Aug. 27, 1929. C. W. OMAN 1,726,449

PASTE CUT-OUT

Filed May 26, 1923 3 Sheets-Sheet 1

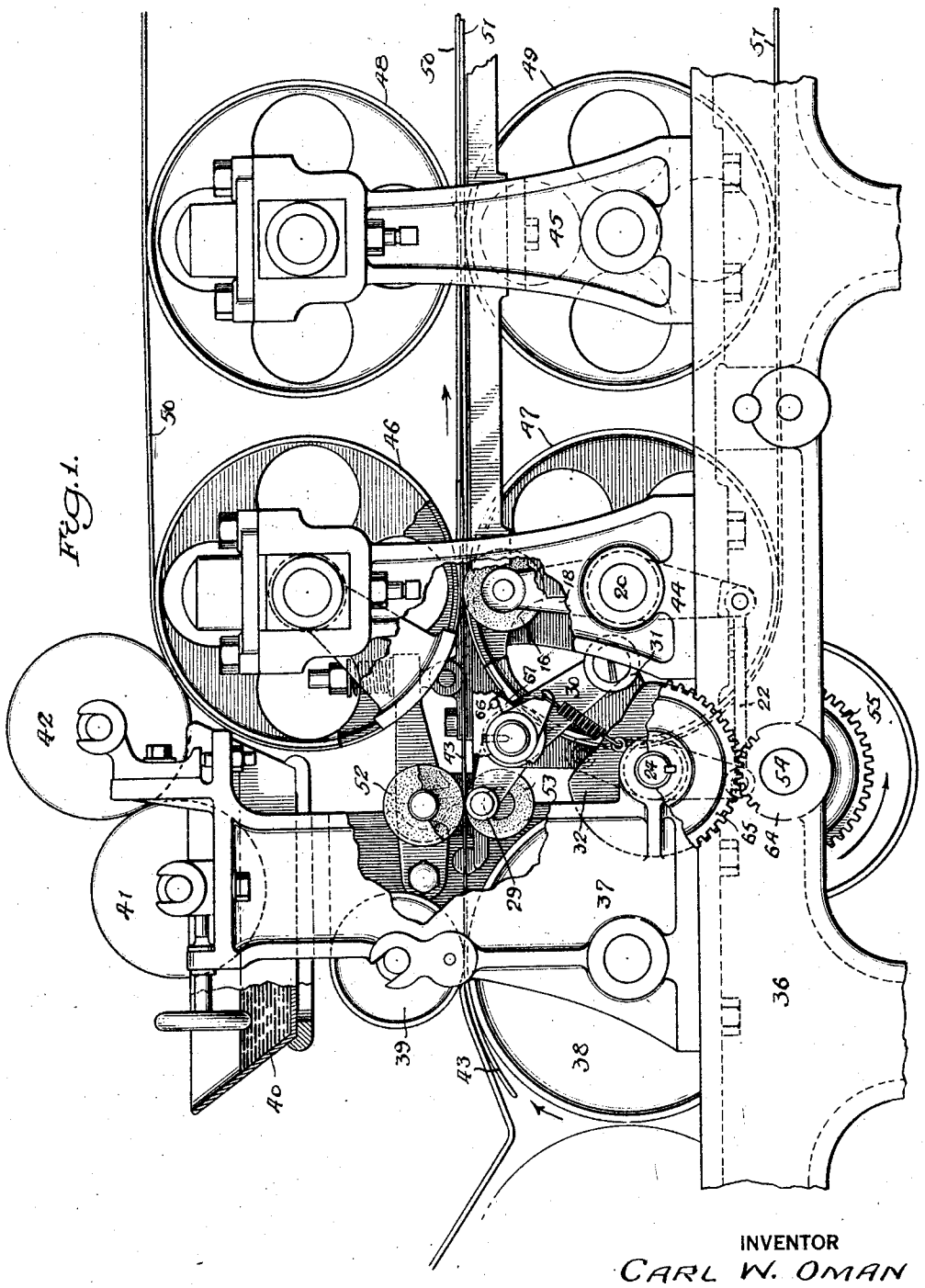


Fig. 1.

