

(No Model.)

2 Sheets—Sheet 1.

J. H. J. HAINES.
PACKER'S FUNNEL.

No. 474,382.

Patented May 10, 1892.

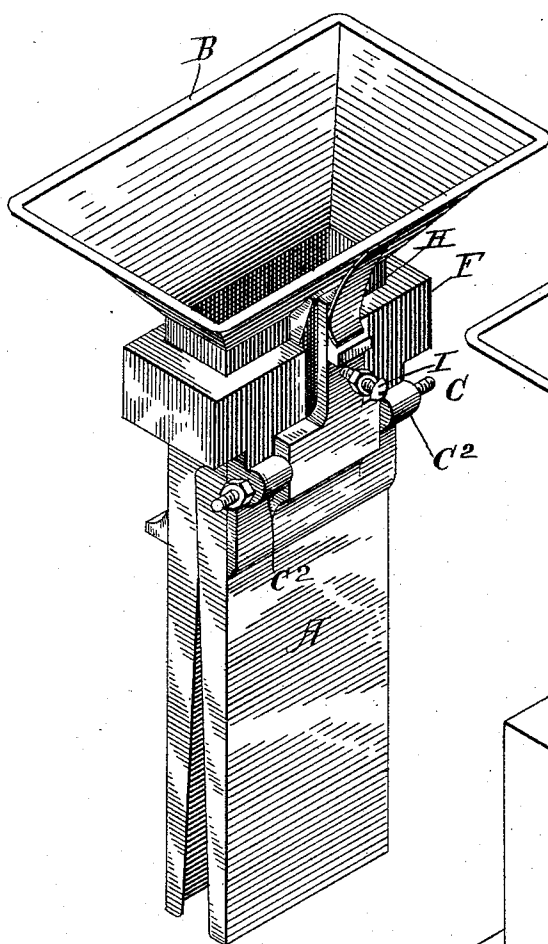


Fig. 1.

