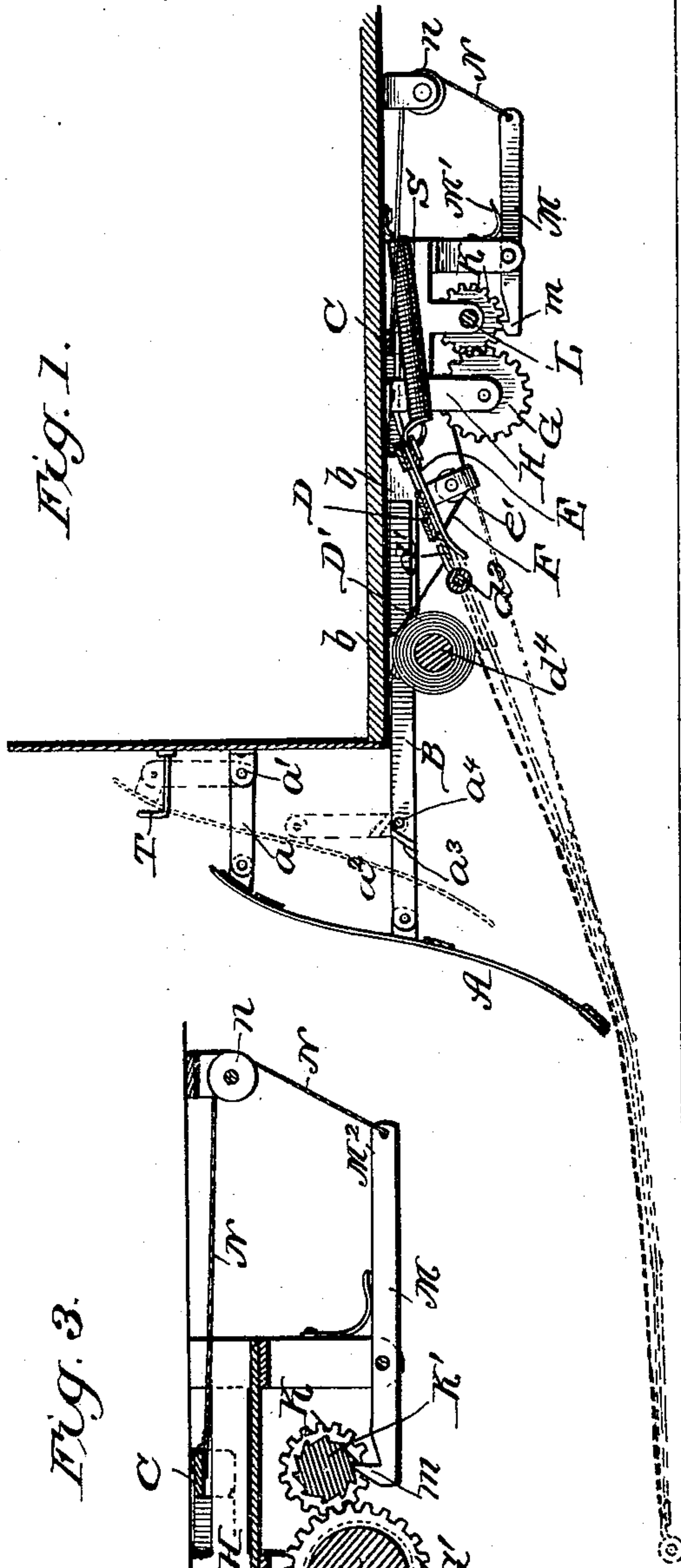


Fig. 3.

