

No. 709,518.

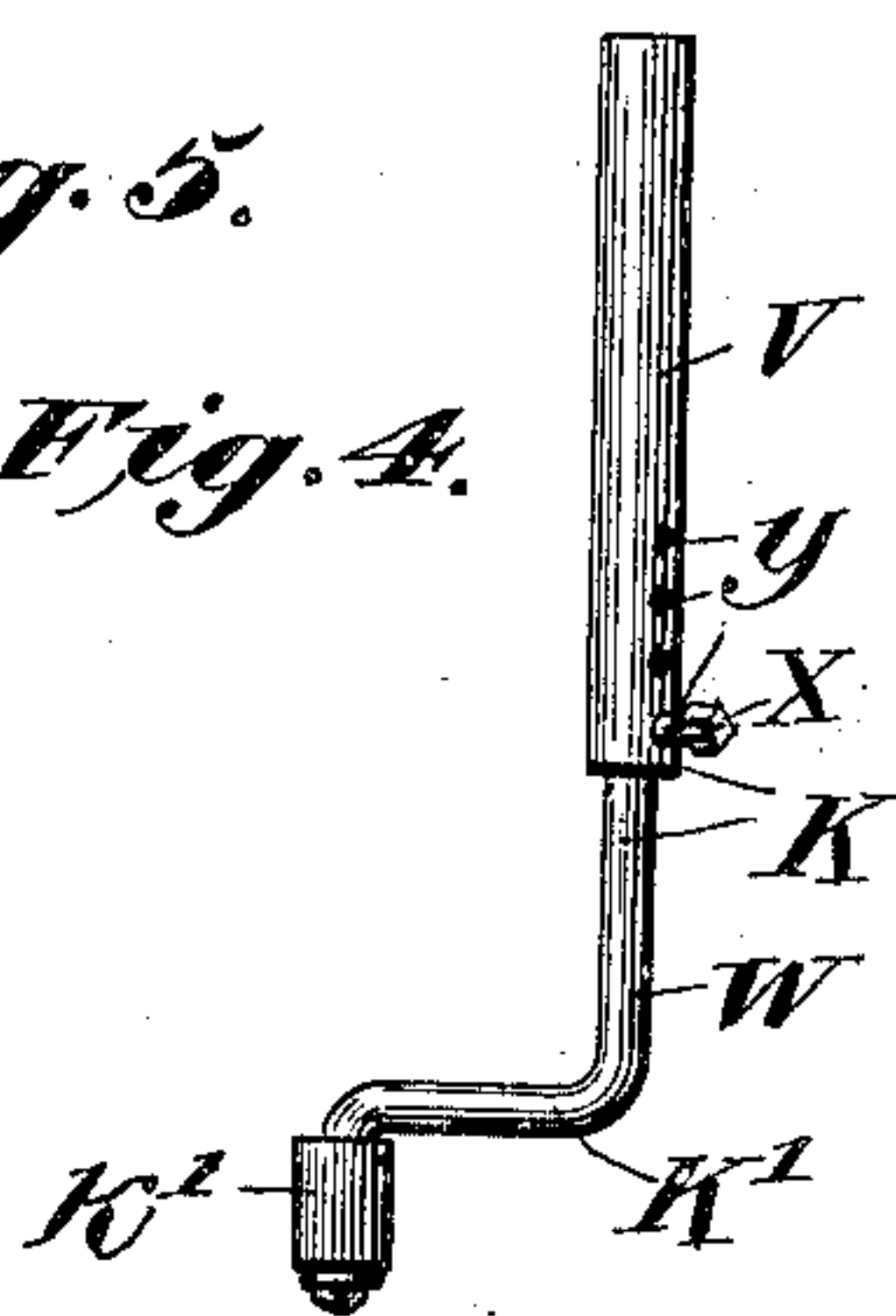
