2 Sheets—Sheet 1.

C. E. BOLTON & F. H. STRIEBY.

Package or Box-Fillers.

No. 212,349. Patented Feb. 18, 1879.

Fig. 1.

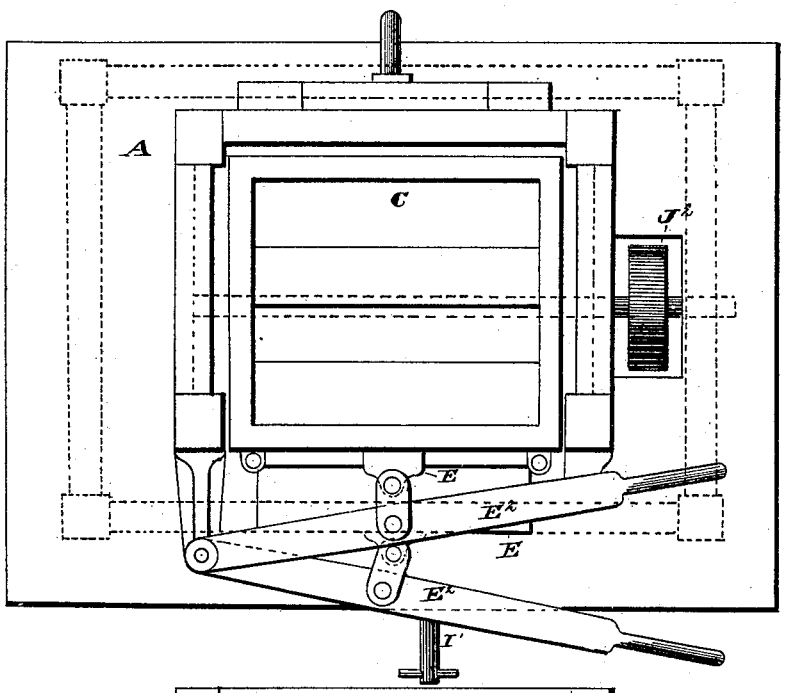
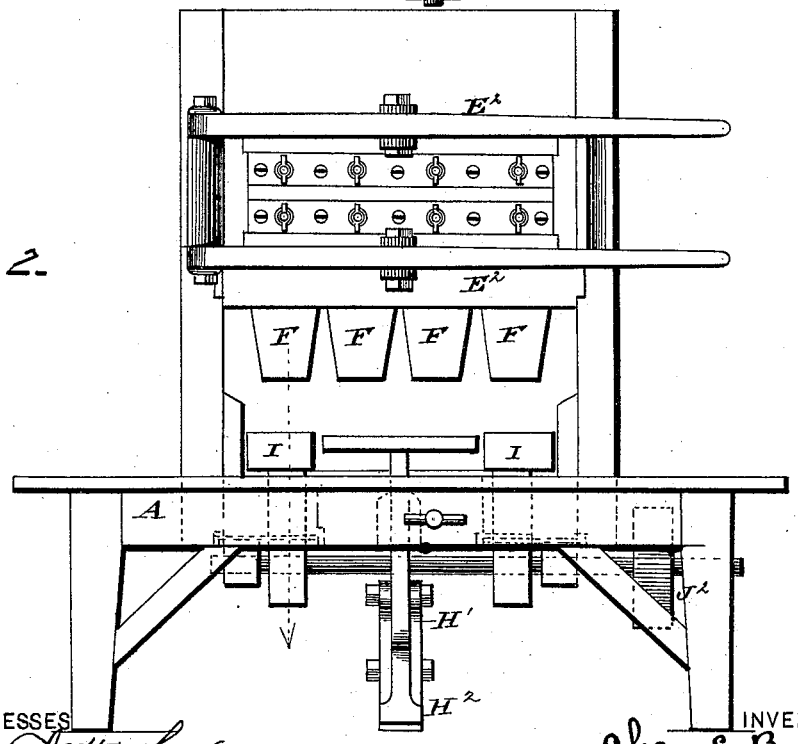


Fig. 2.



WITNESSES

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2 Sheets—Sheet 2.

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Fig. 4.

