

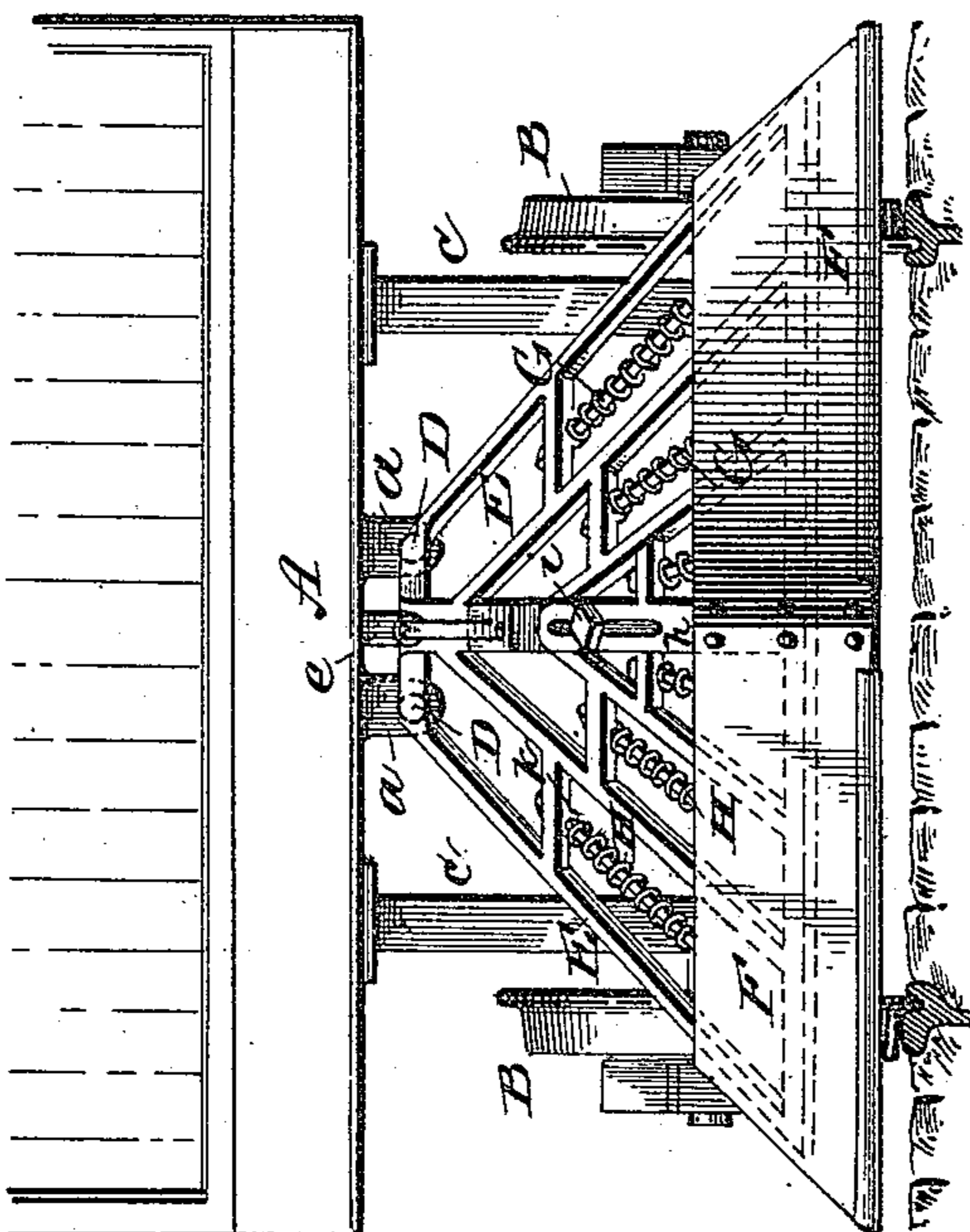
