

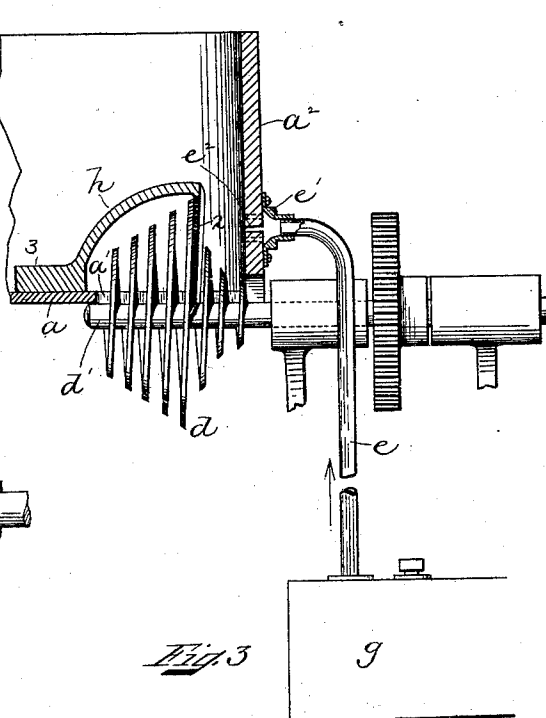
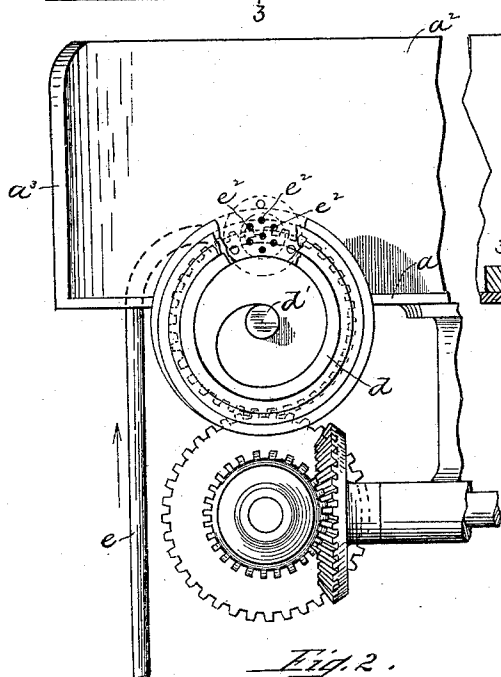
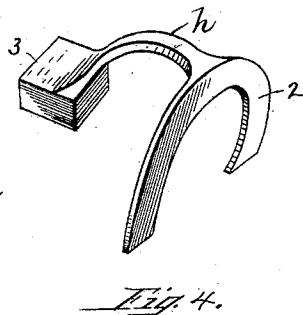
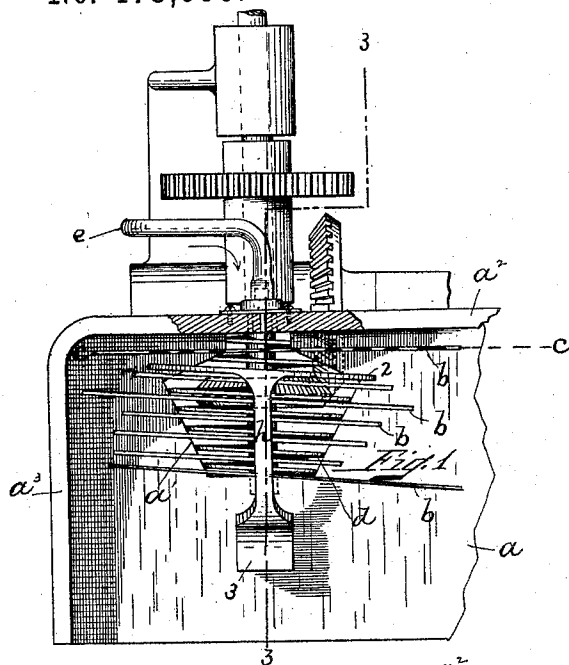
(No Model.)

M. V. B. ETHRIDGE.

PACKING DEVICE FOR MACHINES FOR MARKING MAIL MATTER.

No. 473,660.

Patented Apr. 26, 1892.



Witnesses:
H. A. Hall,
A. D. Harrison.

Inventor
M. V. B. Ethridge
by Wright & Brown
Attys.

UNITED STATES PATENT OFFICE.

MARTIN V. B. ETHRIDGE, OF EVERETT, ASSIGNOR TO THE AMERICAN
POSTAL MACHINES COMPANY, OF BOSTON, MASSACHUSETTS.

PACKING DEVICE FOR MACHINES FOR MARKING MAIL-MATTER.

SPECIFICATION forming part of Letters Patent No. 473,660, dated April 26, 1892.

Application filed January 4, 1892. Serial No. 416,981. (No model.)

To all whom it may concern.

Be it known that I, MARTIN V. B. ETHRIDGE, of Everett, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Packing Devices for Machines for Marking Mail-Matter, of which the following is a specification.

