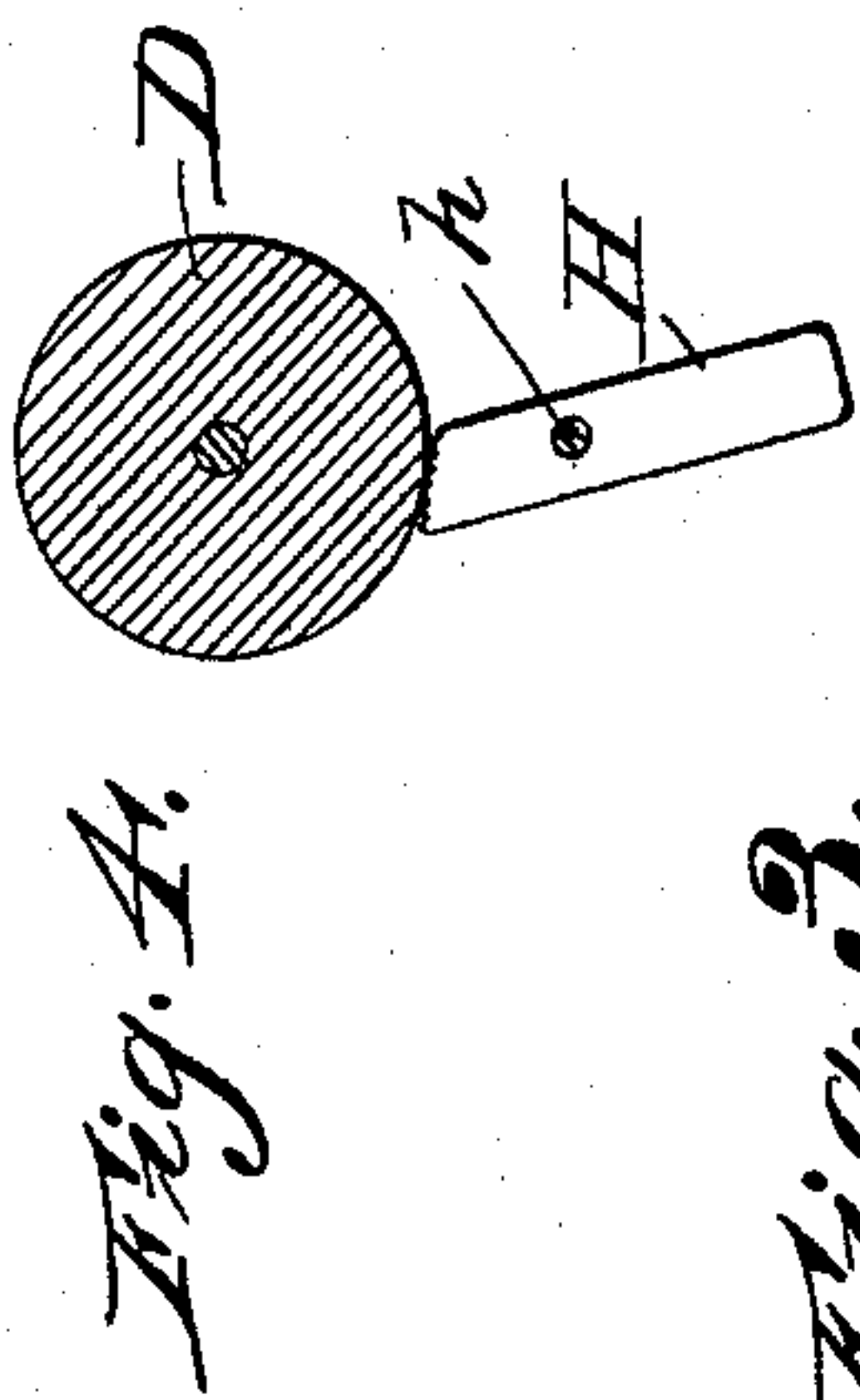