INVENTOR
CARL W. OMAN
BY
Howson and Howson
ATTORNEYS

Aug. 27, 1929. C. W. OMAN 1,726,449

PASTE CUT-OUT

Filed May 28, 1923 3 Sheets-Sheet 2

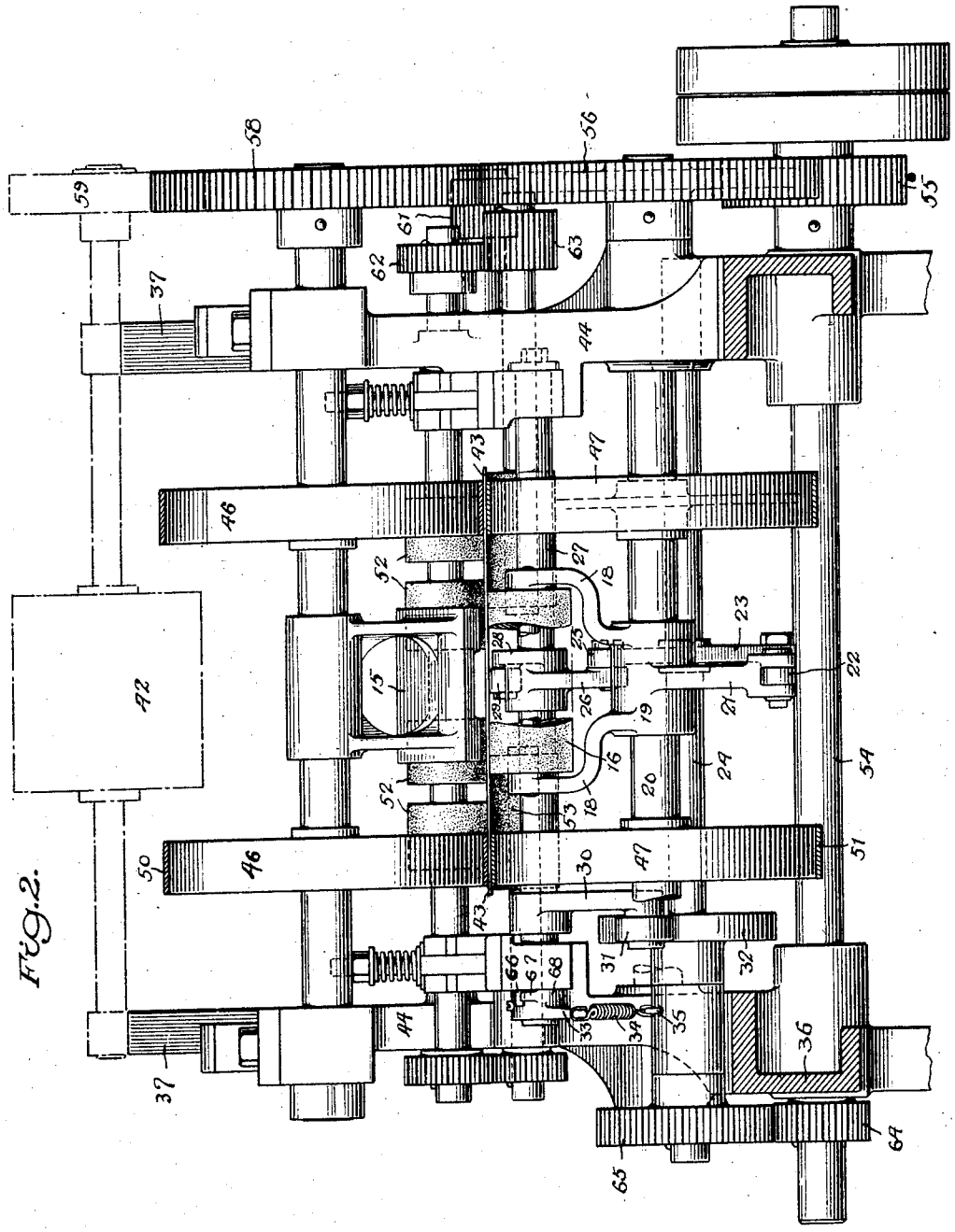


Fig. 2.

