

No. 762,427.

PATENTED JUNE 14, 1904.

S. H. MITCHELL.
LOOSE LEAF BINDER.

APPLICATION FILED OCT. 19, 1903.

NO MODEL.

Fig. 1.

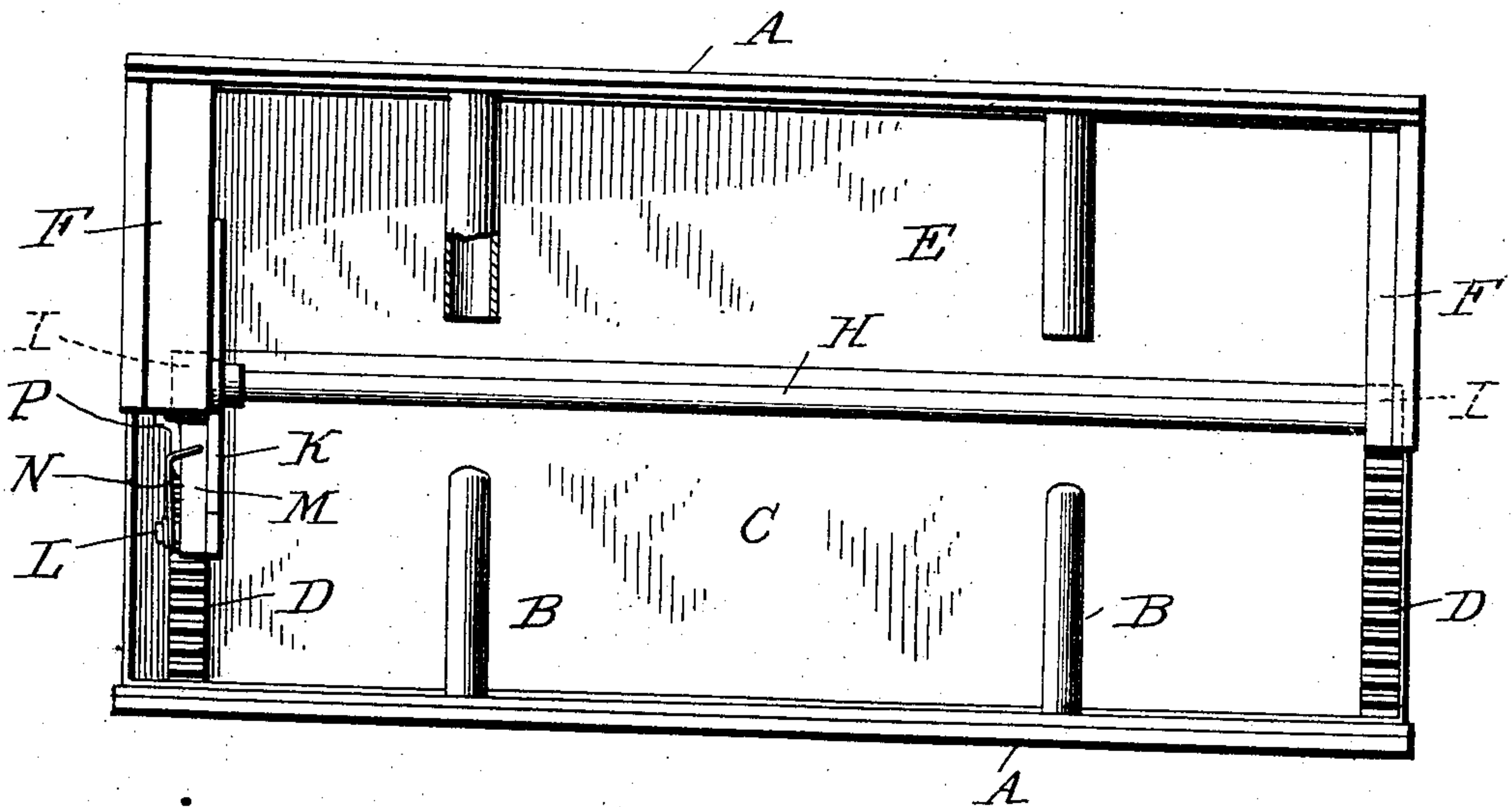


Fig. 2.

