

(No Model.)

2 Sheets—Sheet 1.

T. BARNES.
LIFE GUARD FOR STREET CARS.

No. 504,485.

Patented Sept. 5, 1893.

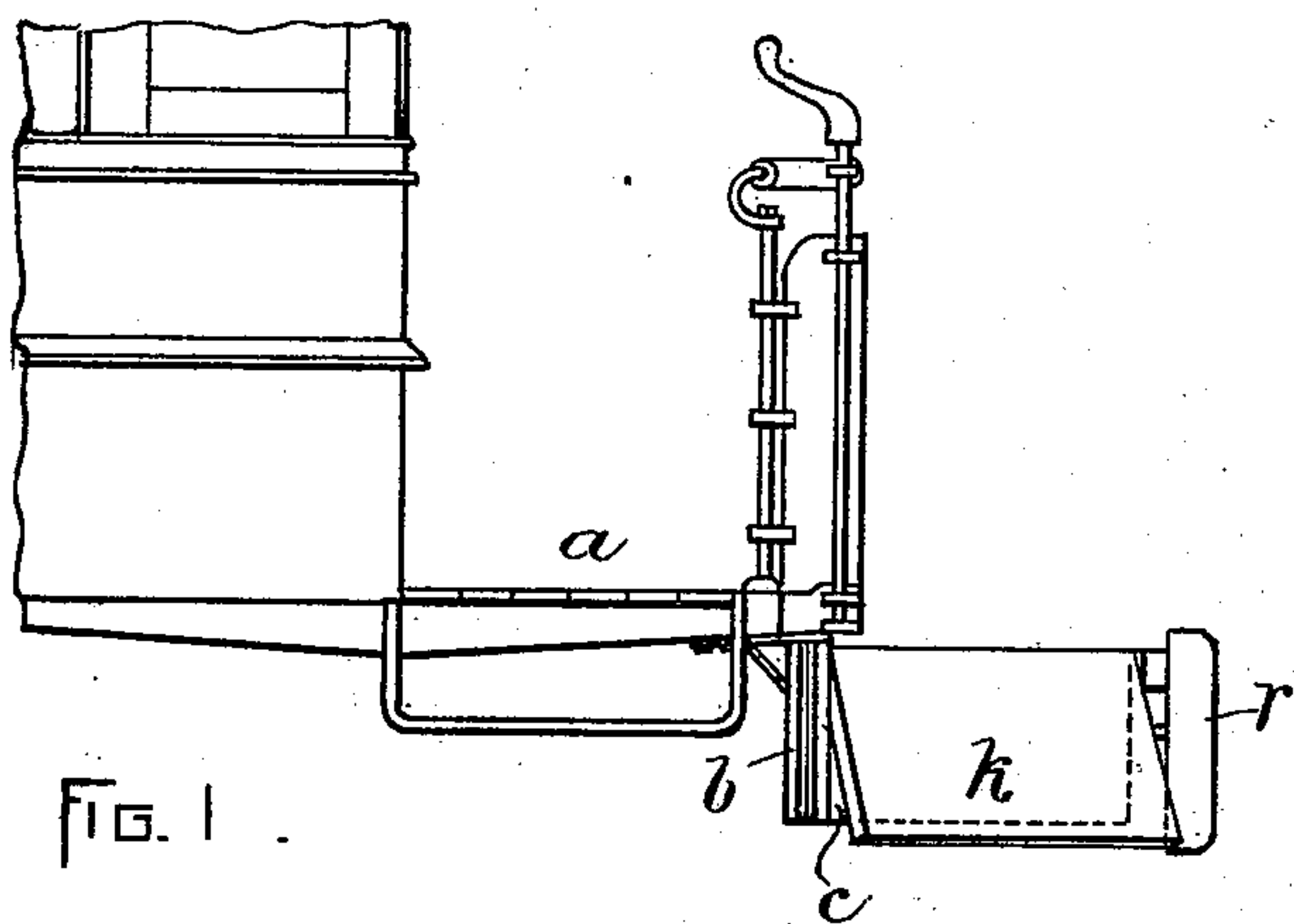


FIG. 1.