INVENTOR
CARL W. OMAN
BY
ATTORNEYS

Aug. 27, 1929. C. W. OMAN 1,726,449

PASTE CUT-OUT

Filed May 28, 1923 3 Sheets-Sheet 3

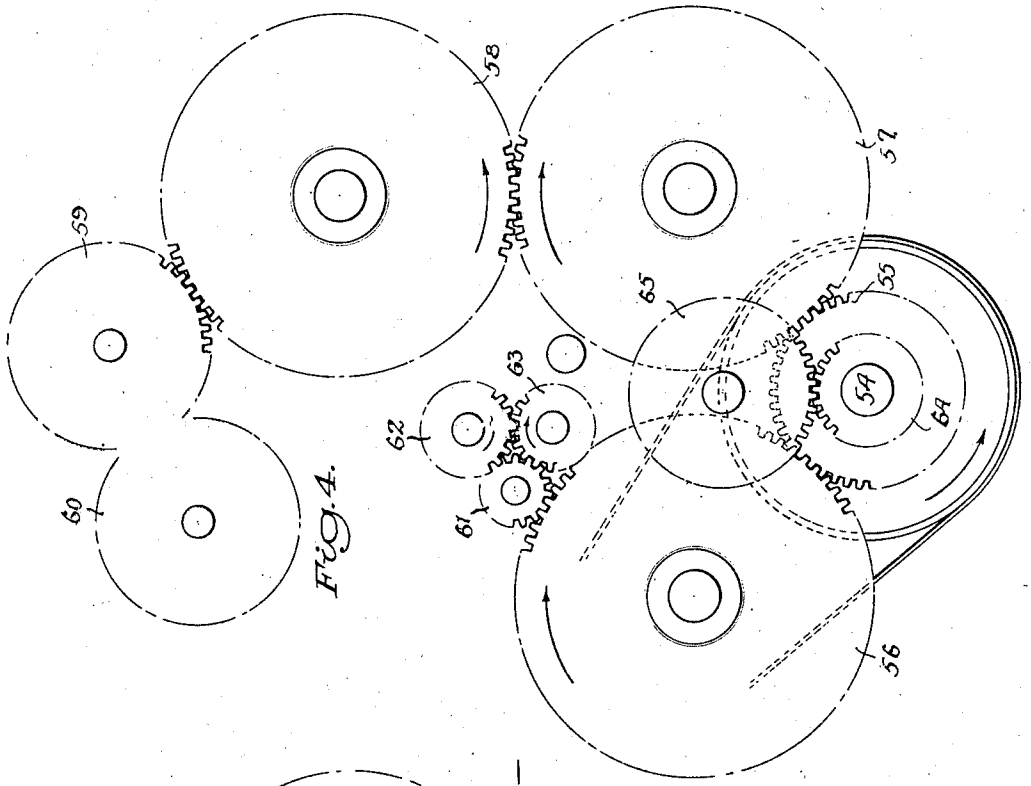


Fig. 4.

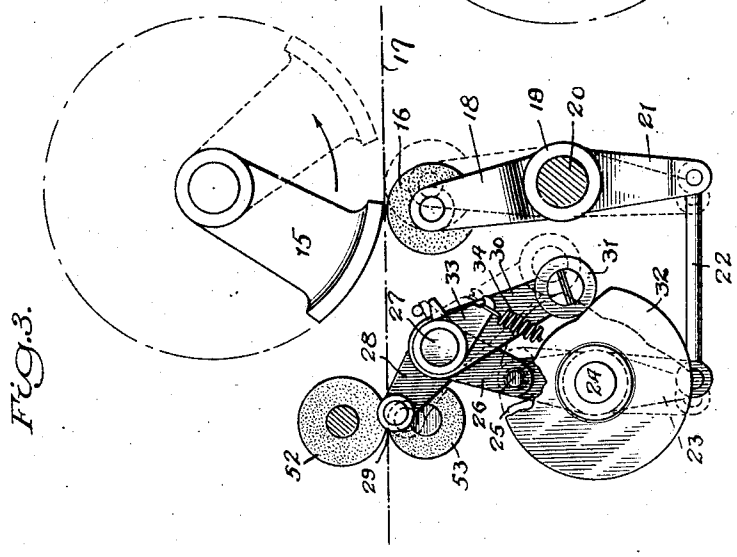


Fig. 3.

INVENTOR
CARL W. OMAN
BY
Howson and Howson
ATTORNEYS

Patented Aug. 27, 1929. 1,726,449

UNITED STATES PATENT OFFICE.

CARL W. OMAN, OF SOUTH WINDHAM, CONNECTICUT, ASSIGNOR TO THE SMITH & WINCHESTER MFG. CO., OF SOUTH WINDHAM, CONNECTICUT, A CORPORATION OF CONNECTICUT.

