

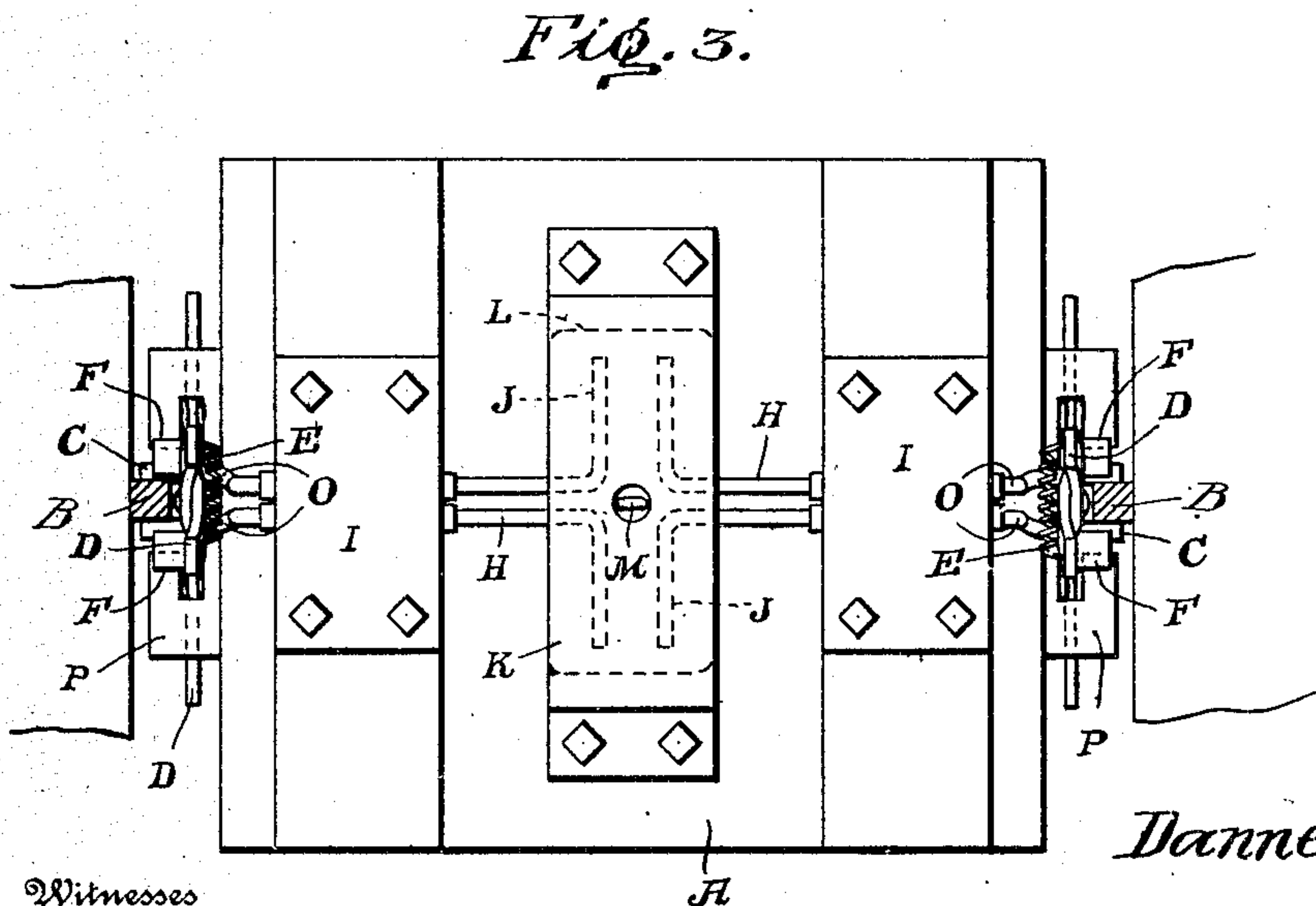