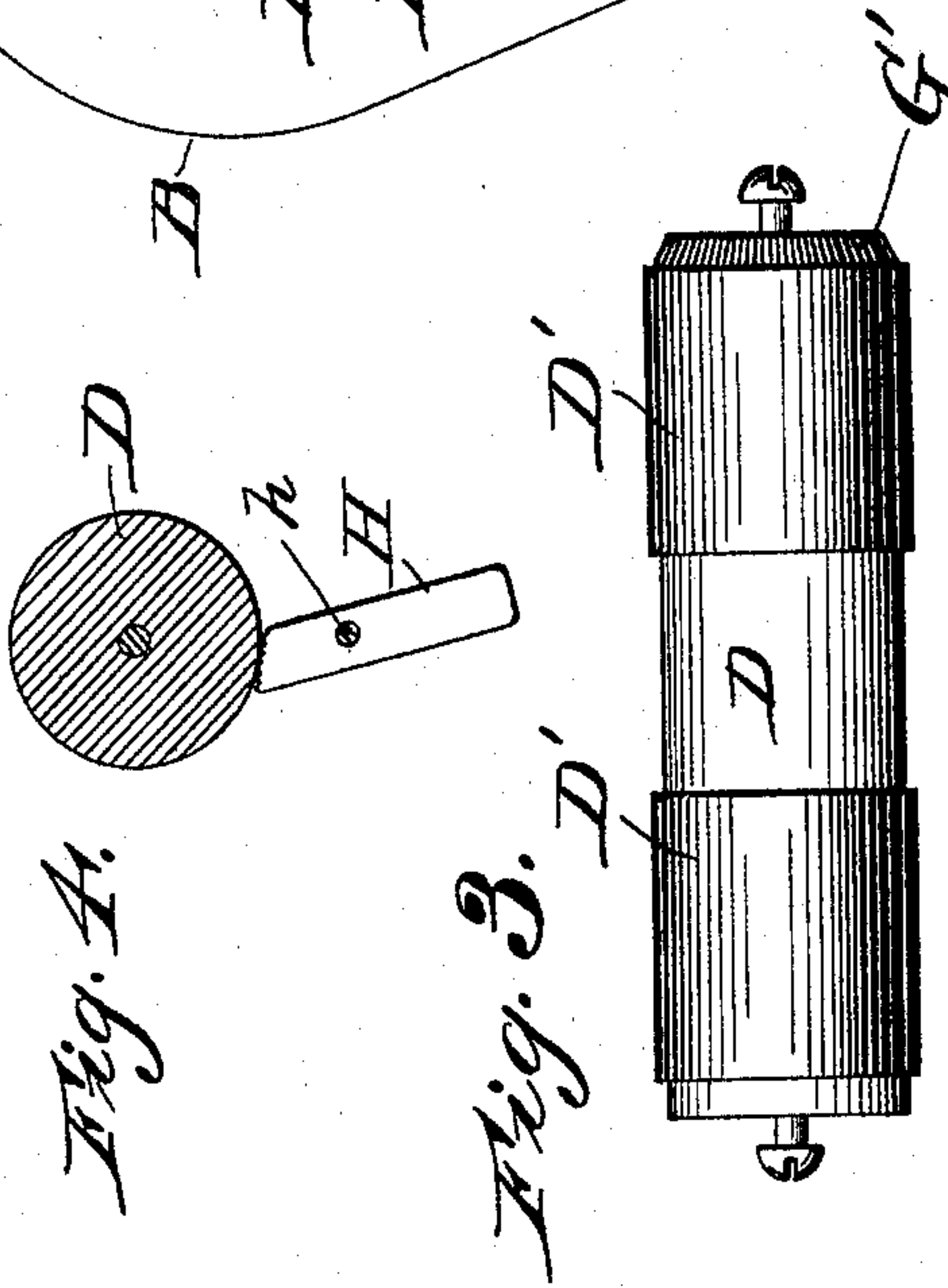