PASTE CUT-OUT.

Application filed May 28, 1923. Serial No. 642,011.

My invention relates to paste cut-outs, and particularly to means for preventing the fouling of the paster mechanism on interruption of the feed thereto. More specifically the invention contemplates means for automatically shifting the paster backing roller out of operative position on failure of the blank feed, thus to prevent the fouling of the backing roller by the paster when no blank is in position to receive the paste.

The invention is illustrated applied to a bag bottomer in the accompanying drawings, in which—

Fig. 1 is a broken side elevation of portion of a bag bottomer mechanism to which my invention is applied in one form;

Fig. 2 is a broken end elevation thereof;

Fig. 3 is a broken side elevation of the paste cut-out mechanism alone, showing the parts in the position assumed on failure of the blank; and

Fig. 4 is a more or less diagrammatic illustration of the driving connections.

While I have shown the invention applied to a bag bottomer, it will of course be understood that it may be associated with any appropriate machine and is not limited to the particular type of machine indicated, the latter serving merely to illustrate a single practical application of the invention. Furthermore, the details of the construction will necessarily be varied for different machines, and may be modified in form and construction, as will be obvious to those skilled in the art, without departing from what I claim as my invention.

Referring to the drawings, and particularly to Fig. 3, in which the essential elements of the cut-out device are illustrated, I have there shown a paster segment 15 of usual type, with which cooperates the backing roll 16, between which and the segment the blank passes on the path 17, and to which paste is applied by the segment 15. The backing roll 16 is mounted between supporting arms 18 carried by a hub 19 pivoted on a spindle 20. Extending from the opposite side of the hub is a lever arm 21 connected by a link 22 to the arm 23 of a lever pivoted on the spindle 24 and having a second arm 25 pivoted to a crank 26 fast with the spindle 27. From the hub of crank 26 extends the feeler arm 28, at one end of which is the feeler roller 29. Also keyed to the shaft 27 is a cam arm 30 having a roller 31 traveling the cam face of the driven cam 32. Also fast on the shaft 27 is the spring arm 33 engaged by one end of the spring 34, the other end of which is anchored to the frame at 35 (Fig. 2).

The parts described are associated with elements of a bag bottoming machine, comprising a frame 36, upon the opposite sides of which are mounted standards 37. In the latter are journaled the rear cylinder 38 and its cooperating folding roll 39. At the top of the standards is supported a paste pan 40, in which rotates the gathering roll 41 and the feed roll 42, from which the paster segment 15 takes its supply of adhesive for application to the blank 43.

The standards 44 and 45 carry upper and lower pairs of pulleys 46, 47, 48 and 49 for the conveyor belts 50 and 51, which carry off the pasted blank. In advance of the paster 15 are arranged upper and lower pairs of side gripping and feeding rolls 52 and 53, between which the side margins of the blank are engaged, and by which the blank is fed forward to the paster. The feeler arm 28 is arranged to bear upon the blank in the area thereof between the lateral feed rollers just described, which aid in holding the blank against the pressure of the feeler.

The drive is taken from the pulley shaft 54. Pinion 55 thereon meshes with gear 56 on the shaft of rear cylinder 38 and also with gear 57 on the shaft of belt pulley 47. The latter gear meshes with gear 58 for pulley 46, and the drive of the paste feed roll 42 and gathering roll 41 is taken therefrom through gears 59 and 60. The blank gripping rolls 52 and 53 are driven from gear 56 through the idler pinion 61 and the meshing pinions 62—63. The cam 32 takes its drive from the pinion 64 on the main shaft 54 through gear 65 on the cam shaft.

The operation of the device is as follows. Assuming the blank 43 to have been engaged by the side gripping and feeding rollers 52 and 53, and to have been fed forward by the latter to the belts 50 and 51, the portion of the blank to which adhesive is to be applied overlies the backing roller 16 and is supported upon the latter during the application of adhesive to the blank by the segment 15. Roller 16 is maintained in posi-

tion against the drag of the paster by the stop pin 66, which is engaged by the nose 67 on the hub 68 of the spring arm 33.

Upon failure of the feed of the blank 43 during the continued operation of the machine, the feeler 29 which is ordinarily engaged beneath the blank when the latter is in position to receive paste, is unopposed by the blank and therefore is displaced upward by the pull of the spring 34. The motion thus imparted to the spindle 27 is transmitted by the crank 26 through the lever and link system 25, 23, 22, 21 and 18 to the backing roller 16, which is thus swung out of its normal position sufficiently to permit the pasting segment 15 to clear the latter. The backing roller 16 is thus kept out of contact with the segment and is not fouled by the latter.