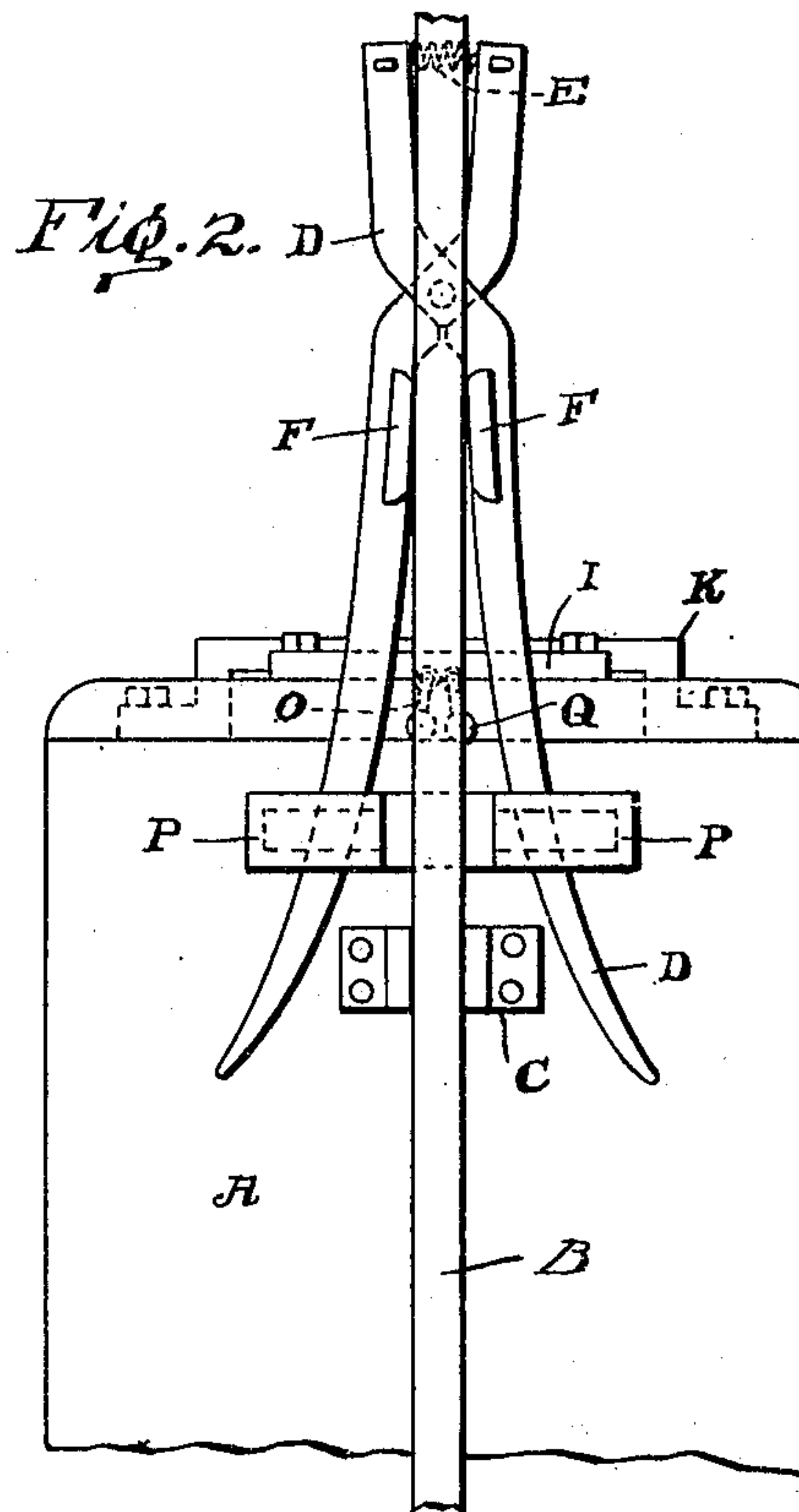
