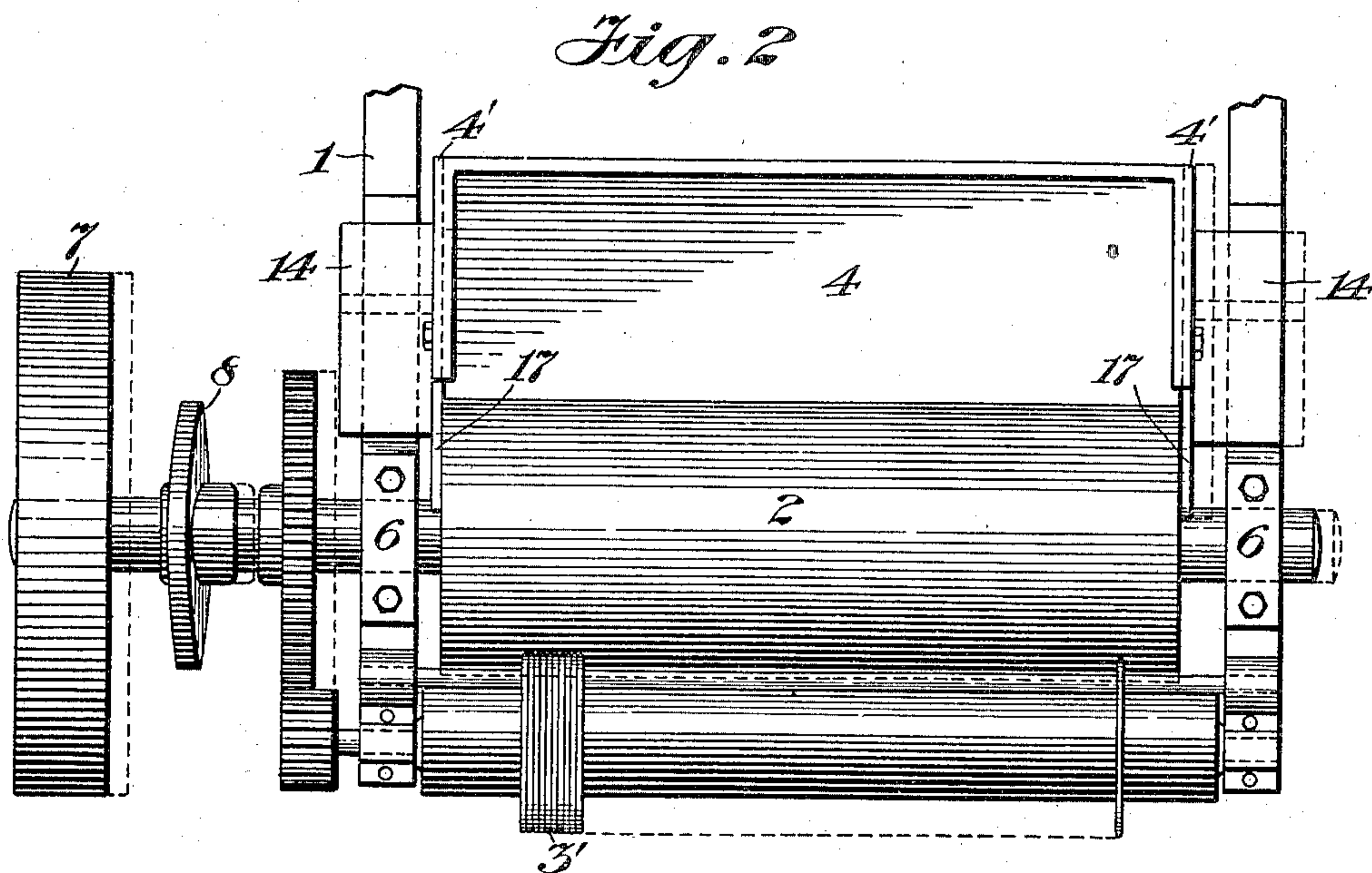
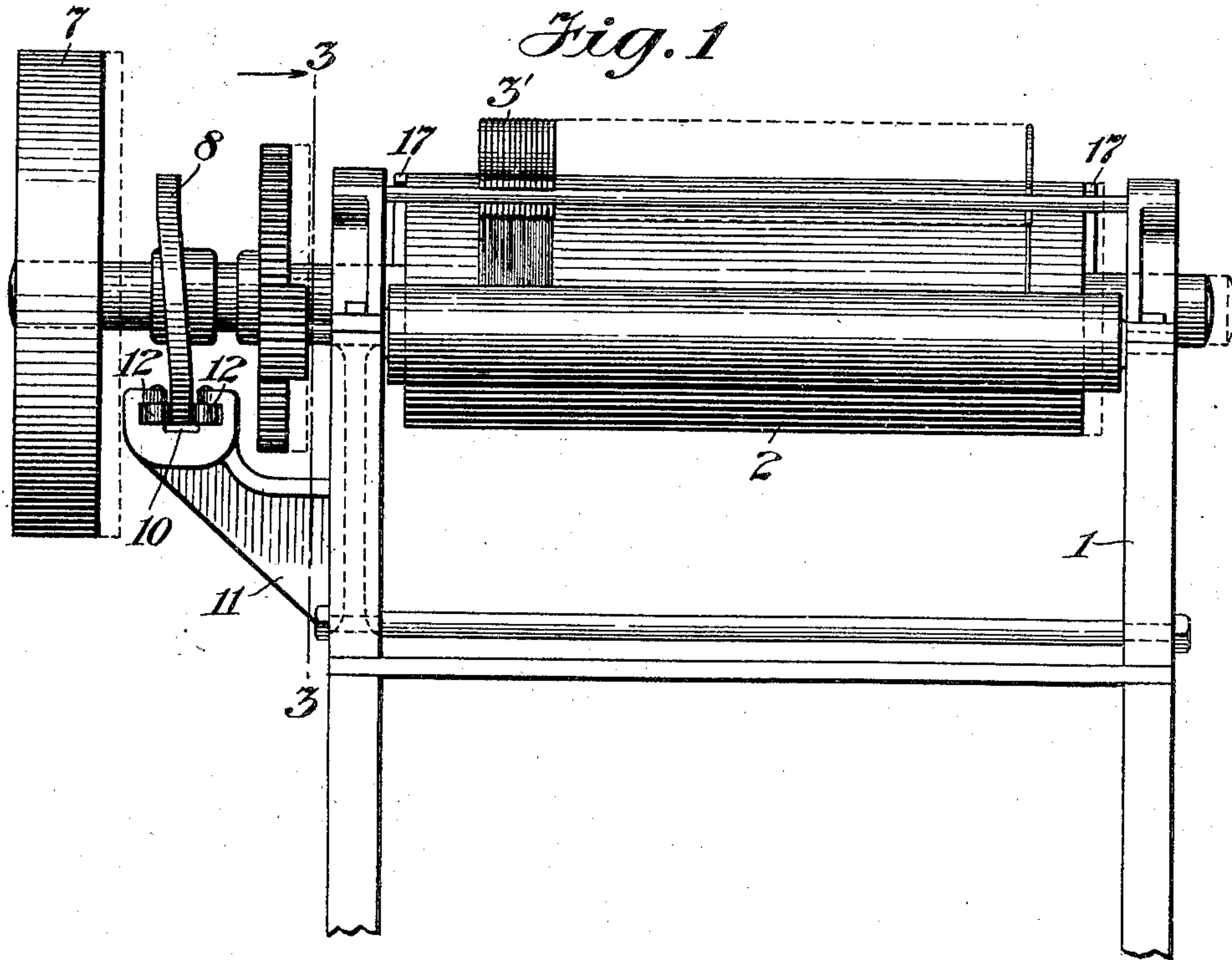