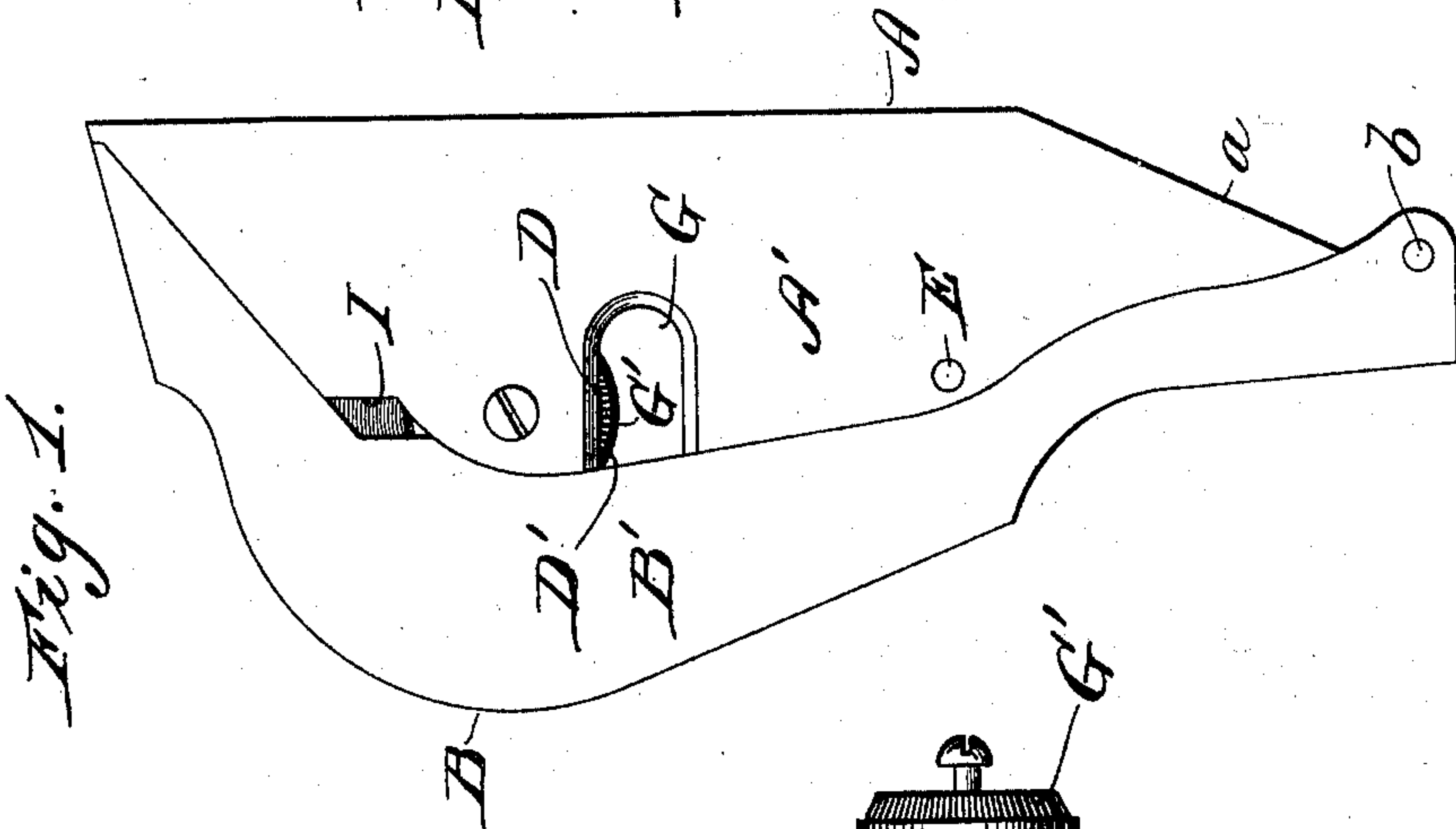