Were the feeler 29 permitted to remain in its displaced position it would obstruct the ensuing feed of the succeeding blank to the paster. It is returned to normal position by the cam 32, the cam area of which is so located and the rotation of the cam so timed that the feeler 29 is maintained out of obstructing position during the feed of the blank to the side presser rolls 52 and 53, but is permitted to function a brief interval prior to the approach of the paster segment 15 toward the backing roll. In other words, the cam 32 functions to release the feeler sufficiently in advance of the engagement of the segment 15 with the backing roller 16 to permit the feeler mechanism to shift the backing roll out of position in case the blank feed has been interrupted. When a blank is in position and is engaged by the feeler, the latter is held against displacement by the blank, and the cam roller 31 leaves the bearing surface of the cam as indicated in Fig. 1, but is again engaged by the latter and holds the feeler out of obstructing position when the succeeding blank is fed to the gripping rolls 52 and 53.

Various modifications will readily occur to those dealing with the problem. For example, the lever 18 may shift to the right, instead of to the left, out of register with the pasting segment, but I prefer to shift to the left since this arrangement permits the support of the backing roller (by the pin 66) against displacement by the frictional drag of the paster segment 15 during the pasting operation.

I claim as my invention—

1. A paste cut-out device comprising a rotary paster, a cooperating shiftable backing roll, a blank-engaging feeler, and means operatively connected with the latter for shifting the backing roll out of register with the paster, together with means for maintaining the feeler out of engagement with the blank until the approach of the paster toward the backing roll.

2. A paste cut-out comprising a paster, a cooperating backer, a blank-engaging feeler, means associated with the feeler for preventing engagement between the paster and backer on blank failure, and means normally maintaining the feeler inoperative, but automatically releasing the same on the approach of the paster and backer.

3. A paste cut-out comprising a blank feed, a pivoted feeler, and cooperating cam means alternately holding said feeler out of obstructing position in readiness for blank feed, and releasing the feeler to permit it to function when the parts are in blank feed position.

4. A paste cut-out comprising a paster, a cooperating backer, a movable feeler, cam means alternately holding said feeler inoperative, and releasing the feeler to permit it to function, together with an operative connection between the feeler and the backer to shift the latter out of cooperating relation with the paster.

5. In a paste cut out, a rotary paster, a cooperating backer, means for movably supporting the backer to permit the latter to shift in a direction counter to the blank feed and out of cooperating relation with the paster on failure of blank feed, and stop means supporting the backer against displacement by the drag of paster when the backer is in operative position.

6. In a machine of the type described, rotary feeders adapted to grip a blank at its opposite side margins, a feeler arranged to engage the blank between said rotary feeders, a rotary paster arranged to engage the blank delivered by the feeders, a cooperating backing roll pivotally supported, and an operating connection between said backing roll and feeler for shifting the backing roll out of cooperating position upon failure of a blank at the rotary feeders.

7. In a machine of the type described, a rotary paster, a cooperating backing roll pivotally mounted, a fixed stop for maintaining the backing roll in operating position during the operation of the paster, a spring tending constantly to shift the backing roll out of cooperating relation with the paster, and a feeler maintaining the backing roll in operative position during blank feed, but permitting the backing roller to move out of cooperative relation with the paster under the action of said spring on blank failure.

8. In a machine of the type described, a rotary paster, a cooperating backing roll pivotally mounted, a fixed stop for maintaining the backing roll in operating position during the operation of the paster, a spring tending constantly to shift the backing roll out of cooperating relation with the paster, and a feeler maintaining the backing roll in operative position during blank feed, but permitting the backing roller to move out

of cooperative relation with the paster under the action of said spring on blank failure, together with positively operated means for moving the feeler against the stress of said spring and out of blank-obstructing position during portion of the travel of the rotary paster.

9. In a paste cut-out, a rotary paster, a backer, a pivoted arm supporting said backer, said paster, said backer and the pivot of said arm being in substantial alignment when said backer is in operative position, a feeder mechanically connected to said arm to move said backer out of cooperating relation with said paster upon blank failure.

In testimony whereof I have signed my name to this specification.

CARL W. OMAN.