

(No Model.)

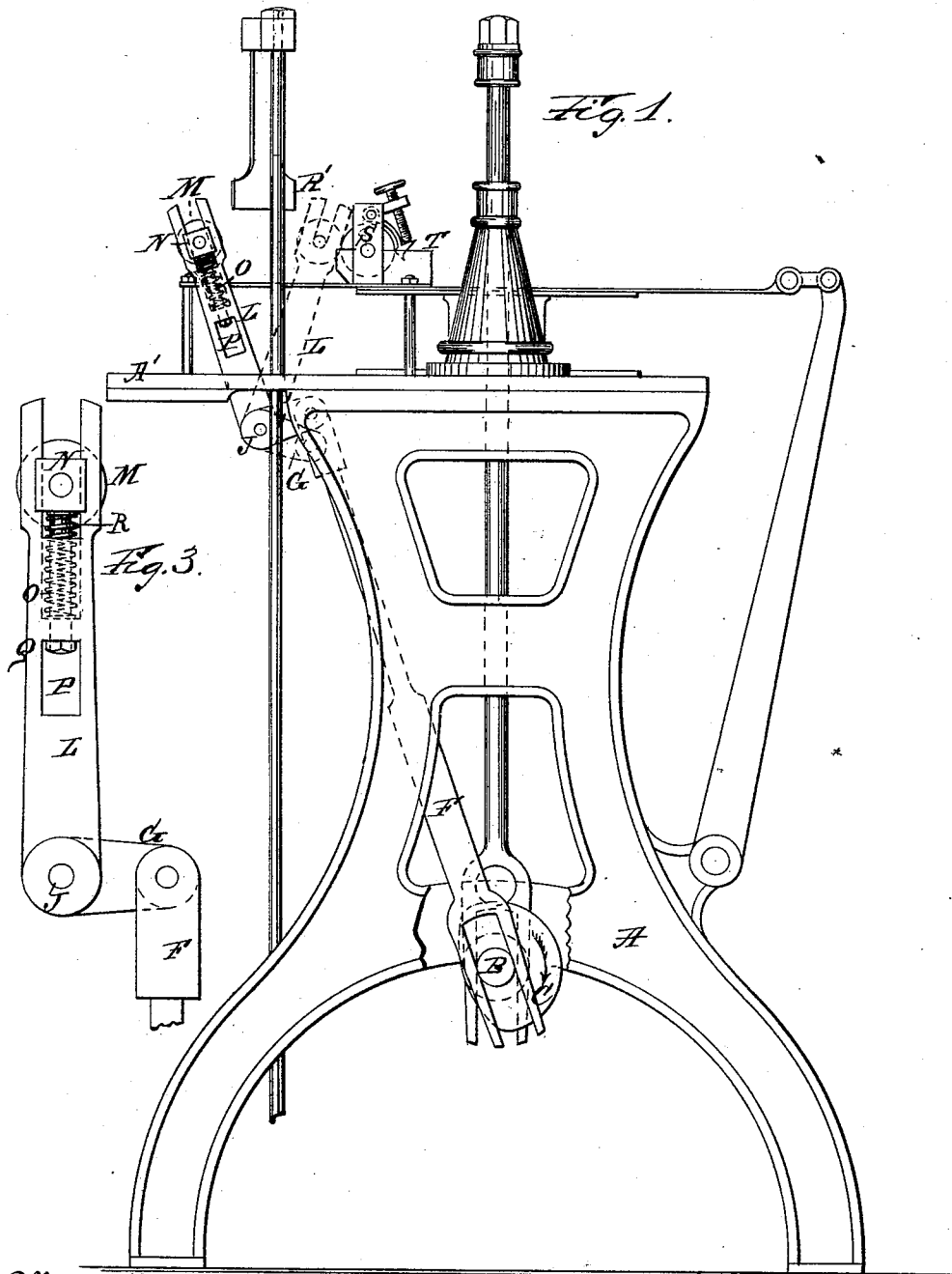
2 Sheets—Sheet 1.

E. RAU.

GUMMING DEVICE FOR ENVELOPE MACHINES.

No. 425,629.

Patented Apr. 15, 1890.



