(No Model.)

J. H. STONEMETZ & W. G. BENNETT.

PACKING DEVICE FOR PAPER FOLDING AND SIMILAR MACHINES.

No. 277,806. Patented May 15, 1883.

Fig. 1.

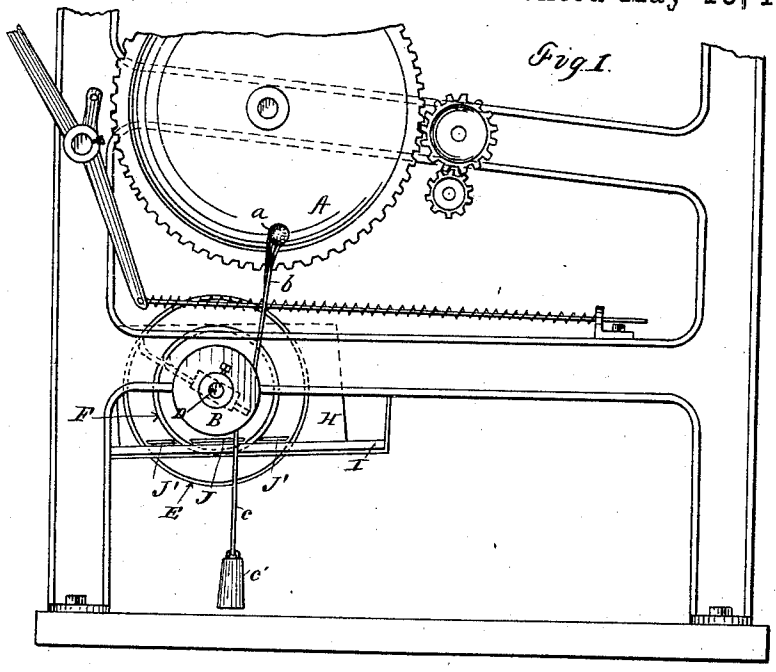


Fig. 2.

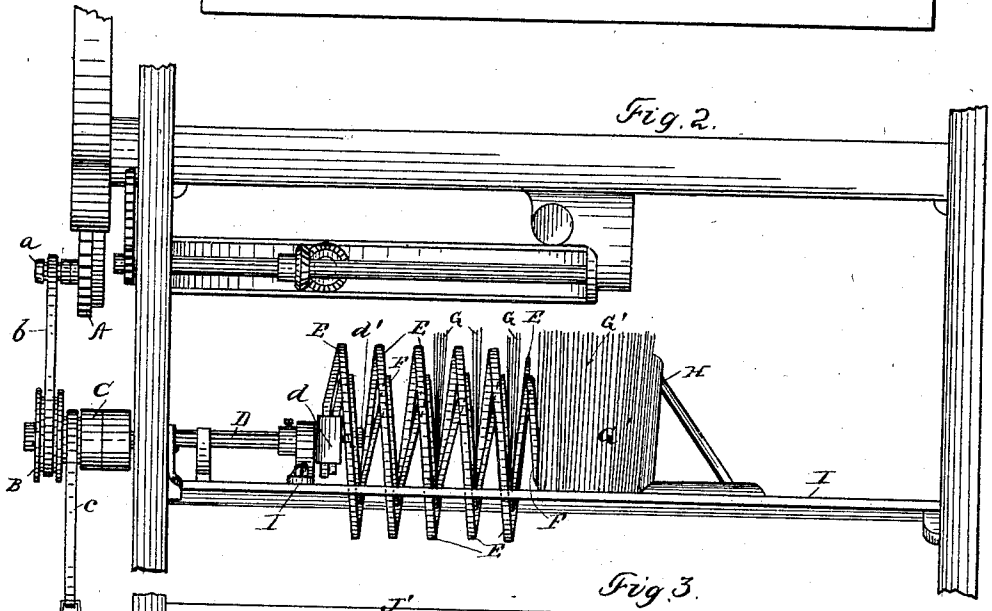
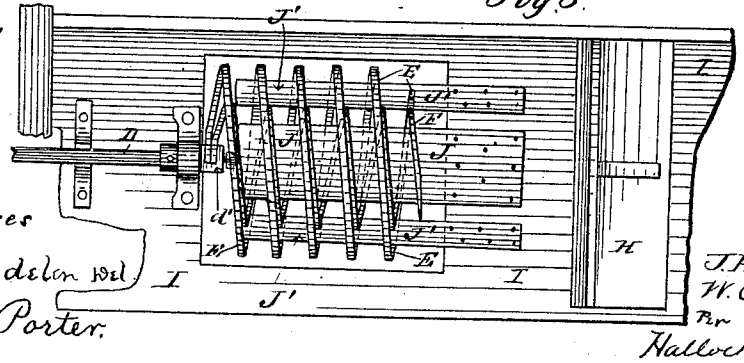


Fig. 3.



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UNITED STATES PATENT OFFICE.