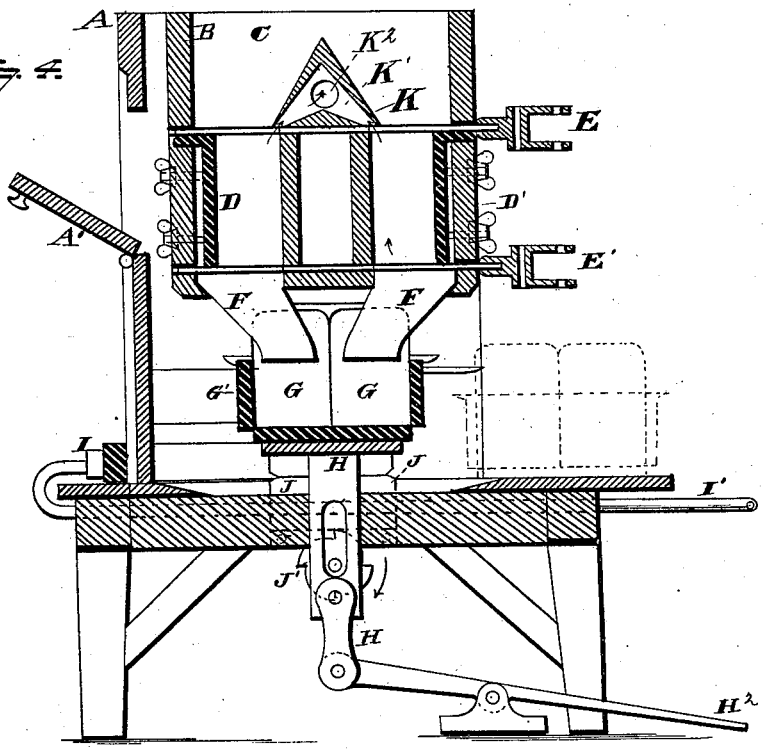


Fig 3.

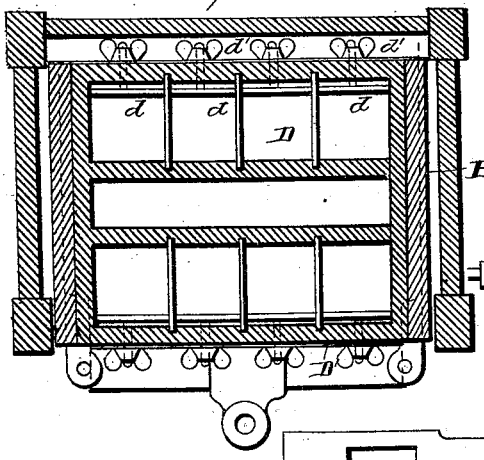


Fig 5

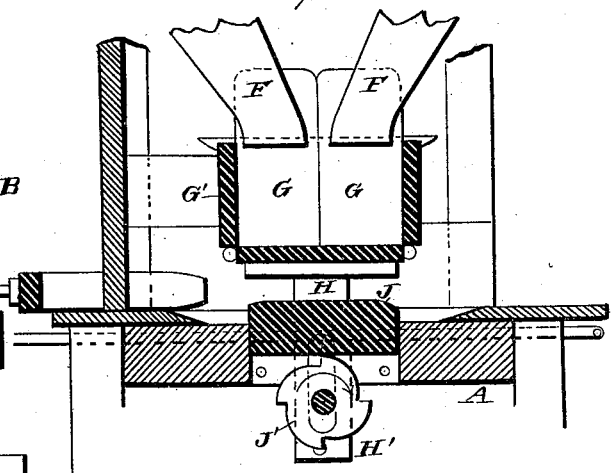


Fig. 6.

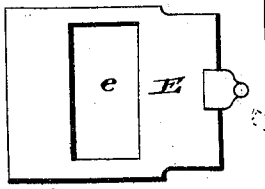
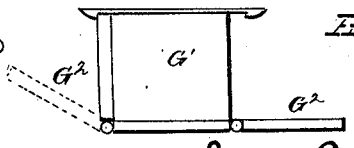


Fig. 7.



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UNITED STATES PATENT OFFICE.

CHARLES E. BOLTON AND FRANK H. STRIEBY, OF CLEVELAND, OHIO.

IMPROVEMENT IN PACKAGE OR BOX FILLERS.

Specification forming part of Letters Patent No. **212,349**, dated February 18, 1879; application filed March 27, 1878.

To all whom it may concern:

Be it known that we, CHAS. E. BOLTON and FRANK H. STRIEBY, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Package or Box Fillers; 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 pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

This invention relates to an improvement in package or box fillers; and consists in the combination of devices and appliances, as hereinafter set forth and claimed.

In the drawings, Figure 1 is a plan view, and Fig. 2 a front elevation, of a machine embodying our invention. Fig. 3 is a section by a horizontal plane passed between the two levers. Fig. 4 is a central section by a vertical plane, containing the foot-lever, and representing the box as resting upon the stays in position to be filled. Fig. 5 is a partial sectional view, representing the stay as withdrawn from beneath the boxes and the boxes ready to be lowered from their position, to be subsequently withdrawn. Fig. 6 represents one of the cut-off plates. Fig. 7 represents the box-door, showing how it may be readily opened at both sides for the removal of the filled boxes or packages.