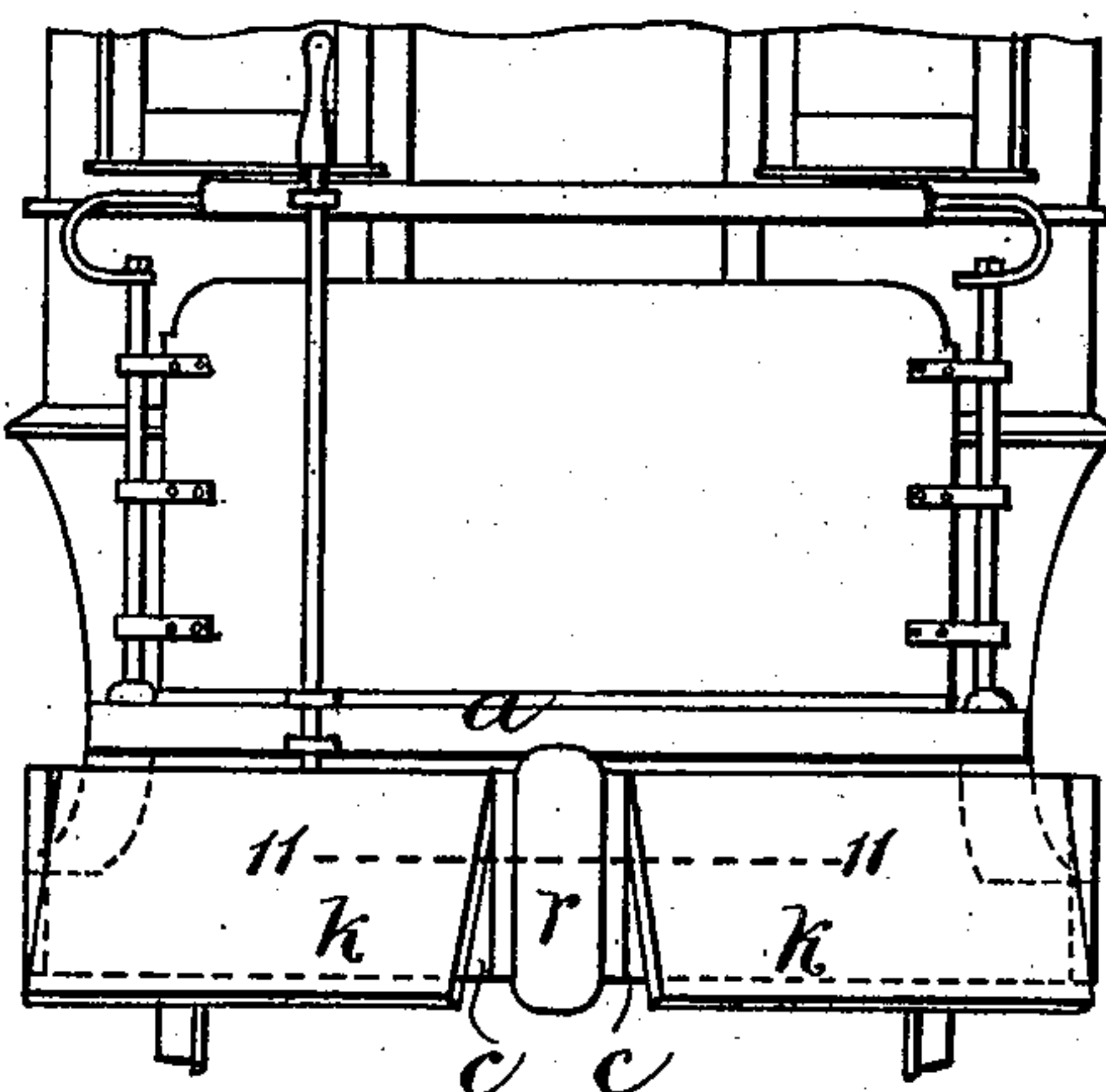


FIG. 2.

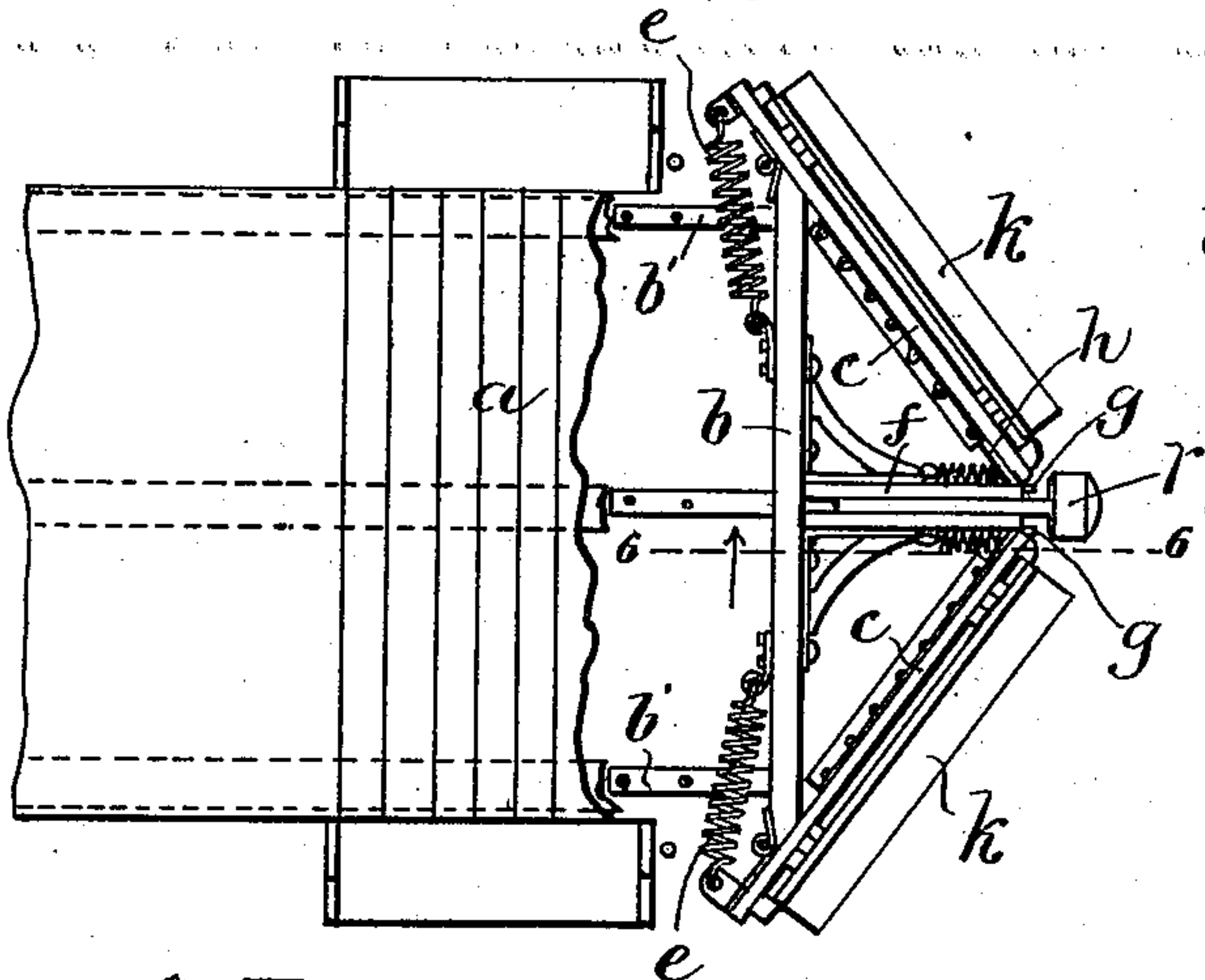


FIG. 3.