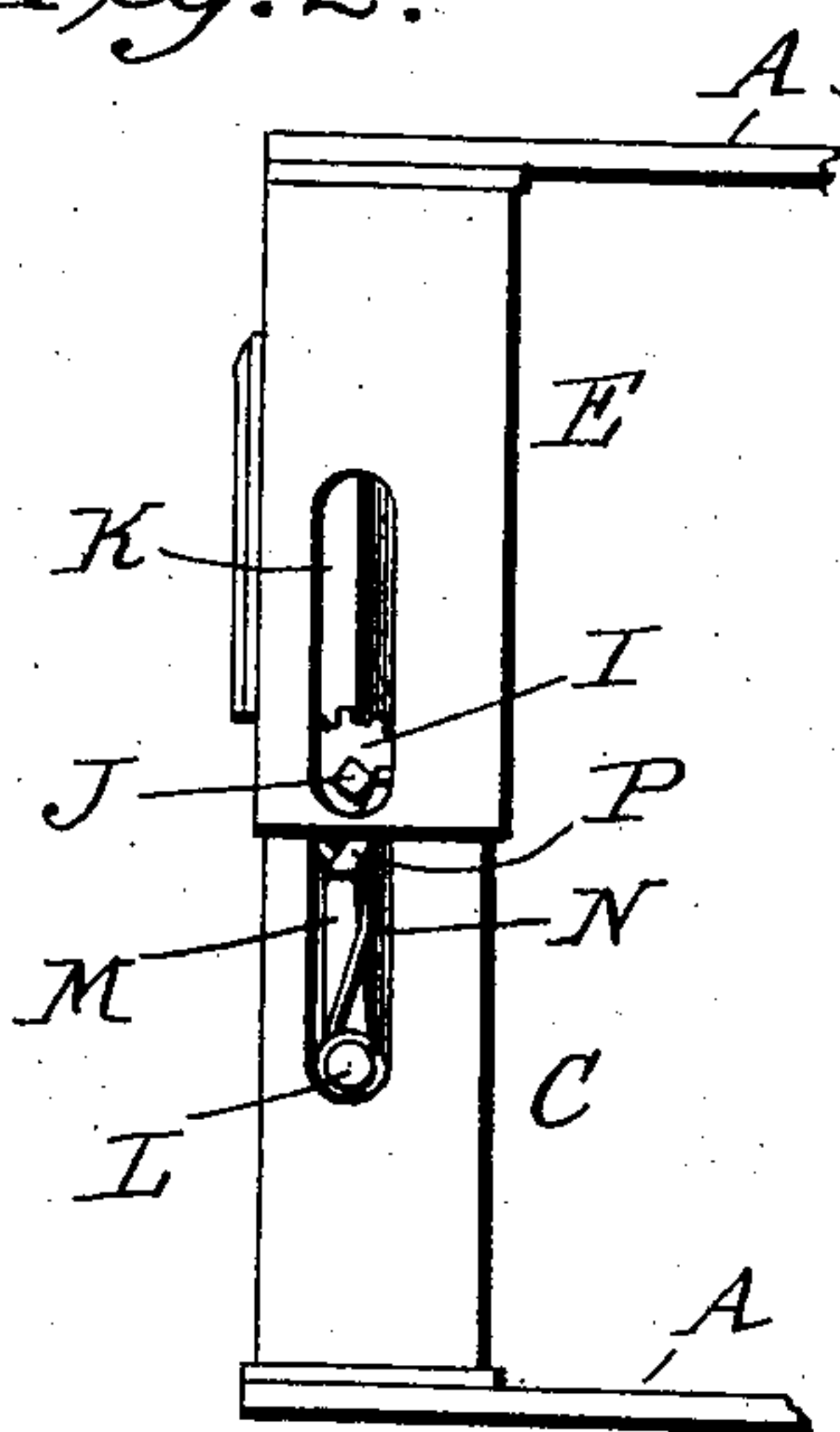


Fig. 3.

