



No. 691,930.

Patented Jan. 28, 1902.

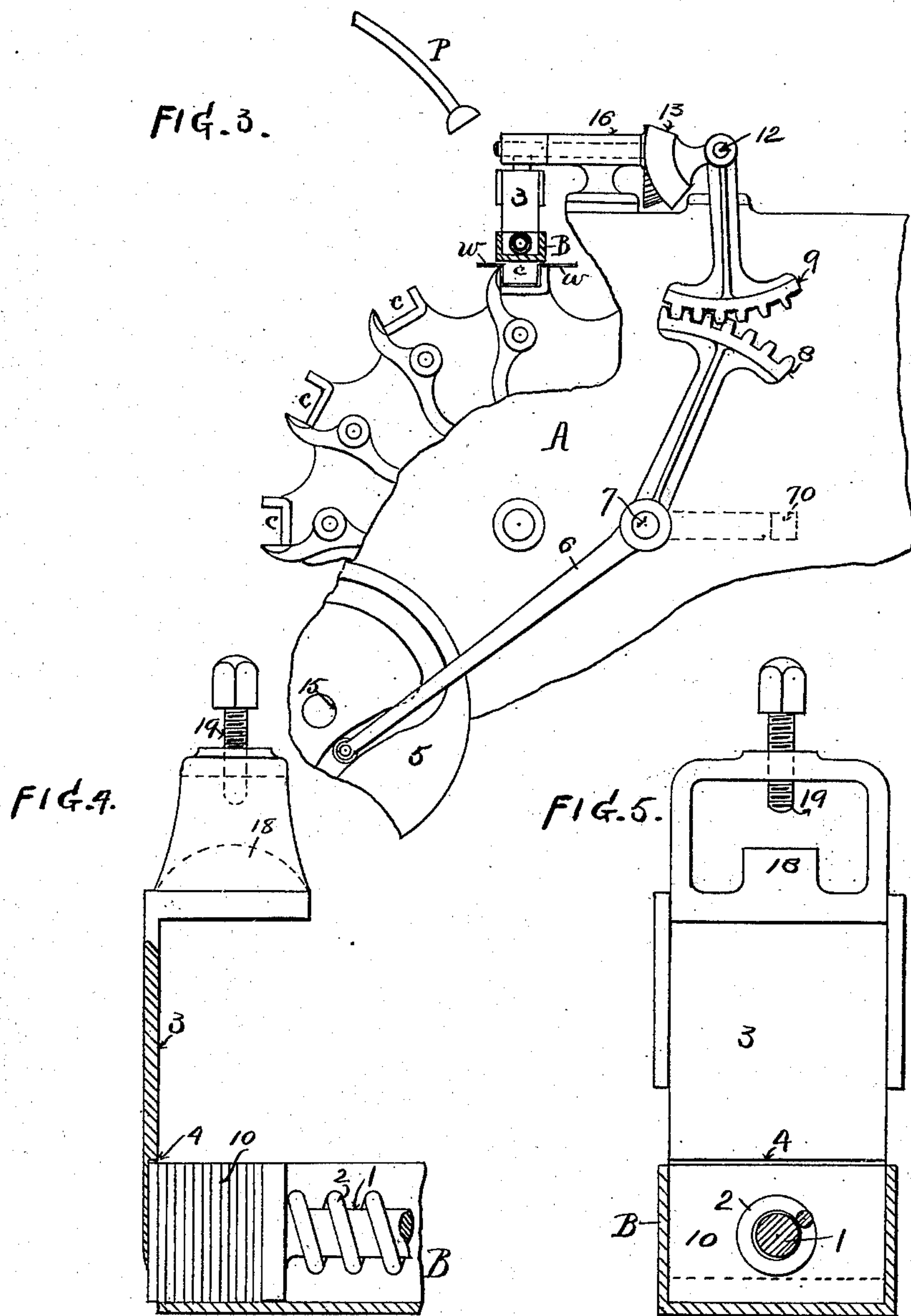
E. L. BRACY.

MECHANISM FOR PACKING GRANULAR MATERIAL.

(Application filed May 7, 1901.)

(No Model.)

3 Sheets—Sheet 2.



WITNESSES:

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3 Sheets—Sheet 3.

FIG. 6.