JOHN H. STONEMETZ AND WALTER G. BENNETT, OF ERIE, PENNSYLVANIA.

PACKING DEVICE FOR PAPER-FOLDING AND SIMILAR MACHINES.

SPECIFICATION forming part of Letters Patent No. 277,806, dated May 15, 1883.

Application filed January 6, 1883. (No model.)

To all whom it may concern:

Be it known that we, JOHN H. STONEMETZ and WALTER G. BENNETT, citizens of the United States, residing at Erie, in the county of Erie and State of Pennsylvania, have invented certain new and useful Improvements in Packing Devices for Paper-Folding and Similar Machines; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to devices for packing or bunching papers, envelopes, paper bags, or printed cards as they fall from the machines by which they are folded or printed.

The device may be applied to folding-machines, envelope-machines, paper-bag machines, or printing-presses, and operated by being geared to some of the moving parts of said machines. The manner of this application and gearing will vary in accordance with the requirements in the various instances.

Our device consists, essentially, of a revolving helical conveyer placed in the packing-box or frame in such a manner as to receive the papers, envelopes, bags, or cards edgewise between the coils of its helix in a plane transverse the axis of said helix, and to convey the same as it revolves broadsidewise to a bunch which forms at its end.

The construction and operation of this device can be greatly varied in details and yet preserve the above essential details or features.

We have, in the accompanying drawings, shown the device in connection with a paper-folding machine, showing, however, only a fragment of said machine, sufficient only to properly illustrate the manner of applying and operating the said device in one of the many methods of its use or application.

In the drawings, Figure 1 is an end view of the device seen from the side of the folding-machine. Fig. 2 is a side view of the device seen from the end of the folding-machine. Fig. 3 is a top or plan view of the device and the packing-box, frame, or rack.

The construction, adjustment, and operation, as illustrated, are as follows: I is the packing frame or box, and H the adjustable end piece.

G′ represents a forming package of papers, and G papers being conveyed into the forming package.

D is the conveyer-shaft, which is mounted in proper bearings in the box or frame I.

The conveyer is formed of two concentric helices of unequal diameter, but of uniform pitch, (marked E and F.) The object of these two helices is to have two ends, so as to give a more even and uniform pressure upon the package. This same result might, however, be accomplished by making the helix of wider material and having its outer end considerably expanded. The conveyer is so adjusted as to lie partly below the bottom of the box I, and a grating formed of strips J J′ J′ furnishes a bottom within the conveyer. The coils of the helix are sufficiently spread apart to receive the object to be conveyed edgewise. When used with a folder connected with a press having an accumulating-cylinder, the coils will be wide enough apart to receive the bunches of papers as they fall from the folder. In such a case the conveyer may be made long and convey the bunches outside of the machine, where they may be picked out before reaching the end, if desired, so there would be no accumulation at the end of the conveyer.

The mode of operating the conveyer is optional. It may be rotated continuously or at intervals, as desired, and the gearing for so doing may be varied greatly. In the drawings it is shown as operated at intervals by the following mechanism: B C is a double drum on the end of the shaft, working loosely, but communicating motion to the shaft by a one-way clutch or ratchet device. (Not seen.) A strap, *b*, connects with a wrist-pin, *a*, on the gear A of the folder, and winds upon the part B of the drum. A strap, *c*, having a weight, *c′*, winds on the part C of the drum. The operation of this gearing will be understood without explanation. By it the conveyer is rotated at intervals, and the size of the drums will regulate the number of revolutions the conveyer will make at each interval, which may be one or more, as desired.

What we claim as new is—

1. In a bunching or packing device for paper-folding and other machines, the combination, with a frame or box, of a helical conveyer arranged longitudinally therein, in a manner

substantially as shown, whereby it will receive the papers or other objects edgewise between its coils, and when rotated convey the same broadsidewise along the said box or frame, substantially as and for the purposes mentioned.

2. In a bunching or packing device for paper-folding or other machines, the combination, with a frame or box, of a conveyer arranged longitudinally therein, which is composed of two concentric helices of differing diameters and substantially uniform pitch, and is adapted to operate substantially as and for the purposes set forth.

3. In a bunching or packing device for paper-folding or other machines, the combination, with a frame or box, of a helical conveyer arranged longitudinally with and partly above and partly below the bottom of said box or frame, substantially as shown.

4. In a packing or bunching device for paper-folding or other machines, the combination, with a box or frame, of a conveyer arranged longitudinally therewith, which conveyer is formed of two concentric helices of differing diameters and substantially uniform pitch, and is adjusted so as to lie partly within and partly without said box or frame, which is grated, as at J J′ J′, so as to intersect said helical conveyer, substantially as shown.

In testimony whereof we affix our signatures in presence of two witnesses.

JOHN H. STONEMETZ.
WALTER G. BENNETT.

Witnesses:
JNO. K. HALLOCK,
ROBT. H. PORTER.