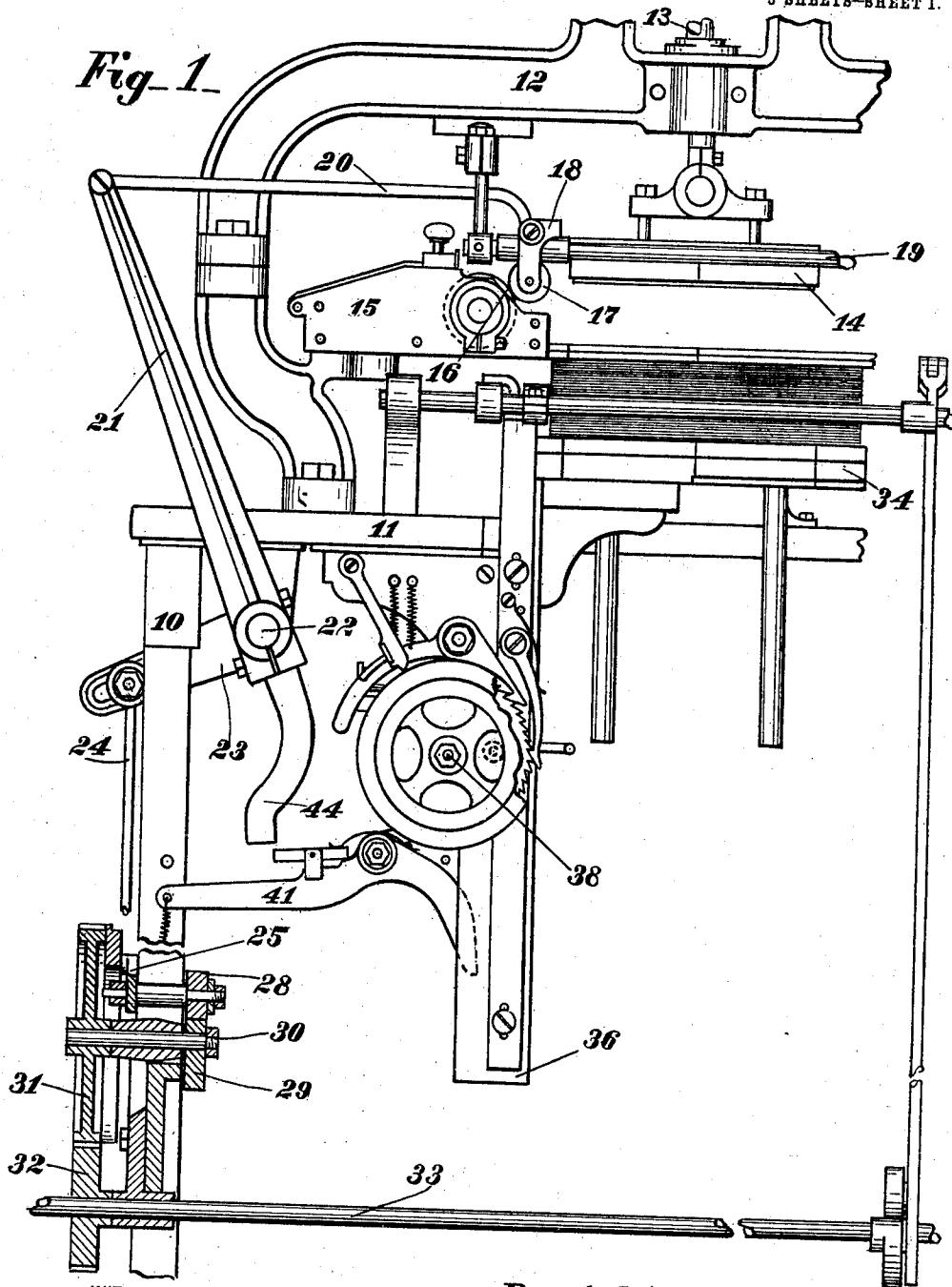


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D. M. LESTER.
ENVELOP MACHINE.
APPLICATION FILED FEB. 25, 1910.