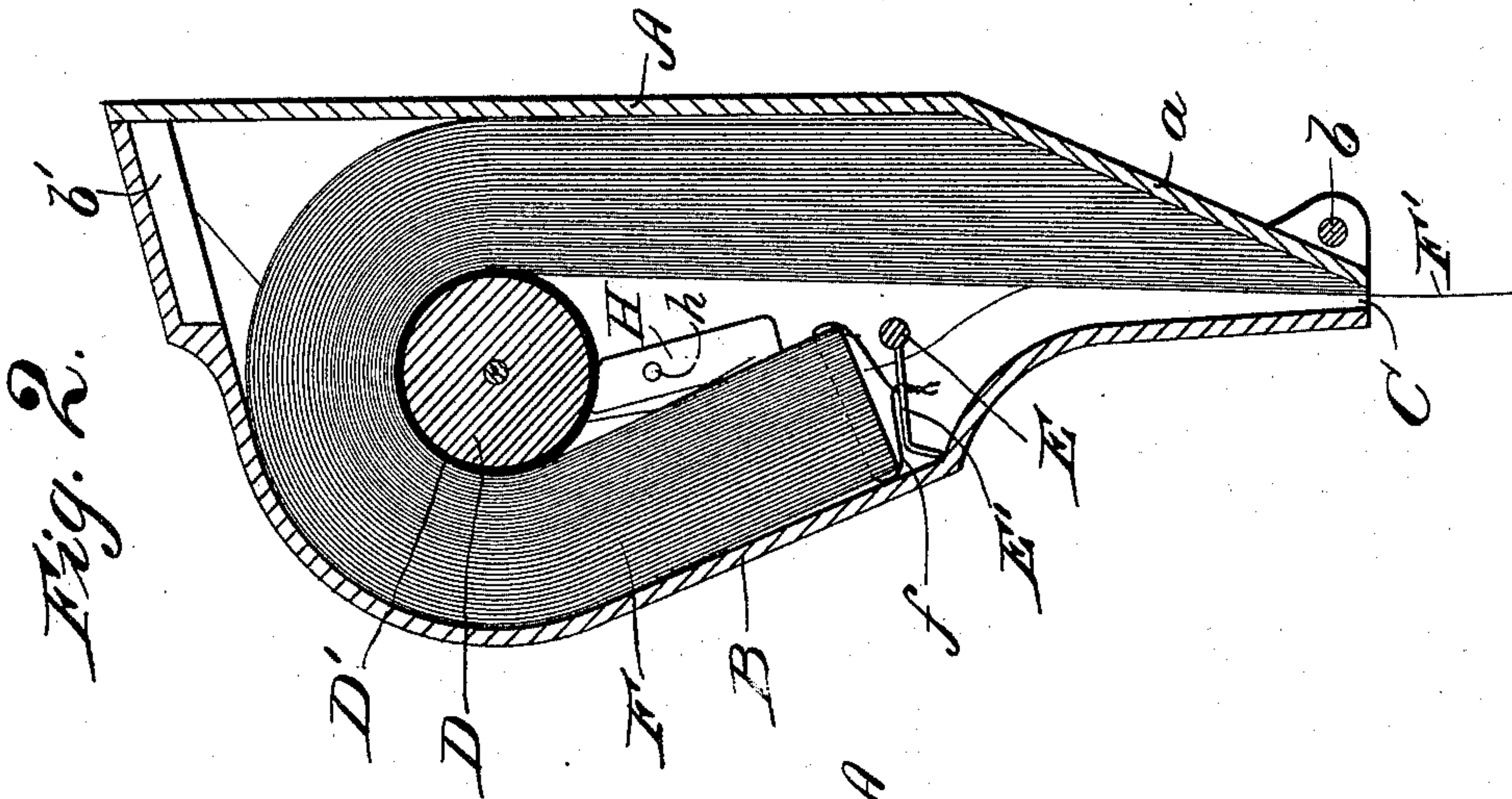