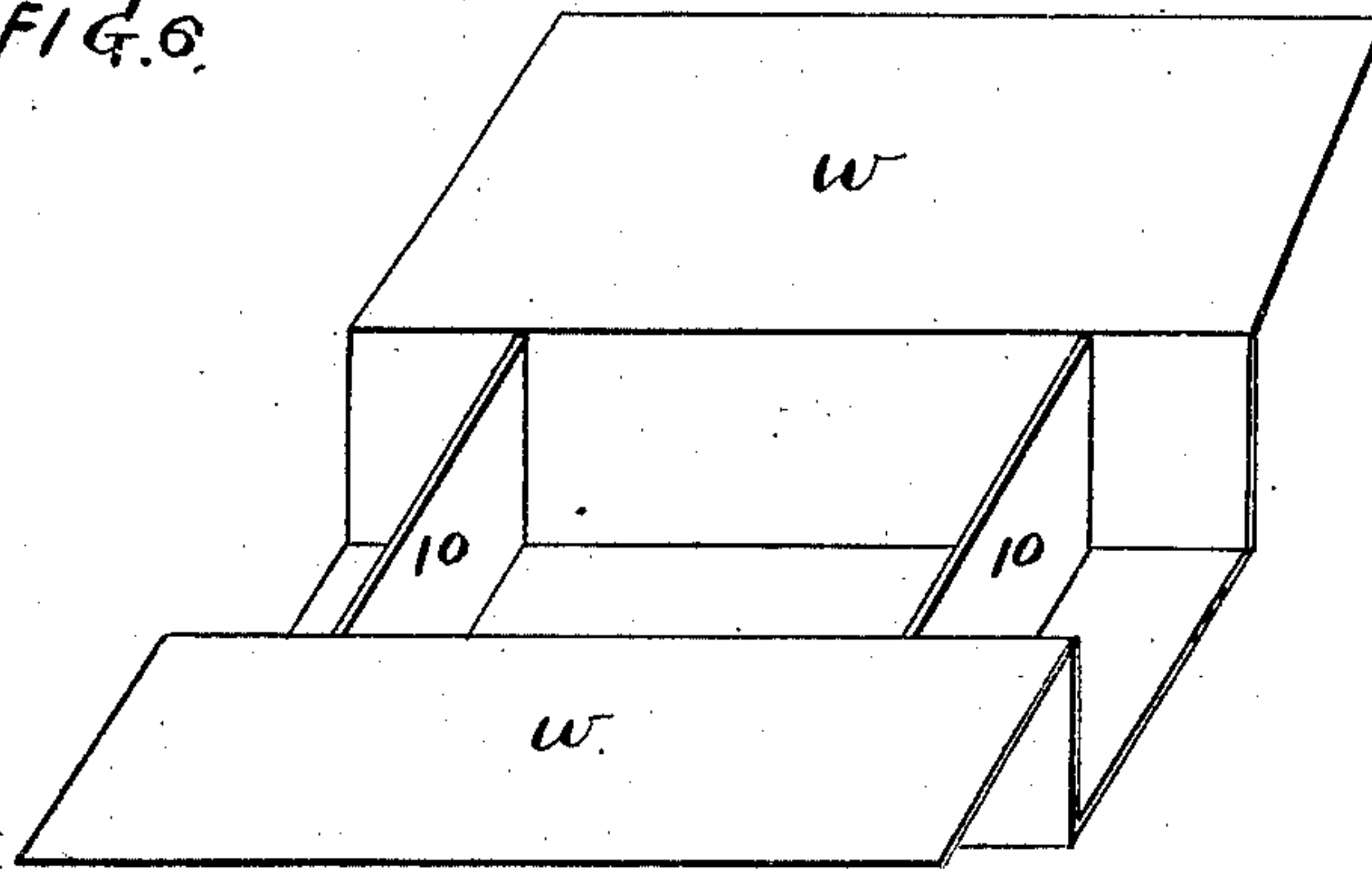


FIG. 7.