Patented Jan. 3, 1911.

3 SHEETS-SHEET 1.



WITNESSES

Madeline D. Ritchie.

Frank C. Palmer

Daniel M. Lester INVENTOR,

BY Frank N. Allen

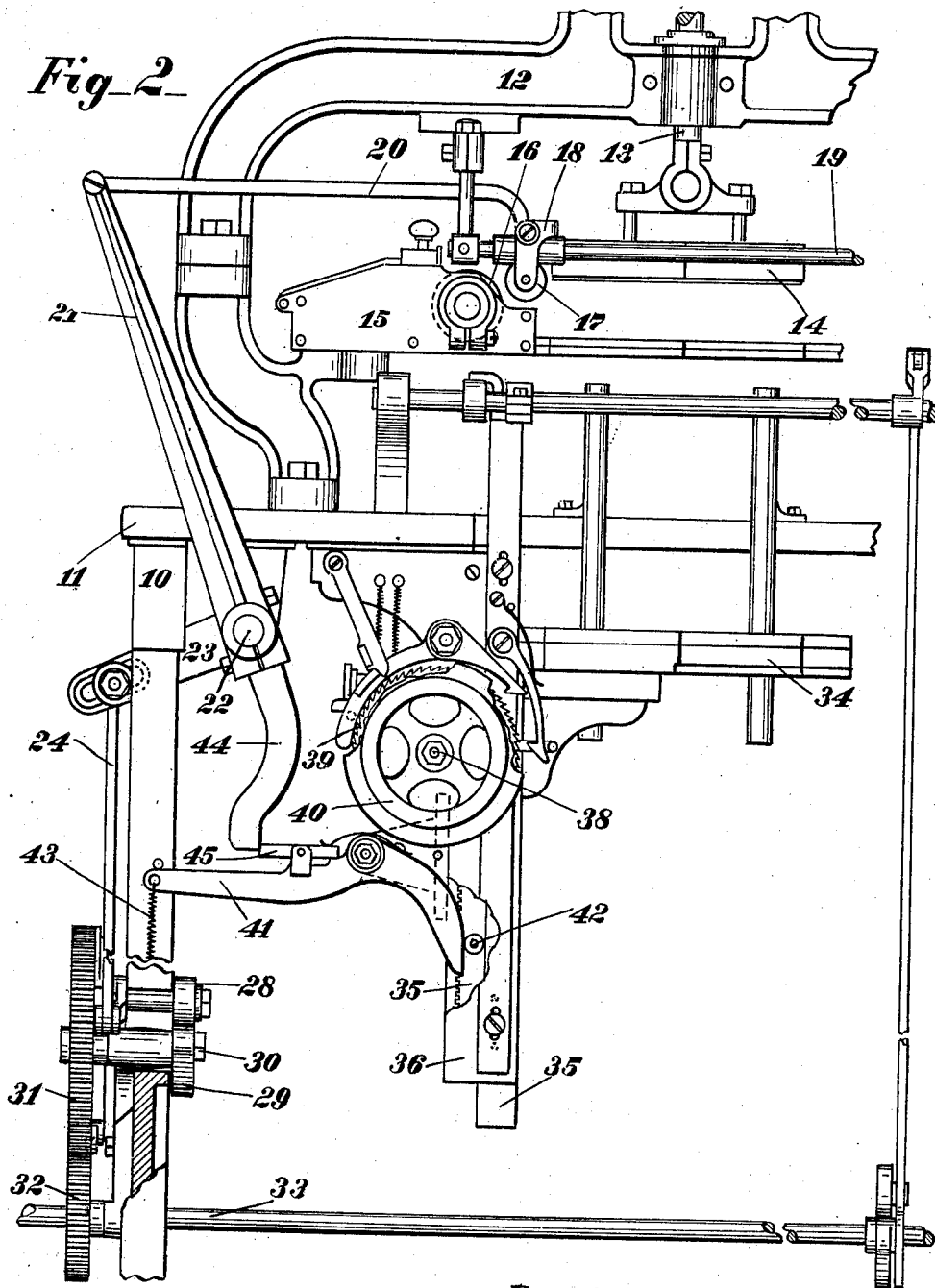
