E. C. PHILLIPS.

YEAST PACKAGING MACHINE.

APPLICATION FILED AUG. 7, 1913.

1,105,041.

Patented July 28, 1914.

2 SHEETS—SHEET 1.

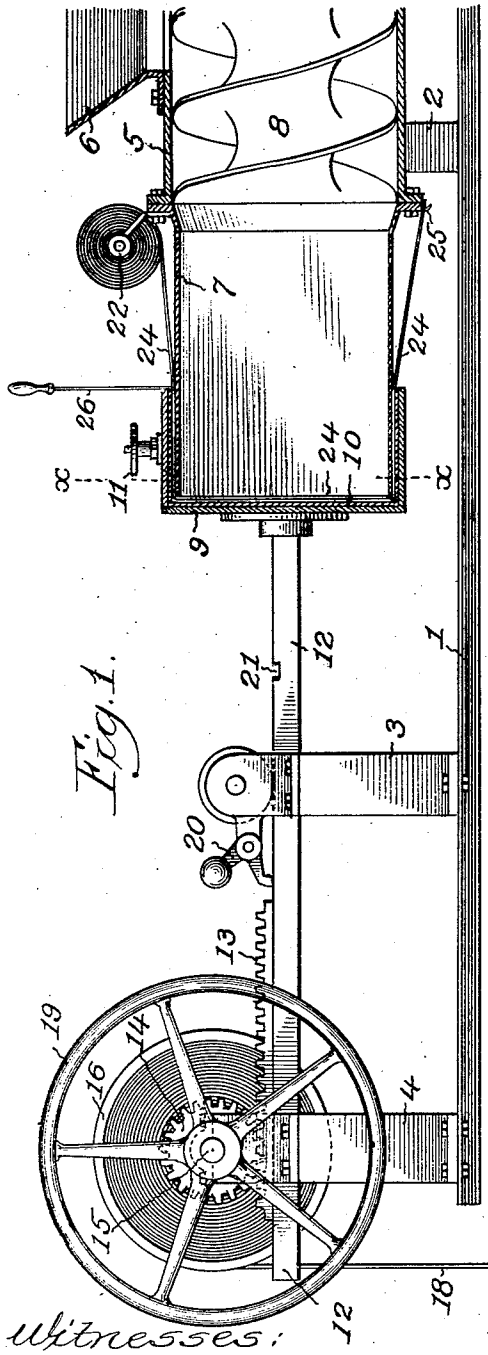


Fig. 1.

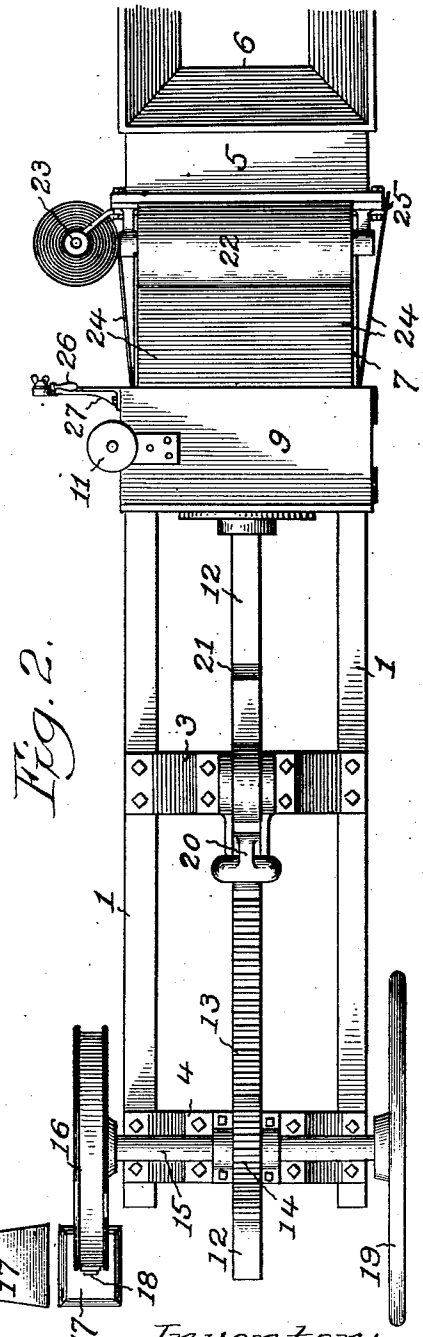


Fig. 2.

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2 SHEETS—SHEET 2.

Fig. 4.

