

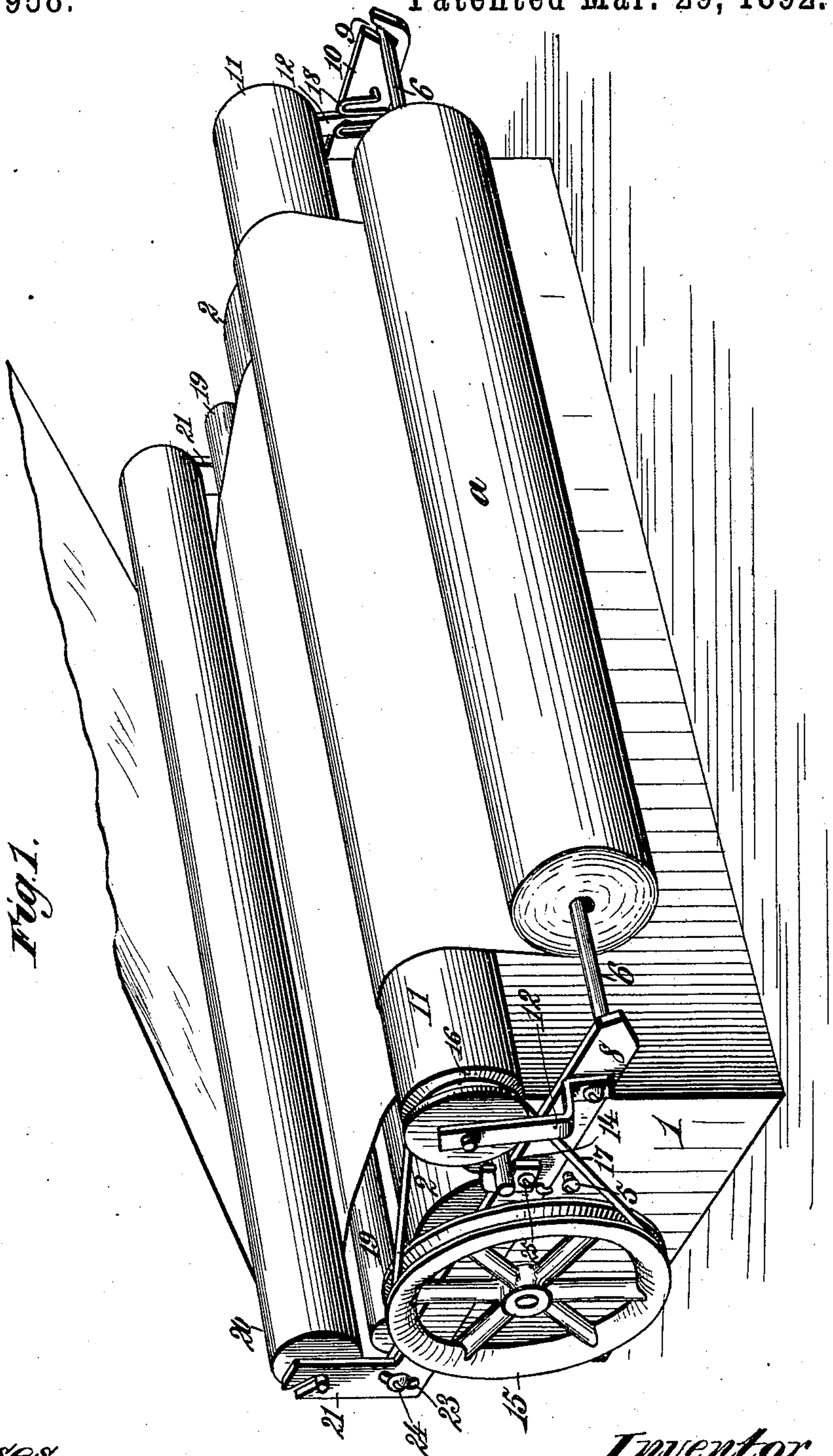
(No Model.)

2 Sheets—Sheet 1.

E. H. DANFORTH.
WALL PAPER PASTING MACHINE.

No. 471,958.

Patented Mar. 29, 1892.



Witnesses:
Robert Emmett
J. A. Rutherford

Inventor:
Edwin H. Danforth
By *James L. Norris*
Atty.