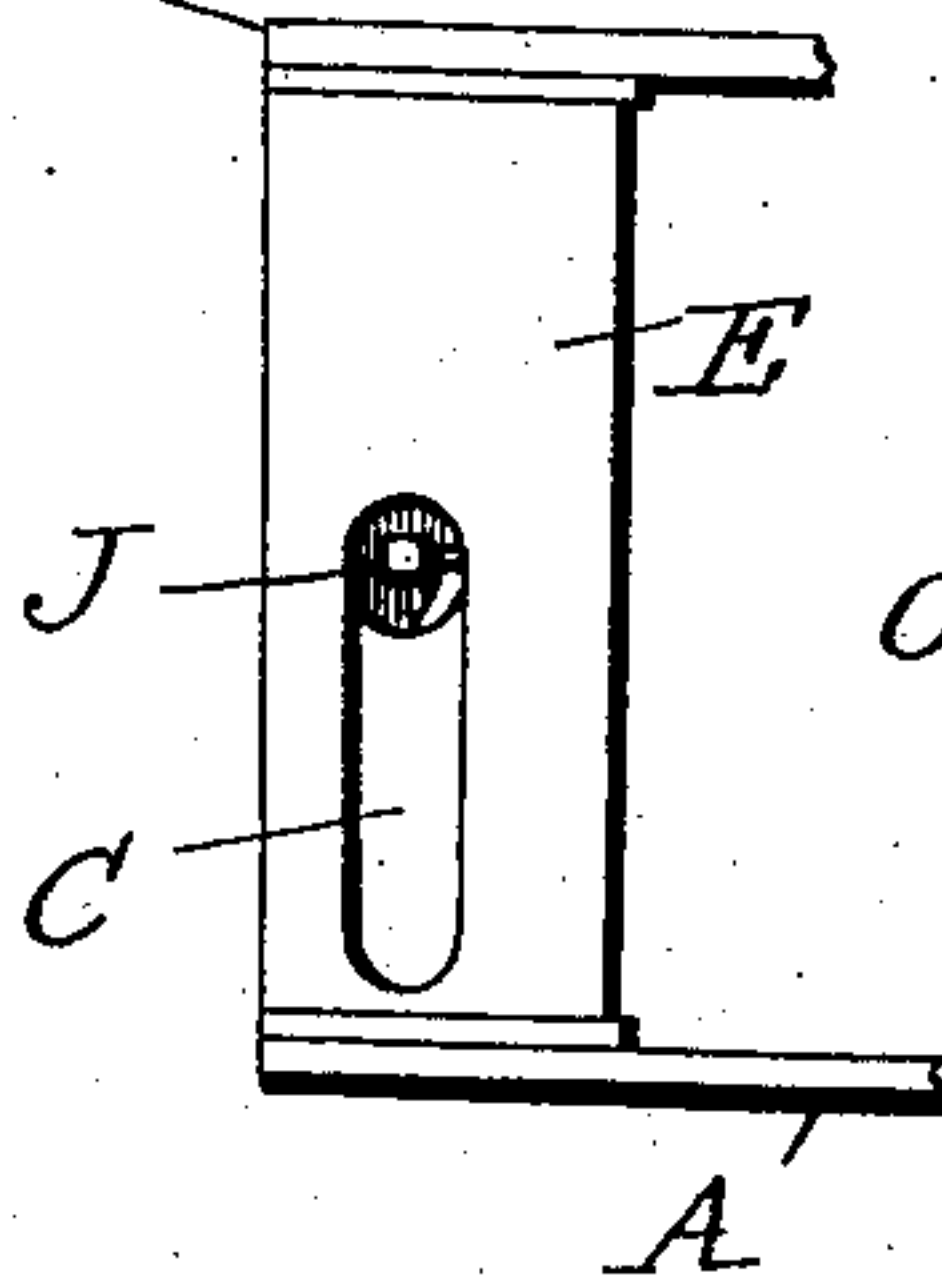


Fig. 4.