H. D. SISSON.
GUMMING MACHINE.

APPLICATION FILED FEB. 28, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses
C. W. Smith
M. L. Forrest

Inventor
Harry D. Sisson
By *his* Attorney
Chas. F. Dane

No. 726,363.

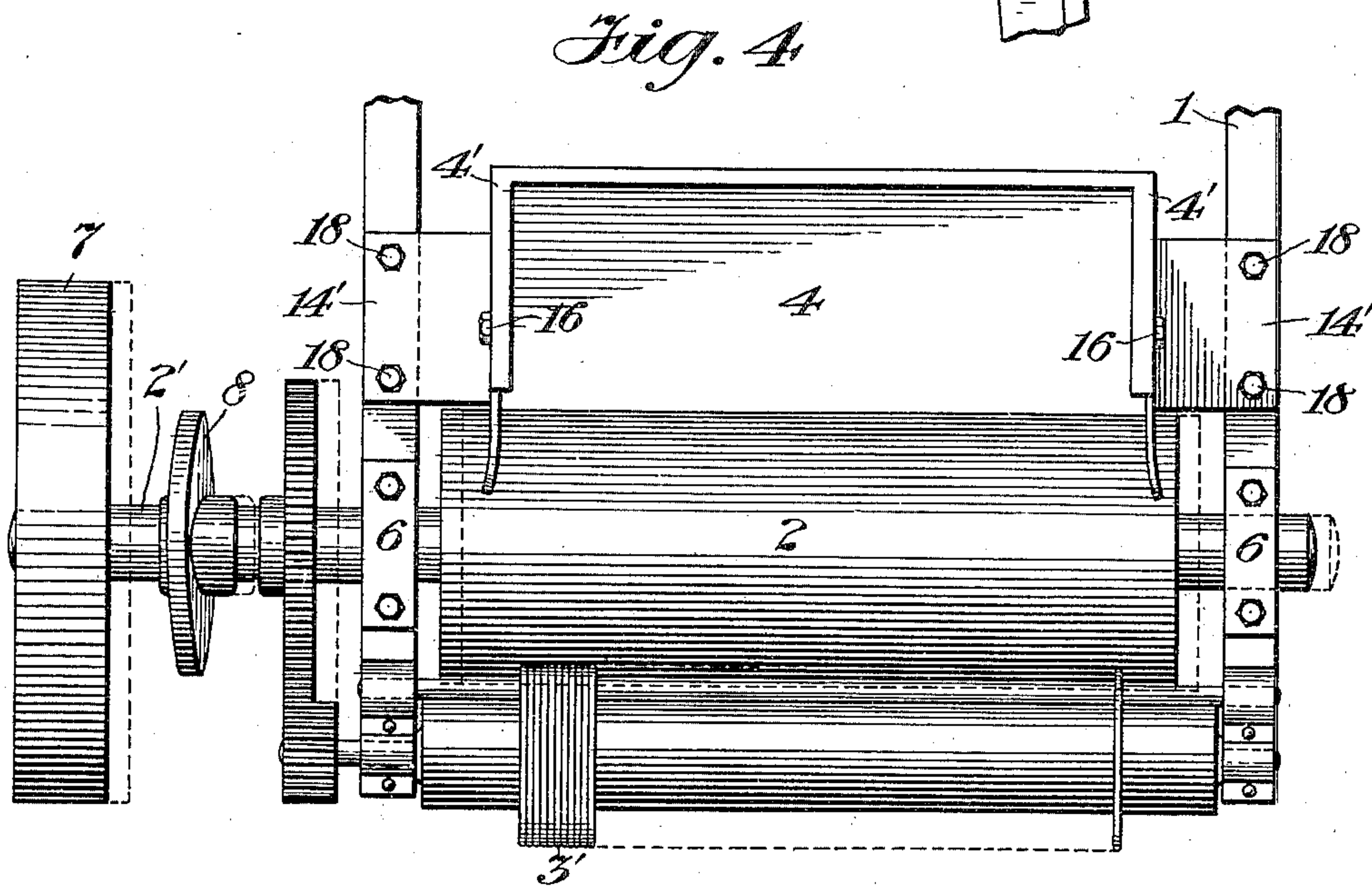
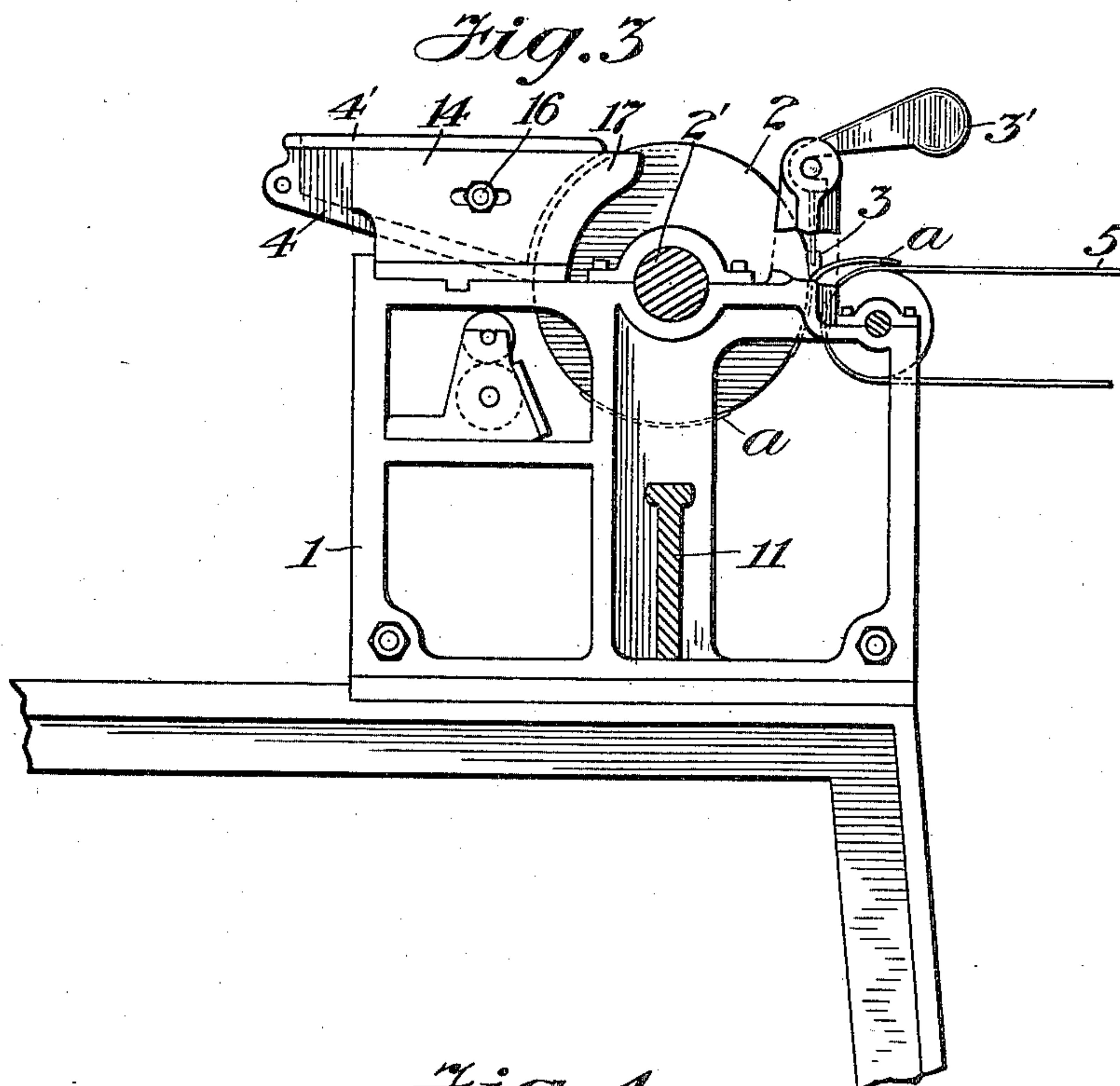
PATENTED APR. 28, 1903.