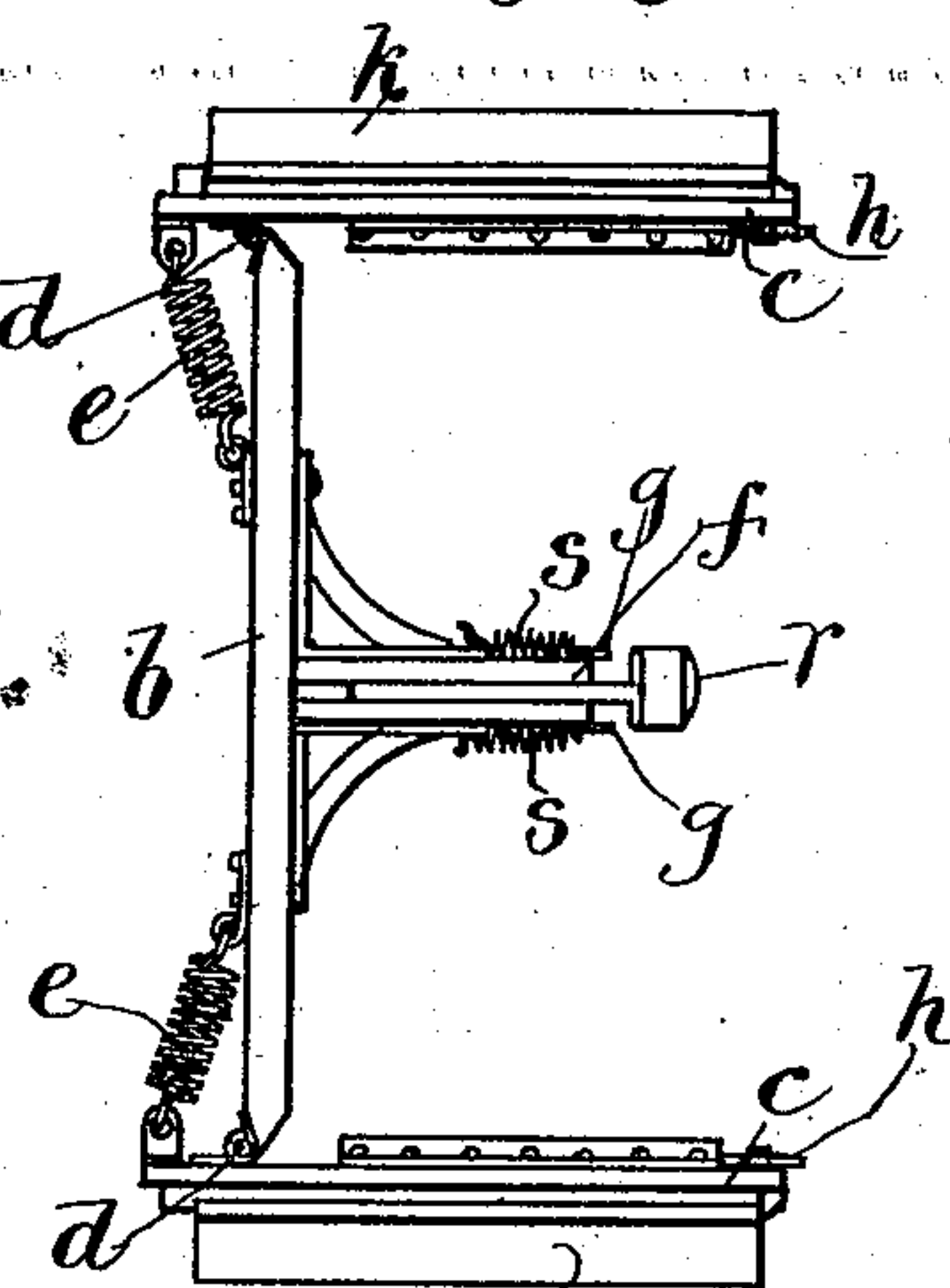


FIG. 4.