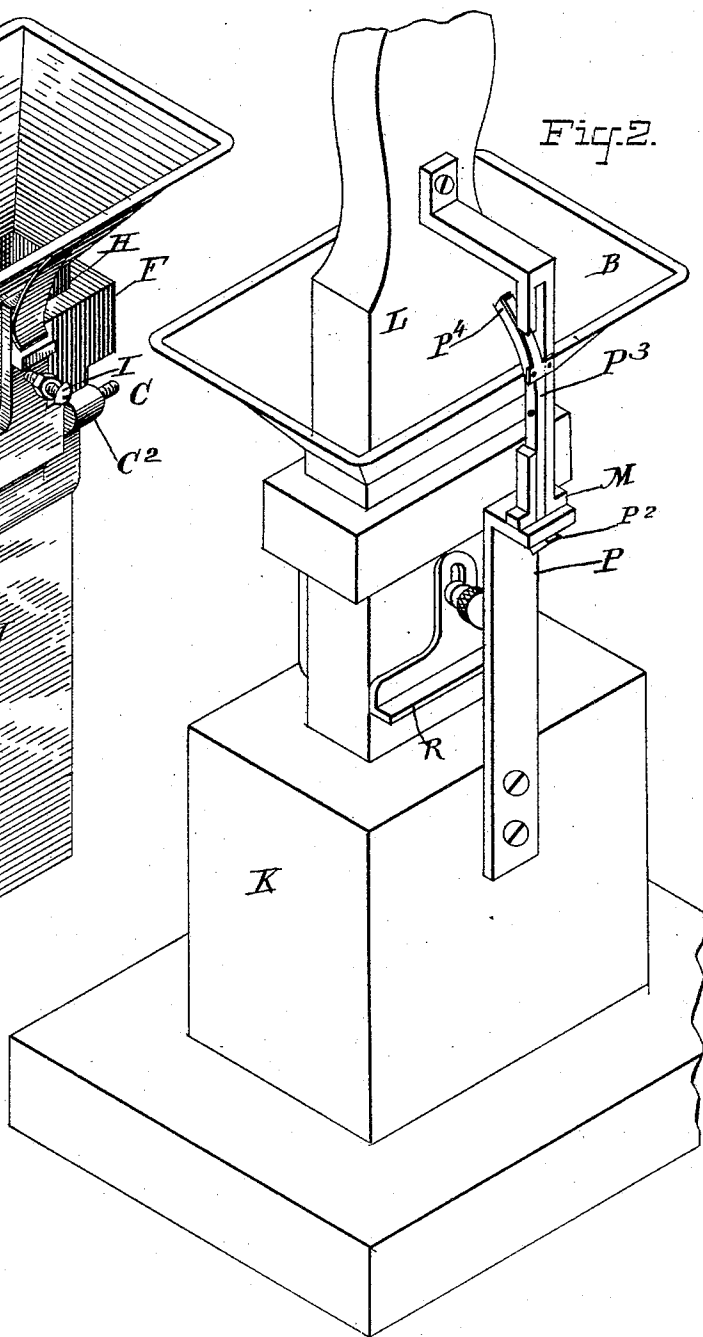


Fig. 2.

ATTEST:
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J. C. Conroy

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By *H. C. Townsend*
Attorney

(No Model.)

J. H. J. HAINES.
PACKER'S FUNNEL.

2 Sheets—Sheet 2.

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Fig. 3.

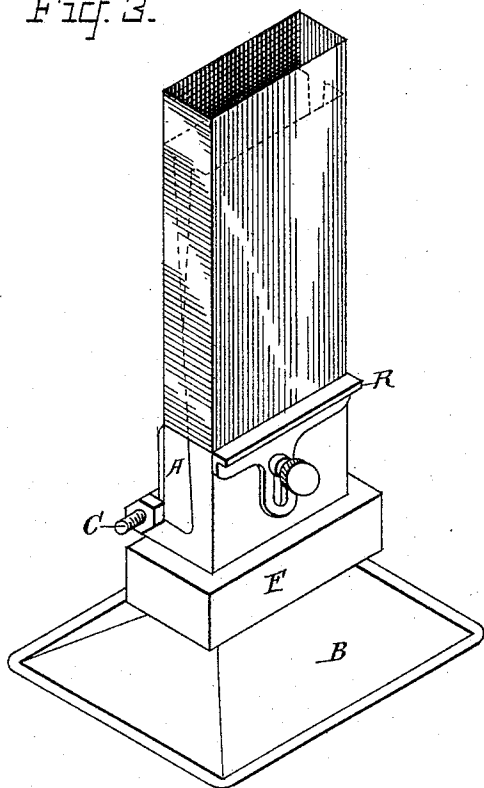


Fig. 4.

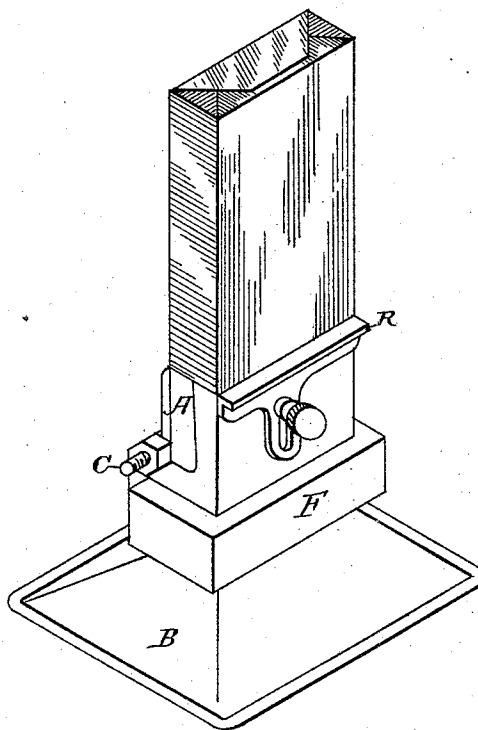


Fig. 5.