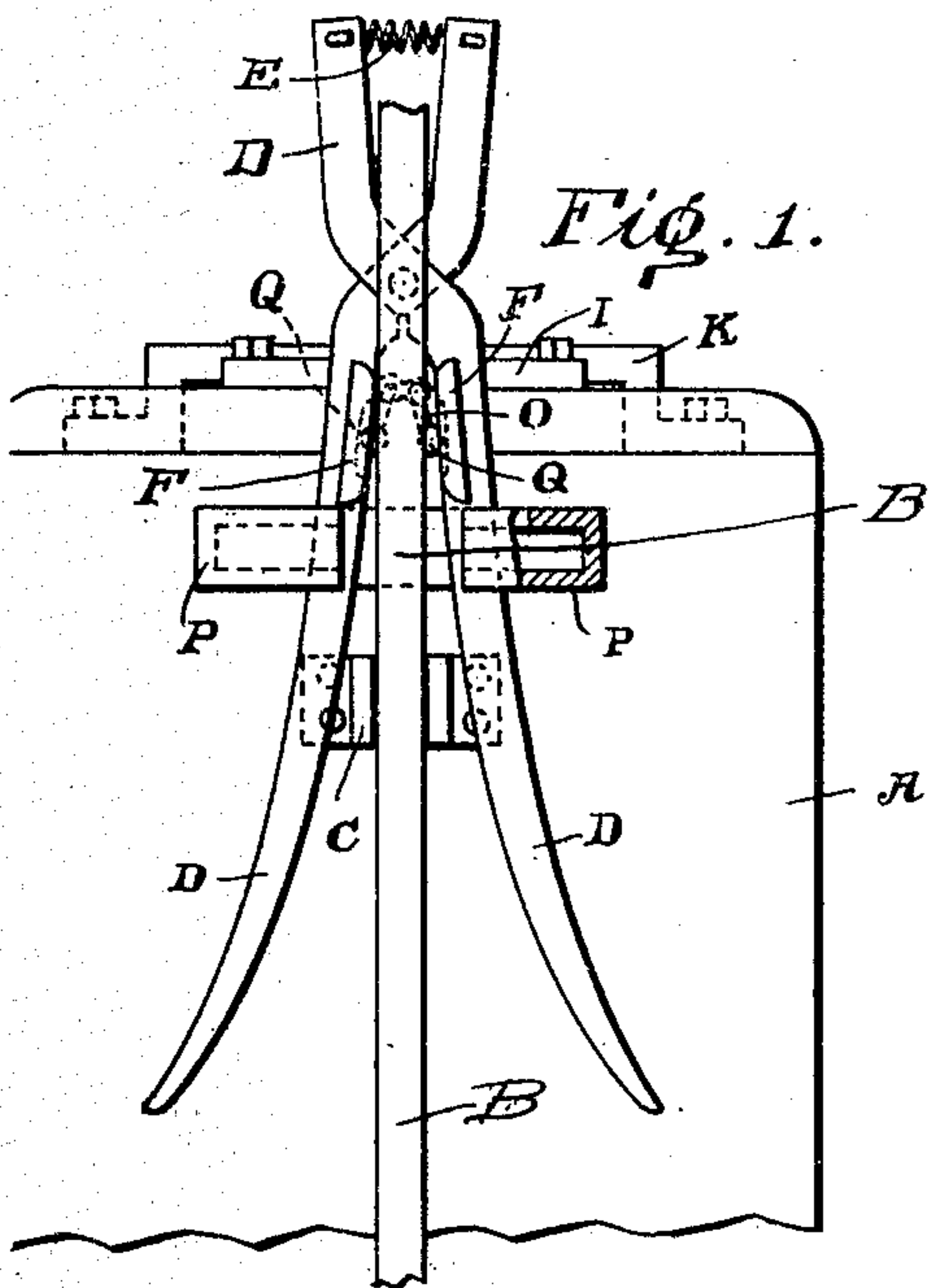
No. 860,319.

