

W. ROSE.
PACKETING MACHINE FOR FILLING OR DELIVERING GRANULAR OR OTHER MATERIALS INTO
BAGS OR THE LIKE.

1,107,114.

APPLICATION FILED FEB. 4, 1914.

Patented Aug. 11, 1914.

3 SHEETS—SHEET 1.

Fig. 1.

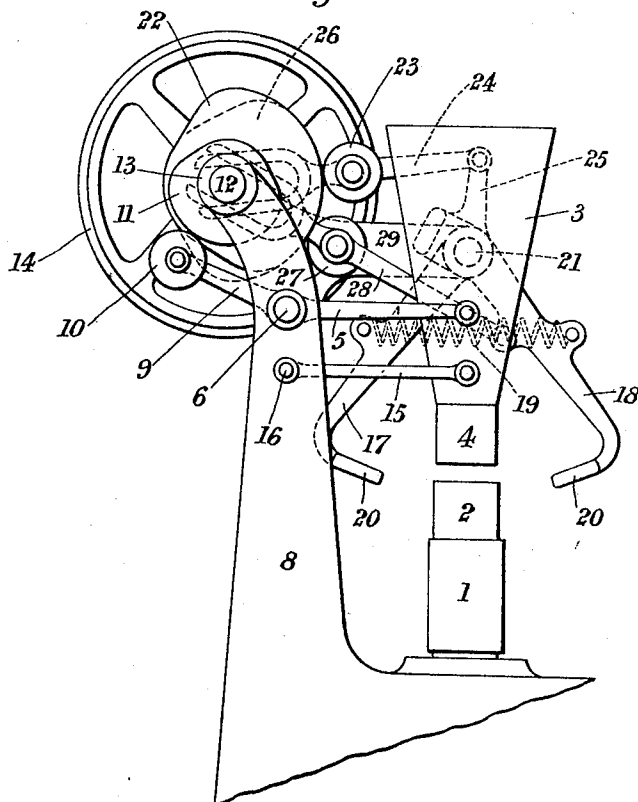
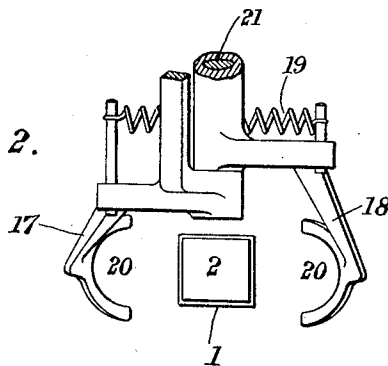


Fig. 2.



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3 SHEETS—SHEET 2.

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Fig. 3.