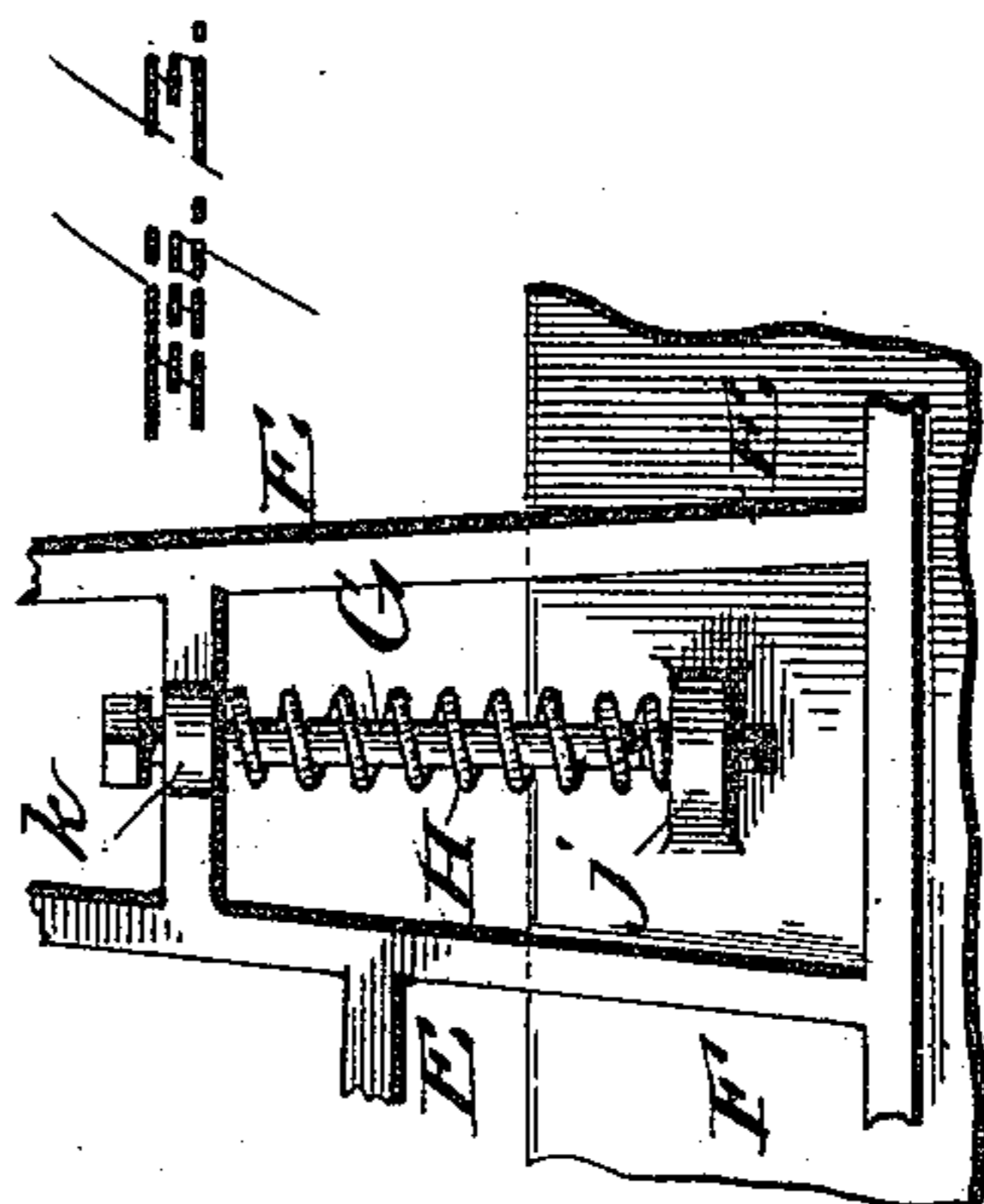
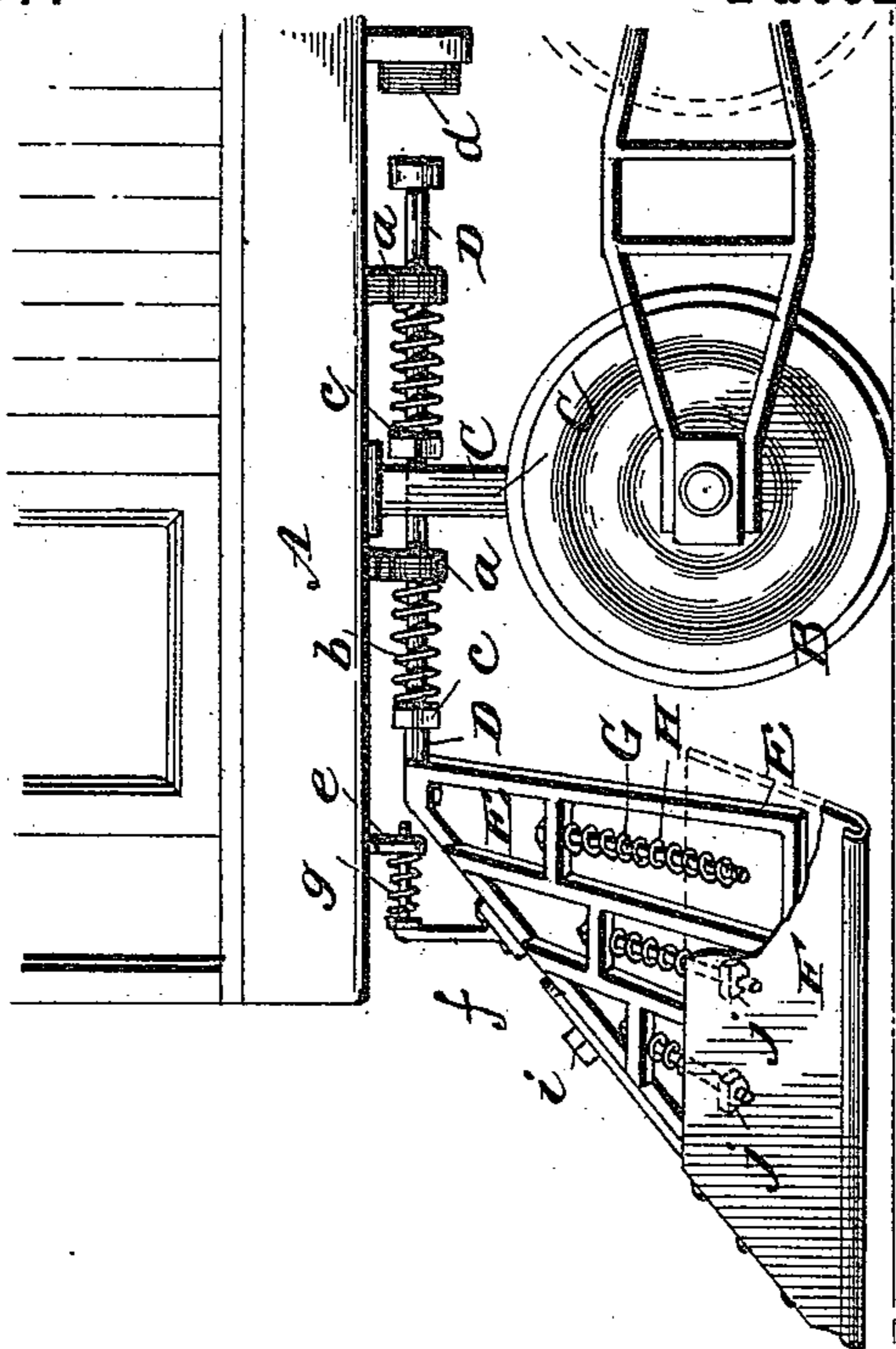
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Witnesses