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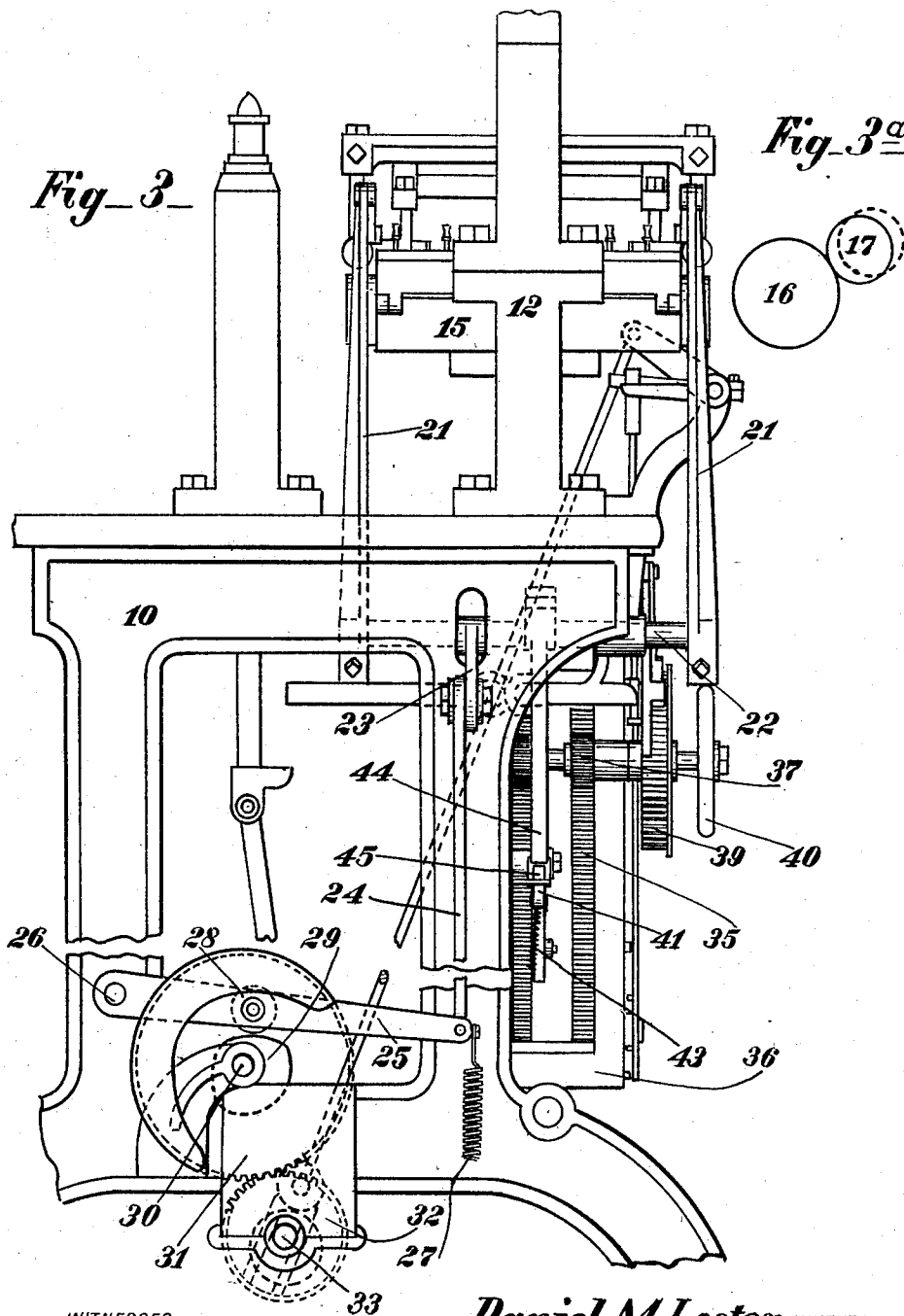
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Madeline D. Ritchie.