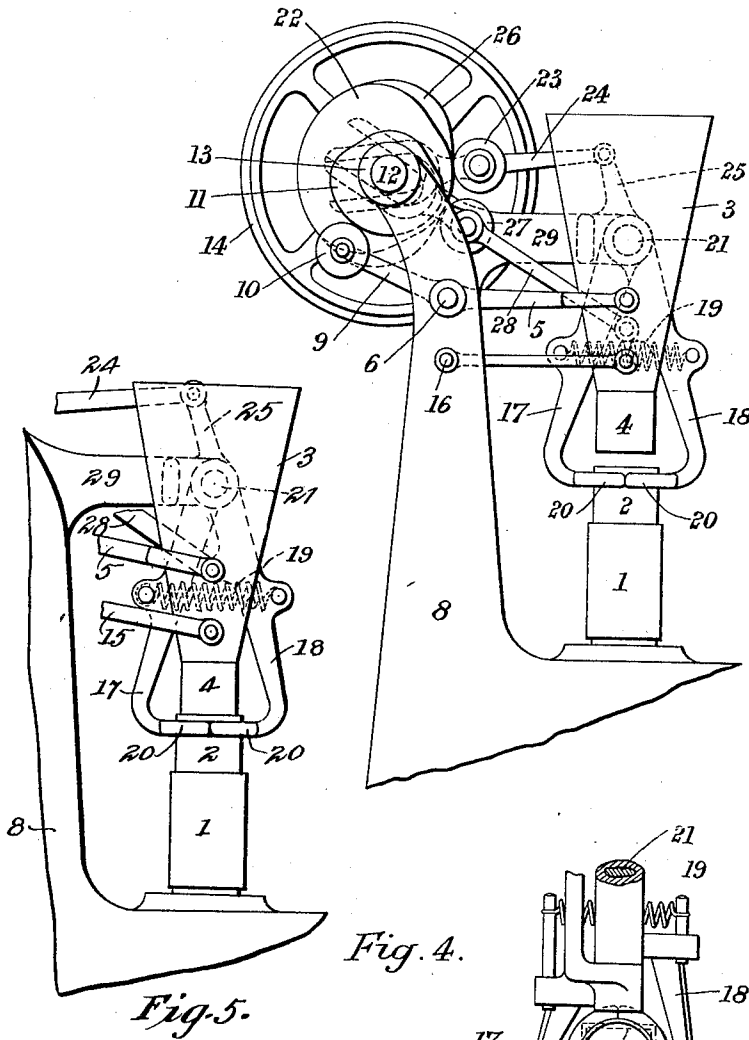
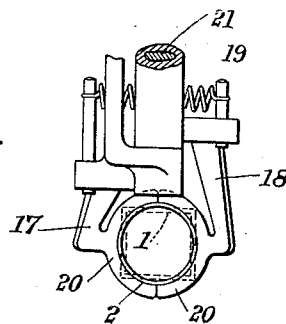


Fig. 4.

Fig. 5.

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3 SHEETS-SHEET 3.

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Fig. 6.

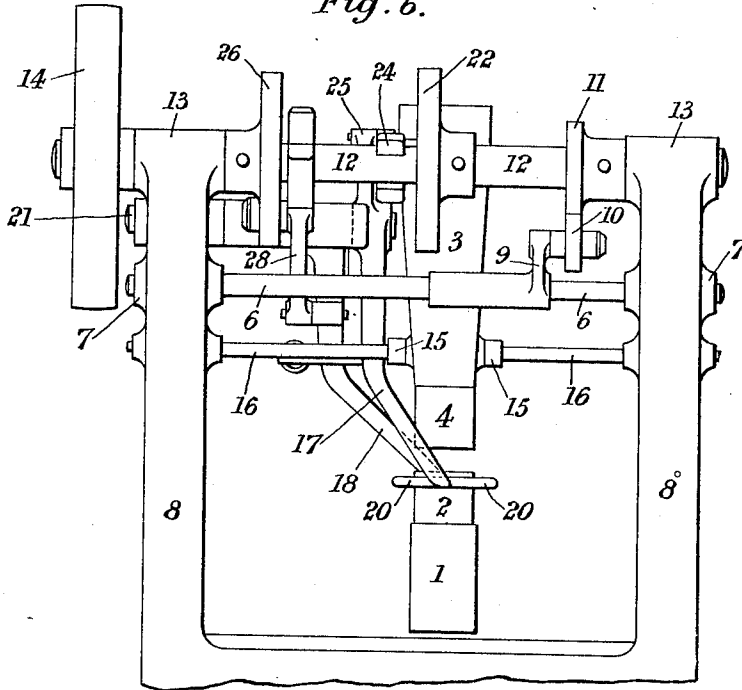
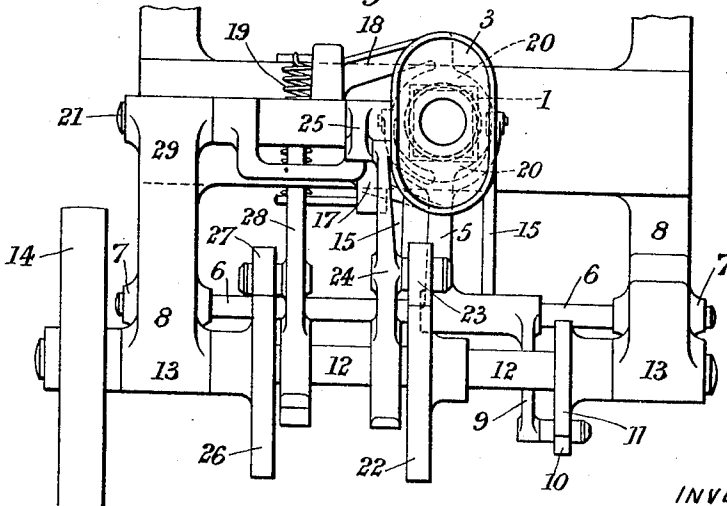


Fig. 7.