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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

HARRY D. SISSON, OF PITTSFIELD, MASSACHUSETTS, ASSIGNOR TO MARK D. KNOWLTON AND FRED H. BEACH, OF ROCHESTER, NEW YORK.

GUMMING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 726,363, dated April 28, 1903.

Application filed February 28, 1903. Serial No. 145,456. (No model.)

To all whom it may concern:

Be it known that I, HARRY D. SISSON, a citizen of the United States, and a resident of Pittsfield, in the county of Berkshire and State of Massachusetts, have invented certain new and useful Improvements in Gumming-Machines, of which the following is a specification.

This invention relates to that class of machines adapted for applying an adhesive substance, such as paste or glue, to sheets of paper or other material and commonly known as "gumming-machines." A machine of this class, an example of which is shown in Letters Patent No. 676,237, granted to Mark D. Knowlton June 11, 1901, usually embodies as its desirable features a revolving pasting or gluing roller to the surface of which the glue or other adhesive substance is applied, a tank or receptacle for containing the glue or other adhesive substance and discharging the same by gravity upon the surface of said roller, means for feeding or carrying the sheets to be coated from a suitable supporting-table into contact with the said roller, to which they will adhere and receive a coating of the glue or adhesive substance thereon, and means for subsequently stripping or deflecting outwardly from the surface of the roller the sheets adhering thereto and causing them to be transferred to a suitable carrier belt or apron, from which they are taken by the operators. The means employed for so stripping or deflecting the sheets from the pasting or gluing roller usually comprises a series of stripping or so-called "pick-off" fingers, which normally rest in a stationary position in contact with the roller and are formed with their lower or working ends inclined upwardly and outwardly in such a manner as to deflect or guide the edges of the sheets striking the same outwardly and away from the roller. It has been found in practice, however, that a number of objectionable features result in the use of these stripping or pick-off fingers in combination with the pasting or gluing roller as heretofore employed. For instance, the advancing edge of a sheet instead of being properly deflected from the roller by the engaging fingers sometimes catches on the