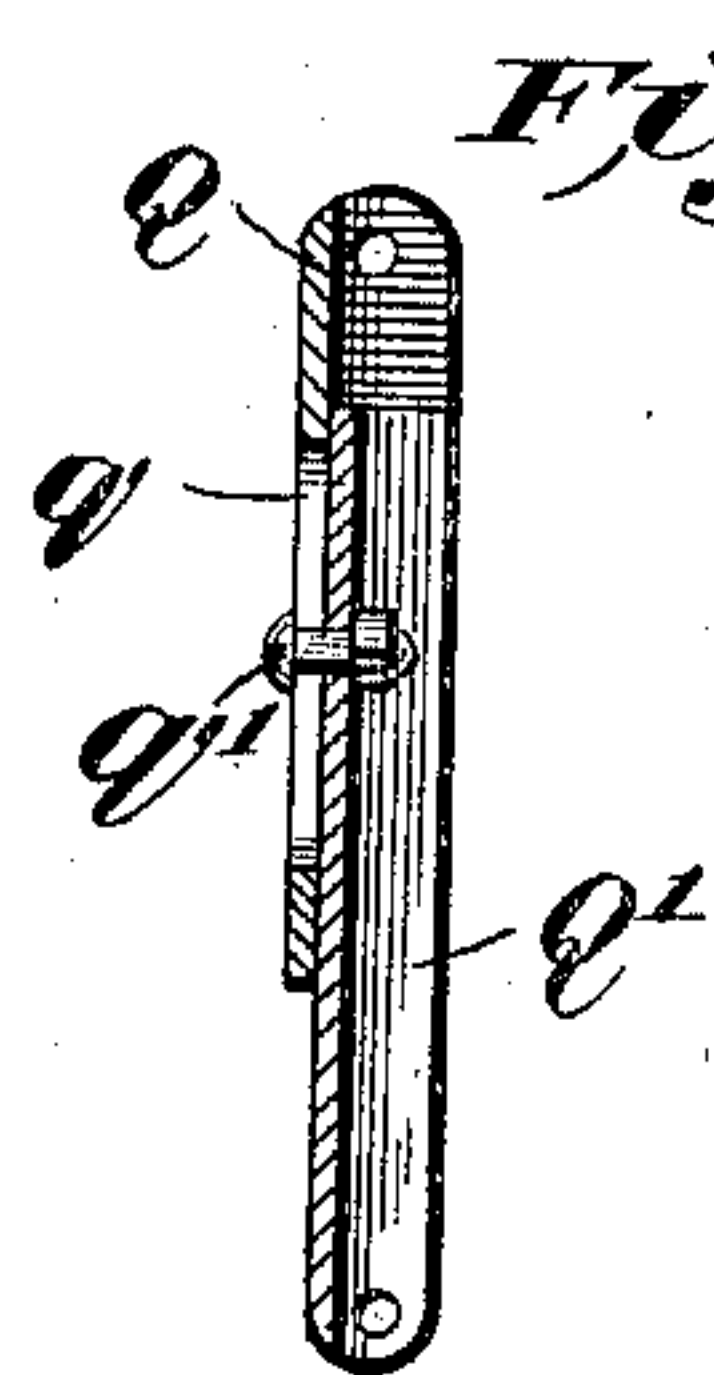
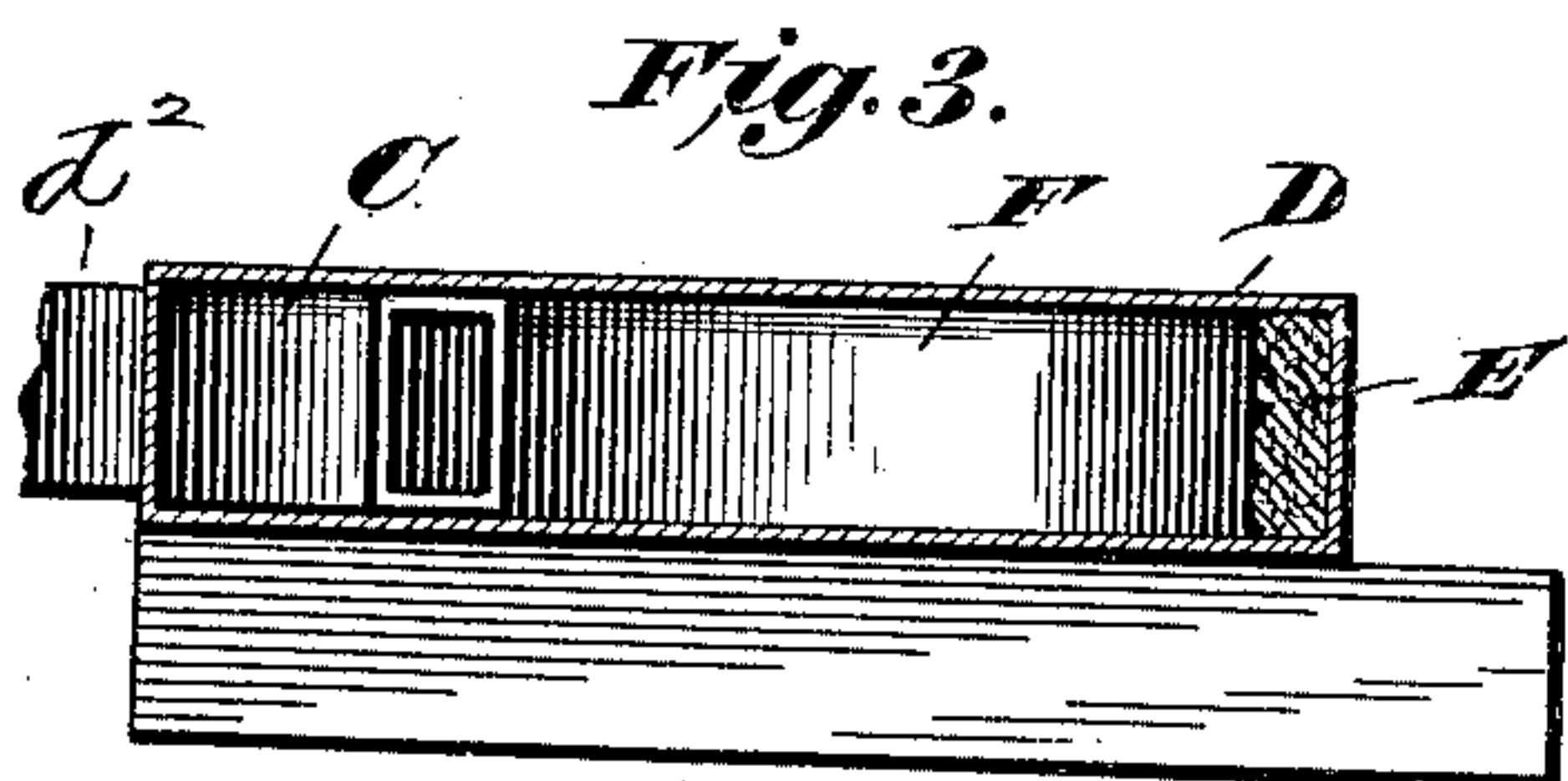