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UNITED STATES PATENT OFFICE.

WILLIAM ROSE, OF GAINSBOROUGH, ENGLAND.

PACKETING-MACHINE FOR FILLING OR DELIVERING GRANULAR OR OTHER MATERIALS INTO BAGS OR THE LIKE.

1,107,114.

Specification of Letters Patent.

Patented Aug. 11, 1914.

Application filed February 4, 1914. Serial No. 816,626.

To all whom it may concern:

Be it known that I, WILLIAM ROSE, a subject of the King of Great Britain, residing at Albion Works, Gainsborough, in the county of Lincoln, England, have invented new and useful Improvements in Connection with Packeting-Machines for Filling or Delivering Granular or other Materials into Bags or the like, of which the following is a specification.

This invention relates to apparatus in connection with packeting machines, for filling, or delivering granular or other materials such as tea, tobacco, and the like, into bags, or the like, the said machines being of the kind in which boxes, or pockets, (each containing a bag, or receptacle to be charged,) are successively carried to beneath a funnel, or chute, which descends at the proper times, and discharges the required quantity of tea, tobacco, or other material into the open end of the bag, or receptacle, projecting from the box, or pocket. Hitherto, in apparatus of this kind, bags, or receptacles, have been liable to be brought into incorrect position beneath the funnel, or chute, so that proper charging has been interfered with and, when the funnel or chute, has descended, it has crushed, or distorted, the projecting ends of the bags, or receptacles. In order to remedy this objection it has been proposed to make the end of the funnel or chute, sufficiently small to insure its proper introduction into the open ends of the bags, or receptacles, without injury thereto, but such a small outlet retards the passage of the material into the bags, or receptacles, and it has also been proposed to provide the said funnel, or chute, with a number of pairs of grippers, each consisting of two members, one fixed to the funnel, or chute, and the other movable thereon, the fixed member being adapted to act upon the interior of the open end of the bag, or receptacle, as the funnel, or chute, descends and the movable member being adapted to act upon the exterior of the said end and to close, at the proper time, so that the said end is held by the said members.

This invention has for its objects to provide improved means whereby correct positioning of the bags, or receptacles, relatively to the funnel, or chute, is insured, so that the said funnel, or chute, will properly discharge into the bag, or receptacle, beneath without

damaging it, the said means acting only upon the exterior of the bag, or receptacle, so that no impediment whatever to the entry of the material into the bag, or receptacle, is present, the said means also being, if desired, so adapted as to alter, or modify, the shape of the upper projecting portions of the bags, or receptacles, so that there is a maximum cross-sectional area of opening, permitting of the employment of a funnel, or chute, having an outlet also of maximum cross-sectional area.

According to this invention the packeting apparatus is provided with a set of two, or more, pivotally, or flexibly, connected levers, provided with parts which, at the proper times, embrace between them the exterior surface of the upper projecting portions of the bags, or receptacles, and support them in the correct position relatively to the outlet end of the funnel, or chute, while being charged and afterward release them to permit of succeeding bags, or receptacles, being similarly brought into place and supported and charged. The parts of the levers which act upon the projecting ends of the bags, or receptacles, may be of such shape that, when in their operative position, the said parts conform to the normal shape of the bags, or receptacles, but if desired, the said parts may be of such shape that as they are brought into their operative position they will alter, or modify, the shape of the projecting portion of the bags, or receptacles. For example, bags, or receptacles, of rectangular cross-section may have their projecting portions brought to a circular shape by the said parts of the levers being correspondingly shaped thus giving a maximum cross-sectional area of the open ends of the bags, or receptacles, and permitting of the employment of a funnel, or chute, having an outlet of corresponding shape and area. The aforesaid levers may be actuated by any suitable means, for example, by cams secured to any suitable rotatable part of the apparatus, and operating the levers, through any suitable rods, or connections, preferably so as to move the said levers into their inoperative position while the movements to the operative position are effected by springs.

