

(No Model.)

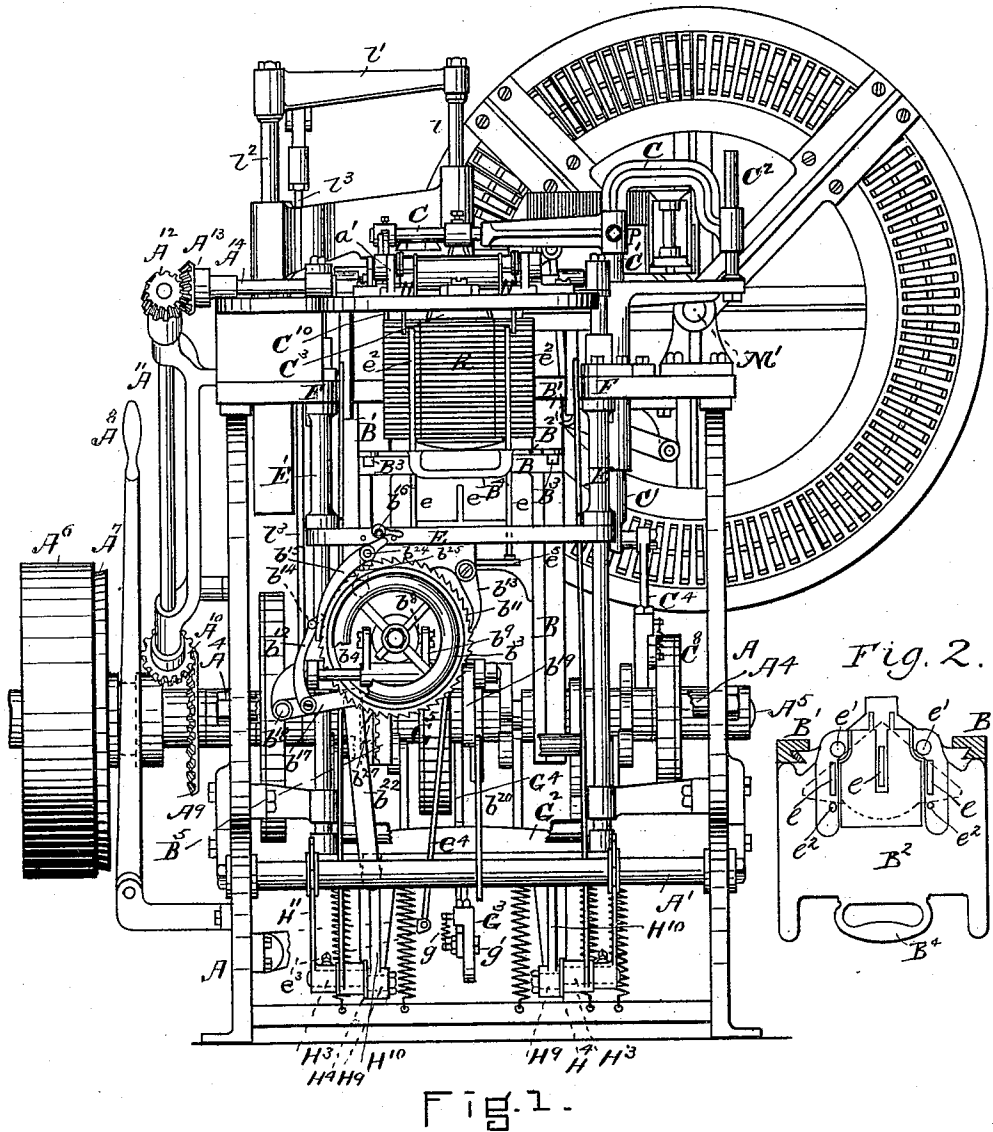
2 Sheets—Sheet 1.

J. DENNIS, W. S. METCALFE & J. A. SHERMAN.

MACHINE FOR MAKING ENVELOPES.

No. 463,399.

Patented Nov. 17, 1891.



WITNESSES.

Benjamin Franklin Crockett
Frederic Albert Menden

INVENTORS.