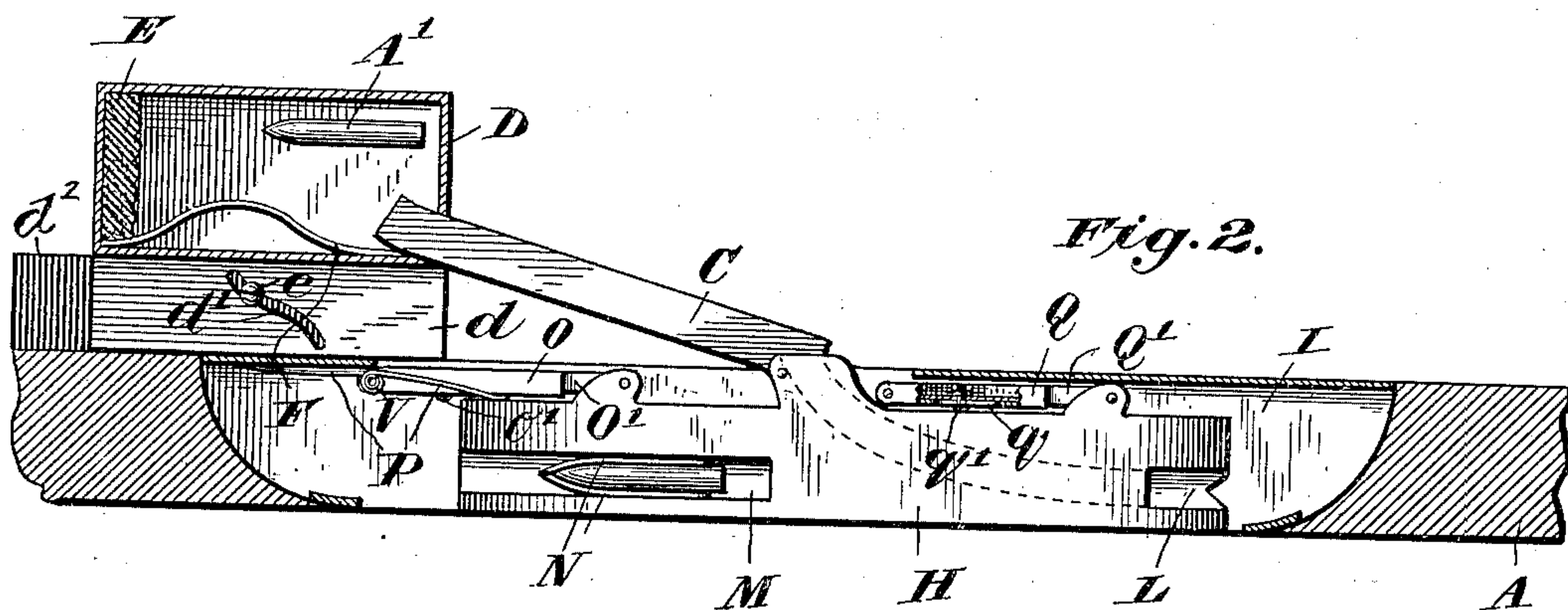