points of the same and causes a tearing and wrinkling of the sheet, which results in a considerable waste of material and also in a clogging of the machine. Another objectionable feature also results from the fact that the end of each of the fingers pressing against the revolving roller on one peripheral or circumferential line tends to produce a series of scores or grooves in the surface of the roller, which cause a streaked or ununiform coating or gumming of the sheets, rather than a uniform coating, as is desirable. Again, in some instances, as when the fingers are of softer material than the roller and before the latter has become grooved, the fingers operate to burnish the roller on the lines of their contact therewith to such extent as to prevent the roller taking on a coating of the adhesive substance on such lines, and consequently causing a corresponding streaked coating of the sheets.

Having in mind the above-mentioned objectionable features and others incidental thereto resulting from the arrangement and coöperation of the pasting or gluing roller and the stripping or pick-off fingers in the manner referred to, it has been the object of this invention to provide a simple and effective means for avoiding the same, which object I secure in the present case by causing a constant reciprocating movement of the roller in a direction lengthwise of the same and across the circumferential line of contact of the pick-off fingers therewith.

Another means for accomplishing the same object is embodied in a machine forming the subject-matter of an application filed by me November 10, 1902, and bearing Serial No. 130,667, in which there is a reversal in action of the said parts—that is, the roller is non-reciprocatory, while the stripping or pick-off fingers have a reciprocating movement relative thereto.

Referring to the accompanying drawings, forming a part of this specification, Figure 1 is a front elevation of a gumming-machine embodying my invention with the lower portion of the supporting frame or stand broken away. Fig. 2 is a top plan view of the same. Fig. 3 is a vertical section through line 3 3 of

Fig. 1 looking in the direction indicated by the arrow, and Fig. 4 is a top plan view of the machine in a modified form.

The machine illustrated in the drawings, to which I have applied my invention, is of the same general construction and operation, except as hereinafter pointed out, as that disclosed in my said pending application Serial No. 130,667 and in the said Patent No. 676,237, before referred to, and comprises a suitable supporting-frame 1, a pasting and gluing roller 2, mounted to revolve upon said frame, a tank or receptacle 4, supported and arranged to discharge glue or other adhesive contained therein upon the said roller, a series of stripping or pick-off fingers 3, carried by lever-arms 3' and normally resting in contact with the said roller to deflect or throw outwardly from the surface of the same an adhering sheet or strip, and a carrier belt or apron 5, arranged with one end adjacent to the stripping or pick-off fingers for receiving the deflected sheets thereon, the deflection of the sheets from the roller to the carrier-belt being clearly shown in Fig. 3, in which the sheets are indicated at *a*.

The pasting or gluing roller 2 in the present case is carried by a shaft 2', which is journaled in suitable bearings upon the supporting-frame at 6 6 and adapted to be driven to continuously revolve the roller during the operation of the machine by a driving-belt (not shown) engaging with a drive-pulley 7, attached to its outer end. This shaft 2' in accordance with the present invention is supported to have an endwise sliding movement in its bearings, whereby it may be actuated to impart a longitudinal reciprocating movement to the connected roller 2, which movement of the latter is in a direction across the peripheral or circumferential line of contact of the stripping or pick-off fingers therewith. This movement of the roller relative to the said fingers obviously prevents grooving or scoring of the roller, and thereby insures a uniform coating of the same by the glue or other adhesive substance and a consequent transfer of a uniform coating to the sheets brought into contact therewith. A further and important feature of such movement of the roller relative to the stationary pick-off fingers lies in the fact that it causes the sheets to be more readily deflected and stripped from the roller by the said fingers, and thereby avoids a large percentage of the waste heretofore caused.