Witnesses

Jas. E. Warner
 James M. Hicks

Inventor

Emanuel Rau

By his Attorney

W. L. Bennett

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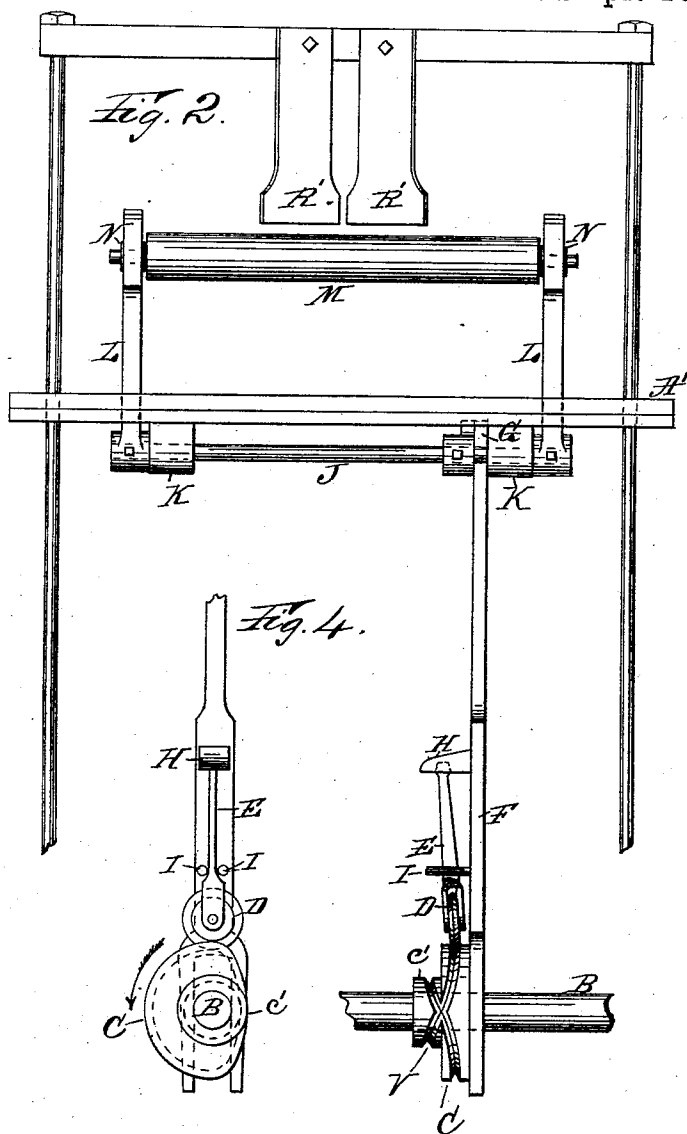
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UNITED STATES PATENT OFFICE.

EMANUEL RAU, OF BROOKLYN, ASSIGNOR TO THE EMANUEL RAU MANUFACTURING COMPANY, OF NEW YORK, N. Y.

GUMMING DEVICE FOR ENVELOPE-MACHINES.

SPECIFICATION forming part of Letters Patent No. 425,629, dated April 15, 1890.

Application filed December 26, 1888. Serial No. 294,718. (No model.)

To all whom it may concern:

Be it known that I, EMANUEL RAU, a citizen of the United States, residing at Brooklyn, county of Kings, and State of New York, have invented and made Improvements in Gumming Devices for Envelope-Machines; and I hereby declare that the following is a full, clear, and exact description and specification of the same, reference being had to the accompanying drawings.

Gumming devices of various kinds have heretofore been known and used in connection with envelope-forming machines; but I am not aware that ever previous to my invention thereof the devices set forth in this schedule have ever been used or known.

The object of my invention is to provide a simple and effective apparatus for transferring gum from the gum-trough roll in an envelope-machine to the gumming stamps or pickers, and it relates to peculiar mechanism for operating the gum-transferring roll and for giving it proper motions for first receiving gum and then transferring it to the pickers; and it consists in certain parts or elements and combinations thereof, fully set forth in and claimed at the end of this schedule.

In order that persons skilled in the art may understand, construct, and use my invention, I will proceed to describe it, referring to the drawings, forming a part of this specification.

Figure 1 represents a side view of my device mounted in its supporting-frame. Fig. 2 represents a front view of the same. Fig. 3 represents a side view of the carrier-arm. Fig. 4 represents a side view of the lower portion of connecting rod or pitman, and the cam mechanism.

B is the actuating-shaft or main driving-shaft of the machine.

A is the frame of the machine, which supports all the working parts.

C and C' are the cams fastened to the shaft B.

D is the cam-roll.

E is the forked rod in which the roll D revolves.

F is the connecting rod or pitman forked at its lower end to straddle the shaft B, and

provided with an eye at its upper end to connect it by a pin to the rocker-arm G.

H is a lug on the inner side of pitman F, recessed to hold the upper end of rod E, which carries cam-roller D.

I I are pins, which project from the inner side of pitman F, between which cam-roll rod E passes. They act as guides to rod E.

J is a rocker-shaft held under the frame-table A', by lug-bearings K K.