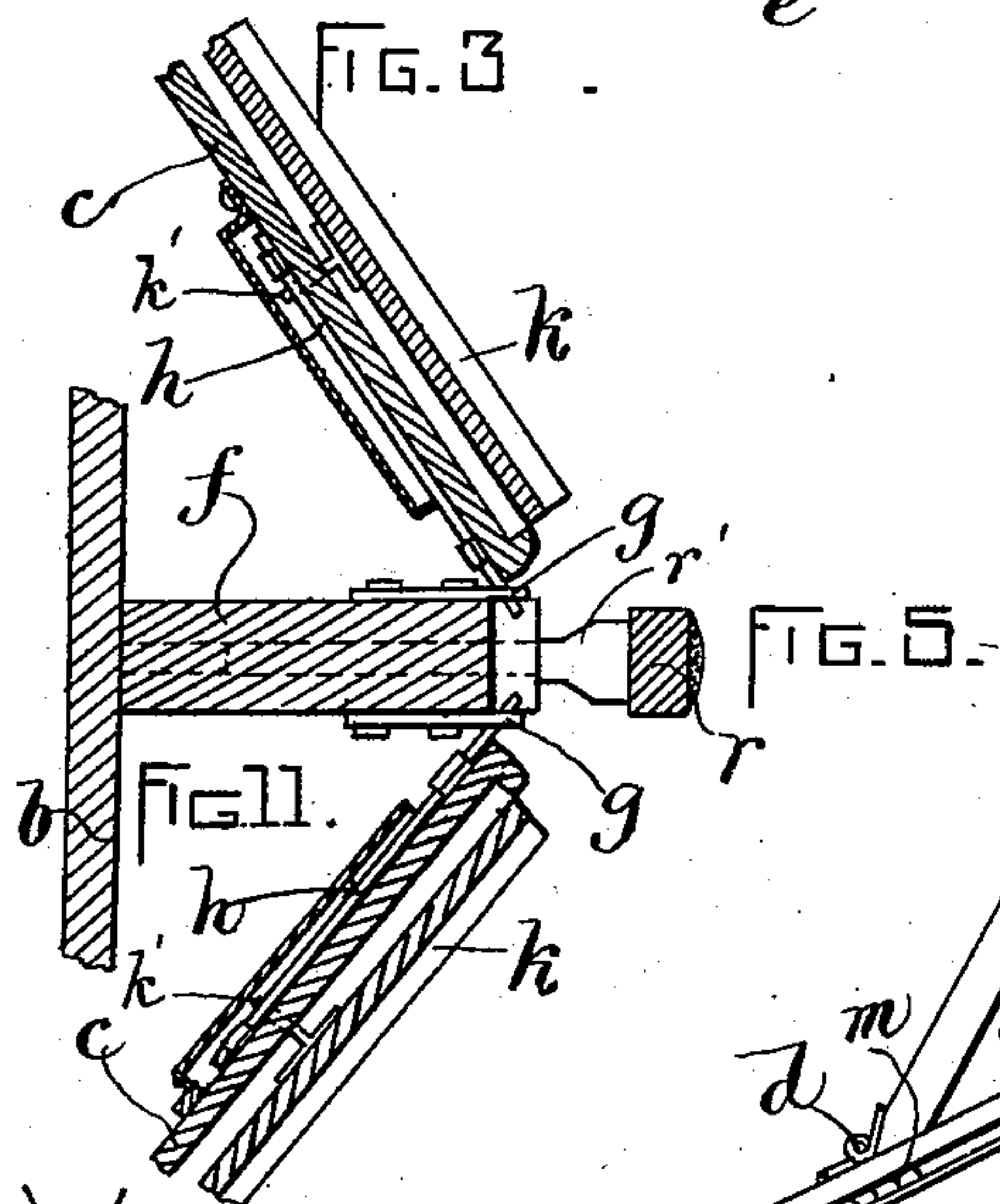
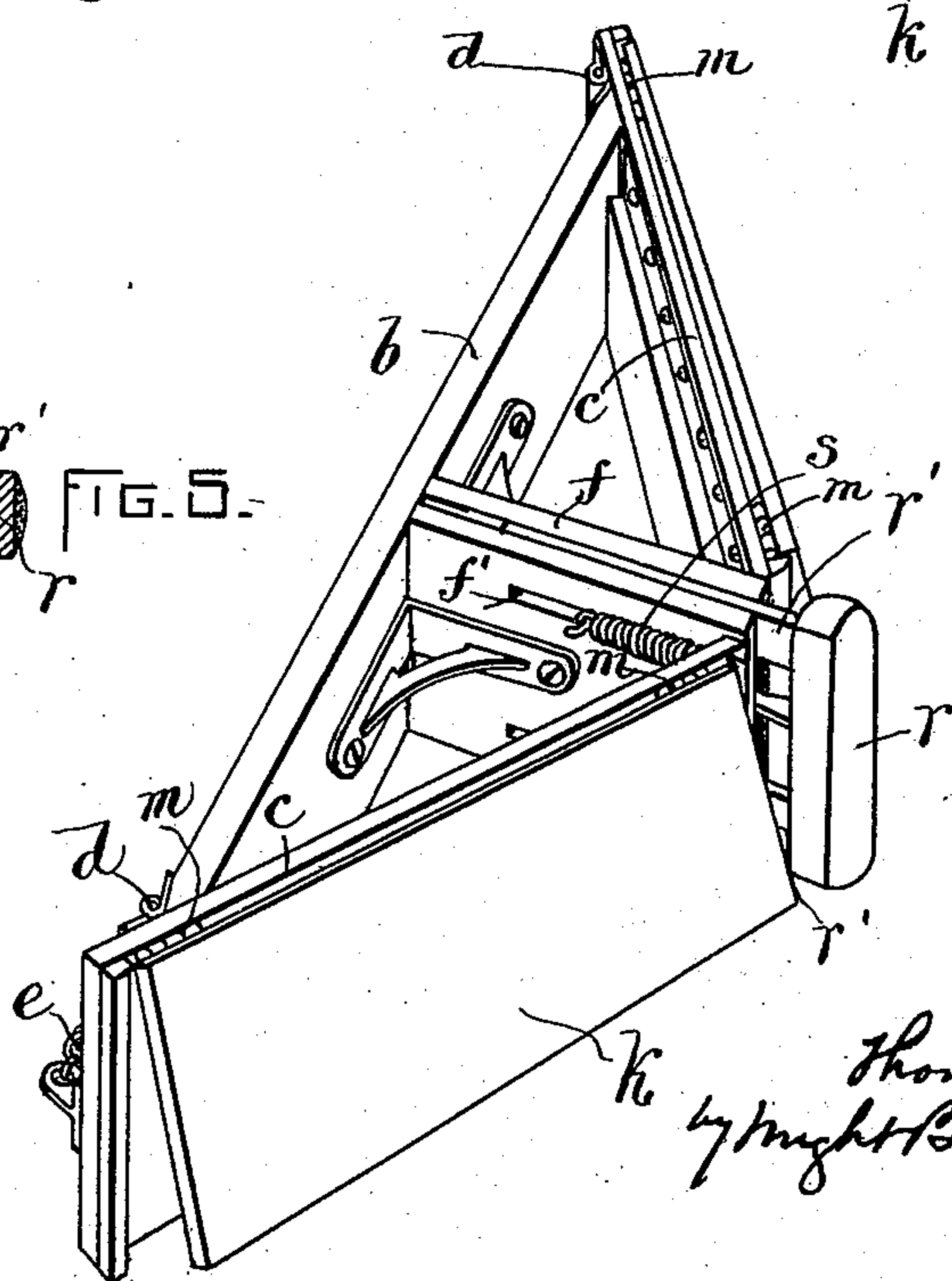


FIG. 5.

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INVENTOR:
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(No Model.)