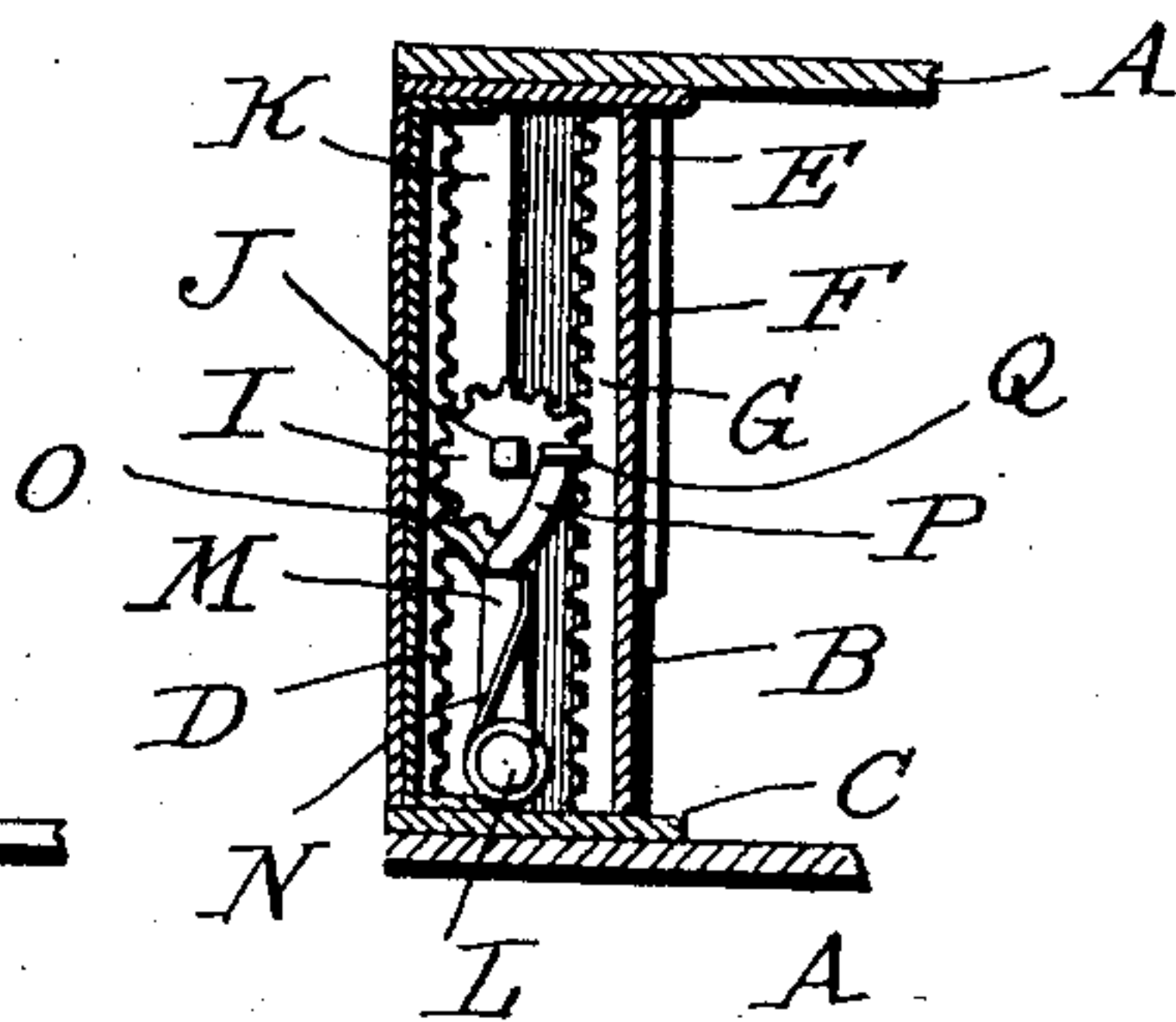