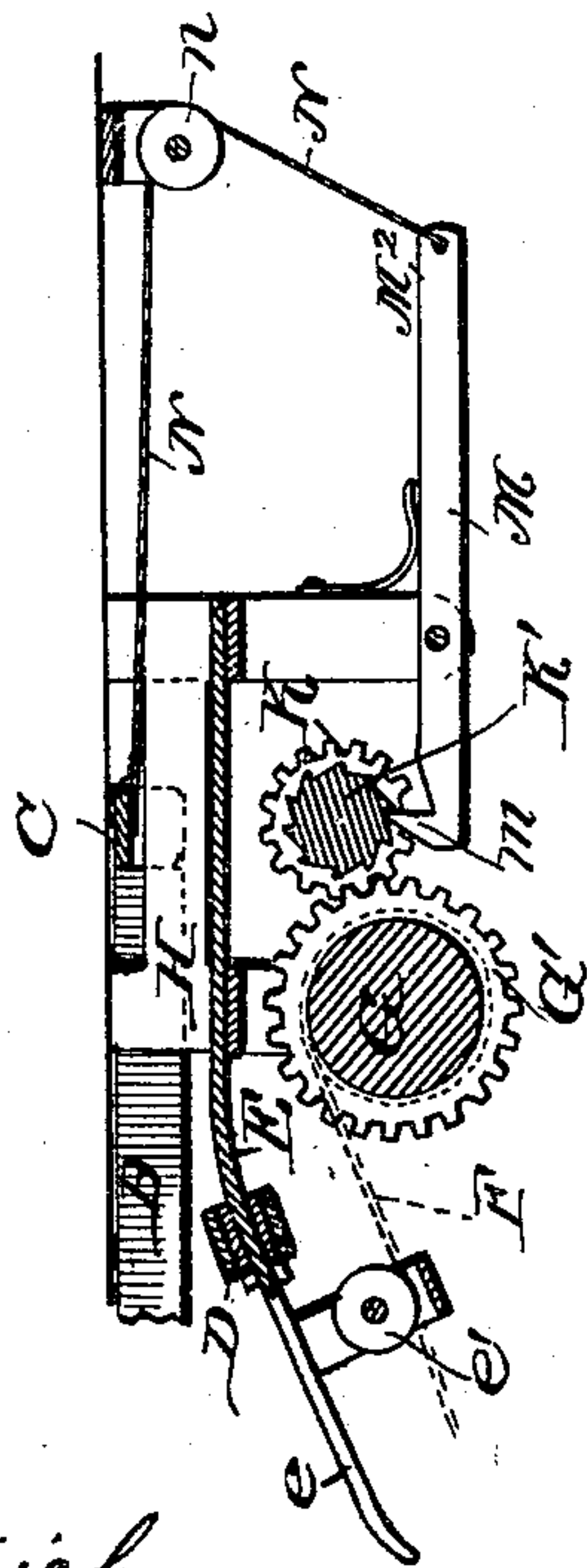
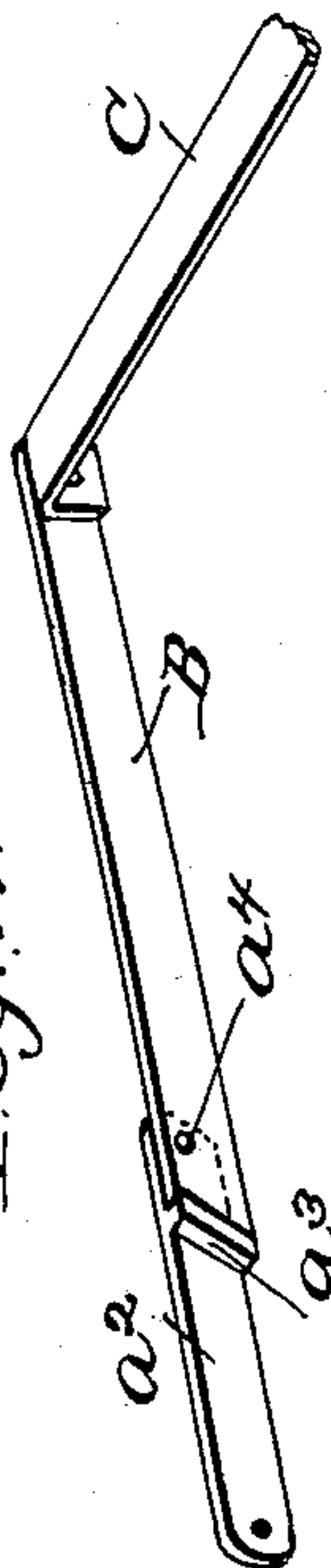


Fig. 4.



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(No Model.)