2 Sheets—Sheet 2.

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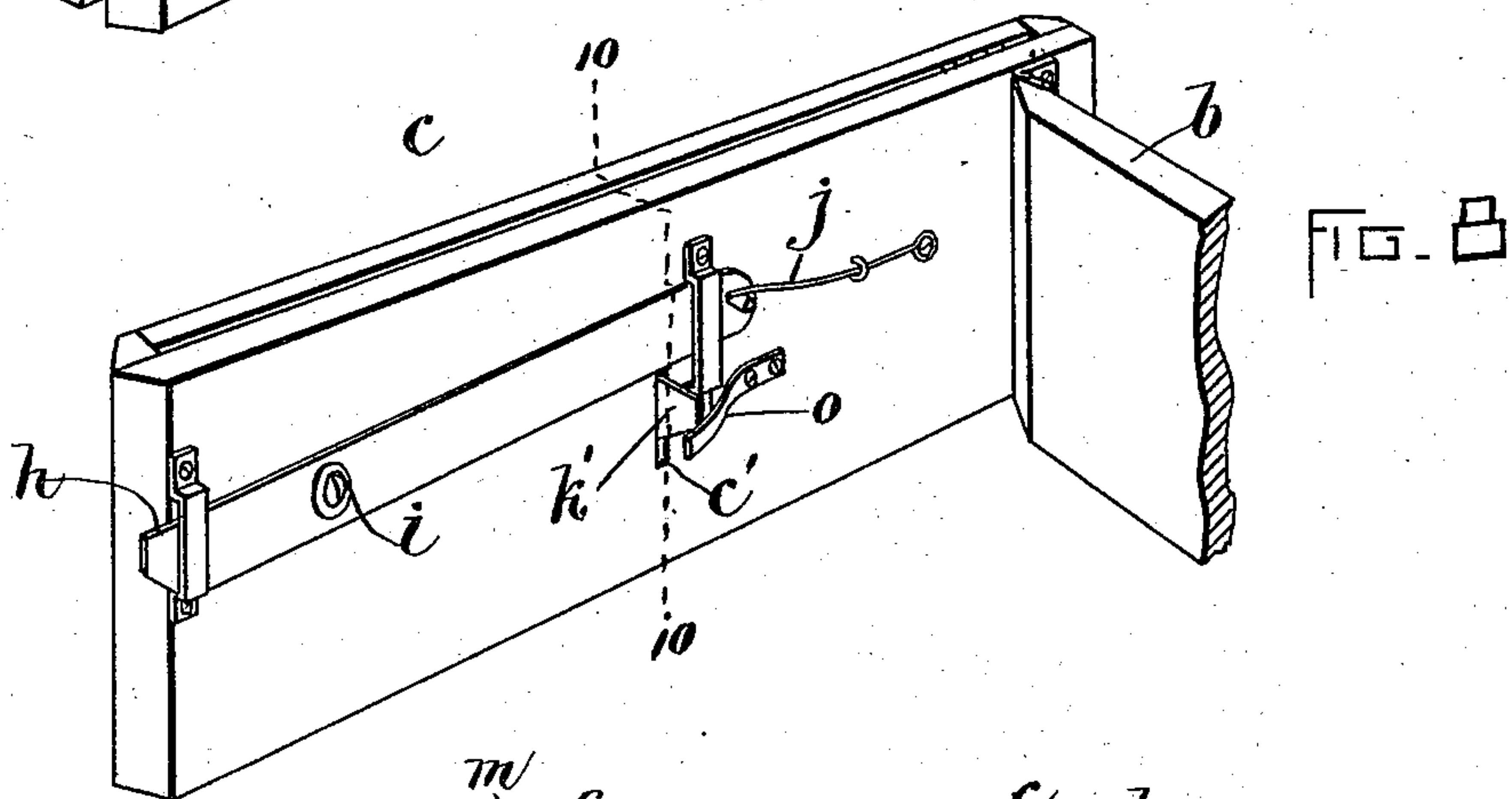