In apparatus in which two, or more, bags, or receptacles, are charged simultaneously, a corresponding number of pairs, or sets, of

levers and their adjuncts may be employed. In apparatus in which the bags, or receptacles, are charged while stationary, the aforesaid levers may be mounted on any suitable stationary part of the apparatus in proximity to the funnel, or chute, but in apparatus in which charging takes place while the bags, or receptacles, are traveling the said levers are mounted on a movable frame, or support, operated from any suitable moving part of the apparatus.

I will describe, with reference to the accompanying drawings, a construction in accordance with this invention.

Figure 1 shows, in side elevation, so much of an apparatus of the kind referred to as is necessary to illustrate the application of this invention thereto, the aforesaid levers being shown in their open, or inoperative, position. Fig. 2 shows the levers in plan. Figs. 3 and 4 are views similar to Figs. 1 and 2, respectively, but showing the levers in their closed, or operative position. Fig. 5 is a view similar to Fig. 3 (parts being removed) but showing the funnel, or chute, in its lowered position. Fig. 6 is an end view, and Fig. 7 is a plan, of Fig. 3.

The boxes, or pockets, 1, (of which one only is shown) are presumed to be of rectangular shape in cross-section and to be intermittently fed, (each with a bag, or receptacle, 2, to be charged therein) to beneath the funnel, or chute, 3, which, while a bag, or receptacle, is stationary beneath it, is caused to descend so that its outlet end 4, (which in the example shown is circular in cross-section and enters the open end of the said bag, or receptacle) discharges thereinto the required quantity of material, the said funnel, or chute, afterward ascending to permit of the box, or pocket, with the charged bag, or receptacle moving to its next position and of the next succeeding box, or pocket, with an uncharged bag, or receptacle, therein, being brought into position beneath the said funnel or chute, all of which may be effected in the usual, or any suitable manner. The ascending and descending movements of the funnel, or chute, 3, may be effected in any suitable way, for example, as usual, by pivotally mounting the said funnel, or chute, on an arm 5, of a two-armed lever secured to a rock-shaft 6, mounted in bearings 7, on side brackets 8, the other arm 9, of the said two-armed lever being provided with an antifriction roller 10, and actuated by a cam 11, secured to a shaft 12, mounted in bearings 13, on the brackets 8, the shaft 12, being provided with a pulley 14, which can be rotated by a belt from any suitable rotating part of the apparatus. Links 15, connecting the funnel, or chute, 3, to a shaft 16, maintain the said funnel, or chute, in a vertical position.

The mechanism for holding the portion of

each bag, or receptacle, 3, projecting from its box, or pocket, 1, so that the bag, or receptacle, is in correct position relatively to the funnel, or chute 3, consists, of two levers 17, and 18, connected by a spring 19, each lever having a semi-circular part 20, at its end, the said levers and their semi-circular parts being so arranged that, when in their closed, or operative, position, the ends of the semi-circular parts 20, abut against each other and the said parts form, between them, a circular opening (as shown in Fig. 4) which is in alinement with the outlet end of the funnel, or chute, 3. The levers 17 and 18, are capable of turning on a stud 21, carried by a projection 29, on one of the side brackets 8, and they are caused to open, or move into their inoperative position, (as shown in Figs. 1 and 2), in opposition to the action of the spring 19, by cams secured to the shaft 12, the lever 17, being operated by the cam 22, acting, on an antifriction roller 23 carried by a rod 24, connected to an arm 25 of the lever 17, and the lever 18, being operated by the cam 26 acting on an antifriction roller 27, carried by a rod 28, connected to the said lever 18. The free ends of the rods 24 and 28 are forked and embrace the shaft 12, which acts as a guide therefor.