2 Sheets—Sheet 2.

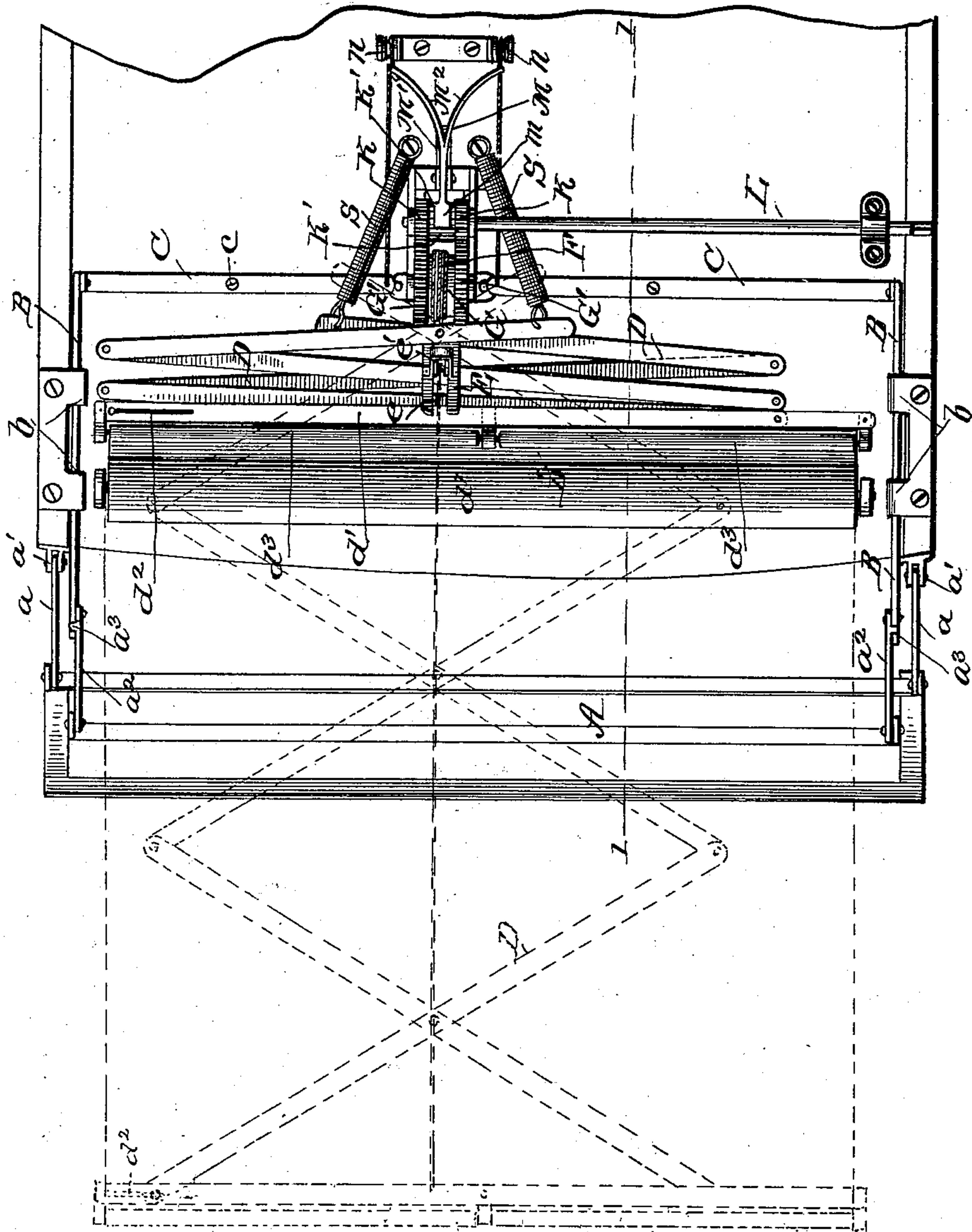
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Fig. 2.



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UNITED STATES PATENT OFFICE.

CARL E. BAGGESEN, OF NEW YORK, N. Y.

AUTOMATIC SAFETY ATTACHMENT FOR STREET-CARS.

SPECIFICATION forming part of Letters Patent No. 507,201, dated October 24, 1893.

Application filed February 15, 1893. Serial No. 462,371. (No model.)

To all whom it may concern:

Be it known that I, CARL E. BAGGESEN, residing at New York city, county and State of New York, have invented a new and useful Improvement in Automatic Safety Attachments for Street-Cars, of which the following is a specification.

The invention relates to an improved fender, guard, or track cleaner for cars, and is particularly adapted for street cars propelled by electric, cable or other power.