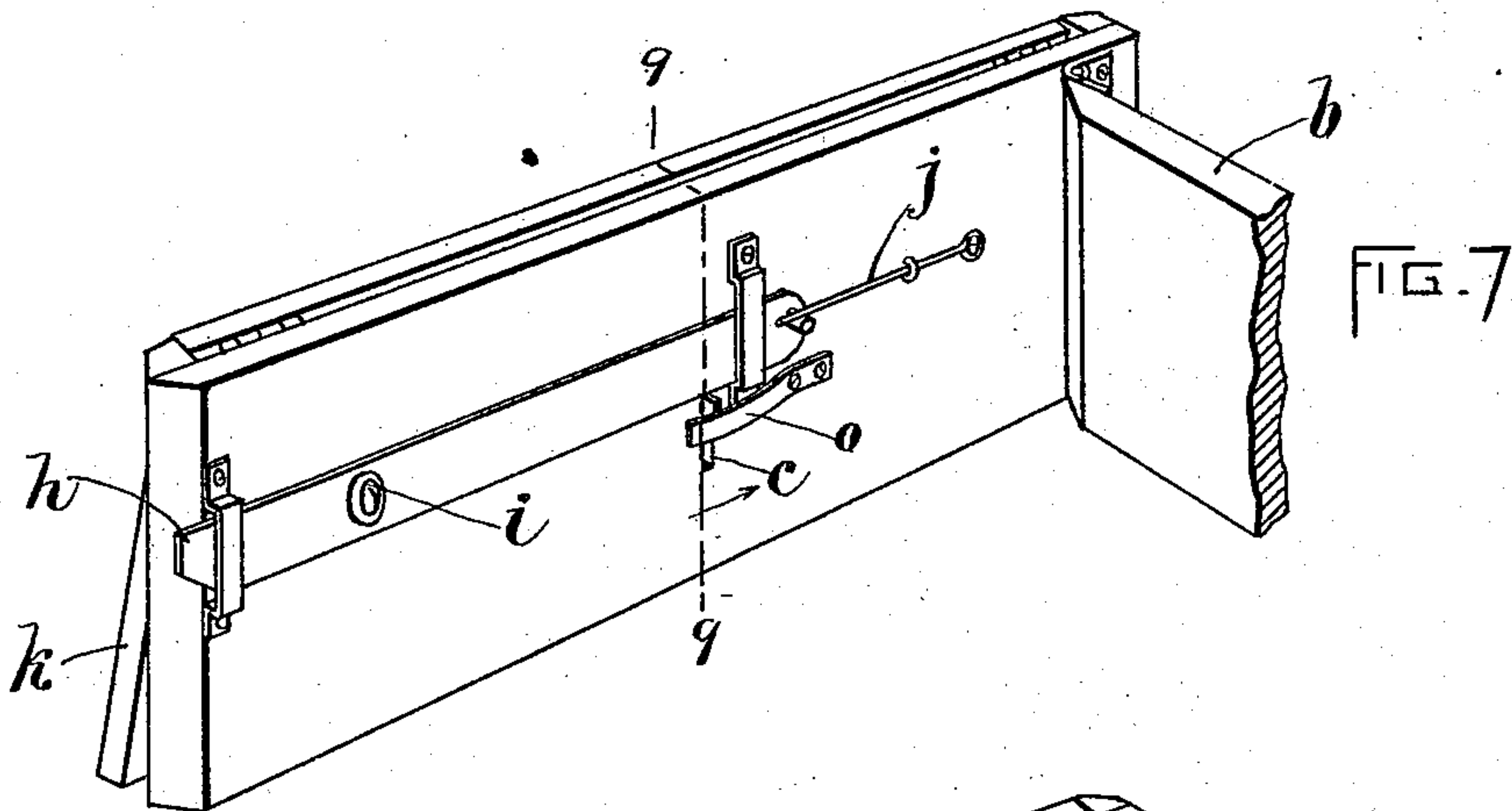
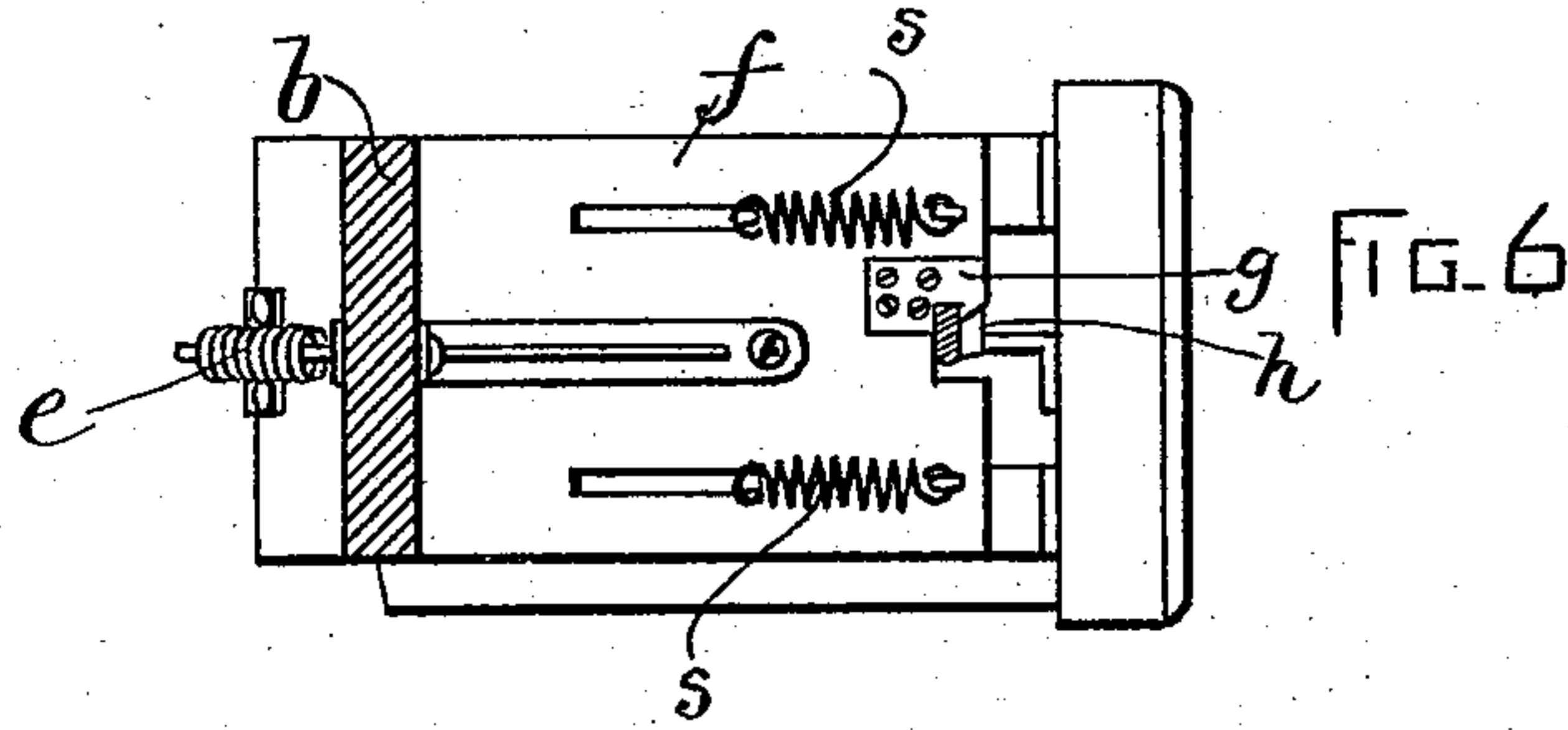