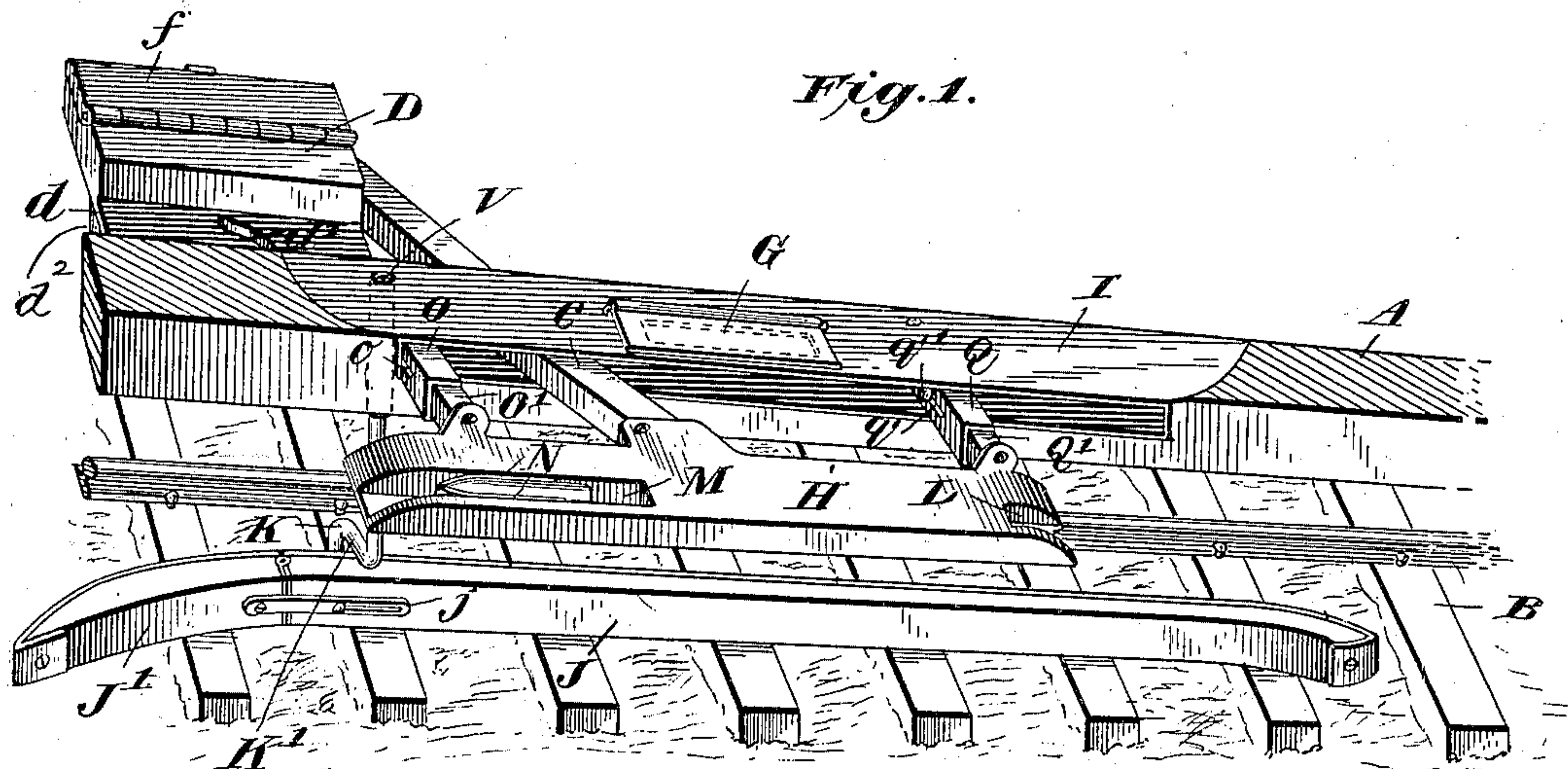
Patented Sept. 23, 1902.