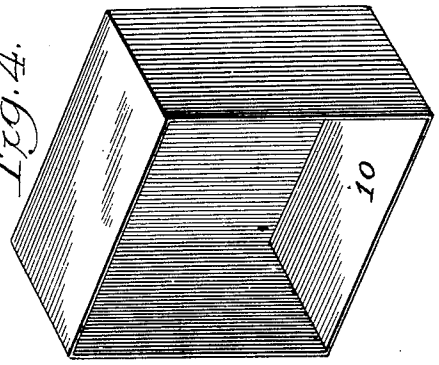


Fig. 5.

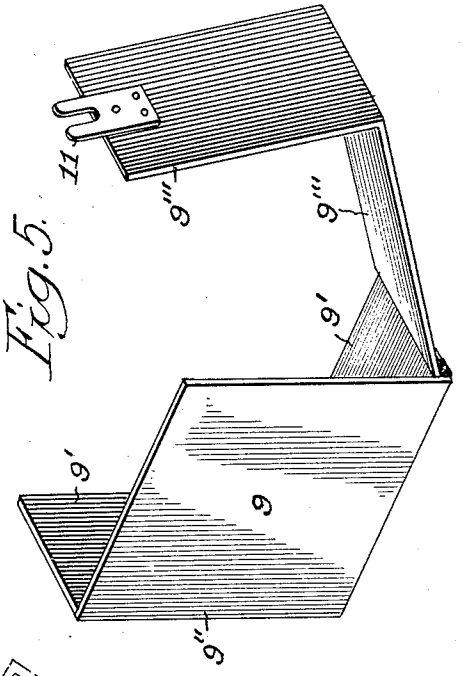
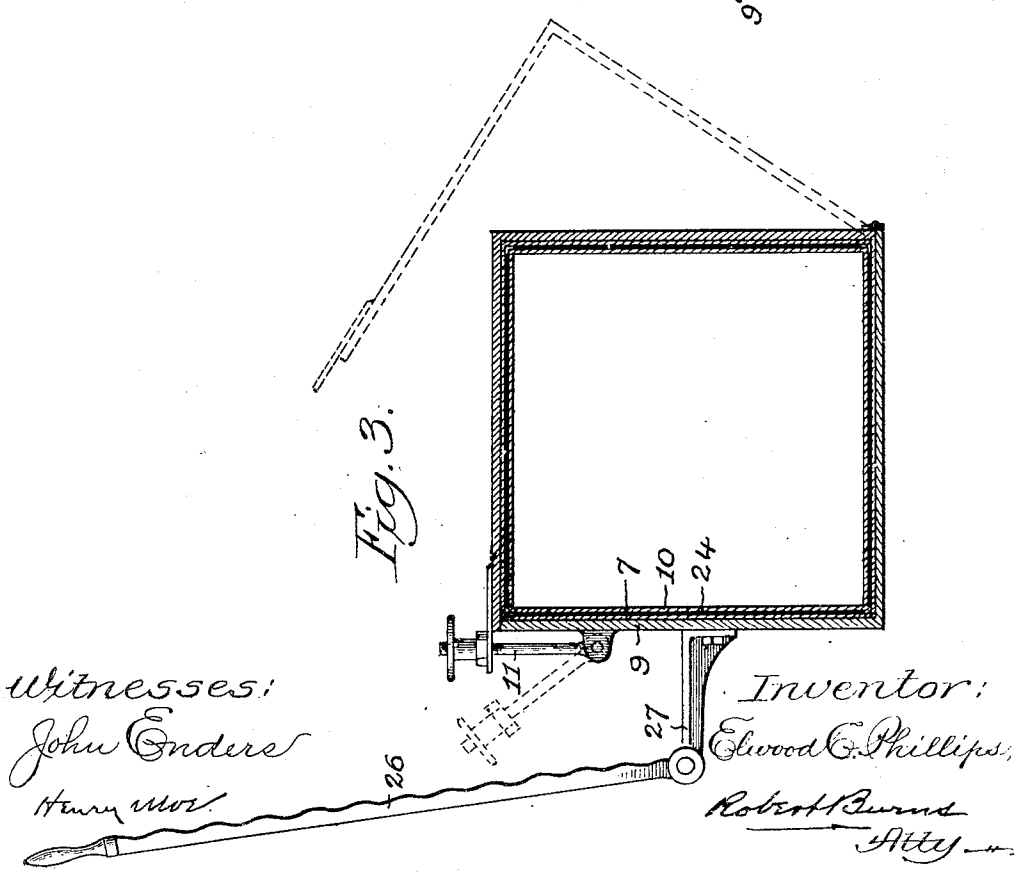


Fig. 3.