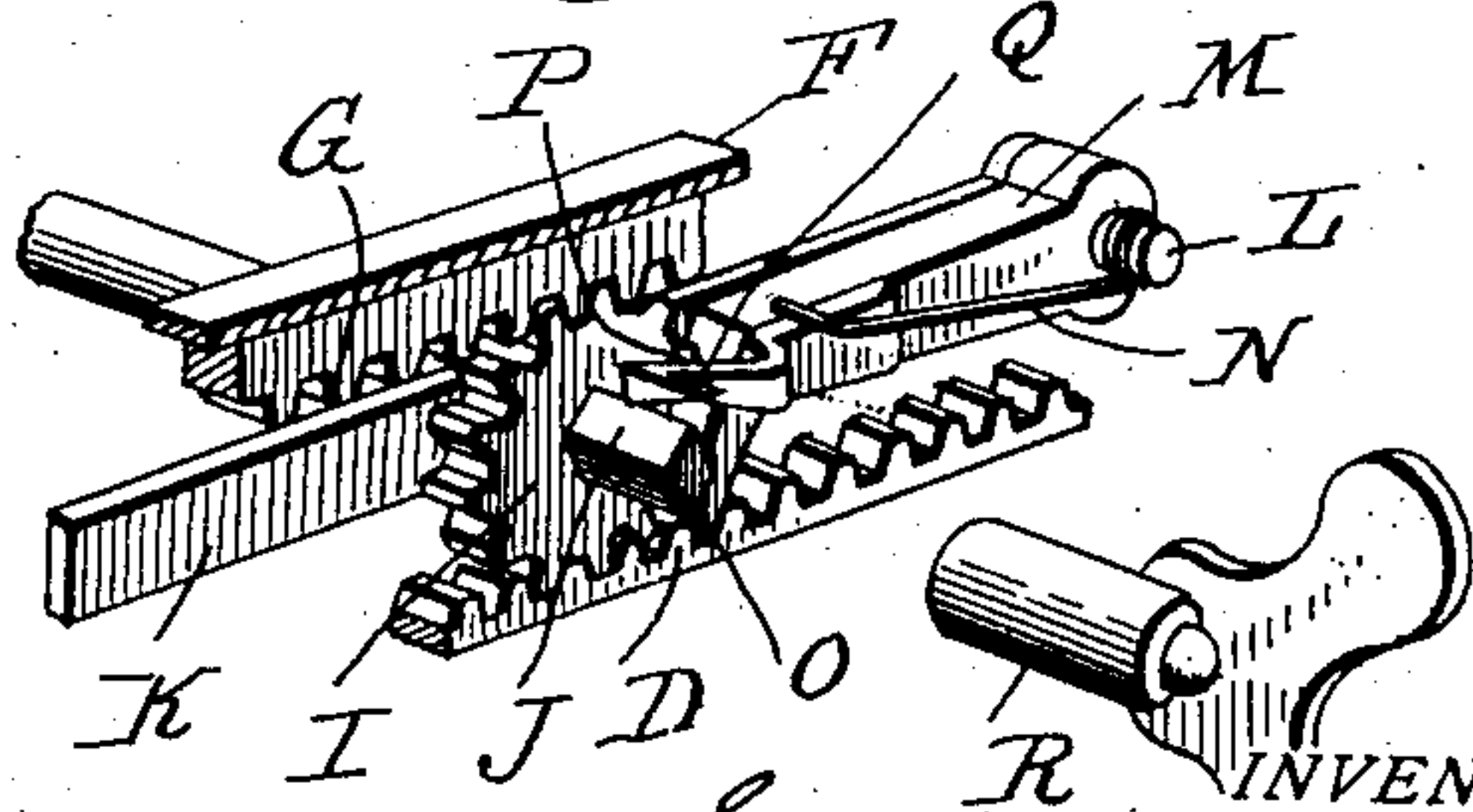