P. P. SHIVES.

MESSAGE DELIVERING DEVICE FOR TRAINS.

(Application filed Feb. 13, 1902.)

(No Model.)



WITNESSES

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# UNITED STATES PATENT OFFICE.

PETER P. SHIVES, OF DICKEYS MOUNTAIN, PENNSYLVANIA, ASSIGNOR  
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## MESSAGE-DELIVERING DEVICE FOR TRAINS.

SPECIFICATION forming part of Letters Patent No. 709,518, dated September 23, 1902.

Application filed February 13, 1902. Serial No. 93,968. (No model.)

*To all whom it may concern:*

Be it known that I, PETER P. SHIVES, a citizen of the United States, residing at Dickey's Mountain, in the county of Fulton and State of Pennsylvania, have invented certain new and useful Improvements in Message-Delivering Devices for Trains; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention is an improvement on my Patent No. 655,165, dated July 31, 1900. In said patent a car is provided with a fixed exterior shelf adapted to coöperate with devices arranged beside the track for the reception and delivery of messages.

The chief object of the present invention is to provide for the automatic projection and withdrawal of the said shelf in order that it may be presented at each station to the stationary shelf and cylinder-holder, but immediately afterward withdrawn flush with the side of the car and held there until reaching the next station.

To this end my said invention consists in the combination of a movable shelf adapted to receive or deliver messages with means for automatically moving the same out from the side of a car and withdrawing it again; also in the especial devices employed and in the details of construction hereinafter more particularly set forth and claimed.

In the accompanying drawings, Figure 1 represents a perspective view of the receiving and delivering shelf in its outward position, the operating devices, and the proximate part of the side of the car, this side being broken away just above the casing of the said shelf. Fig. 2 represents a plan view of the shelf and mechanism in their inner position, the top of the said casing being removed. Fig. 3 represents a detail view of the cylinder-receiving box in vertical section. Fig. 4 represents a detail view of the crank-shaft, spring, and arm for protruding and withdrawing the shelf; and Fig. 5 represents a longitudinal section through one of the extensible arms.