This invention relates to machines for marking letters and other pieces of mail-matter by applying thereto the postmark, the dating-marks, and the cancellation-marks in which the letters, after being marked, are moved endwise onto a packing-table the bottom of which has an opening receiving a packing-screw composed of a helical blade mounted on a shaft the axis of rotation of which is substantially at right angles to the direction in which the letters are moved onto the table.

The invention has for its object to provide improved means for moving each letter laterally out of the path in which it is moved while being delivered to the packing-screw, and thus preventing each letter delivered to the screw from obstructing the movement of the succeeding letter into engagement with the screw.

The invention consists in the combination, with a packing-table and a packing-screw arranged to give a lateral movement to letters delivered to the table, of means for directing a jet of air or other gaseous fluid against the letters at the point where they are first engaged with the packing-screw, the letters being thus moved laterally out of the path in which they are moved to the packing-screw.

In the accompanying drawings, forming part of this specification, Figure 1 represents a top view of a portion of a packing-table, showing the packing-screw and a series of letters engaged therewith. Fig. 2 represents an end elevation of the construction shown in Fig. 1, parts being broken away in both of said figures. Fig. 3 represents a section on line 3 3, Fig. 1. Fig. 4 represents a perspective view of the preferred form of sliding weight or letter-support used to retain the letters on edge while they are being moved by the packing-screw.

The same letters of reference indicate the same parts in all the figures.

In the drawings, *a* represents the packing-

table, onto which the letters *b* or other pieces of mail-matter are delivered by the letter feeding and marking mechanism, the path in which the letters are fed to the table being indicated by the dotted line *c c*.

I do not show the mechanism for marking and feeding the letters forward, because mechanism for these purposes is shown in many Letters Patent of the United States granted to myself and others, so that such mechanism is already well known.

d represents the packing-screw, which is composed of a helical blade of varying width, the blade being preferably narrowest at the end to which the letters are first presented and increasing in diameter from said end toward its central portion and then decreasing in diameter toward its delivering end. The helical blade or screw *d* is mounted upon a substantially horizontal shaft *d'*, which is located, preferably, somewhat below the upper surface of the table *a*, as shown in Fig. 3, and is arranged substantially at right angles with the path in which the letters are moved when they are delivered to the screw.

The table is provided with an opening *a'*, formed to receive the screw and permit the projection of its convolutions above the table. The table is also provided with a wall *a² a³*, extending along one of its sides and ends, the portion *a²* of the wall being parallel with the path in which the letters are moved to the packing-screw and the portion *a³* of the wall being arranged at right angles to said path and serving as a stop to limit the forward movement of the letters.

The construction thus far described is already well known and described in Letters Patent of the United States. Hence it forms no part of the present invention.

In carrying out my invention I provide a pipe *e*, arranged to conduct and deliver compressed air or other gaseous fluid under pressure to a point above the table *a* and at the inner or receiving end of the packing-screw, the arrangement being such that a jet of air delivered by said pipe will strike one side of each letter delivered to the screw when said letter is in the path *c c* and move such letter sidewise toward the delivering end of the

screw far enough to remove it from the path c c , and thus prevent it from obstructing the succeeding letter. The pipe e is here shown as terminating in a fitting e' , which is attached to the wall a^2 and communicates with one or more passages e^2 , formed in said wall, said passages, when more than one is employed, subdividing the air that is delivered by the pipe e into a number of smaller jets, which have a tendency to give the letter a more uniform movement—that is to say, a movement more nearly equal at both ends of the letter than if the jet were more concentrated. I do not limit myself, however, to any special form or arrangement of the opening or openings for the delivery of the air to the letters. The pipe is here shown as connected to a reservoir g for compressed air, which reservoir may be supplied by an air-pump or in any other suitable way.

I find that by directing the current of air against the letters in the direction required to move them out of the path in which they are delivered to the packing-screw I am enabled to quickly displace each letter from said path and thus make room for the succeeding letter.

The letters may be supported as they are moved along by the screw by means of a sliding weight h , preferably of the form shown in Figs. 1, 3, and 4, said weight having a forked or arched portion 2, arranged to bestride the packing-screw, and a rear portion 3, arranged to bear on the table, as shown in Fig. 3. Any other suitable sliding weight

may be employed to support the pack of letters as they are moved laterally by the screw.

I do not limit myself to the use of the described pneumatic letter-displacing device or means in connection with a packing-screw, as said pneumatic displacing means may be used with any other suitable mechanical packing device, although the screw form of packing device is preferable to any other of which I am at present aware.

I claim—

1. The combination, with a packing-table and a packing-screw, of means for directing a current of air against the letters delivered to said table and screw, as set forth.

2. The combination, with the table and packing-screw, of a pipe or conduit arranged to deliver a jet of air above the table and in the direction in which the letters are moved by the packing-screw, as set forth.

3. The combination, with a letter-supporting table and a packing device adapted to give lateral movement to letters delivered to said table, of means for directing a current of air against the letters in the direction required to give them their initial lateral movement.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 30th day of December, A. D. 1891.

MARTIN V. B. ETHRIDGE.

Witnesses:

C. F. BROWN,
A. D. HARRISON.