Joseph Dennis
William Sherman Metcalfe
John Ames Sherman

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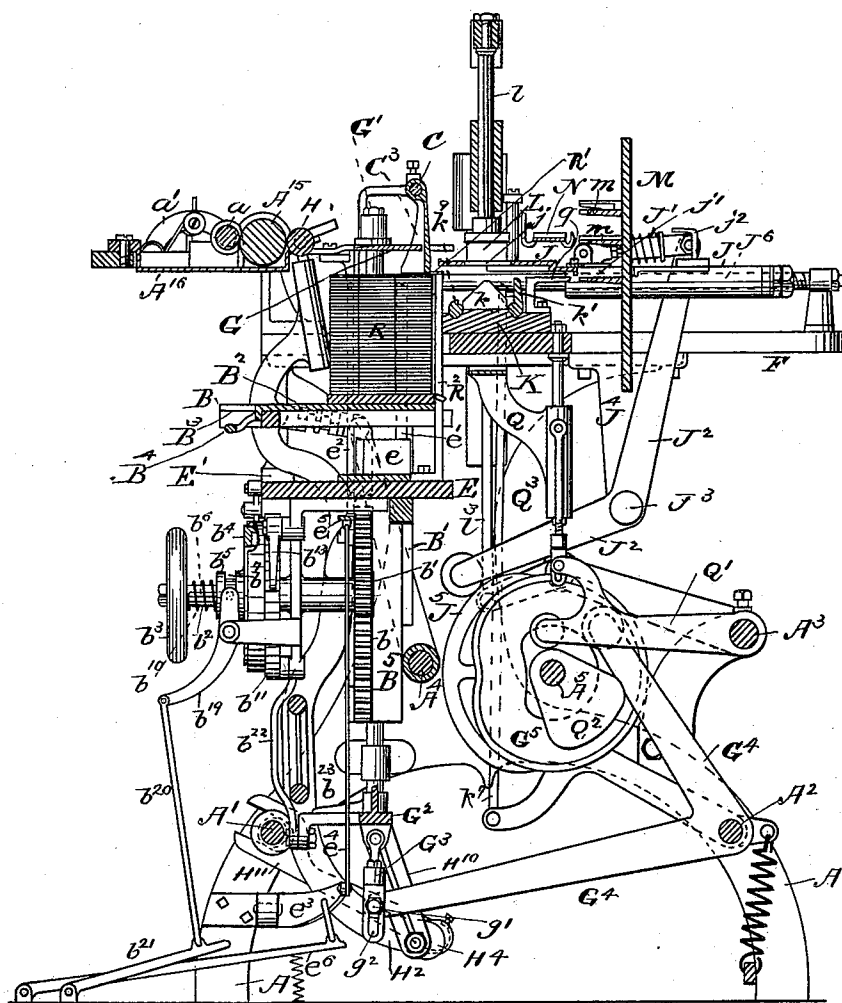


Fig 3.

WITNESSES.

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UNITED STATES PATENT OFFICE.

JOSEPH DENNIS, WILLIAM SHERRAN METCALFE, AND JOHN AMES SHERMAN,
OF WORCESTER, MASSACHUSETTS, ASSIGNORS TO THE WHITCOMB EN-
VELOPE COMPANY, OF SAME PLACE.

MACHINE FOR MAKING ENVELOPES.

SPECIFICATION forming part of Letters Patent No. 463,399, dated November 17, 1891.

Application filed December 4, 1889. Serial No. 332,545. (No model.)

To all whom it may concern:

Be it known that we, JOSEPH DENNIS, WILLIAM SHERRAN METCALFE, and JOHN AMES SHERMAN, all of Worcester, county of Worcester, and State of Massachusetts, have invented certain new and useful Improvements in Machines for Making Envelopes, of which the following is a specification.

Our improvement relates to mechanism for feeding blanks to the picker by which they are gummed.

In the drawings, Figure 1 is a front elevation of a machine embodying our invention. Fig. 2 is a plan showing the paper-lifter. Fig. 3 is a cross-section through the middle of the machine.

A is the frame of the machine.

A' A² A³ A⁴ are braces which hold the sides of the frame together. Each also serves as the fulcrum for various levers.

A⁵ is a cam-shaft, upon which is mounted various cams for giving motion to the various parts of the machine. A pulley A⁶ is mounted to rotate freely on the shaft A⁵, and is connected thereto, so as to cause said shaft to rotate by means of the friction-clutch A⁷, of ordinary construction, thrown into connection by means of the handle A⁸ in a manner too well understood to require further description.