(No Model.)

C. FISHER.
PAPER SERVING MACHINE.

No. 604,113.

Patented May 17, 1898.



WITNESSES,
E. W. Slout
Wheeler.

INVENTOR,
Charles Fisher,
By John E. Miles.
ATTORNEY.

UNITED STATES PATENT OFFICE.

CHARLES FISHER, OF MILWAUKEE, WISCONSIN, ASSIGNOR OF ONE-HALF
TO HERMAN SEGNETZ, OF SAME PLACE.

PAPER-SERVING MACHINE.

SPECIFICATION forming part of Letters Patent No. 604,113, dated May 17, 1898.

Application filed May 31, 1895. Serial No. 551,229. (No model.)

To all whom it may concern:

Be it known that I, CHARLES FISHER, a citizen of the United States, residing at Milwaukee, county of Milwaukee, State of Wisconsin, have invented a certain new and useful Improvement in Paper-Serving Machines; and I 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 pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to new and useful improvements in paper-serving machines, and relates more particularly to that class of machines which are designed to hold a package or bunch of sheets of paper and to deliver said sheets one at a time.

The several features of my invention will be hereinafter fully described, and set forth in the appended claims.

In the accompanying drawings, Figure 1 is a side elevation of a device constructed in accordance with my invention. Fig. 2 is a central vertical sectional view of the same. Fig. 3 is a detail view of the roller. Fig. 4 is a detail view illustrating the arrangement of the locking device for preventing reverse movement of the roller.

Referring by letter to said drawings, A designates the back portion of the casing, which is conveniently provided with forwardly-extending side walls or flanges A' A', and B designates the front part of the casing, which is hinged, preferably at its lower end, as at b, to the back piece A. The front part B of the casing is provided with rearwardly-extending side walls or flanges B' B', which are arranged to abut, as shown, against the forward edges of the side walls or flanges A' A' of the back part of the casing.

The lower end of the casing is provided with an opening or slot C, extending from side to side of the casing, for the extraction of sheets of paper, and this opening or slot is conveniently formed, as indicated in the drawings, by disposing the lower edges of the back and the front walls of the casing at a suitable distance from each other.

D designates a roller which is arranged transversely between the upper portions of

the side walls A' A' and is adapted to rotate freely therein. This roller may be of any convenient or desired diameter and is preferably provided upon its surface with a covering or coating D' of rubber or other material suitable for affording a frictional engagement between said roller and sheets of paper.

At a suitable location within the casing is provided a transverse rod or bar E, upon which is arranged a suitable hook E' for engagement with a loop or wire passing through the ends of the sheets of a bunch or package. As shown in the drawings, this rod E, with the hook E', is preferably arranged at a point considerably below the roller D and is conveniently secured between the side walls or flanges A' A'.

The front part B is provided with a suitable lock b' for securing its upper end when in a closed position to the upper end of the back piece A.

In practice the bunch or package F of sheets of paper is inserted in the casing and bent or hung over the roller D in the manner shown in the drawings. Through one end of the package is passed a wire or cord f, which is adapted for engagement with the hook E' upon the rod E, the free ends of the sheets of paper forming said package being allowed to hang downwardly adjacent to the back wall of the casing. It follows that the inner sheets of the package or those nearest the surface of the roller D being bent upon smaller curves than the sheets at or near the outer surface of the package will hang or project downward within the casing to a lower point than the said outer sheets, the lower edges of said sheets arranging themselves upon a substantially straight line which is oblique or inclined downwardly and forwardly from the back wall A of the casing, and, as shown in the drawings, the lower end of said back wall is conveniently inclined downwardly and outwardly, as shown at a, so as to present an inclined surface to the ends of said sheets and serve to deflect or guide them to the discharge opening or slot C. When the bunch or package F of sheets has been placed in position upon the roller D, the first or innermost sheet which rests upon the surface of the roller D is pulled downwardly, so as to cause its lower