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UNITED STATES PATENT OFFICE.

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YEAST-PACKAGING MACHINE.

1,105,041. Specification of Letters Patent. Patented July 28, 1914.

Application filed August 7, 1913. Serial No. 783,581.

To all whom it may concern:

Be it known that I, ELWOOD C. PHILLIPS, a citizen of the United States of America, and a resident of Chicago, in the county of Cook, State of Illinois, have invented certain new and useful Improvements in Yeast-Packaging Machines, of which the following is a specification.

This invention relates t' machines for packaging retail packages of compressed yeast and the like, and has for its object to provide a simple and efficient structural formation and combination of parts by which the yeast or like material is forced from a suitable receptacle into an individual box or inclosure contained within a holding cage which gradually moves away from the receiver as the filling operation progresses, and with which during said filling operation linings of waxed paper, or the like, are applied to the interior of the box or inclosure to afford a more complete packaging of the individual cake of yeast or like material.

A further object is to provide a simple and efficient cutting mechanism, which as the cage aforesaid reaches the limit of the filling movement is adapted to sever the material in the individual box from the stock of material in the aforesaid receptacle, all as will hereinafter more fully appear.

In the accompanying drawings:—Figure 1, is a side elevation, with parts in section, of a packaging machine embodying the present invention. Fig. 2, is a plan view of the same. Fig. 3, is a detail transverse section on line *x*—*x*, Fig. 1. Fig. 4, is a similar view of the individual box or inclosure. Fig. 5, is a detail perspective view of the cage in a partly open condition ready to receive a retail box or inclosure.

Similar reference numerals indicate like parts in the several views.

Referring to the drawings, 1 represents the fixed support or bed plate of the machine, and 2, 3 and 4 a series of vertical standards carried by said bed plate and upon which are mounted the various parts of the machine.

5 is a forward part of the receptacle in which the supply of material to be packaged is contained. Said receptacle is secured in a horizontal position on the standard 2, and is provided at the top with an inlet hopper 6, and at front with an extension or outlet trunk 7, preferably of a rectangular shape in cross-section, as shown more particularly in Fig. 3.

8, is a revoluble feed screw of any usual form, mounted horizontally in the receptacle 5 in alinement with the outlet trunk 7, and adapted to force the material through said trunk in the actual use of the machine.

9 is the open ended containing cage of the present construction, and which is of a size slightly larger than the outlet trunk 7, above described, and adapted to have movement outside the same in the filling operation of the machine. In the preferred construction of said cage, as illustrated more particularly in Fig. 5, of the drawings, two sides 9′ 9′ are fixedly secured together and to the end head″ of the cage, while the other two sides 9‴ 9‴ are also fixedly connected together, and in turn hinged to one of the first mentioned sides 9′ in order to permit the ready opening of the cage for the removal of an individual filled box or inclosure 10, and the insertion of an empty box or inclosure for a succeeding operation of the machine.

11 is a fastening means of any ordinary form for securing the sides of the cage together in a closed condition.

12, is a carrying bar moving longitudinally in guideways on the standards 3 and 4, and fixedly secured at one end to the end head of the cage 9 above described, to constitute the carrying means thereof. In the present improvement the carrying bar 12 and cage 9 are yieldingly pressed toward the outlet trunk 7 by any usual and suitable means, and with a view to provide resistance to too free a movement of the cage during its filling movement, and in consequence attain the required density in the material as it is fed into its individual boxes or inclosures. The particular means for supplying the described yielding resistance illustrated in Figs. 1 and 2, comprises a construction as follows:—

13 is a gear rack secured to the carrying bar 12 aforesaid, and having operative engagement with a gear wheel 14, the carrying shaft 15 of which is journaled in the before described standard 4.

16 is a sheave wheel secured to the shaft 15, aforesaid, and 17 is a weight connected by a flexible connection 18 with the periphery of the sheave wheel 16, aforesaid.

19 is a hand wheel secured to the shaft 15,

for manual actuation of the same and its accessories, at the required times in the practical operation of the machine.

20 is a locking pawl pivoted to the standard 3, and adapted to engage a notch 21, or the like, in the carrying bar 12 to lock the same, in its outward position, with the containing cage 9 free from the outlet trunk 7, aforesaid.