Daniel M. Lester INVENTOR,

Frank N. Allen

ATTORNEY.

UNITED STATES PATENT OFFICE.

DANIEL M. LESTER, OF NORWICH, CONNECTICUT, ASSIGNOR TO LESTER & WASLEY,
OF NORWICH, CONNECTICUT.

ENVELOP-MACHINE.

980,539.

Specification of Letters Patent.

Patented Jan. 3, 1911.

Application filed February 25, 1910. Serial No. 545,876.

To all whom it may concern:

Be it known that I, DANIEL M. LESTER, a citizen of the United States, residing at Norwich, in the county of New London and State of Connecticut, have invented certain new and useful Improvements in Envelop-Machines, of which the following is a specification.

This invention relates to that class of envelop machines in which the blanks are removed, one at a time, from a pile by means of a vertically reciprocating combined gummer and picker, and the immediate object of this invention is to provide simple, but effective, means for preventing the distributing roll from engaging the gum-box roll whenever the supply of blanks is exhausted and the elevator is lowered to receive a fresh supply of blanks. This desirable result I prefer to attain automatically, as the elevator is lowered, and I have therefore illustrated such automatic means in the accompanying drawings in which—

Figures 1 and 2 are front side elevations of those portions of an envelop machine that are immediately related to my present improvement; Fig. 1 illustrating a partially exhausted pile of blanks and showing the gum-distributing roll performing its normal evolutions. In Fig. 2 the elevator is shown in its lowered position, as if to receive a fresh supply of blanks, the gum-distributing roll having been automatically checked just before contacting with the roll in the gum-supply box. Fig. 3 is an end elevation of the machine elements illustrated in said Figs. 1 and 2. Fig. 3^a is a diagrammatic view of the gum rolls 16 and 17.

Briefly described, my present improvement consists in blocking the gum-distributing roll, as it seeks to return to the gum-box roll, whenever the blank-supporting elevator is lowered, thus preventing the undue accumulation of gum on said distributing roll and upon the picker during the time or times that the machine is without a supply of blanks and is running idly.

In the annexed drawings the reference numeral 10 indicates one of the end frames of an envelop machine and 11 indicates the bed or table, supported by the end frames and, in turn, supporting a yoke 12 in which is slidably mounted a vertical rod 13 which carries a combined gummer and picker 14. 15 denotes a gum-supply box in which is

located a gum-roll 16 from which a distributing roll 17 receives its supply of gum by contacting with said roll 16; the distributing roll 17 being mounted in a frame 18 that is adapted to slide forth and back across the machine (while the picker 14 is in its elevated position) on rods 19, in the manner common to this type of machines. During such passage across the machine, and back again to the gum-box roll 16, the roll 17 engages the lower edge of the picker and deposits a small quantity of gum thereon, which gum is transferred to the top blank (of the pile) at the next descent of the picker.

As here illustrated, the frame 18 is moved forth and back upon rods 19 by a rod 20 which is connected to the free upper end of a lever arm 21 that is fulcrumed on a rocker shaft 22. Also secured to shaft 22 is an arm 23 whose free end portion is connected, by means of a rod 24, with an arm 25 that is pivoted to frame 10 at 26. Arm 25 is normally depressed by means of a spring 27 and the said arm has pivoted to one of its sides a roll 28 that co-acts with a cam 29 on a shaft or stud 30; said stud having also secured thereto a gear 31 that is driven by a gear 32 on the main driving shaft 33. At each revolution of the cam 29 the free end of arm 25 will be raised and lowered and, through the media of the rod 24, rocker-shaft 22, lever arm 21 and rod 20, the frame 18 and the roll 17 will be moved across the machine and back again. The blank-supporting elevator 34 is mounted upon the upper end portion of a rack-frame 35 that is mounted to slide vertically in a fixed frame 36, the rack being engaged by one or more pinion gears 37 on a shaft 38, upon whose outer end portion are a ratchet wheel 39 and hand wheel 40. The particular means employed for raising the elevator to compensate for the removal of the blanks is not material, but my preferred construction is that herein shown and the same is also shown, and is described in detail, in Patent No. 478,779 issued to Charles Beyer and D. M. Lester, July 12th., 1892.