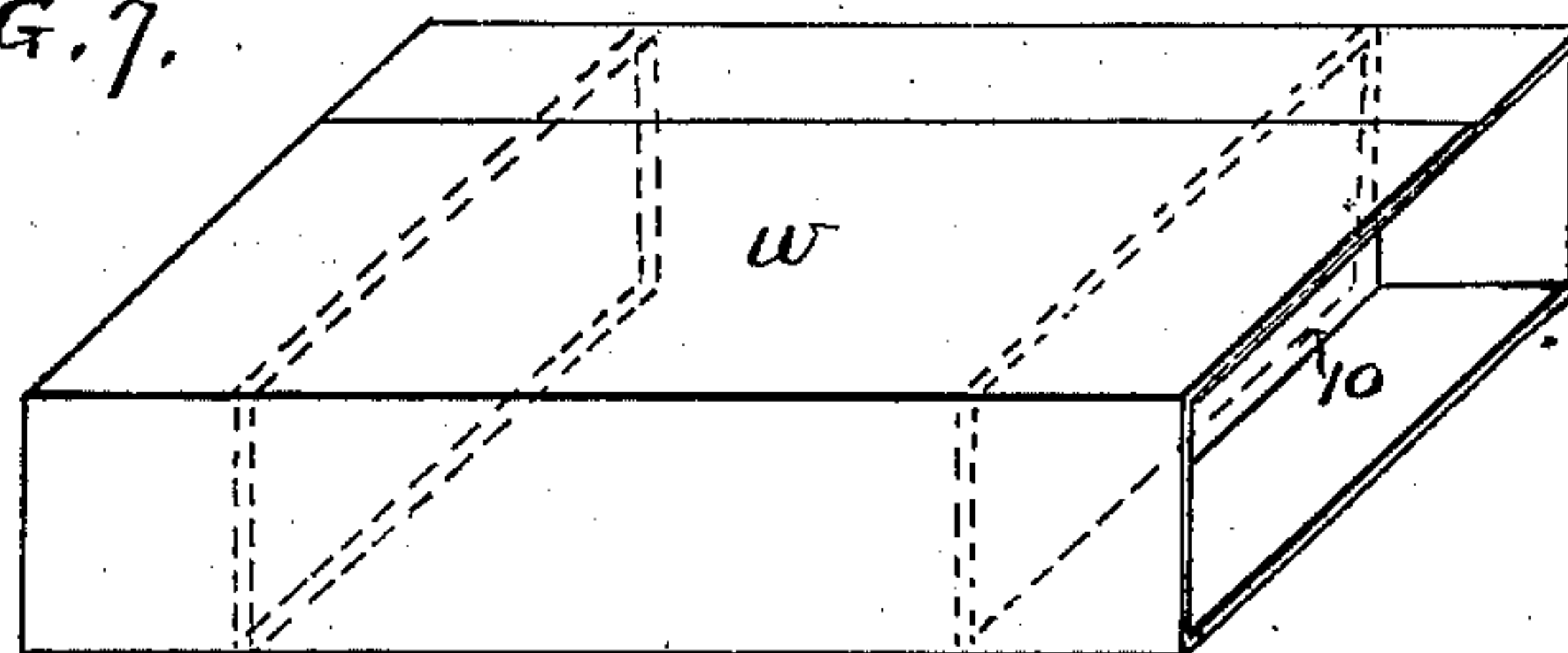


FIG. 9.