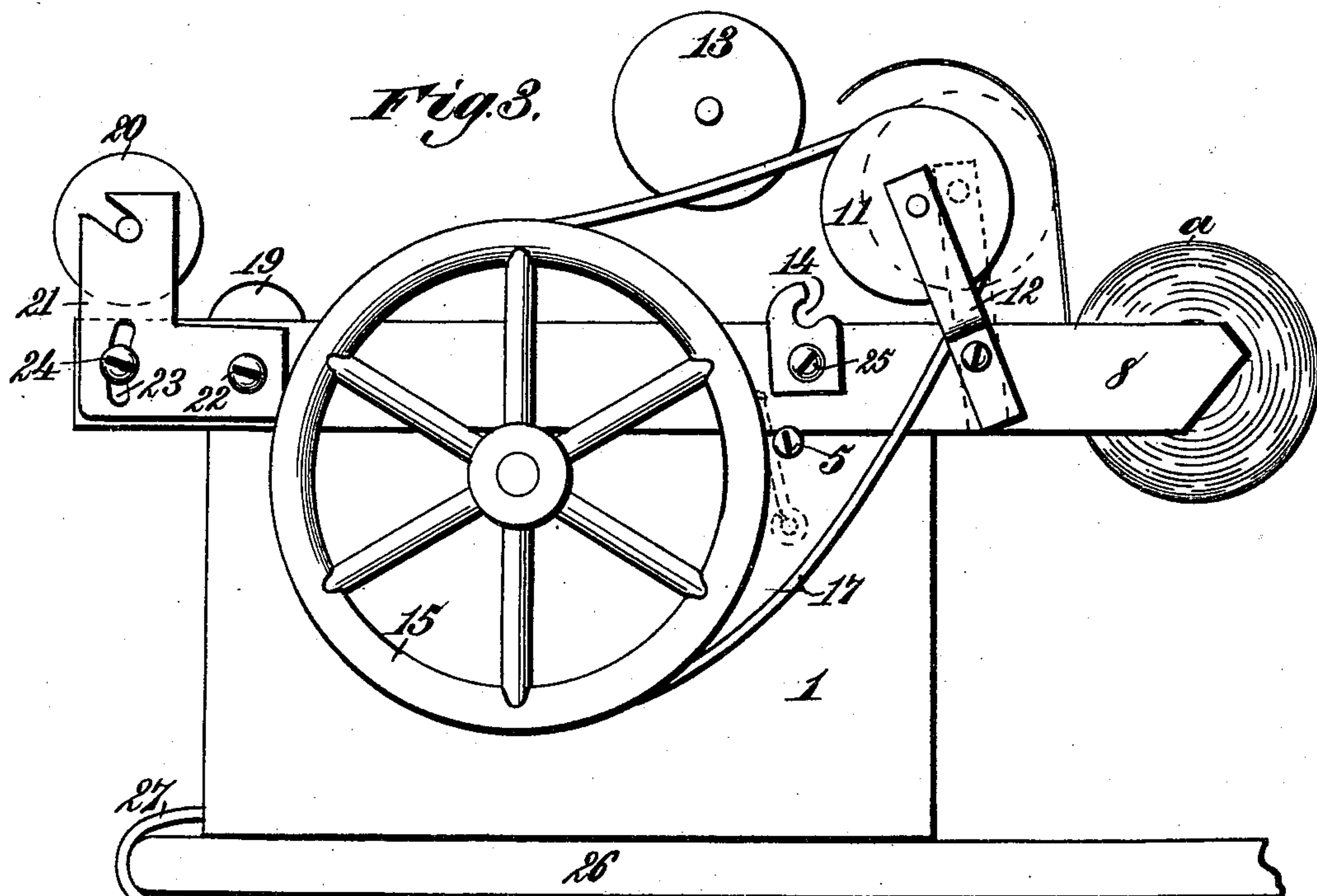
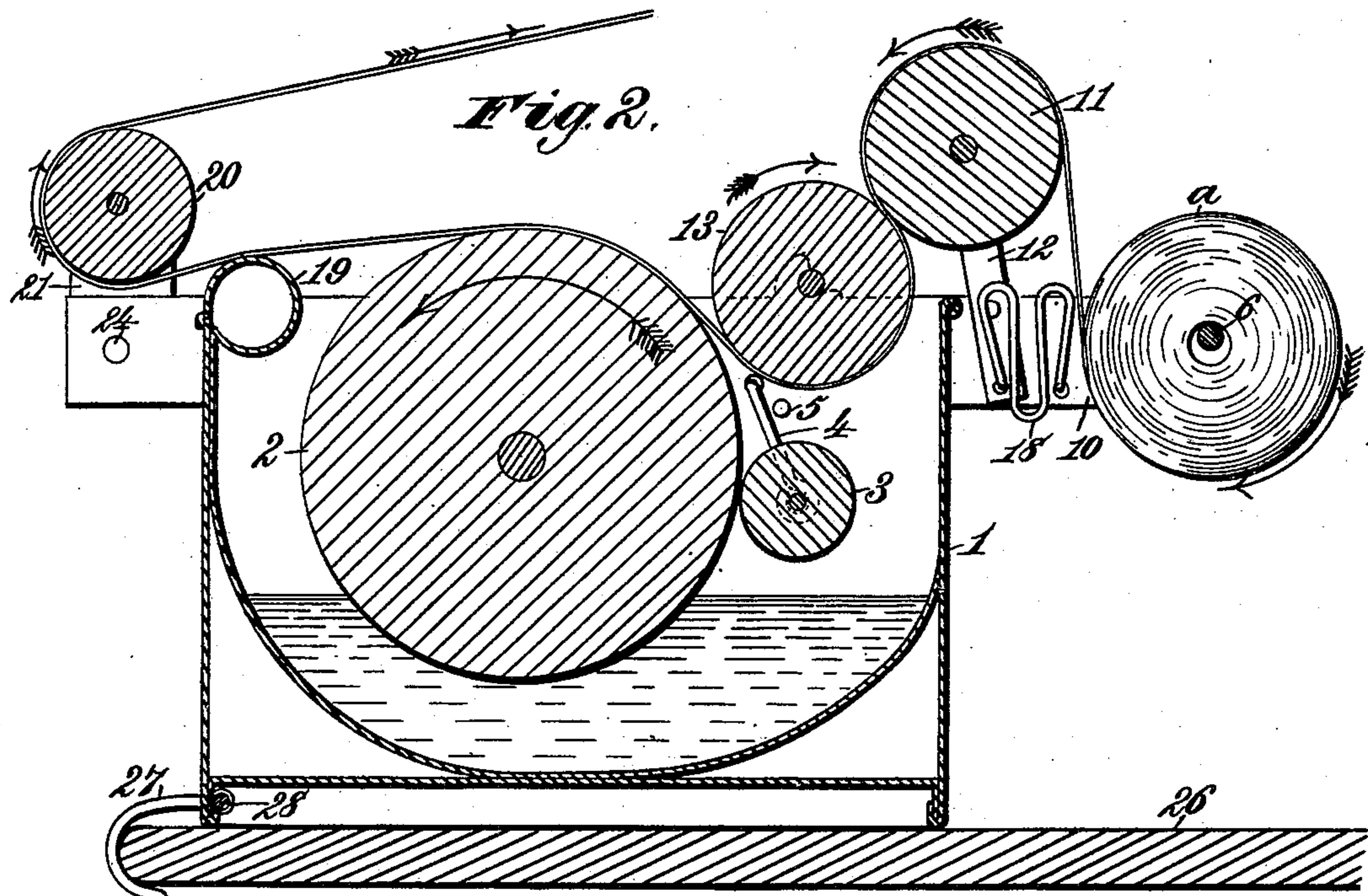
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UNITED STATES PATENT OFFICE.