FIG. 9.

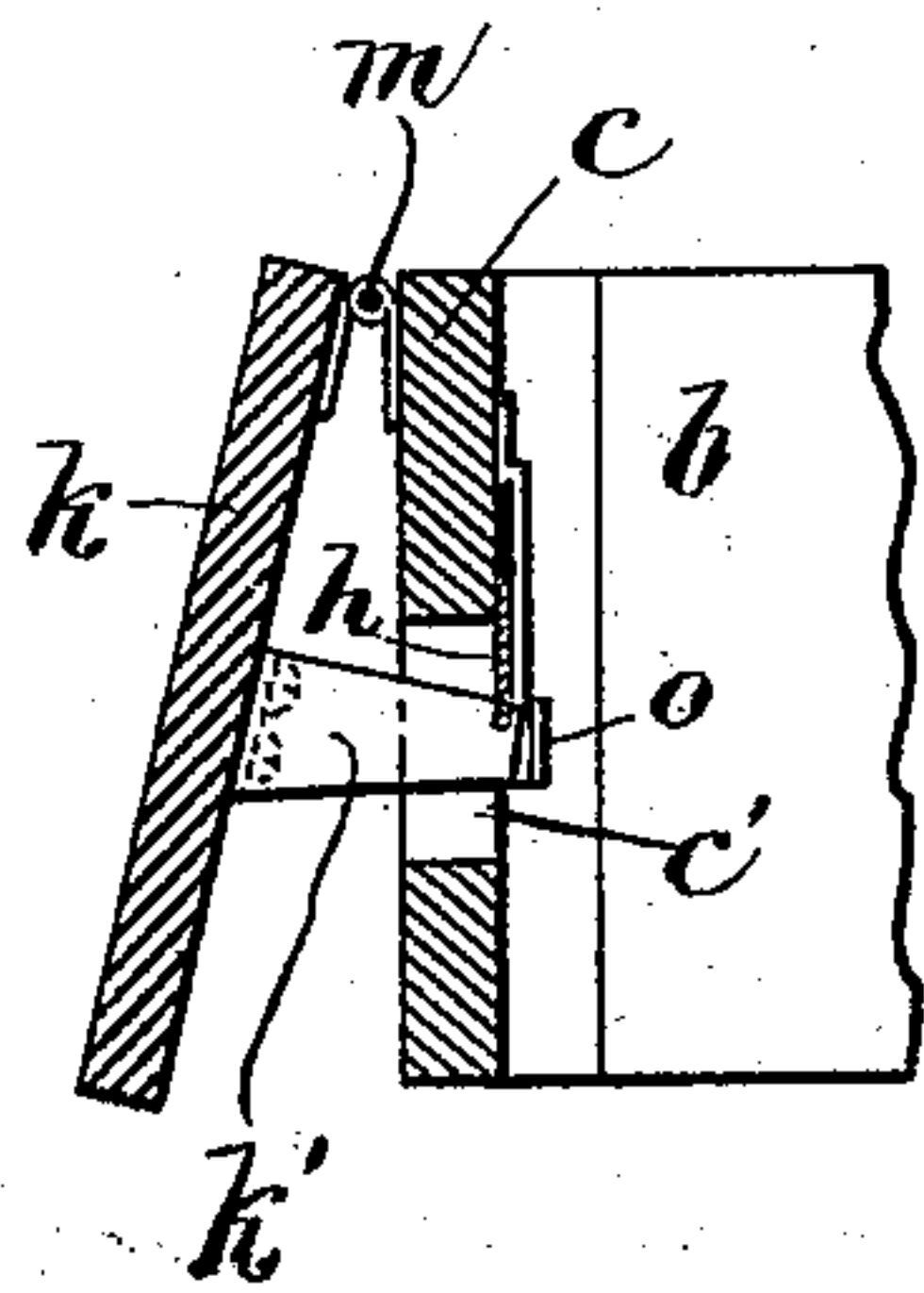
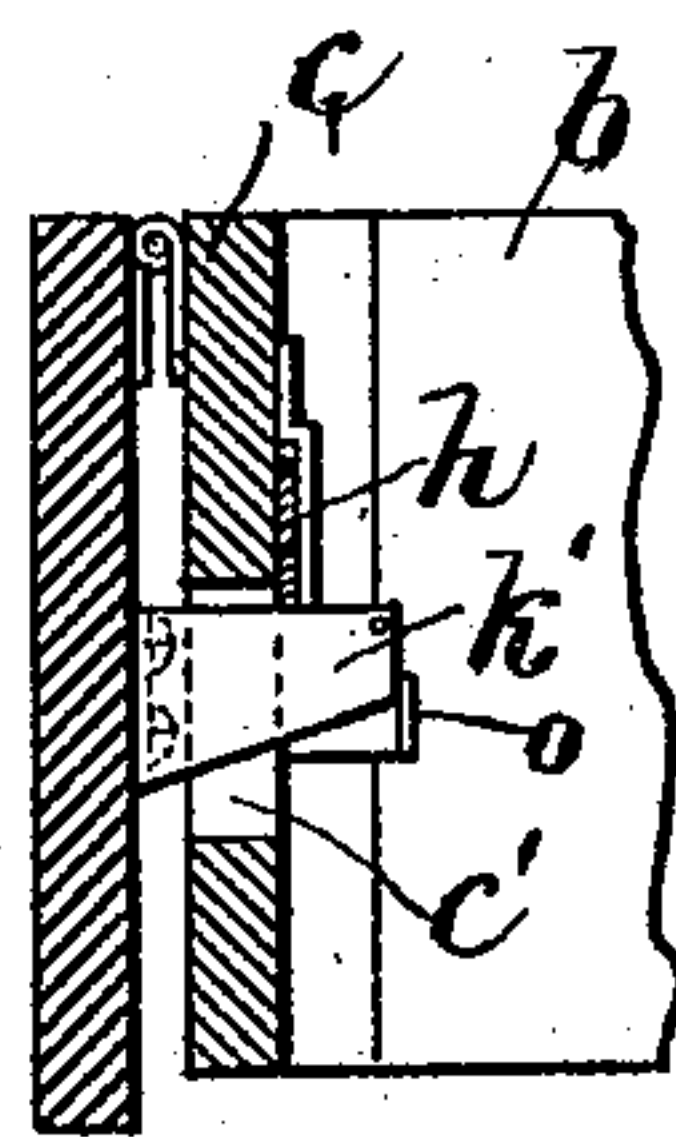


FIG. 10.



WITNESSES:

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UNITED STATES PATENT OFFICE.

THOMAS BARNES, OF LOWELL, MASSACHUSETTS.

LIFE-GUARD FOR STREET-CARS.

SPECIFICATION forming part of Letters Patent No. 504,485, dated September 5, 1893.

Application filed April 20, 1893. Serial No. 471,179. (No model.)

To all whom it may concern:

Be it known that I, THOMAS BARNES, of Lowell, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Life-Guards for Street-Cars, of which the following is a specification.

This invention has for its object to provide a life-guard adapted to yieldingly push a person or object off from a car-track, and to one side thereof, in case the person or object is struck by an approaching car.

The invention consists in the improved construction which I will now proceed to describe and claim.

Of the accompanying drawings, forming part of this specification: Figure 1 represents a side elevation of a car-platform and a portion of the car, having my improved life-guard. Fig. 2 represents a front elevation. Fig. 3 represents a top plan view, a portion of the platform being broken away. Fig. 4 represents a top plan view, showing the guard with its fenders projected or swung outwardly. Fig. 5 represents a perspective view of the guard with its fenders retracted or swung inwardly. Fig. 6 represents a section on line 6--6, Fig. 3. Fig. 7 represents a perspective view of a portion of the guard. Fig. 8 represents a view similar to Fig. 7, showing the locking-device in position to release the guard. Fig. 9 represents a section on line 9--9, Fig. 7. Fig. 10 represents a section on line 10--10, Fig. 8. Fig. 11 represents a section on line 11--11, Fig. 2.