L L are carrier-arms secured to rocker-shaft J by keys or otherwise, projecting upward at about right angles to rocker-arm G, which is also secured to rocker-shaft J.

M is a roll supported in arms L L, the upper ends of the said arms being slotted lengthwise.

N N are boxes or slides situated in the slots in arms L L. Into these slides the ends of roll M enter by bearing pins or journals.

O O are studs or pins, which are situated in the slots of arms L L, and are beneath the slide N and joined to them.

P P are other slots or recesses in arms L L, beneath and separated from the slots in the upper end by blanks. These blanks are bored out and countersunk to permit the studs or pins O to pass through them. Nuts Q Q are screwed to the ends of these pins O O to act as stops to prevent them from rising out of their positions.

R R are coiled springs placed around the the pins O O between the lower surfaces of slide-bearings N N and the countersinks or recesses, through which pins O O pass. This arrangement provides elastic spring-bearings to roll M in the arms L L.

R' R' are the usual gumming stamps and pickers. The mechanism for operating these pickers is not shown, as it is no part of my present invention. These pickers are shown as in their proper position for receiving gum on their under surfaces as the roll M passes and repasses beneath them.

S is the gum-supplying roll which revolves (by mechanism not shown) in the gum-trough T. I have shown the parts of an envelope-machine which particularly relate to the devices for operating the gum-casing roll M backward and forward.

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V is the groove in the cam C C', which is cut in its periphery. It passes completely around the larger cam C and also completely around the circular hub C'. This V-shaped groove crosses its own track at the point where the distance from the center of the shaft B is the same on both cams or on cam C and hub C'.

The cam-roll D in rod E traverses or runs in the cam-groove. In order to follow the groove the cam-roll must have a lateral play. This is provided for by its connection with lug H on pitman F, and the guide-pins I I between which rod E moves laterally when forced to do so by the course of cam-groove V. The pitman F rests its entire weight upon cam-roll D and cam C C' through the mediation of the lug H. The forked end of pitman F where it straddles the shaft B is long enough to prevent the revolution of the cam from interfering with the vertical movement. The elastic or yielding bearing of the gumming-rod M in carrier-arms L L has been previously described.

The operation of my invention is as follows: The main driving-shaft B having been caused to revolve in the direction of the arrow, giving motion to the other parts of the envelope-machine through their necessary connections and mechanism, (the cam C C' being placed, as shown, so that the cam-roll D rests upon its highest point or point of greatest throw, and the gumming-roll M through its connections, as shown, at its point of greatest throw away from the gum-feeding roll S and its trough T,) the cam-roll moves down the incline of the cam-groove toward the center of shaft B to its point of least throw, this being caused by the weight of the parts beneath the rocker-shaft J, which rest upon and are carried by the cam C C' and its cam-roll D. The carrier-arms L L are actuated toward and up to the feed-roll S. The roll S transfers to roll M a portion of the gum, while the two revolve in contact with each other. The roll M remains in such contact during one revolution of shaft B, or while the cam-roll D traverses that portion of cam-groove V which surrounds the circumference of the hub C' and until the roll D, having crossed its own

track, begins its ascent on the opposite side of cam C toward and to its point of greatest throw or distance from the center of shaft B. This forces up the parts which rest upon it and throws the carrier-arm, by means of its connections, back to the starting-point, or its greatest distance from the gum-trough, where it remains during two-thirds of a revolution of the shaft B, as will be seen, by the shaping of the cam C, when it again repeats the operation, each time passing the gumming-roll M beneath the under surface of the gum-stamps R' and leaving a portion of its gum on said stamps. It will be seen from the description and the drawings that the roll M remains in contact with the roll S, while the cam-roll D traverses the circumference of that portion of the cam marked C'. This is provided in order that time may be given for the roll M to receive gum from roll S. The mechanism for revolving said rolls together is not shown and is not made a part of this application. The arms L L move in a circular arc, and the roll M being supported on spring-bearings in said arms, the parts are so adjusted as to pass under the stamps or pickers elastically, or so that the roll M presses the gum from its surface onto the stamps. This operation and device does away with the usual gum-carriage in envelope-machines and greatly simplifies the mechanical arrangements for this portion of the envelope mechanism.

Having now fully described my invention and the manner in which I have applied it to envelope-machinery, what I claim as new, and desire to secure by Letters Patent, is—

Cam C C', pitman F, rod E, pins I I, cam-roll D, rocker-arm G, rocker-shaft J, mounted in frame A, carrier-arms L L, and gumming-roll M, supported elastically in arms L L, all combined and arranged to operate, substantially as described, to vibrate the roll M to and from a gum-feeding mechanism on an envelope-machine once every two revolutions of the cam C C', substantially as set forth.

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Witnesses:

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