Fig. 5.



WITNESSES

Edwin L. Yewell
Ed Davis

INVENTOR

Stephen H. Mitchell
by R. H. Bishop
Attorney

UNITED STATES PATENT OFFICE.

STEPHEN H. MITCHELL, OF CHICAGO, ILLINOIS.

LOOSE-LEAF BINDER.

SPECIFICATION forming part of Letters Patent No. 762,427, dated June 14, 1904.

Application filed October 19, 1903. Serial No. 177,566. (No model.)

To all whom it may concern:

Be it known that I, STEPHEN H. MITCHELL, a citizen of the United States of America, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Loose-Leaf Binders, of which the following is such a full, clear, and exact description as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to devices for holding the leaves of what are known as "loose-leaf" ledgers, and has special reference to the means for causing the covers to move toward or away from each other and for locking the device after the leaves have been inserted.

The invention consists in certain novel features hereinafter first fully described and then particularly pointed out in the claims.

In the annexed drawings, which fully illustrate my invention, Figure 1 is a view looking at the inner side of the end or back of the binder and showing it adjusted to permit the insertion of the leaves. Fig. 2 is a side view of the same. Fig. 3 is a view similar to Fig. 2, but showing the device closed. Fig. 4 is a sectional view taken between the rack-bars and the adjacent end of the binder, and Fig. 5 is a detail perspective view of the locking device.

The cover is of the usual or any preferred form and is secured to the back A in the usual manner. The back is constructed in two members adapted to slide or telescope on each other and carrying the telescopic posts B, adapted to pass through the notches or perforations formed in the leaves. On the inner face of the back of the lower member C of the back A and at or near the ends of the same are formed rack-bars D, and on the edges of the ends of the upper member E of the back A are formed inwardly-projecting flanges F, having rack-bars G formed on their rear faces in the same plane with the rack-bars D. A shaft or rotatable rod H extends along the back A and is provided with pinions I, meshing with the rack-bars D and G, whereby when the rod is

rotated the rack-bars will be caused to slide in opposite directions, so as to move the covers toward or away from each other. The movement of the covers will cause the posts B to be extended or contracted, as will be readily understood.

One end of the shaft or rod H is extended beyond the adjacent pinion and is given an angular formation, as shown at J. Mounted on the rod in juxtaposition to the said pinion is a plate K, having a pintle L at its lower end projecting over the adjacent rack-bar. Pivotaly hung on this pintle L is a pawl M, adapted to engage the rack-bar and held normally in engagement therewith by a spring N, secured on the pintle and bearing on the back of the pawl, as clearly shown. The end of the pawl is formed into a tooth O, having its upper or outer face arranged approximately perpendicularly to the teeth of the rack-bar, while its under or inner face is beveled or arranged more nearly parallel to the outer ends of the teeth. By this formation I permit the covers to be readily moved together to hold the leaves inserted therebetween; but an accidental or unauthorized attempt to separate the covers will be prevented by the tooth dropping into the space between the adjacent teeth of the rack-bar, and thereby locking the rack-bar against movement. Movement of the opposing rack-bar is simultaneously prevented, because of the inability of the pinion to rotate. Projecting from the outer face of the pawl is an arm P, which extends over the angular end of the rod or shaft H and has its extremity formed into a finger Q, having a beveled or inclined lower edge which is normally close to the said angular end of the rod or shaft H. When it is desired to open the binder in order to insert a leaf or number of leaves, it is necessary to use a key R, which is inserted through the ends of the members of the back and engaged on the angular end of the shaft H. The end of the key strikes against the inclined edge of the finger Q, and thereby lifts or pushes the same away from the shaft, and consequently disengages the pawl from the rack-bar. If the key be then

rotated, the pinions will be actuated and the rack-bars caused to recede from each other. The rack-bars being formed on the members of the back the said members will be caused
5 to move away from each other, so as to uncover the pin portions of the telescopic posts, and consequently permit the insertion or removal of a leaf. Slots S are formed in the ends of the back members to facilitate the
10 insertion of the key and permit the members to slide past the key in the operation of the device.

From the foregoing description, taken in connection with the accompanying drawings,
15 it is thought the operation and advantages of my device will be readily appreciated. The parts of the device are few and simple in construction and are all within the side lines of the same, so as to be protected against break-
20 age through sudden sharp blows.

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

1. In a binder, the combination of the tele-
25 scoping back members, rack-bars on said members, pinions engaging the said rack-bars, means for rotating the pinions to actuate

the rack-bars, and means for preventing the movement of the rack-bars.

2. In a binder, the combination with the
30 telescoping back members having rack-bars on their inner faces, of pinions meshing with the said rack-bars, means for rotating the pinions, and a pawl engaging one of the rack-bars to prevent its movement in one direc-
35 tion.

3. In a binder, the combination of the tele-
scoping back members having rack-bars on their inner faces, pinions engaging said rack-
40 bars, a shaft carrying said pinions and having an angular end adapted to be engaged by an operating-key, and a pawl engaging one of the rack-bars, and having an arm projecting
45 over the angular end of the shaft and provided with an inclined edge adapted to be engaged by the operating-key.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

STEPHEN H. MITCHELL.

Witnesses:

JOHN ROBINSON,

WILLIAM H. SHIELDS.