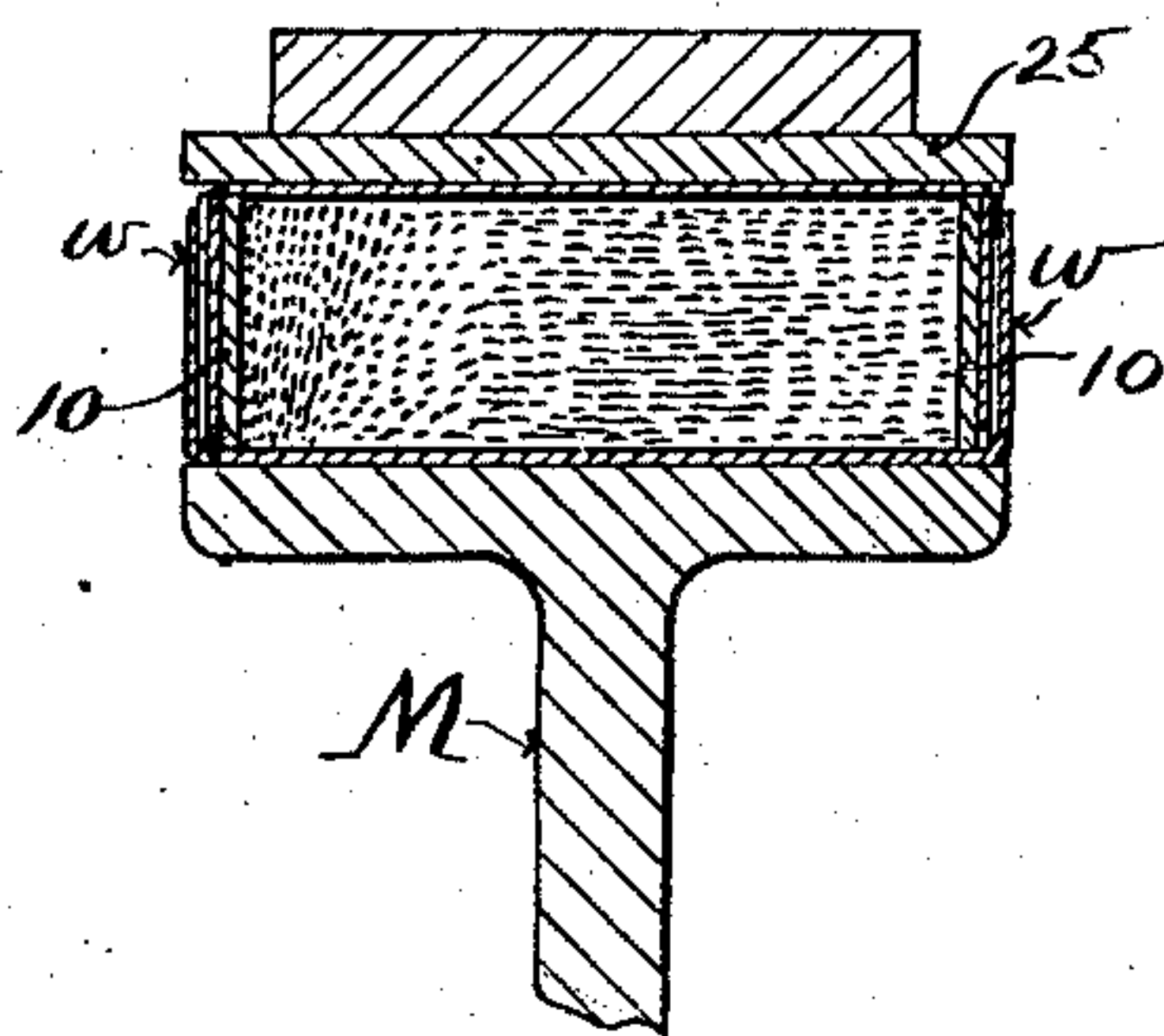
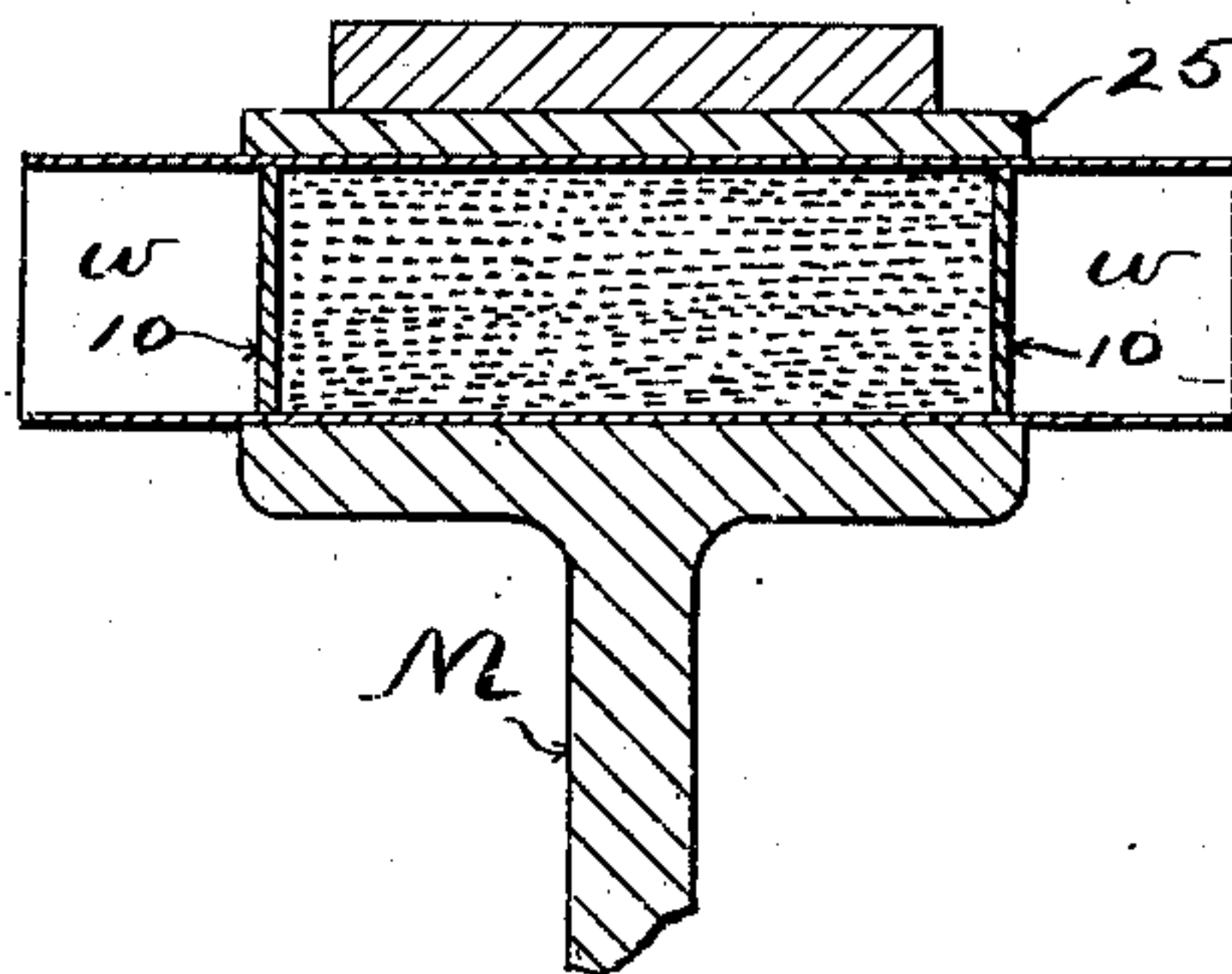