PATENTED JULY 16, 1907.

D. PAMP.  
SAFETY ATTACHMENT FOR ELEVATORS.

APPLICATION FILED NOV. 22, 1906.

2 SHEETS—SHEET 1.



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Witnesses

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2 SHEETS—SHEET 2.

Fig. 7.



Fig. 4.

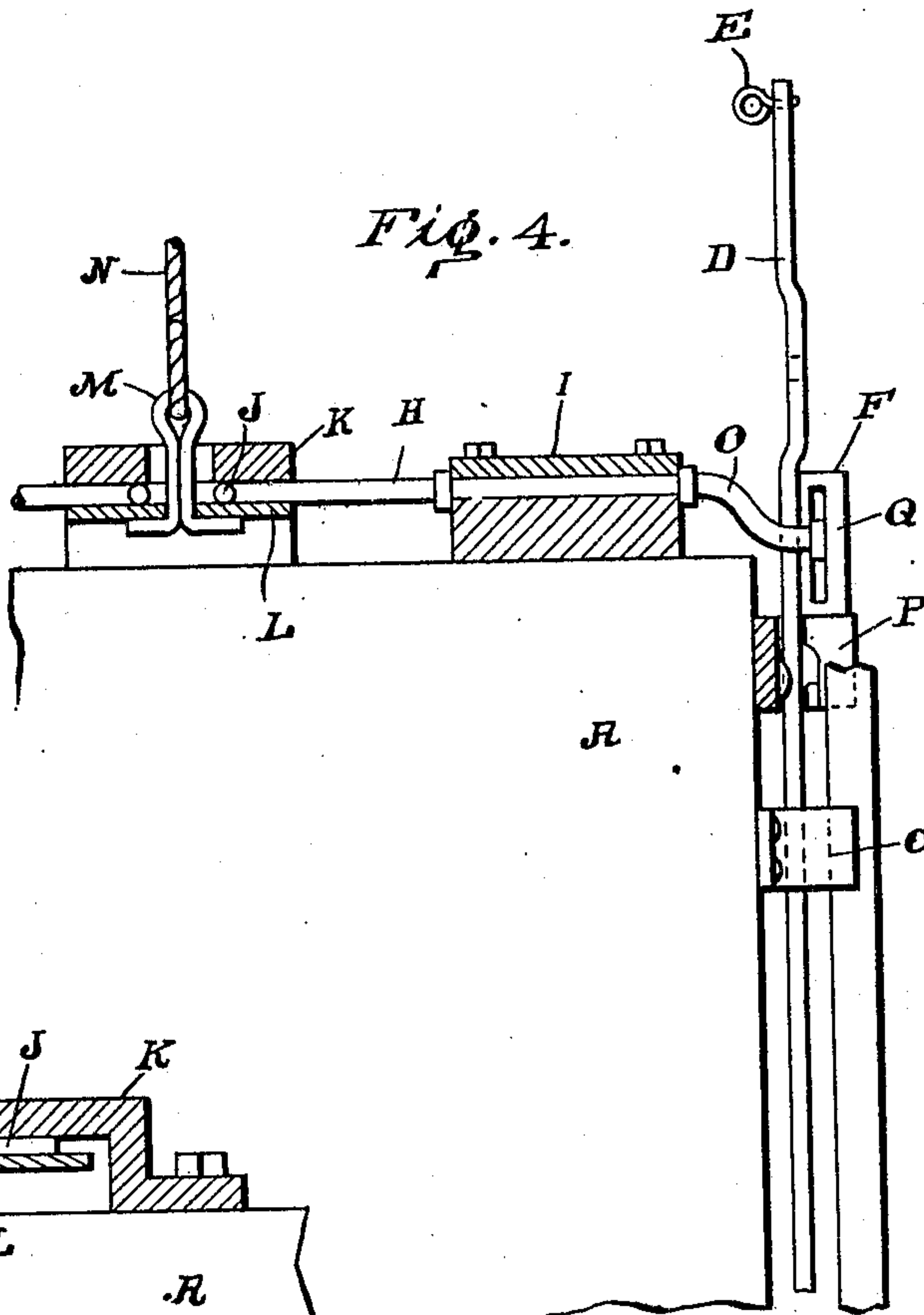


Fig. 5.