When the levers 17 and 18 close, or move to their operative position under the action of the spring 19, the semi-circular parts 20 embrace between them the exterior surface of the projecting portion of the bag, or receptacle, 2, and move the said portion into correct position beneath the outlet end 4, of the funnel, or chute, 3, should it be out of position and also (in the example illustrated) cause the said portion to take a circular shape in cross-section into which the outlet end 4, of the said funnel, or chute, can enter. The cams 22, 26 and 11 are so timed that the projecting portions of the bags, or receptacles, are held by the levers 17 and 18 under the pressure of the spring 19, during the descent of the funnel, or chute, 3, and, also, if desired, during the charging of the said bags, or receptacles after which the said cams 22 and 26 cause the said levers to open or move to their inoperative position, to allow of the box, or pocket, 1, with the charged bag, or receptacle, therein, moving to the next position and of a succeeding box, or pocket, holding an uncharged bag, or receptacle, being brought beneath the said funnel, or chute, for charging.

The invention is not limited to the precise construction and arrangement of the parts hereinbefore described and illustrated in the drawings, as modifications may be made without departing from the nature of the invention; for example, the parts 20 of the levers 17, and 18, may, if desired, when brought together, conform in shape to the

cross-sectional shape of the bags, or receptacles, so that they act only to move the projecting portions of the bags, or receptacles, into correct position beneath the outlet end
 5 4, of the funnel, or chute, 3, and hold them there during the descent of the said funnel, or chute, and also if desired during charging, without altering, or modifying their cross-sectional shape, and, furthermore there may
 10 be in each set, more than two levers, such as 17 and 18, with their end parts of the requisite shape.

What I claim is:—

1. In a packeting machine, a charging
 15 guide for the material to be packeted, means for supporting beneath the same a receptacle comprising a readily deformed bag-like container and means engaging only the exterior of said bag-like container and serving
 20 to position the same accurately beneath the charging guide.

2. In a packeting machine, a charging
 guide for the material to be packeted, means for supporting beneath the same a receptacle comprising a relatively rigid casing and
 25 within the same a readily deformed bag-like container the upper portion of which projects beyond said casing, and means engaging only the exterior of said bag-like container at a point above its casing and serving
 30 to position the same accurately beneath the charging guide.

3. In a packeting machine, a charging
 guide for the material to be packeted, means
 35 for moving the same down into charging position and lifting the same after charging, in combination with a support for a receptacle to be charged and means moving independently of the said charging guide or said
 40 support for positioning the receptacle beneath said guide.

4. In a packeting machine, a charging
 guide for the material to be packeted, means

for supporting beneath said guide a receptacle comprising a bag-like container, and
 45 means for conforming the mouth of said container to the shape of the end of the charging guide.

5. In a packeting machine, a charging
 guide for the material to be packeted, means
 50 for supporting beneath said guide a receptacle comprising a bag-like container, and means for deforming the mouth of the container to correspond to the shape of the end
 55 of the charging guide.

6. In a packeting machine, a charging
 guide for material to be packeted, means for supporting beneath said guide a receptacle comprising a bag-like container, and means
 60 engaging the mouth of said container solely from the exterior thereof to conform the same to the end of the charging guide.

7. In a packeting machine, a charging
 guide for material to be packeted, means for supporting beneath said guide a receptacle
 65 comprising a bag-like container, and a pair of levers engaging only the exterior of the mouth of said container to conform the same to the end of the charging guide.

8. In a packeting machine, a charging
 guide for material to be packeted, means for supporting beneath said guide a receptacle
 70 comprising a bag-like container, and a pair of levers engaging only the exterior of the mouth of said container to conform the same
 75 to the end of the charging guide, and means for imparting a downward movement of said guide to introduce the end thereof into the thus shaped mouth of the container.

In testimony whereof I have signed my
 80 name to this specification in the presence of two subscribing witnesses.

WILLIAM ROSE.

Witnesses:

G. F. TYSON,
 O. J. WORTH.