Any suitable means may be employed for causing the described reciprocating movement of the pasting or gluing roller relative to the pick-off fingers, the means employed for such purpose in the machine herein illustrated being as follows: A cam 8 in the form of a disk is secured in a fixed position on the roller-shaft 2', so as to be movable therewith, and this cam at its outer or peripheral edge extends and operates within the groove 10 of a stationary bracket-arm 11, attached to one

side of the frame 1, such coöperation of the cam with the said stationary bracket-arm causing a reciprocating movement of the shaft 2' and connected parts, the movement of reciprocation being indicated by dotted lines in Figs. 1, 2, and 4. As a means to reduce friction between the said coöperating cam and bracket-arm the cam-engaging walls of the groove 10 in said bracket-arm are formed by antifriction-rolls 12 12, as clearly shown in Fig. 1.

The receptacle 4 for containing the glue or other adhesive substance, and commonly known as the "glue-tank," is sustained between two vertically-arranged plates or standards 14 14, supported upon the top of the frame 1, at opposite sides thereof, the said tank in the present instance being provided at its upper edge with an outwardly-projecting flange 4', which rests upon the upper ends of the said standards to sustain the tank therebetween in a horizontally-adjustable position relative to the roller and being adapted to be secured in an adjusted position relative to the standards and to the roller by suitable fastening means, such as the bolts 16 16, which connect the ends of the tank with the said standards. This glue-tank 4, as in the said prior patent, No. 676,237, before referred to, is open on that side adjacent to the roller 2, so as to discharge its contents directly thereupon. Therefore it may be desirable that such tank should be movable in unison with the roller 2 in its reciprocating movements, so as to insure the proper and uniform coating of the roller and also prevent liability of any undue waste or leakage of the glue from the tank. For such reason, and as shown in Figs. 1, 2, and 3, I have supported the tank-sustaining standards 14 14 upon the frame 1 in a manner to be capable of a laterally-sliding movement thereon and then extended said standards at one end to a position opposite the ends of the roller 2, as indicated at 17 17, whereby movement of said roller will actuate and cause a like movement of the standards and supported tank, as most clearly shown by dotted lines in Fig. 2. If it is found desirable for any reason, however, to have the tank remain stationary relative to the reciprocating roller, this may be done, as shown in Fig. 4, by fastening the foot-flanges 14' of the standards 14 to the frame 1, as by means of bolts 18, and making the tank sufficiently shorter than the roller to prevent undue escape of the glue at the ends thereof during reciprocation of said roller.

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

1. In a machine of the character described, the combination, with a revolving pasting or gluing roller and means for deflecting from said roller a sheet adhering thereto, of means for imparting a reciprocating movement to said roller, for the purpose set forth.

2. In a machine of the character described,

the combination, with a revolving pasting or
gluing roller and stationary means for deflect-
ing from said roller a sheet adhering thereto,
of means for imparting a reciprocating move-
5 ment to said roller, for the purpose set forth.

3. In a machine of the character described,
the combination, with a revolving pasting or
gluing roller and means normally in contact
with said roller for deflecting an adhering
10 sheet therefrom, of means for imparting a re-
ciprocating movement to said roller, for the
purpose set forth.

4. In a machine of the character described,
the combination, with a revolving pasting or
15 gluing roller and means for deflecting from
said roller a sheet adhering thereto, of means
for imparting a constant reciprocating move-
ment to said roller, for the purpose set forth.

5. In a machine of the character described,
20 the combination, with a revolving pasting or
gluing roller and a series of stripping or pick-
off fingers resting in contact with said roller,
of means for imparting a reciprocating move-
ment to said roller, for the purpose set forth.

25 6. In a machine of the character described,
the combination, with a revolving pasting or

gluing roller and means for deflecting from
said roller a sheet adhering thereto, of means,
including a cam, for imparting a reciprocating
movement to said roller.

7. In a machine of the character described,
the combination, with a revolving pasting or
gluing roller, a glue-tank for discharging upon
said roller, and means for deflecting from the
roller a sheet adhering thereto, of means for
35 imparting a reciprocating movement to the
said roller and glue-tank.

8. In a machine of the character described,
the combination of a slidingly-supported re-
volving pasting or gluing roller, a slidingly-
supported glue-tank for discharging upon said
roller, means for deflecting from the roller a
sheet adhering thereto, and means for impart-
ing a reciprocating movement to the said
roller and glue-tank.

Signed at Pittsfield, in the county of Berk-
shire and State of Massachusetts, this 18th
day of February, A. D. 1903.

HARRY D. SISSON.

Witnesses:

MICHAEL J. EISNER,
JOHN C. CROSBY.