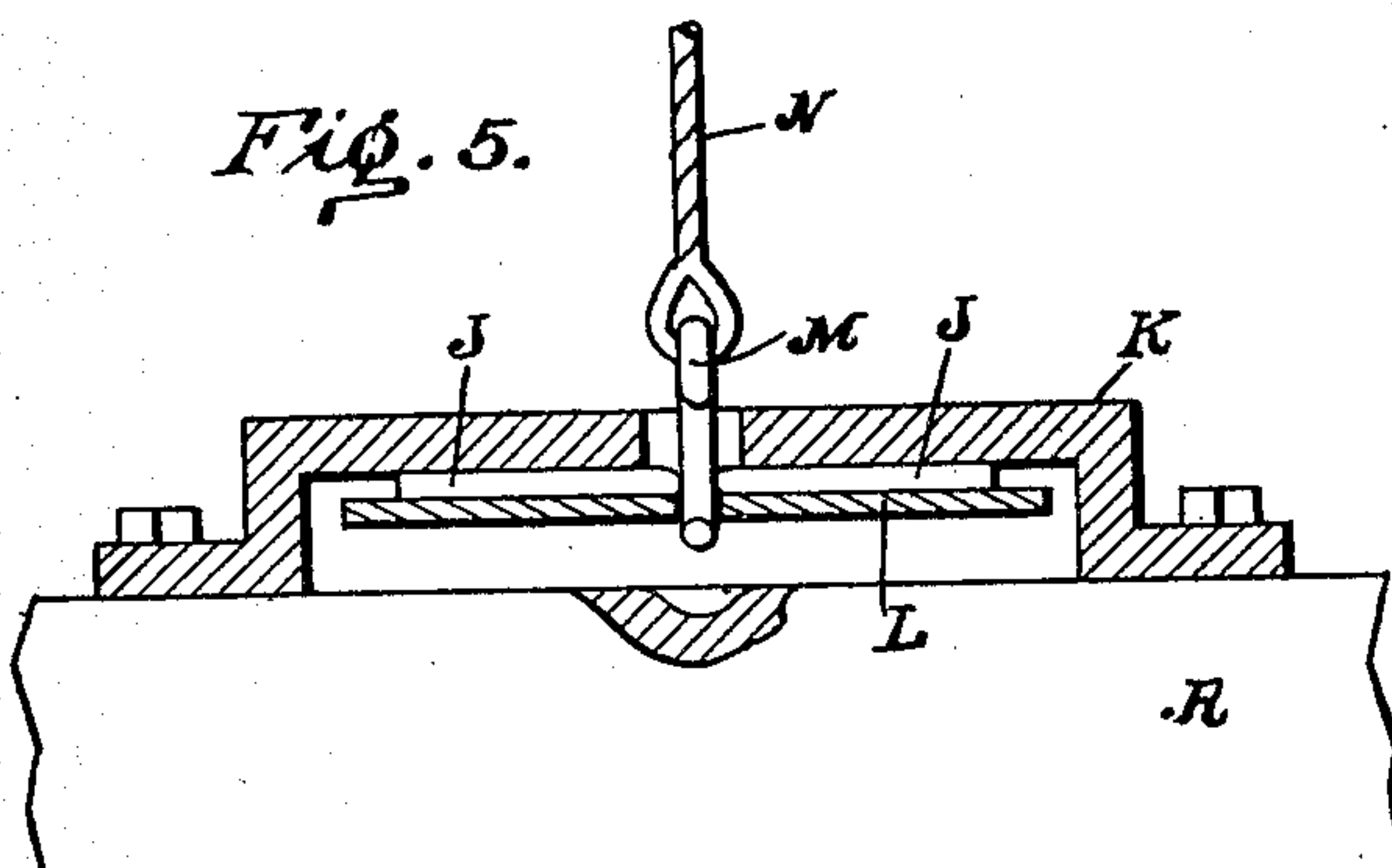
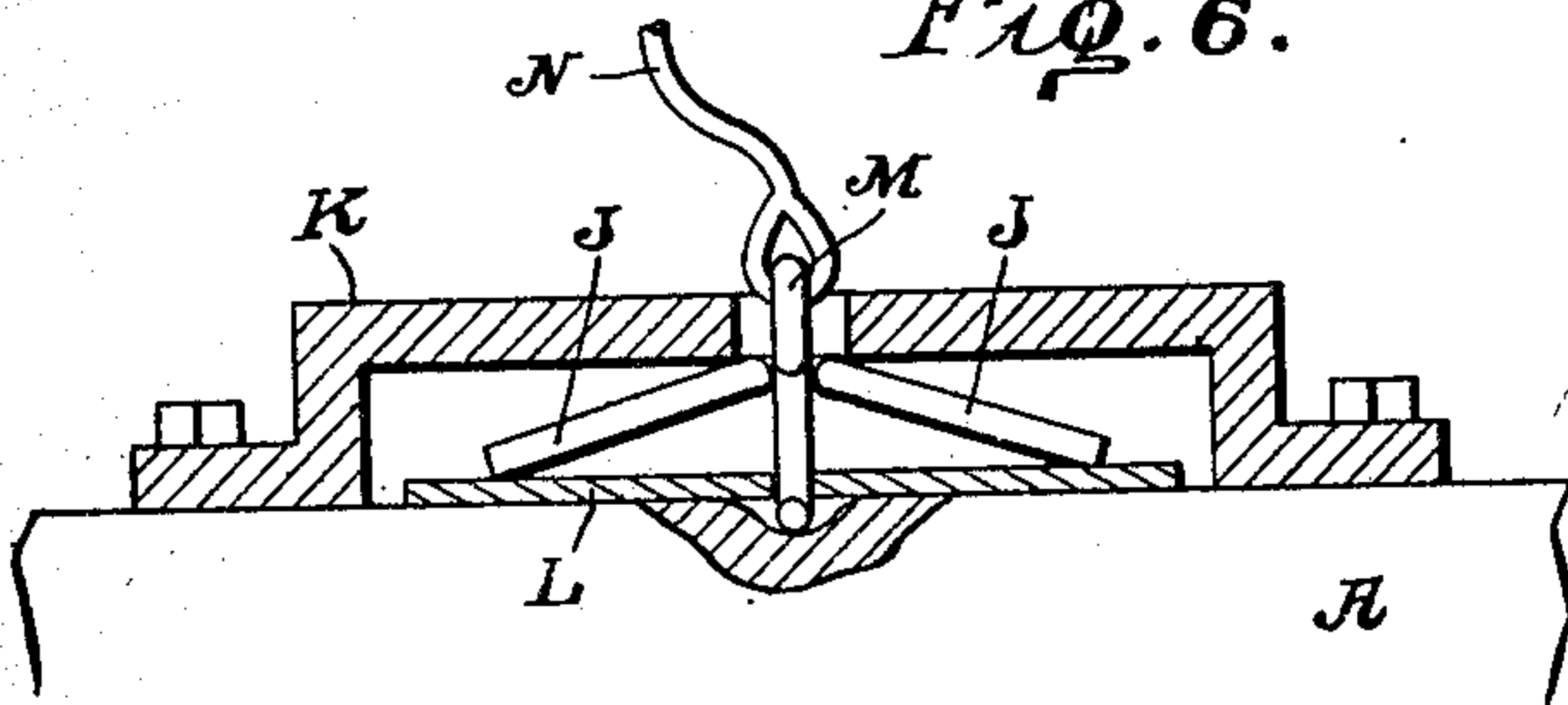