end to extend through the discharge opening or slot C and to hang below the casing, as shown at F'. This may be done either before or after the casing is closed. In this position the sheet may be readily grasped by the hand and drawn out through the opening or slot C, and when it is thus withdrawn from the casing it will by reason of its frictional engagement with the roller D impart a rotation to said roller. It follows also that by the described arrangement of the paper, so as to curve or bend around the roller, a considerable portion of the surface of said roller is brought into frictional engagement with the sheets of the package. It will thus be seen that before the sheet which is being withdrawn has been freed from engagement with the roller the next sheet of the package will come into contact with the surface of said roller, so that the rotation of said roller will serve to start said next sheet downwardly and will advance the lower end of said sheet through the opening or slot C sufficiently to enable it to be grasped by the hand and withdrawn. In this manner as often as a sheet of paper is withdrawn from the casing the next sheet in the package is brought into contact with the roller and advanced so that its lower end projects sufficiently from the casing to enable it to be grasped and withdrawn. The weight of the paper being supported upon the roller will serve to bring the sheets into sufficiently forcible contact with said roller to afford the described frictional engagement therewith.

Any means may be provided for enabling the user to advance the first sheet into position to be readily grasped, and for this purpose I find it convenient to provide substantially the form of construction shown in the drawings, in which a slot or opening G is formed in one side of the casing adjacent to one end of the roller D, and through which the user may insert the end of his finger, so as to bear against the periphery or the end of the roller. As a matter of convenience the end of said roller may be milled or roughened, as at G', to afford firm engagement of the finger therewith. By this means after the bunch or package of sheets has been placed in position the first sheet may be advanced to the desired position by a slight rotation of said roller, after which the advancement of the successive sheets of the package to a position to enable them to be readily grasped will be automatically performed in the manner described, each sheet imparting the necessary rotation to the roller to advance the next sheet of the package. It will be understood, of course, that the frictional engagement between the sheet of paper and the serving-roller D operates to tear said sheet off from the wire or loop *f*, which holds the bunch of sheets together.

If desired, the coating or covering D' upon the outside of the roller D may extend from end to end of the roller; but in practice I find

it convenient to arrange said coating or covering as shown in Fig. 3, in which said coating or covering is located adjacent to opposite ends of the roller and the middle portion of said roller is left free. By this construction ample room is afforded for the passage of the torn or abraded central portions of the ends of sheets over the roller, and in case any fragments of paper are torn from the sheets and adhere to other sheets of the package said sheets may be readily drawn from the roller in a perfectly smooth condition regardless of the fact that said fragments adhere to the under sides of said sheets.

It is desirable to provide a suitable device for preventing a reverse backward rotation of the roller D, so as to prevent the sheets from being accidentally moved in the wrong direction and caused to clog in the machine. To this end I provide any suitable or convenient form of detent or pawl—such, for instance, as the pawl H shown in Figs. 2 and 4—which pawl is pivoted, as at *h*, to the casing and is arranged to engage with the surface of the roller in such a manner as to permit of a free rotation of said roller in one direction, but to prevent any opposite rotation of said roller.

Any suitable or desired means may be provided for enabling the user to ascertain at any time the quantity of the paper within the casing, and for this purpose I prefer to construct the casing with one or more openings I, arranged to expose a part of the end of the roller and the edges of a part or all of the sheets of paper thereon. This construction is shown in Fig. 1. By this means when the supply of paper is wholly or nearly exhausted this fact may be readily ascertained without opening the casing, so that when necessary a fresh supply may be placed in position within the casing.

By the described construction a fresh bunch or supply of sheets of paper may be readily placed in position within the casing without removing the last sheet or sheets of a previous supply, the new supply being simply placed in position over or upon the remaining sheets of the former supply and the retaining wire or loop *f* placed in engagement with the hook E'.

Of course any desired or convenient form of casing may be employed for receiving and holding the roller D and the supply of paper thereon, but the particular form of construction shown in the drawings I have found in practice to be very convenient for the purpose.