EDWIN H. DANFORTH, OF AKRON, OHIO.

WALL-PAPER-PASTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 471,958, dated March 29, 1892.

Application filed January 16, 1892. Serial No. 418,277. (No model.)

To all whom it may concern:

Be it known that I, EDWIN H. DANFORTH, a citizen of the United States, residing at Akron, in the county of Summit and State of Ohio, have invented new and useful Improvements in Wall-Paper-Pasting Machines, of which the following is a specification.

This invention relates to machines for applying paste or other adhesive substance to strips or rolls of paper designed for wall-coverings and other purposes.

The object of the invention is to provide a simple, efficient, and easily-operated machine whereby the preparation of paste or other adhesive or glutinous material will be applied evenly and smoothly by means of a paste-distributing roller having a less rate of speed than a moving strip of paper, though actuated therefrom, thus insuring a thorough and uniform application of the adhesive material.

My invention consists in the several novel features of construction and combinations of devices in a pasting-machine for applying adhesive substances to wall-papers and other strips of paper, as hereinafter more fully set forth.

In the annexed drawings, illustrating the invention, Figure 1 is a perspective of my improved pasting-machine. Fig. 2 is a vertical transverse section of the same. Fig. 3 is an end elevation of the machine with one of the rollers raised or removed from its bearings to permit insertion of the paper beneath said roller.