Fig. 6.



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# UNITED STATES PATENT OFFICE.

DANNE PAMP, OF PHILADELPHIA, PENNSYLVANIA.

## SAFETY ATTACHMENT FOR ELEVATORS.

No. 860,319.

Specification of Letters Patent.

Patented July 16, 1907.

Application filed November 22, 1905. Serial No. 288,518.

*To all whom it may concern:*

Be it known that I, DANNE PAMP, a citizen of Sweden, residing at Philadelphia, county of Philadelphia, and State of Pennsylvania, have invented a certain new and useful Improvement in Safety Attachments for Elevators, of which the following is a specification.

My invention relates to a new and useful improvement in safety attachment for elevators, and has for its object to provide an exceedingly simple and effective device of this description which will absolutely preclude the possibility of an elevator car falling any considerable distance even though the supporting cables should break, and a further object of my invention is to prevent undue shock in the stopping of the car when the supporting cables are broken.

With these ends in view this invention consists in the details of construction and combination of elements hereinafter set forth and then specifically designated by the claims.

In order that those skilled in the art to which this invention appertains may understand how to make and use the same, the construction and operation will now be described in detail, referring to the accompanying drawing forming a part of this specification, in which—

Figure 1 represents a portion of an elevator car showing my improved safety attachment applied thereto, the latter being in its normal inactive position. Fig. 2, a similar view showing the safety attachment in action. Fig. 3, a plan view of the car having my improvements attached thereto, the guide rails within the elevator shaft being in section. Fig. 4, a vertical section showing the mechanism for holding the safety attachment out of action. Fig. 5, a section taken at right angles to Fig. 4, showing the supporting cable taut, the crank rods being held thereby in the position for holding the safety mechanism out of action. Fig. 6, a view similar to Fig. 5 showing the supporting cable broken and the crank rods swung in the position which brings the safety device into action.