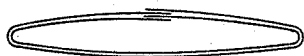
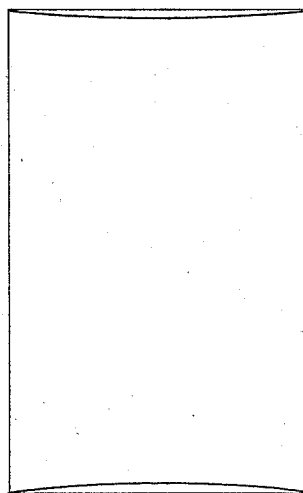


Fig. 6.



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UNITED STATES PATENT OFFICE.

JOHN H. J. HAINES, OF NEW YORK, N. Y.

PACKER'S FUNNEL.

SPECIFICATION forming part of Letters Patent No. 474,382, dated May 10, 1892.

Application filed July 30, 1891. Serial No. 401,145. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. J. HAINES, a citizen of the United States, and a resident of New York, in the county of New York and State of New York, have invented certain new and useful Packing-Funnels, of which the following is a specification.

My invention relates to a construction of packing-funnel and of apparatus employed therewith for making packages of tobacco or other loose material.

The object of my invention is to provide a funnel which is especially adapted for use in connection with wrappers which are partially made up previously to being handled by the packer and which consists, essentially, of a tube the outer dimensions of which are practically those of the end of the funnel, said tube being open at one or both ends.

In the operation of making packages of tobacco with foil or other wrappers the packer employs a funnel the bottom end of which is of substantially the same shape as that of the package desired and upon which he wraps the tin-foil and paper wrapper, holding its edges overlapped in desired position, after which he turns down the end and inserts the whole into a box or mold for filling in the tobacco.

The object of my invention is to provide a funnel which shall be adapted for use with a tubular wrapper, which shall be made up independently of the packing operation and which shall be adapted to slip upon the end of the funnel.

The object of my invention is to facilitate the operation of packing with wrappers which are made up in the form of tubes, open at one end, or both ends, to which end my invention consists in the special construction of a packer's funnel having a collapsible end, as hereinafter more particularly described and claimed.

My invention consists, also, in certain improvements in the details of the apparatus used in the packing operation.

In the accompanying drawings, Figure 1 is a perspective view of a packer's funnel constructed in accordance with my invention. Fig. 2 shows the same in position in the usual box or mold. Figs. 3 and 4 illustrate the operation of applying the wrapper to the fun-

nel. Fig. 5 is a plan, while Fig. 6 is a cross-section of a form of wrapper that may be used with the funnel.

A indicates the body or tubular portion of the funnel, and B the hopper end, into which the material is poured. The body A at its open end is of suitable shape to conform to the shape desired in the finished package, as well understood in the art. It has hitherto been made rigid, so that the operation of applying the wrapper, if it is not constructed upon the funnel itself, is a rather nice and delicate one. To avoid any difficulty from this source, I make the end of the funnel, or that end which constitutes the "former" end of the funnel, so that it may collapse and expand. For this purpose I propose to hinge one side of the funnel upon the other—as, for instance, at the points C C, where I have shown ears C² projecting from the body or collar F, to which the parts are attached. A spring H may be applied, as shown, so as to act upon a tail-piece attached to the movable side of the funnel in a manner to tend to open.

I is a stop, which tends to limit the opening movement and which, if desired, may be made adjustable.

In using the funnel the end is compressed to diminish its dimensions and the wrapper is then slightly expanded and slipped over the end of the funnel, after which the latter is expanded by the action of the spring or otherwise so as to fill the interior of the tubular wrapper, which has been previously constructed of the proper dimensions.

The operation is illustrated in Figs. 3 and 4 as carried out in connection with a tubular wrapper open at both ends. The wrapper is slipped down over the end of the funnel (which has been compressed for that purpose) to such an extent that the open end of the tin-foil wrapper shall project beyond the open end of the funnel to a sufficient extent to permit it to be folded down, as indicated in Fig. 4, after which the funnel, with the attached wrapper, is, if desired, put into the box or mold K and the tobacco or other substances filled in.