B is the paper-lifter on which the envelope-blanks, which have been previously cut to the desired shape, are placed to be fed to the picker. This lifter B is mounted upon uprights B⁵, which slide vertically in guides B'. The upward movement of the lifter is imparted to it by means of the rack b, mounted upon one of the uprights B⁵ and moved upward by the pinion b', mounted on the shaft b². This shaft carries a hand-wheel b³ at its outer extremity. It also carries a friction-disk b⁴, having a hub b⁵, which slides on a key b⁶ on the shaft b², so that the friction-disk b⁴ is rotated by the shaft, but has a sliding motion in line with the axis of the shaft. This hub b⁵ has a groove b⁷ about its periphery, in which sets a pin b⁸, mounted on the end of a small rocker-arm b⁹. The position of the hub is controlled by a spring b¹⁰, which forces the hub and its friction-disk against a

suitable surface on the adjacent face of the ratchet-wheel b¹¹, this mechanism forming a clutch, so that the shaft b² may be rotated by the ratchet-wheel b¹¹ or not, as desired. This ratchet-wheel is moved by a pawl b¹², and its reverse motion is prevented by a second pawl b¹³. On the pawl b¹² is mounted a pin b¹⁴, which bears against a lever b¹⁵, the position of which is controlled by an eccentric b¹⁶, operated by a suitable handle, so that by the movement of this eccentric b¹⁶ and the lever b¹⁵ the pawl b¹² may be thrown out from the ratchet-wheel and so the further operation of the ratchet and parts connected with it be prevented. To accomplish the same operation automatically when the paper-lifter has been lifted as high as is desired, we mount the lever b¹⁵ upon the end of a rock-shaft b²⁴, on the outer end of which is a crank-arm b²⁵, having a crank-pin, on which is mounted a friction-roll b²⁶. These parts are so located with respect to a stop b²⁷, mounted on one of the uprights B⁵, that the stop will strike the roll b²⁶ when the paper-lifter has reached the upper extremity of its movement, thus throwing the lever b¹⁵ and disengaging the pawl b¹². The pawl b¹² is mounted on the lever b¹⁷, having its fulcrum at b¹⁸. This lever b¹⁷ is operated by the connecting-rod b²², fastened to an arm b²³, projecting from the cross-bar G². This cross-bar G² is connected by a short slotted connecting-rod G³ to the bent lever G⁴, having its fulcrum on the brace A² and operated by a cam G⁵ on the cam-shaft A⁵. This cam and lever are for the purpose of giving to the cross-bar G² a vertically-reciprocating movement, and hence giving to the parts connected with it their proper motion.

The clutch mechanism referred to, consisting of the friction-disk b⁴ and the parts connected to it, is such that when the parts are in their normal position the ratchet-wheel b¹¹ causes the friction-wheel b⁴ to rotate, and thereby moves the various parts in the manner just referred to; but when the friction-disk b⁴ is withdrawn from the ratchet-wheel b¹¹ by depressing the treadle b²¹, which depresses the connecting-rod b²⁰ and lever b¹⁹, the paper-lifter B will be permitted to drop

on its bed, from which it can be raised either by the use of the hand-wheel b^3 or automatically by the operation of the cam G^5 and its connecting parts.

5 The drawings show various other mechanisms, all going to make up a complete operative envelope-making machine, a large portion of which is of our invention. These portions of the machine, however, are not described here, it being unnecessary in view of
10 the fact that they form part of another application for Letters Patent about to be filed in the United States Patent Office and have no bearing upon the present invention.

15 We are aware that a clutch has been heretofore interposed in an envelope-machine between a driving mechanism and a shaft, which is suitably connected to and operates a paper lifter or elevator; but these prior devices, so
20 far as we are aware, have mounted the ratchet-wheel, which forms part of their driving mechanism, on a shaft carrying a worm which meshes into a gear on the elevator-lifting shaft. Our device differs from these, in that
25 our ratchet is directly mounted on the elevator-shaft, and hence its surface can be used

as one member of a clutch, of which the other member is also mounted on the same shaft, the two being operated substantially as described, thus doing away with the worm, gear, 30 and shaft, which, so far as we are aware, have hitherto been considered necessary in such cases.

What we claim as our invention is—

In combination with a vertically-moving 35 blank-lifter, mechanism for operating it, consisting of a rack b , attached thereto, a pinion b' , shaft b^2 , clutch b^3 and its releasing mechanism, ratchet b^6 , and pawl b^{12} with its operating mechanism, said clutch b^4 , said ratchet 40 b^6 , and said pinion b' all being mounted on the same shaft, all as and for the purposes set forth.

In testimony whereof we have hereunto subscribed our names this 27th day of Novem- 45 ber, A. D. 1889.

JOSEPH DENNIS.

WILLIAM SHERRAN METCALFE.

JOHN AMES SHERMAN.

Witnesses:

BENJAMIN FRANKLIN SOUTHWICK,
FREDERIC ALBERT WARDEN.