Referring to these drawings A represents the elevator car fitted to run between the guide rails B located in the shaft, suitable brackets C being secured to the car and embracing said rails so as to act as guides.

D represents the safety devices, one of which may be located on each side of the car, and each of these safety devices consists of a pair of tong like levers having their upper ends normally drawn toward each other by the springs E, and the lower ends of these levers are provided with the shoe blocks F, adapted to embrace the rails B which are secured to the sides of the shaft in which the car runs.

Two pair of crank rods H are journaled upon the top of the car in suitable bearings I, the inner ends of said rods terminating in the crank levers J within the hous-

ing K, and having a plate L arranged beneath them in such manner that when said plate is drawn upward as shown in Figs. 4 and 5, said crank levers will lie horizontally against the top of the housing. The plate L has attached thereto the connection M, to which is secured the supporting cable N, from which will be seen that so long as the car is supported by the cable the connection M will through the plate L hold the cranks in the position shown in Figs. 4 and 5, for the purpose next explained.

Each of the crank rods has formed upon its outer end a crank O which is arranged to bear upon the inner surface of one of the levers of the safety device D, thereby forcing these levers apart against the action of the spring E which will hold the shoe blocks F out of contact with the rails G. But should the cable N be broken the plate L will immediately fall and the levers J drop thereby moving the cranks O inward, which will permit the spring E to draw the lower ends of the levers of the safety devices D inward causing the shoe blocks F to come in contact with the rails, permitting the car to drop downward until the brackets P riding upon the outturned end of the safety devices force the latter inward after the manner of a pair of tongs, until the shoe blocks had gained sufficient grip upon the rails to stop the downward movement of the car.

It is to be noted that the downward movement of the car will be gradually arrested on account of the curvature of the lower ends of the safety devices acting as cams upon the brackets P, thus avoiding any undue shock to either the car or its occupants.

The brackets P so inclose the lower ends of the safety devices so as to prevent the latter from being displaced relative to said brackets, and the cranks O are provided with flanged heads Q adapted to run in grooves formed in the shoe blocks, which serve as a further means for holding the safety devices in their proper relative positions.

One of the important features of my improvement is, that the heavier the car or its load the tighter will be the grip imparted to the shoe blocks upon the rails, thus the proper amount of gripping power for stopping the car is automatically regulated by the weight of the car and its load.

Having thus fully described my invention, what I claim as new and useful, is—

1. In combination with an elevator car and guide rails therefor, a safety device located on each side of the car, each consisting of pivoted cross levers having their lower portions curved, blocks carried by the lower portions, brackets through which the lower portions extend, means for holding the levers distended and means for contracting the levers.

2. In combination with an elevator car and guide rails therefor, safety devices on either side of the car to engage the rail, each device consisting of pivoted cross levers

adapted to contact with the rails when contracted, means  
for contracting the levers, shafts mounted on the car, the  
ends of said shafts terminating in cranks, the outer  
cranks engaging the levers to separate the same, a hous-  
5 ing on the car, the opposite cranks being within the  
housing, a plate within the housing beneath the cranks  
and a hoisting rope for the car connected to the plate.

10 3. The herein described combination of an elevator car,  
guide rails located within the shaft, a safety device con-  
sisting of a pair of pivoted levers, the lower portion of  
said levers being curved, a bracket secured to the car and  
embracing the lower portion of said levers and adapted to  
ride thereon, shoe blocks carried by the levers adapted to  
engage the rail, a pair of crank rods, the outer ends of

which terminate in cranks adapted to bear against and 15  
hold the lower ends of the safety levers apart, crank  
levers formed upon the inner ends of the rods, a plate  
adapted to force the crank levers upward, a connection  
securing the plate to the supporting cable and a spring,  
the tendency of which is to draw the safety levers to- 20  
gether to bring the shoe blocks in contact with the rails,  
as and for the purpose set forth.

In testimony whereof, I have hereunto affixed my sig-  
nature in the presence of two subscribing witnesses.

DANNE PAMP.

Witnesses:

MARY E. HAMER,  
S. M. GALLAGHER.