A is a suitable frame-work, and B a drawer, which may be slid into the frame, and which serves to hold the measuring mechanism. C is the hopper, within which the material to be packed into boxes or packages is placed. D D, &c., are spaces or measures, formed preferably in a separate removable frame, D'. E is the upper, and E^1 the lower, cut-off plate. They are each provided with a central opening, *e*, as shown in Fig. 6, for a purpose hereinafter to be explained. F are chutes, through which the material is dropped into the packages. G are the packages, held in a tray, G^1. This tray is provided, preferably, with doors G^2 at both sides, so that the boxes may be readily introduced and removed. H is a platform beneath the tray, for supporting the same. H^1 is a standard, projecting below and connected with a foot-lever, H^2, by which the platform H may be lifted. I I are stays, which may be drawn out or thrust in at pleasure. These stays are for the purpose of supporting the boxes or packages after they have been lifted up to the position shown in Figs. 4 and 5. These stays I, when in position beneath the tray G^1, rest on the loose bearings J, which, in turn, rest upon an agitating-shaft or wheels, J^1, which wheels are driven by any suitable mechanism, as, for instance, the pulley J^2. E^2 are levers for operating the cut-offs E E^1.

The operation of this device is, preferably, as follows: The material is introduced into the hopper C. The upper cut-off plate, E^1, is slid in, so that its opening *e* shall rest in the division between the measures or spaces D, and so as to close the passage-way from above into these measures, the lower cut-off plate, E^1, being in a similar position. The operator then withdraws the upper cut-off plate, E, so that the material can drop through the opening *e* into one set of measures D, and at the same time opening the passage into the other row of measures D. The material drops into these measures, and any air that may be contained therein escapes readily through the openings K into the chamber K^1, and out at the sides through orifices K^2. The measures having been thus filled, the upper plate, E^1, is slid back, so as to cut off the passage of the material from the hopper. The lower cut-off or slide is then drawn out, and the material is permitted to drop down through the passages F into the boxes G, which have been previously put within the tray G^1, and lifted up to position beneath the spouts F by the lever H^2. If it is necessary to shake the package to settle the material, the stays are drawn in beneath it by means of the rod I^1. This supports the tray and rests it indirectly upon the loose supports J, the agitators J^1 being then set in motion, as indicated by the arrow in Figs. 4, and 5, the package is well shaken to any desired extent. The stays I may then be withdrawn, and the tray lowered by removing the foot from the lever H^2. This brings the tray directly upon the bearings J, and, if necessary,

they may be again shaken by the agitator J^1. The tray is then removed, the box or package taken from it, and the operation repeated.

In filling the measures D it is generally the case that some of them will fill more rapidly than others, so that in the same length of time one measure would receive more material than others. To obviate this difficulty the measures D are limited at one side by plates *d*, which are made adjustable in or out by set-screws or other device, *d'*. Thus, by decreasing the area of the top of the measure the device can be so regulated that the same quantity of material will drop into the different measures in the same length of time, so that the boxes beneath may have the same amount of material in each.

As before stated, it is preferable that the measures D be located in a movable drawer, D', so that they may be readily slid out from the machine and cleaned or repaired, or regulated by the set-screws *d'* and the plates *d*. The spouts or chutes F are likewise preferably set in a frame that may be drawn out, so that they may be readily accessible for the purpose of cleaning, &c. A suitable door, A', is provided, for ready access to the regulating mechanism when desired.

It is not absolutely necessary that the measuring device and the hopper, chutes, &c., should be removable from the balance of the machine, these being only convenient arrangements. The machine may be made with these parts stationary.

It is obvious that our invention is susceptible of such a modification that, instead of providing but one opening, E, as hereinbefore specified, there may be two, three, or more such openings, as may be desired, their multiplication being but a matter of simple mechanical construction, and governed and determined entirely by the duty and capacity to be required of the machine.

What we claim is—

1. In a box or package filler, the combination, with a hopper, a series of measures and intermediate cut-off for regulating the supply to the measures, of chutes placed below the measures, a cut-off located between the chutes and measures, and an air-passage located between the two series of measures, substantially as set forth.

2. In a box or package filler, the shaking or agitating device J^1, for settling the material in the packages, substantially as and for the purposes described.

3. In a box or package filler, the door G^1, provided with the dropping doors G^2, substantially as and for the purposes described.

4. The combination, with the measuring device and spouts F, of the platform H and foot-lever H^2, for lifting the box up adjacent to the spouts, substantially as and for the purposes described.

5. In a box or package filler, the combination, with the tray, of stays I and agitating device J J^1, substantially as and for the purposes described.

6. A box or package filler, consisting of the combination, with the hopper and cut-off slides E E^1 and passages F, of adjustable measures D, platform and tray H G^1, loose bearings J, agitating device J^1, and adjustable stays I, substantially as and for the purposes described.

7. A box or package filler having two or more measures, adapted to be individually or collectively adjusted in such a manner as to regulate the weight or amount of matter to be placed in the package, substantially as set forth.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

CHARLES EDWARD BOLTON.
FRANK H. STRIEBY.

Witness:
F. TOUMEY,
T. B. HALL.