22 and 23 are duplicate reels carrying rolls of waxed paper or the like. Said reels are journaled in right-angle relation to each other, at adjacent sides of the outlet trunk 7, and near the end of said trunk which is remote from the containing cage 9. The paper webs 24 from said reels extend forward along the respective sides of the outlet trunk 7, thence across the open front of such trunk, and thence rearwardly to be fastened to the said trunk by fastening clips or pins 25, at sides directly opposite the reels aforesaid, and as illustrated in Figs. 1 and 2.

26 is a movable knife or cutter pivoted at one end to a carrying bracket 27, fixedly attached to a side wall of the containing cage 9, in immediate relation to the rear end of said cage, and so that the rear end of said cage will serve as the fixed member of a cutter and in conjunction with the movable knife 26, afford means for severing the webs 24 of paper from their respective rolls, and also to sever the filling material which has been forced into the box by the cage, from the stock of material in the outlet trunk 7 of the receptacle 1, as will be more particularly described in the operation of the machine.

The operation of the machine is as follows:—With the cage 9 in its outer position and in the open condition illustrated in Fig. 5 an empty individual box or inclosure 10, is introduced therein, after which the cage is closed and latched. Webs of waxed paper are then drawn over the outlet trunk 7, and fastened thereto, as heretofore described, after which the cage 9, with its contained box 10 is adjusted backward to the position illustrated in Fig. 1. The feed screw 8 is then brought into active operation, and in its rotation forces the material through the outlet trunk 7 gradually to the individual box or inclosure 10, contained in said cage 9, and as the filling operation progresses the cage is gradually pushed forward by the fed material until the front end of the trunk 7 is passed, when the pawl 20 drops into holding engagement with the notch 21 of the carrying bar 12. The movable knife member or cutter 26, is manually moved an approximately full sweep to sever the web 24 of waxed paper, as well as the contents of the box inclosure 10, from the mass of material in the trunk 7. The cage is then opened, the filled box or inclosure removed for the application of the usual outer wrapping and label, and an empty box or inclosure substituted, for a repetition of the above described operations.

Having thus fully described my said invention what I claim as new, and desire to secure by Letters Patent, is:—

1. In a packaging machine, the combination of a receptacle having an outlet trunk, a feeding means associated with said receptacle, an inclosure containing cage adapted to encompass said outlet trunk and movable longitudinally in relation thereto, means for yieldingly holding the cage toward the outlet trunk, and a cutter carried on said cage in adjacent relation to one end of the same.

2. In a packaging machine, the combination of a receptacle having an outlet trunk, a feeding means associated with said receptacle, an inclosure containing cage adapted to encompass said outlet trunk and movable longitudinally in relation thereto, means for yieldingly holding the cage toward the outlet trunk, a pair of reels associated in right-angle relation on said trunk and adapted to carry rolls of waxed paper, means for engaging the free ends of webs of paper from said rolls, and a cutter carried on said cage in adjacent relation to one end of the same.

3. In a packaging machine, the combination of a receptacle having an outlet trunk, a feeding means associated with said receptacle, an inclosure containing cage adapted to encompass said outlet trunk and movable longitudinally in relation thereto, means for yieldingly holding the cage toward the outlet trunk, the same comprising a carrying bar guided longitudinally and provided with a rack-bar, a shaft carrying a gear wheel engaging said rack bar, a sheave on said shaft and a weight connected by a flexible connection to said sheave, and a cutter carried on said cage in adjacent relation to one end of the same.

4. In a packaging machine, the combination of a receptacle having an outlet trunk, a feeding means associated with said receptacle, an inclosure containing cage adapted to encompass said outlet trunk and movable longitudinally in relation thereto, a pair of reels associated in right-angle relation on said trunk and adapted to carry rolls of waxed paper, means for engaging the free ends of webs of paper from said rolls, a carrying bar for the containing cage provided with a rack bar, a shaft carrying a gear wheel engaging said rack bar, a sheave on said shaft, a weight connected to said sheave, and a cutter carried on said cage in adjacent relation to the end of the same.

5. In a packaging machine, the combination of a receptacle having an outlet trunk, a feeding means associated with said receptacle, an inclosure containing cage adapted to encompass said outlet trunk and movable

longitudinally in relation thereto, means for yieldingly holding the cage toward the outlet trunk, the same comprising in part a carrying bar guided longitudinally and a stop pawl engaging said bar when in its outward position, and a cutter carried on said cage in adjacent relation to one end of the same.