I do not limit myself to any special construction of the end of the funnel, permitting it to be collapsed by hand and to open by

aid of a spring, but prefer to hinge one side upon the other and apply the spring to a tail-piece extending from the hinged side, as shown.

5 In the operation of packing tobacco, groceries, and other substances by the use of a packing-funnel around which the package fits, as described, it is usual to employ a plunger or rammer L. A part of my invention consists
10 in providing such plunger with a suitable stop M, that is adapted to engage with an anvil or abutment P, thus limiting the depth to which the plunger may be forced down into the funnel and determining the extent to
15 which the charge shall be compressed when it is forced down or compressed by the operation of the plunger. In connection with the stop I provide a suitable catch (indicated at P²) upon the plunger, that locks the plunger
20 down by catching automatically upon the stop, thus permitting the operator to use both hands in lifting the funnel out of the package without lifting the package and the tobacco or other filling with it out of the box or
25 mold. Hitherto it has been necessary for the operator to hold the plunger down by one hand, so as to keep the package in place while removing the funnel with the other. In order that the plunger may be disengaged auto-
30 matically and lifted out with the funnel after the latter has been moved upward to a considerable distance, I employ in connection with the devices described a detent, which is carried by the funnel, and when the same has
35 been drawn out to a certain extent will operate upon the catch-lever P³, so as to free the plunger, which has been up to that time locked down by means of the catch, which latter engages with a suitable offset or lock-
40 ing-piece upon the stop or upon another fixed part of the apparatus. The detent is conveniently provided by arranging the edge of the funnel to strike the curved upper end or tail-piece of the catch-lever at P⁴. Other con-
45 structions of detent might be used. As the funnel engages the curved end of the lever it lifts the plunger with the funnel. As will be seen, the operator can perform the whole operation of disengaging the funnel and plun-
50 ger from the package with one hand.

In order to limit the distance to which the wrapper shall be slipped upon the funnel, I provide upon the side of the latter a stop or stop-piece R. This stop I make adjustable
55 for the purpose of adjustably limiting the distance to which the wrapper shall be slipped over the funnel, and thus determine the amount which shall be folded over upon the

end. By means of this device the same funnel may be expeditiously used with different lengths of wrapper.

The funnel herein described I have shown in my application, Serial No. 401,144, filed July 30, 1891, as a preferred means for practicing the particular method of packing here- 65 in set forth.

What I claim as my invention is—

1. The combination, in a packer's funnel, of a hinged or pivoted side movable to and from the opposite side, so as to permit the 70 end to be collapsed by hand, and a spring connected to said movable side and tending constantly to move in a direction to expand the end, whereby after the end is collapsed by hand it will be automatically opened in 75 the package by the action of the spring.

2. The combination, in a packer's funnel, of a pivoted side movable to and from the opposite side, so as to permit the end to be collapsed by hand, a spring connected to said 80 movable side and tending to move the same in a direction to expand the end, and a stop carried by the movable side and adapted to limit the extent of the opening movement.

3. The combination, substantially as de- 85 scribed, with a packer's funnel, of an adjustable stop located on the outside thereof for limiting the extent to which the wrappers shall be slipped upon the former end of the funnel.

4. The combination, substantially as de- 90 scribed, with a packer's funnel and its plunger, of a catch and a detent for automatically disengaging the catch when the funnel is raised, as and for the purpose described.

5. The combination, substantially as de- 95 scribed, in a packer's funnel, of a catch-lever carried by the plunger and engaged by the funnel when the same is lifted, so that the catch will be disengaged and on a continuance of movement the plunger will be lifted with 100 the funnel.

6. In a packer's funnel having its end which receives the wrapper made in two parts hinged to move to and from one another, the combi- 105 nation, with the hinged side, of an upward extension or tail-piece and a spring acting on said tail-piece and tending constantly to open the end of the funnel.

Signed at New York, in the county of New York and State of New York, this 22d day of 110 July, A. D. 1891.

JOHN H. J. HAINES.

Witnesses:

WM. H. CAPEL,
T. F. CONREY.