The object of my invention is to provide a simple device of this character which can be folded beneath the end of the car when not in use.

Another object is to provide a device which will carry the endangered person or object along as the car moves forward, and will not throw one in an uncertain direction, nor permit one to be dragged along in front of the wheels; and a still further object is to provide a device that is thoroughly automatic being operated at the moment the person upon the track is touched.

With these various objects in view my invention consists in providing an operating frame which swings from the dash board of a car, and a forwardly extensible carrier apron, adapted to be folded beneath the car when not in use, and projected forward when the operating frame is touched by the person or object upon the track.

My invention consists also in the novel construction of an operating frame by means of which it can be folded up in front of the dash board when not in use.

The invention consists also in the novel mechanism for extending the carrier apron, and it consists still further in certain details of construction, and combinations of parts all of which will be first fully described in connection with the accompanying drawings and then pointed out in the claims.

In the drawings which form a part of this specification.—Figure 1 is a vertical longitudinal section on the plane of the line 1—1 of Fig. 2, the parts being shown in their normal positions in full lines and in operative positions in dotted lines. Fig. 2 is a bottom plan view of the device. Fig. 3 is a detail view of winding and releasing mechanism,

and Fig. 4 shows in detail the connection between the swinging frame and the operating rod of the extending mechanism.

In carrying out my invention I employ an operating frame A, rectangular in shape, and which swings from the dash board of an ordinary street car. The frame, A, is of a width equal to the width of the track and is pivotally connected with the dash by means of an arm a which is also pivoted to the dash at a' . The frame A is constructed of thin, stout metal, and comprises the vertical end pieces and the horizontal top, bottom, and cross pieces, said frame resting within six inches of the road bed as shown in Fig. 1. In order to hold the frame in this position I employ a second set of arms a^2 , which are pivotally connected with the frame, and also with the operating bars B of the extending mechanism. By referring to Fig. 4 it will be noticed that the arm a^2 is provided with an inclined flange a^3 , and that the pivot a^4 is placed near the end of the arm. This construction provides a lock joint between the arm a^2 and bar B, prevents the frame swinging too far inward, and makes a rigid connection through which power may be transmitted to the operating bars.

The operating bars B are arranged at each side of the car upon the bottom of the same, and slide longitudinally in the guide ways b attached to the bottom of the car. The inner end of each bar B is connected with the outer end of a lever C pivoted at c to the bottom of the car the inner end of each lever being connected with the releasing locking mechanism as hereinafter explained.

The extensible and contractible carrier apron consists of a lazytong frame D made of thin stout metal, covered by a sheet of canvas or other stout cloth D' , upon which the person is intended to rest while being carried forward with the car. The lazytong frame D is provided with a forward cross bar d' , slotted longitudinally at its ends, as shown at d^2 , for the purpose of allowing the arms of the frame to fold and unfold. The front cross bar d' is also provided with two or more rollers d^3 , which are adapted to roll upon the rails of the track when the carrier apron is extended, and thus support the forward end of the same.

The canvas apron D' is attached at its forward end to the forward cross bar d', while its rear end is attached to a spring actuated roller d⁴, mounted beneath the car bottom and forward of the extending and locking mechanism.

The lazytong frame D is pivoted at its innermost joint to a stout spring metal bar E, said bar being attached at its rear end to the frame carrying the locking and releasing mechanism; its forward end being bent downwardly as shown and provided with a longitudinal slot e. Upon the under side of this stout spring metal plate E is mounted a guide pulley e' under which passes a rope F, which is attached at its forward end to the forward cross bar frame D, for the purpose of contracting the frame and apron, and in order to wind this rope I provide a drum G, which is journaled in a frame H, attached to the under side of the car bottom. The drum G is formed with central groove in which the rope is wound, and at each end the drum is formed with a gear G' which mesh with the pinions K K of the combined pinion and ratchet which is also journaled in the frame H to the rear of the drum G. The combined pinion and ratchet is formed with pinions K K at each end and a ratchet wheel K' intermediate the pinions, as clearly shown in Fig. 2. This combined ratchet and pinion is mounted upon a winding shaft L, which extends a short distance beyond the side of the car, by means of which the rope is wound upon the drum and the apron contracted after it has been extended forward.