A designates the side of a car; B, the track; H, the shelf, which is constructed substantially like shelf H of the patent aforesaid,

having a curved receiving-channel L and a delivery-channel M, with a spring-holder N in the latter. A receiving-tube C, hinged to the inner side of the said shelf, constitutes a continuation of the said receiving-channel and has a certain amount of inward and outward play through the side of the car corresponding to the change of position of the said shelf. A cylinder-receiving box D is attached to the inner end of the said receiving-tube, which discharges the message-cylinder A' into it. This box or receptacle is provided at its bottom on the outer side with a flange d, having a slot d' formed in it to receive a screw e, whereby said box is fastened to a fixed part d<sup>2</sup> of the car, said slot allowing the inward and outward movement of said box with said tube. A cushion E is provided inside of said box, at the rear thereof, to receive the impact of the message-cylinder, and a deflecting-plate F on the inner face of the outer side wall of said box presents an inclined part to direct the entering cylinder against the said cushion. The top of said box is provided with a hinged lid f, covering a part of it and allowing the easy removal of the cylinder. Another hinged lid G, accessible from the interior of the car, is provided in the casing I of the movable shelf over the delivery-passage M to permit the introduction of the cylinder which must be delivered to the receiving devices at the station. This casing is located in the side of the car, so that the shelf H when drawn back within it will have its outer side flush with the exterior of the car.

The devices for moving in and out the shelf are as follows: A guide-rail J is fixed at each station on the track parallel to and outside of one of the rails at a slight interval. Its ends are curved outward, and that one of them, J', which is presented toward the train is hinged after the manner of a broken-back tripping device or knife-blade, so that it will hold rigidly when pressed outward, but yield when pressed inward. A spring j holds it in position and restores it thereto after flexure. A telescopic crank-shaft K, journaled in the frame A of the car, is provided at its lower end with a crank-arm K' of bell-crank form, having on its downwardly-presented lower part an antifriction-roller k' for contact with



the inner face of the said hinged end J' of the guide-rail. To the upper end of the said shaft is attached the inner end of the arm O, which moves the shelf H out and in. A spring P, wound around the said shaft and bearing at its ends respectively against arm O and the rear wall of the casing I or other fixed part, serves to replace the shelf in its normal inner position. The arm O is hinged to the rear of said shelf, near one end thereof, and a corresponding arm Q is similarly attached to it near the other end, being also hinged to a fixed part or attachment of the car. These two arms keep the outward and inward movement of the shelf perfectly even in all parts, and the casing I guides and protects it, as well as the arms, above and below. The said casing consists of two horizontal plates with a narrow interval between them sufficient for said shelf and arms. It is provided with and strengthened by cross-plates on its lower edges near the ends.

The crank-shaft K is made up of two telescopic sections *v* and *w*, connected by a screw *x*, taking into any one of a series of holes *y* in the inner section *v* or by some equivalent means of adjustment. This construction allows me to shorten the shaft at will, so that it will not strike the guide-rail when for any reason such avoidance becomes desirable. It also permits accurate adjustment of its length to compensate for changes of temperature and consequent extension or contraction, so that there may be no risk of contact with the track, but certainty of fairly striking the guide-rail, as desired.

It has not been thought necessary to illustrate the stationary cylinder-receiver and attached parts, they being clearly shown in Fig. 1 of Patent No. 655,165 and forming no part of the present invention, which requires only some means of presenting the message-bearing cylinder of the station to the receiving-passage L and to take that of the car from passage M and spring-clamp N. The general operation is as in said patent, except as to the presentation and withdrawal of the shelf H, carried by the car. The contact of the roller on the crank-shaft with the curved inner face of the proximate end of the guide-rail throws the shelf outward into position to receive and deliver. The straight face of the body of said rail holds it so, and when the outward curve at the other end of the said guide-rail is reached the retracting-spring P begins to move back the shelf again. Thus the latter is thrown out and held out for a moment only, corresponding to the short length of the guide-rail in passing each station. All the rest of its journey it is in the side of the car flush with its exterior and removed from all risk of contact with any person or object along the track. If the lower end of the shaft should in any way get outside of the hinged end J' of the guide-rail, the latter end will merely yield without other

effect than reducing resistance to the minimum.