I will now proceed to describe particularly the novel mechanism by means of which I am able to automatically block the distributing roll 17, and hold it from contacting with roll 16 whenever the elevator is dropped. Pivoted to the frame 36, or to 110

some other rigid part of the machine, is a lever 41 one of whose ends extends into the path of a roll 42 carried by the rack-frame 35 and the other end of said lever 41 is connected to a spring 43 which operates with a constant tendency to depress the outer end of the lever, as in Fig. 1. Secured to the rocker-shaft 22 is an arm 44 that extends downwardly to a point over the lever 41. The said lever 41 is provided with an offset or shoulder 45 that forms an abutment which lies in the path of the lower end of arm 44 (as the said arm swings forward and backward) whenever the elevator is lowered and the lever 41 is moved into the position illustrated in Fig. 2. At such times the arm 44 abuts the shoulder 45 and is thus prevented from making its normal swinging movement and, as a result the connected arm 21 and rod 20 are correspondingly checked, and restricted in their movements, and the roll 17 is thus prevented from reaching the gum-supply roll 16. The various elements of the machine may continue their movements, the distributing roll 17 meanwhile traveling forth and back across the machine, but the said roll 17 is effectually blocked from contacting with the roll 16 so long as the elevator is down. So soon, however, as the elevator is supplied with a fresh supply of blanks and is raised to its operative position, the lever 41 is allowed to drop to the position seen in Fig. 1, thus moving the abutment 45 out of the path of arm 44 and permitting the roll 17 to engage the roll 16. By preference I form the abutment 45 as a yielding lever that is fulcrumed on lever 41 in such manner that, in the event that the elevator is dropped, and the lever 41 is thereby raised, at a time when the end of arm 44 is over said abutment, the latter may yield sufficiently to prevent the breaking or disarrangement of the engaging parts.

My described improvement adds very little to the cost of machines of this class, and it requires no material changes in the construction of such machines, yet it effectually prevents the objectionable deposit of gum upon the picker which I have referred to.

Having thus described my improvement, and the manner in which it operates, I claim as new and wish to secure by Letters Patent:—

1. In an envelop machine, the combina-

tion with a gum supply, a blank supporting elevator, a reciprocating distributing roll, and a pivoted lever for moving the same, of pivotally mounted means controlled by the movement of the blank supporting elevator and embodying an abutment for limiting the movement of the distributing roll, without preventing its reciprocation, to block the same and prevent it from engaging the gum supply.

2. In an envelop machine, the combination with a gum supply roll, a gum distributing roll, a pivoted lever and connections with said distributing roll for reciprocating the same, a pivotally mounted member, an elevator with means for actuating said pivotally mounted member, and a yielding abutment on said pivotally mounted member movable into the path of said lever to limit without stopping the reciprocation of the distributing roll.

3. The combination with a vertically movable reciprocating gummer and picker, of a distributing roll for depositing gum on said picker, a gum supply roll, a blank supporting elevator, and pivotally mounted means carrying an abutment and operable by the lowering of the elevator to limit the movement of the distributing roll without stopping its reciprocation.

4. In an envelop machine, a gum-supply roll, a gum distributing roll, means for reciprocating the latter, a pivotally mounted abutment, a blank elevating device, and pivotally mounted yielding means controlled by the movement thereof for moving said abutment into position to limit, without stopping, the reciprocation of said distributing roll.

5. In an envelop machine, a gum supply roll, a reciprocating gum distributing roll, a pivoted lever for moving the latter, blank elevating devices, a roller carried thereby, a pivotally mounted lever having one end in the path of said roller, and a yielding abutment carried by said lever and adapted to be thrown into the path of the distributing roll actuating lever as the elevating devices are lowered when the blanks are exhausted from said elevating devices.

DANIEL M. LESTER.

Witnesses:

FRANK H. ALLEN,
MADELINE D. RITCHIE.