L. C. Mills  
C. A. Bond.

Patented Dec. 9, 1890.



Inventor

Luther H. Lieber,  
per Chas. H. Fowler  
Attorney

# UNITED STATES PATENT OFFICE.

LUTHER H. LEBER, OF ALLEGHENY, PENNSYLVANIA.

## FENDER FOR STREET-CARS.

SPECIFICATION forming part of Letters Patent No. 442,587, dated December 9, 1890.

Application filed August 26, 1890. Serial No. 363,147. (No model.)

*To all whom it may concern:*

Be it known that I, LUTHER H. LEBER, a citizen of the United States, residing at Allegheny, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Fenders for Street-Cars; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters of reference marked thereon.

This invention relates to certain new and useful improvements in pilots or fenders for cars; and it has for its objects, among others, to provide an improved pilot which shall yield when coming in contact with a person or obstruction, provision being made for its yielding both upward on an incline and also lengthwise of the car when a heavier obstruction is met.

Other objects and advantages of the invention will hereinafter appear, and the novel features thereof will be specifically defined by the appended claims.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, and in which—

Figure 1 is an end view of a portion of a car with my improvement applied. Fig. 2 is a side elevation thereof with parts broken away. Fig. 3 is an enlarged detail showing the manner of connecting the movable part with its support.

Like letters of reference indicate like parts throughout the several views.

Referring now to the details of the drawings by letter, A designates a portion of the body of the car, or it may be an engine, to which the pilot is attached.

B are the wheels.

C are hangers in which the axle is journaled, and *a* are smaller hangers or lugs upon the under side of the car, and in which are designed to slide the longitudinal rod or rods D, of which there may be one, two, or more. This rod (or rods) carries at the forward end the skeleton frame-work E, which is of the shape shown—that is, inclined rearward from opposite sides of the central longitudinal cen-

ter. The rod or rods are provided with springs *b*, as seen in Fig. 2, which are confined between the lugs *a* and nuts *c* on the rod and serve to normally keep the frame projected, but yield under pressure, as by contact with an obstruction. The rear end of the rod is provided with an enlarged head, as seen in Fig. 2, which is designed to engage the rubber bumper *d*, fixed to the car, as seen, to prevent shock.

A lug *e* is affixed to the under side of the body of the car at the forward end, as seen in Fig. 2, and rising from the frame E is an arm *f*, which has a horizontal rearwardly-extending portion which works through a hole in said lug, and is surrounded by a spring *g*, as seen in Fig. 2, to aid in supporting the forward end of the frame and yet permit it to yield readily.

F is the fender, of a shape in general corresponding to the shape of the frame-work E, the lower edge being rolled or otherwise formed, so as not to present sharp angles, the two portions being secured to a central bar *h*, as seen in Fig. 1, which bar is slotted lengthwise and designed to be guided by a pin or bolt *i* on the front piece of the frame-work, as seen in Fig. 1. The rear face of the fender is formed with lugs *j*, and the cross-bars of the frame-work are provided with enlargements or lugs *k*, in which lugs the rods G are designed to be held, being provided with springs H, as seen best in Fig. 3. These springs serve to normally keep the fender extended downward, but permit the same to readily yield when the same comes in contact with an obstruction.

The operation will be readily understood. Should the fender strike a light object, it will yield upward in the direction of the incline of the frame-work; but should it come against a large or heavy object it will yield not only in the aforesaid direction, but will give in the direction of the length of the car by the compression of the springs *b*, and should the obstruction be a person he would not be liable to injury, as he would if the fender could not yield, as above described.

It should be understood that the fender has but slight movement in an inclined direction, and that when the fender comes in contact

with an object either heavy or light, as the case may be, the fender will rise upward and on an incline upon the frame at one side only—that side which is struck—and at an angle corresponding with the angle to which the rods and springs are disposed, and the movement of the frame to which the fender is attached being in a horizontal direction and lengthwise all strain upon the rods carrying the springs is removed.

What I claim as new is—

1. A fender for the purpose specified, constructed to yield in an inclined direction, as set forth.
2. A fender for cars, constructed to yield in an inclined direction and also lengthwise of the car, substantially as specified.
3. The combination, with the frame-work carried by rods yieldingly held to the car-body, of the fender supported on the said frame-work and adapted to yield in an inclined direction thereon under pressure, as set forth.
4. The combination, with the rods slidingly supported beneath the car and provided with

springs to normally keep them projected, of the skeleton frame-work carried by the rods, and the fender carried by the frame-work and adapted to yield in an inclined direction, substantially as specified.

5. The combination, with the rods beneath the car and the springs thereon, of the frame-work carried by said rods, the rods affixed to the frame-work, the fender, and the springs around the rods, as and for the purpose specified.

6. The combination, with the rods beneath the car and the springs thereon, of the frame-work carried by the rods, the fender supported on the frame-work and constructed to yield in an inclined direction thereon, and the spring-actuated arm *f* at the forward end of the car, substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

LUTHER H. LEBER.

Witnesses:

A. C. JOHNSTON,  
D. J. RICHARDSON.