Referring to the drawings, the numeral 1 designates an oblong box or paste-receptacle, which may be of sufficient capacity to contain the quantity of paste required in papering a room of ordinary size. In one side of this box, and extended from end to end thereof, is journaled a paste-distributing roller 2 of large diameter. This roller is so arranged as to take up the paste in the box or receptacle and apply it to the back of the paper, and it is my purpose to so control and retard the rotation of the said roller while the strip of paper is being drawn through the machine as to cause a uniform distribution of the paste.

For the purpose of crushing any lumps of glutinous substance in the paste, a roller 3, Fig. 2, is arranged in contact with the dis-

tributing-roller 2, and is supported in pivoted bearings 4, that are suspended in the opposite ends of the paste-receptacle. In order to hold the crushing-roller 3 in contact with the distributing-roller 2, a screw 5 may be inserted through a perforation in each end of the box 1 in such position as to serve as stops or fastenings for the pivoted arms or roller-bearings 4, and thereby prevent the roller 3 from being forced backward. It will be seen that as the paste is carried upward on the distributing-roller 2 the adjacent crushing-roller 3 will exert just sufficient pressure to break up any lumps or semi-solid substance and cause the paste to be spread on the large distributing-roller.

The roll of paper *a* to which paste is to be applied is placed on a rod or shaft 6, that is preferably swiveled or pivotally attached at one end in some suitable manner to an arm 8, projecting from one corner of the paste-receptacle. The other end of the rod or shaft 6 is loosely held in an open-ended slot 9, formed in an arm 10 at the opposite end of the apparatus. The swiveled or pivotal attachment of this rod or shaft 6 at one end permits it to be swung outward at its other end for placing and removing a roll of paper, and as the said rod or shaft is also free to rotate with the unrolling of the paper it is obvious that it will not exert any friction to retard the drawing of the paper through the machine.

In preparing the machine for operation the free end of the paper *a* is drawn upward and carried over a guide-roller 11, that is journaled in the upper ends of yielding standards 12, the lower ends of which are pivotally attached to, preferably, the arms 8 and 10 at the opposite ends of the paste-receptacle. From the guide-roller 11 the paper is drawn downward beneath a removable guide and pressure roller 13, and thence over the top of the paste-distributing roller 2, as shown in Fig. 2. The roller 13 is journaled in bearings 14 at the top of each end of the box or receptacle 1 and is made removable from its bearings, so that it can be lifted out of place, as shown in Fig. 3, to facilitate placing the paper across the top of the paste-distributing roller 2 before putting the machine in operation. After the paper has been arranged across the top of the distributing-roller 2 the roller 13

will be replaced in its bearings 14 and will then serve as a guide-roller to secure proper contact of the back of the paper with the paste on the distributing-roller.

5 The paste-distributing roller 2 is provided at one end with a peripherally-grooved pulley 15 of large diameter, and a similar pulley 16 of smaller diameter is formed on or attached to one end of the yielding guide-roller 11, as
10 shown in Fig. 1. These pulleys 15 and 16 are connected, as shown in Figs. 1 and 3, by a belt or cord 17, which is slack when the roller is removed from its bearings, owing to the yielding standards in which the roller 11 is sup-
15 ported; but when the roller 13 is replaced the pressure thereby exerted on the roller 11 forces it back and tightens the belt or cord 17 on the pulleys 15 and 16, so that now while the paper is being drawn through the machine for
20 the purpose of applying paste thereto the motion imparted by the moving strip of paper to the guide-roller 11, which is of comparatively small diameter, will cause the belt or cord 17 to exert a retarding effect on the rotation of
25 the paste-distributing roller, which is of much larger diameter than the guide-roller to which it is belted. Besides tightening the belt or cord 17, the pressure exerted by the roller 13 causes the paper to lie evenly and smoothly
30 in contact with the rollers 2 and 11 and permits a steady unwinding of the roll *a* as the paper is drawn through the machine. A spring 18, Figs. 1 and 2, is arranged in engagement with the yielding or pivoted stand-
35 ard 12 at one end of the roller 11, opposite the attachment of the retarding belt or cord 17, for the purpose of supporting that end of the roller 11 against the outward pressure of the roller 13 when the latter is in place.

40 By retarding the rotation of the paste-distributing roller 2, as above described, so that it will be removed at a less rate of speed than the strip of paper in contact therewith, the paste will be applied evenly and thoroughly
45 to the back of the paper.