By the described construction of the lower end of the casing with the forwardly-inclined wall *a* the lower end of said casing is brought forward or away from the wall or support against which the casing is secured, and ample room is afforded for the hand of the user in grasping the protruding sheet of paper.

My improved serving-machine may be employed for delivering all kinds of paper in

sheets, but is designed more particularly for use in delivering sheets of thin wrapping-paper, toilet-paper, and the like.

I would have it understood that I do not desire to limit myself to the precise construction and arrangement of parts shown in the drawings and herein described, as various modifications or alterations may be made in the details of construction without departing from my original invention, it being only necessary that a friction device be provided for engagement with the inner curved surfaces of the sheets, said friction device being constructed and arranged so as to present a moving or rotating surface for frictional contact with the surfaces of said sheets.

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

1. A paper-serving machine comprising a suitable casing or frame, a serving-roller journaled therein, and a retaining device or fastening for holding a package or bunch of sheets at one end or edge, constructed and arranged with reference to said roller and the point of discharge of the paper to hold the package in a curved position or form around or against said roller, substantially as and for the purposes set forth.

2. A paper-serving machine comprising a casing, having a delivery slot or aperture, a serving-roller journaled in said casing, and a retaining device constructed and arranged with reference to said serving-roller and delivery-slot to hold a bunch or package of sheets by one end or edge in a curved form around said roller with each inner sheet of the package projecting at the opposite end or edge from the retaining device beyond the next sheet, substantially as and for the purposes set forth.

3. A paper-serving machine comprising a suitable casing provided with a discharge slot or aperture, a serving-roller journaled in said casing above said discharge-aperture, a retaining device or fastening constructed and arranged with reference to said serving-roller so as to hold a package or bunch of sheets by one end or edge suspended in a curved form upon said roller in position to be advanced thereby through said discharge-aperture, substantially as and for the purposes set forth.

4. A paper-serving machine comprising a suitable casing provided with a delivery slot or aperture, a serving-roller journaled in said casing, and a retaining device or fastening constructed and arranged with reference to

said roller and delivery-aperture so as to hold a package or bunch of sheets by one end or edge in a curved form upon or against said roller with each inner sheet projecting at the end or edge opposite said retaining device beyond the next sheet, said casing having an inclined wall next to said delivery-aperture serving to support and guide the free ends of the sheets thereto, substantially as and for the purposes set forth.

5. A paper-serving machine comprising a suitable casing or frame, a serving-roller journaled therein and provided with a coating or covering of material affording frictional engagement with the paper, and a retaining device or fastening constructed and arranged to hold a package or bunch of sheets in a curved position in contact with said roller, whereby the withdrawal of the inner sheet causes the roller to advance the next sheet sufficiently to be readily grasped, substantially as and for the purposes set forth.

6. A paper-serving machine comprising a casing provided with a delivery slot or aperture, a serving-roller journaled in said casing, a retaining device or fastening constructed and arranged to hold a package or bunch of sheets by one end or edge in a curved position or form around said roller, and means for turning said roller manually for starting a sheet through said delivery-aperture, substantially as and for the purposes set forth.

7. A paper-serving machine comprising a casing provided with a delivery slot or aperture, a serving-roller journaled in said casing, and a retaining device or fastening constructed and arranged to hold a package or bunch of sheets by one end or edge in a curved position or form around said roller, said casing having an opening at the end of said roller arranged to expose to view the edges of a part or all of the sheets of paper thereon, substantially as and for the purposes set forth.

8. A paper-serving machine comprising a suitable casing or frame, a serving-roller journaled therein, a retaining device or fastening constructed and arranged to hold a package or bunch of sheets by one end or edge in a curved position or form around said roller, and a detent constructed and arranged to prevent the backward rotation of said roller, substantially as and for the purposes set forth.

In testimony whereof I sign this specification in the presence of two witnesses.

CHARLES FISHER.

Witnesses:

JOHN E. WILES,
E. W. STOUT.