The same letters of reference indicate the same parts in all the figures.

In the drawings: *a* represents the platform of a street-car, which is or may be of the usual construction.

b represents a cross-piece or bar, which may be affixed to the platform *a* in any suitable manner, as by means of arms *b' b'*, bolted to the rear side of the cross-bar *b* and to the under side of the platform, the bar *b* extending across the platform substantially at right angles with the car.

c c represent fenders, which are connected by hinges *d d* with the end-portions of the cross-bar *b*, the hinges *d* being connected with the fenders at or near their outer ends, as shown in Figs. 3, 4 and 5. The fenders and

the hinges are arranged so that the fenders can swing horizontally in an outward direction from the position shown in Fig. 3 to that shown in Fig. 4. Each fender is provided with a spring *e*, and said springs are arranged so that normally they exert an outward pressure on the fenders; or, in other words, they tend to normally force the fenders from the position shown in Fig. 3 to that shown in Fig. 4.

f represents a rigid arm or bracket, which projects forward from the central portion of the bar *b*, substantially at right angles with the latter. To the forward portion of said arm are affixed two catches *g g*, which are arranged to co-operate with latch-bars *h h*, pivoted at *i i* to the inner sides of the fenders *c c*. The catches *g* and latch-bars *h* constitute the parts or members of a locking-device, which is adapted to secure the fenders *c c* in the position shown in Figs. 1, 2, 3 and 5 against the stress of the springs *e e*. Each latch-bar *h* is normally held in position to engage the corresponding catch *g* (see Fig. 6), by means of a spring *j* (Figs. 7 and 8).

k k represent plates or strips, which are connected at their upper edges by hinges *m m* with the upper edges of the fenders. To the inner sides of said plates are affixed arms *k'* (Figs. 7, 8, 9 and 10), which project through slots *c'* formed in the fenders *c*, the upper edges of said arms bearing against the lower edges of the latch-bars *h*. The plates *k* and their arms *k'* are normally held pressed outwardly from the fenders *c*, as shown in Fig. 9, by means of springs *o*, affixed to the inner sides of the fenders and bearing upon the ends of the arms *k'*. When the plate *k* is pressed inwardly from the position shown in Fig. 9 to that shown in Fig. 10, its arm *k'* moves in such direction as to raise the end of the latch-bar *h* under which it is located, and thus depress the opposite end of the latch-bar which is engaged with the catch *g*. Hence movement of the plate *k* and arm *k'* from the position shown in Fig. 9 to that shown in Fig. 10 causes the disengagement of the latch-bar *h* from the catch *g*, and the release of the fender, so that the said fender is free to be moved by its spring *e* to the position shown in Fig. 4. It will be seen that each plate *k*, with its arm *k'*, constitutes a trigger, adapted to make the

above-described locking-device inoperative and therefore release each fender; so that, when a person or object on the track ahead of an advancing car is struck by one of the plates k , the fender to which said plate is connected will be immediately released, and will be thrown outwardly by its spring, in such manner as to force the person or object sideways from the track, and thus prevent the wheels from passing over such person or object. The trigger-plate k covers practically the entire outer surface of the fender, so that it will be operated by any object that may be in the path of the fender when the latter is in the position shown in Figs. 1, 2, 3 and 5.

I believe that I am the first to provide a car-guard which comprises a fender hinged to a support on the car and adapted to swing forward and laterally in such direction as to push a person or object sideways from the track, said fender being provided with a spring to give it the described movement, a locking-device to hold it retracted against the stress of the spring, and an exposed trigger carried by the swinging fender and arranged to be actuated by contact with a person or object on the track to release the fender. I therefore do not limit myself to the details of construction hereinbefore described, and may variously modify the same without departing from the spirit of my invention.

r represents a buffer, which is adapted to move in ways or guides in the arm or bracket f , the movement of said buffer being in the direction of the length of the car, the buffer being provided with shanks or arms r' , which are fitted to slide in said guides. The buffer is normally projected or pressed forward by means of springs s , attached at their forward ends to the arm or bracket f , and at their rear ends to pins or studs projecting from the shanks r' through slots f' formed in the sides of the arm or bracket f . The buffer r is located between the inner ends of the fenders, and its object is to form a yielding object to minimize the injury which a person standing directly in the center of the track would receive from contact with the approaching car.

It will be seen that this invention takes all responsibility from the motor-man, and that the device is entirely automatic in its action. I claim—

1. A life-guard for street-cars, comprising in its construction a hinged fender adapted to swing horizontally, and provided with a spring whereby it may be swung forward and laterally, a locking-device whereby said fender may be confined in its retracted position against the stress of its operating spring, and an exposed trigger carried by the fender and adapted to release said fender when struck by an object on the track, as set forth.

2. A life-guard for street-cars, comprising in its construction a hinged fender adapted to swing horizontally and spring-actuated forward and outward, a catch fastened to a stationary support, a latch on the fender and adapted to engage said catch, and an exposed trigger carried by the fender and adapted to trip the latch upon encountering an object on the track.

3. A life-guard for street-cars, comprising in its construction a hinged fender adapted to swing horizontally and provided with a spring whereby it may be swung forward and laterally, a locking-device whereby said fender may be confined in its retracted position against the stress of its operating spring, and a plate hinged to the fender and extending over its outer side and held yieldingly in an outward position, said plate having means whereby to release the fender upon encountering an object on the track.

4. A life-guard for street-cars, comprising in its construction two fenders hinged at their outer ends to a support on the car, each adapted to swing horizontally outward from the longitudinal center of the car platform, springs which normally exert an outward pressure on said fenders, locking-devices whereby the fenders may be confined in their retracted position against the stress of the springs, exposed triggers adapted to release said fenders, and a spring-supported buffer interposed between the inner ends of said fenders and movable longitudinally of the car, as set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 12th day of April, A. D. 1893.

THOMAS BARNES.

Witnesses:

A. D. HARRISON,
ARTHUR W. CROSSLEY.