At the exit side of the box 1 is a stationary smoothing rod or plate 19, having a rounded surface over which the paper is drawn out-
50 ward on its way to an exit guide-roller 20, which is removably supported in bearings 21, attached to the opposite ends of the box. The guide-roller 20 is so located and arranged as to cause the back of the strip of paper to pass in close contact with the rounded surface of
55 the rod or plate 19, and thereby more perfectly smooth the paste thereon. The bearings 21 for the exit guide-roller 20 may be pivoted at 22 and provided with adjusting-slots 23 and screws 24, so that the roller-bear-
60 ings can be adjusted vertically to cause the moving strip of paper to bear more or less on the smoothing rod or plate 19, according to the consistency of the paste or glutinous material employed.

65 In order to compensate for any stretching of the belt or cord 17 by long use, the bearings 14 of the roller 13 may be made separate

from the box 1 and pivotally attached there-
to by screws 25, that will permit any required
adjustment to increase the pressure of the
roller 13 on the roller 11 and thereby tighten
70 the belt.

The machine is made ready for use by plac-
ing it on a stand or table 26 of suitable height,
where it can be held securely by means of
75 hooks 27, projecting from a rod 28, journaled at the lower edge of the box 1 on one side in such position that the said hooks may be
turned down and made to engage the edge of
the table, as shown in Figs. 2 and 3, where
80 they will exert sufficient friction to hold the apparatus in place. By removing the roller 13 from its bearings sufficient space will be
afforded for replenishing the paste-receptacle
when required. 85

The manner of operating the machine for
applying paste or adhesive material to a strip
of paper will be readily understood from the
foregoing description, it being only necessary
to draw the paper *a* through the machine by
90 hand in the direction indicated by the arrow in Fig. 2, and as the paste is applied the paper can be cut off into suitable lengths for
its intended uses, whether as a wall-covering
or otherwise. 95

What I claim as my invention is—

1. In a pasting-machine, the combination
of a paste-receptacle, a paste-distributing
roller journaled in said receptacle and adapt-
ed to have a rate of speed less than that of a
100 strip of paper moved in contact therewith, a guide-roller rotated by the moving strip of paper, a pressure-roller acting on the paper, and a retarding belt or cord connecting the
paste-distributing and guide rollers and
105 adapted to exert a retarding effect on the rotation of the paste-distributing roller, whereby it will be moved at a less rate of speed than the said strip of paper, substantially as
described. 110

2. In a pasting-machine, the combination
of a paste-receptacle, a paste-distributing
roller journaled in said receptacle, a guide-
roller journaled in yielding or pivoted stand-
ards and rotated by a moving strip of paper, 115
a retarding belt or cord connecting said rollers, and a removable roller intermediate the said guide-roller and distributing-roller and adapted to exert a pressure on the guide-
roller to force it backward and tighten the
120 retarding belt or cord, whereby said belt or cord is made to exert a retarding action on the rotation of the paste-distributing roller, so that it will be moved at a less rate of speed than the paper strip, substantially as de- 125
scribed.

3. In a paper-pasting machine, the combi-
nation, with a paste-receptacle, of a paste-dis-
tributing roller therein, a guide-roller rotated
by the moving strip of paper, a pressure-roller
130 acting on the paper, a retarding-belt connecting the guide-roller with the paste-distributing roller and operating to retard the rotation of the latter so that it moves at a speed less

than the paper, and a paste-equalizing and lump-crushing roller acting on the paste-distributing roller above the level of the paste therein, substantially as described.

5 4. In a pasting-machine, the combination of a paste-receptacle, a paste-distributing roller journaled in the said receptacle, a revolving paste-equalizing and lump-crushing roller located in contact with the paste-distributing roller and journaled in pivoted
10 swinging bearings suspended in the paste-receptacle, and stops engaged with said pivoted bearings to hold the crushing-roller in place, substantially as described.

15 5. In a pasting-machine, the combination of a paste-receptacle, a paste-distributing roller journaled in said receptacle, a guide-roller supported in yielding or pivoted bearings and rotated by a moving strip of paper,
20 the said guide-roller being of less diameter

than the paste-distributing roller, an intermediate removable roller journaled in adjustable bearings and adapted to exert a pressure on the guide-roller, a retarding belt or cord connecting the said guide-roller and
25 paste-distributing roller and adapted to exert a retarding effect on the distributing-roller to cause it to move at a less rate of speed than the strip of paper, and a spring engaged with one of the yielding standards of the
30 guide-roller to support said guide-roller against the pressure of the intermediate removable roller, substantially as described.

In testimony whereof I have hereunto set my hand and affixed my seal in presence of
35 two subscribing witnesses.

E. H. DANFORTH. [L. S.]

Witnesses:

ALBERT H. NORRIS,
EWELL A. DICK.