The arms O and Q are extensible and contractible to suit different styles of car, each being provided with a smaller inner part O' or Q', held adjustably to the main part of the arm by a bolt *o'* or *q'*, passing through a slot *o* or *q* in said main part.

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

1. A movable shelf having a longitudinal passage for messages in combination with supports connecting it to the body of a car and holding it parallel thereto, and means for automatically moving it outward from said body or retracting it within the same at will substantially as set forth.

2. A shelf having a receiving-passage in one end for message-bearing cylinders, in combination with a hinged tube, in rearward continuation thereof, extending within the car, and mechanism for automatically moving said shelf out and in substantially as set forth.

3. A shelf having a receiving-passage for message-bearing cylinders, and a tube, movable with it, in continuation of the said passage, in combination with a receptacle carried on the end of the said tube within the car and automatic mechanism for moving the said shelf-tube and receptacle outward and inward together substantially as set forth.

4. A device carried by a car and adapted to receive a message-holding receptacle and deliver the same within the car, in combination with mechanism for automatically moving the said device inward and outward, a box moving with the said device and receiving what it discharges and means for attaching the latter to the car, but allowing its inward and outward movement substantially as set forth.

5. In combination with a receiving device for messages and means for automatically moving it inward and outward with respect to the body of a car, a box moving with the said device, receiving the discharge therefrom and provided with an interior deflecting-plate and cushion substantially as set forth.

6. In combination with a guide-rail fixed along the track, a crank-shaft carried by a car and a message-receiving device and connections, adapted to be thrown out into operative position by the contact of the said shaft with the said guide-rail substantially as set forth.

7. In combination with a fixed device, a message receiving or delivering device carried by a car, supports connecting it to the body of a car and holding it parallel thereto and means connected with the latter and arranged for contact with the former in order that such contact may move outward said device thus carried substantially as set forth.

8. A telescopic crank-shaft, provided with means for adjusting it at will out of contact,



in combination with a guide-rail arranged for contact with an attachment of the said shaft and means for receiving or delivering messages operated by the contact of said rail and shaft the said means and shaft being carried by a car substantially as set forth.

9. A guide-rail fixed beside the track and having one of its curved ends hinged to bend inwardly but not outwardly and provided with a spring for holding it in position, in combination with message receiving and delivering mechanism carried by a car and moved into operative position by contact of a part of the same with the said guide-rail, substantially as set forth.

10. A shelf adapted to present a message-holding cylinder for delivery and carried by a car, in combination with means for automatically moving said shelf out into operative position by contact with the said rail and a spring for replacing the same within the side of the car substantially as set forth.

11. A shelf carried by a car and provided with means for receiving and delivering message-holding cylinders, in combination with a hinged arm, connecting the said shelf to the side of the car, a crank-shaft, a second arm connecting the said shelf to the said shaft, a spring for retracting the said shelf flush with

the side of the car, a fixed guide-rail adapted to turn said crank-shaft, for throwing out the said shelf into operative position substantially as set forth.

12. A movable shelf carried by a car and adapted to receive and deliver message-holding cylinders, in combination with a pair of hinged arms, folding with said shelf into the side of the car, a receiving-tube extending from said shelf through the latter a crank-shaft and spring acting reversely on one of said arms and a guide-rail arranged for contact with said crank-shaft as set forth.

13. A movable shelf carried by a car and adapted to receive and deliver message-holding cylinders, in combination with a pair of hinged arms, folding with said shelf into the side of the car and adjustable as to length, a receiving-tube extending from said shelf into the car and a receptacle arranged to receive the cylinders from the said tube substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

PETER P. SHIVES.

Witnesses:

FRANK MARTIN,  
WOOD YEAKLE.