In order to hold the parts locked in their contracted positions I provide a locking lever M, which is pivoted in the frame H and carries a pawl m at its forward end which engages the ratchet K', and holds the parts in place. The lever M is held in engagement with the ratchet by means of the leaf spring M' Figs. 1 and 3. The rear end of the lever M is bifurcated as shown at M² in Fig. 2, and to each member of the same is attached a cord N, said cord being passed around pulleys n n, upon the bottom of car and then connected with the inner ends of the adjacent lever C, before referred to. By this means there is established a connection between the swinging operating frame A, and the locking and releasing mechanism so that when the frame A is touched by a person or object on the track, the locking mechanism will be released and the carrier apron is ready to be extended; and in order to project the same forward I provide two stout metal coiled springs S S, which are connected at their rear ends to the bottom of car and at their forward ends are attached to the inner end of the lazytong frame D, so that when the said frame is contracted the springs are distended and the moment the locking lever is thrown out of engagement, the springs S S contract, extending the frame, and unrolling the apron and winding cord.

In practice I attach one of my improved fenders and cleaners at each end of a car so that safety is insured when the car is running in either direction, but when the car is moving in one direction the swing frame at the opposite end is folded up and secured upon a hook T as shown in dotted lines in Fig. 1. The parts are shown in their normal positions in full lines in Fig. 1, and when a person or thing is upon the track, the lower portion of the swinging operating frame is struck. This causes the same to move inward a short distance and the slightest movement of this frame causes the operating bars B to move inward operating the levers C, which draw the cords N and release the lever M. The moment the lever M is released the springs S S contract and the carrier apron is extended forward and downward, catching and carrying the person in front of the car. When the lever M is unlocked the rope F is free to unwind, and the apron D' is unwound beneath the car. The car is of course stopped as soon as possible and the person removed from the carrier apron. A crank is then applied to the winding shaft, and the carrier apron contracted beneath the end of car, the apron winding upon the spring roller in a manner similar to an ordinary curtain shade. The rollers at the end of the lazytong frame are of soft rubber, and thus prevent injury to the person struck. The slotted spring plate acts as a guide for the winding rope and keeps it straight as it is wound upon the drum.

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

1. In a device of the character described, the combination with a swinging operating frame, of an extensible and contractible carrier apron arranged beneath the end of the car and connected with the said frame, substantially as and for the purpose described.

2. In a device of the character described, the combination with a car of an extensible carrier apron arranged beneath the end of the said car, rods for operating said apron and a frame attached to said rods at their forward ends, substantially as shown and described.

3. In a device of the character described, the extensible carrier apron comprising the lazytong frame and fabric cover, the springs for operating the lazytong frame and the spring roller for winding the fabric all arranged substantially as shown and described.

4. In a device of the character described, the combination with an extensible carrier apron of the winding drum and cord, the pinion and locking lever and the cords for releasing said lever, substantially as shown and described.

5. In a device of the character described, the combination with the operating frame and bars, of the levers and attached cords, the locking lever and combined ratchet and pinion the winding drum, and cord and the ex-

tensible carrier apron and springs for operating the same, substantially as shown and described.

5 6. In a device of the character described, the combination with a lazytong frame and springs for operating the same, of a winding cord and locking device, and releasing devices for releasing the locking device all arranged substantially as shown and described.

10 7. In a device of the character described, the combination with a journal frame arranged beneath the car, of the stout spring metal plate attached thereto and slotted at its forward end, the lazytong frame pivoted
15 to said plate, a pulley attached thereto, the winding drum and locking device and the cord attached at its forward end to the lazytong frame and wound at the rear end upon the drum, and the winding shaft all arranged
20 substantially as shown and described.

8. In a device of the character described, the combination with a journal frame, of the

winding drum having gears at each side, of the combined ratchet and pinions, the winding shaft the locking lever carrying a pawl, 25 and the cord for releasing said lever, substantially as shown and described.

9. In a device of the character described, the combination with the swinging operating frame, of the operating bars, the levers at- 30 tached thereto, the journal frame and plate the lazytong frame and fabric cover, the spring roller, the springs for operating the lazytong frame, the winding drum, the locking device and lever and the cords connect- 35 ing said locking lever with the first named levers, and the winding shaft and cord all arranged and adapted to operate substantially as shown and described.

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Witnesses:

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