6. In a packaging machine, the combination of a receptacle having an outlet trunk, a feeding means associated with said receptacle, an inclosure containing cage adapted to encompass said outlet trunk and movable longtiudinally in relation thereto, means for yieldingly holding the cage toward the outlet trunk, the same comprising in part a carrying bar guided longitudinally and a stop pawl engaging said bar when in its outward position, a pair of reels associated in right-angle relation on said trunk and adapted to carry rolls of waxed paper, means for engaging the free ends of webs of paper from said rolls, and a cutter carried on said cage in adjacent relation to one end of the same.

7. In a packaging machine, the combination of a receptacle, having an outlet trunk, a feeding means associated with said receptacle, an inclosure containing cage comprising an end head and a pair of sides fixedly connected together and another pair of sides pivotally connected to one of said fixedly connected sides, means for locking the series of sides in a closed condition, the inclosing cage being adapted to encompass the aforesaid outlet trunk and movable longitudinally in relation thereto, means for yieldingly holding the cage toward the outlet trunk, and a cutter carried on said cage in adjacent relation to one end of the same.

8. In a packaging machine, the combination of a receptacle having an outlet trunk, a feeding means associated with said receptacle, an inclosure containing cage comprising an end head and a pair of sides fixedly connected together and another pair of sides pivotally connected to one of said fixedly connected sides, means for locking the series of sides in a closed condition, the inclosing cage being adapted to encompass the aforesaid outlet trunk and movable longitudinally in relation thereto, means for yieldingly holding the cage toward the outlet trunk, a pair of reels associated in right-angle relation on said trunk and adapted to carry rolls of waxed paper, means for engaging the free ends of webs of paper from said rolls, and a cutter carried on said cage in adjacent relation to one end of the same.

9. In a packaging machine, the combination of a receptacle having an outlet trunk, a feeding means associated with said receptacle, an inclosure containing cage comprising an end head and a pair of sides fixedly connected together and another pair of sides pivotally connected to one of said fixedly connected sides, means for locking the series of sides in a closed condition, the inclosing cage being adapted to encompass the aforesaid outlet trunk and movable longitudinally in relation thereto, means for yieldingly holding the cage toward the outlet trunk, the same comprising a carrying bar guided longitudinally and provided with a rack bar, a shaft carrying a gear wheel engaging said rack bar, a sheave on said shaft and a weight connected to said sheave, and a cutter carried on said cage in adjacent relation to one end of the same.

10. In a packaging machine, the combination of a receptacle having an outlet trunk, a feeding means associated with said receptacle, an inclosure containing cage comprising an end head and a pair of sides fixedly connected together and another pair of sides pivotally connected to one of said fixedly connected sides, means for locking the series of sides in a closed condition, the inclosing cage being adapted to encompass the aforesaid outlet trunk and movable longitudinally in relation thereto, a pair of reels associated in right-angle relation on said trunk and adapted to carry rolls of waxed paper, means for engaging the free ends of webs of paper from said rolls, a carrying bar for the containing cage provided with a rack bar, a shaft carrying a gear wheel engaging said rack bar, a sheave on said shaft, a weight connected to said sheave, and a cutter carried on said cage in adjacent relation to one end of the same.

11. In a packaging machine, the combination of a receptacle having an outlet trunk, a feeding means associated with said receptacle, an inclosure containing cage comprising an end head and a pair of sides fixedly connected together and another pair of sides pivotally connected to one of said fixedly connected sides, means for locking the series of sides in a closed condition, the inclosing cage being adapted to encompass the aforesaid outlet trunk and movable longitudinally in relation thereto, means for yieldingly holding the cage toward the outlet trunk, the same comprising in part a carrying bar guided longitudinally and a stop pawl engaging said bar when in its outward position, and a cutter carried on said cage in adjacent relation to one end of the same.

12. In a packaging machine, the combination of a receptacle having an outlet trunk, a feeding means associated with said receptacle, an inclosure containing cage comprising an end head and a pair of sides fixedly connected together and another pair of sides pivotally connected to one of said fixedly connected sides, means for locking the series of sides in a closed condition, the inclosing cage being adapted to encompass

the aforesaid outlet trunk and movable longitudinally in relation thereto, means for yieldingly holding the cage toward the outlet trunk, the same comprising in part a carrying bar guided longitudinally and a stop pawl engaging said bar when in its outward position, a pair of reels associated in right-angle relation on said trunk and adapted to carry rolls of waxed paper, means for engaging the free ends of webs of paper from said rolls, and a cutter carried on said cage in adjacent relation to one end of the same.

Signed at Chicago, Illinois, this 2nd day of August, 1913.

ELWOOD C. PHILLIPS.

Witnesses:
ROBERT BURNS,
HENRY MOE.