FIG. 8.



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# UNITED STATES PATENT OFFICE.

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## MECHANISM FOR PACKING GRANULAR MATERIAL.

SPECIFICATION forming part of Letters Patent No. 691,930, dated January 28, 1902.

Application filed May 7, 1901. Serial No. 59,117. (No model.)

*To all whom it may concern:*

Be it known that I, EDWARD L. BRACY, a citizen of the United States of America, residing in the borough of Brooklyn, in the county of Kings, State of New York, have invented Improvements in Mechanism for Packing Granular Material, of which the following is a specification.

The main object of my invention is to facilitate and improve the packaging of granular materials, such as granulated sugar, teas, snuff, pulverulent tobacco, or the like, in wrappers. In carrying out my invention I avail myself of a well-known type of wrapping-machines, in which the material to be inclosed is first fed to a wrapper held in place in a recess or a receptacle of a mold-wheel, which wrapper is afterward folded over the material. Such a machine will be found illustrated and described in Rose's United States Patent No. 586,076.

To illustrate my invention, I have shown parts of the Rose machine provided with my improvements in the drawings accompanying this specification; but I do not wish to be restricted to carrying out my invention with this machine, as it will be obvious that my invention is applicable to any wrapping-machine of that class in which the folding is done after feeding the material to the wrapper and the package manipulated while in the horizontal position.

In the accompanying drawings, Figure 1 is a sectional view of enough of a Rose wrapping-machine provided with my improvements to illustrate my invention. Fig. 2 is a similar view of part of Fig. 1, but showing the package just as it has received the material to be wrapped. Fig. 3 is a side view of a part of Fig. 1. Figs. 4 and 5 are enlarged views of the cardboard-feeding device. Fig. 6 is a view of the package, showing the cardboard strips in place in a wrapper ready for filling with the material. Fig. 7 is a perspective view showing the top edges of the wrapper folded over the package. Fig. 8 is a sectional view of the package of Fig. 7 and a portion of the mold-wheel, taken through the longitudinal center line of the package; and Fig. 9 is a view similar to Fig. 8 of the completed package in the mold-wheel.

The following brief description of the mechanism and operation of the Rose machine will facilitate the understanding of this invention.

In Figs. 1, 2, and 3, H is the chute or hopper, to which the material to be packed is fed in front of the plunger P, while M is the rotating mold-wheel, having recesses *c*, to which the wrappers *w* are fed, each being tucked into the recess *c* by suitable means and held there by toes T on the ends of levers *l*. Side plungers *p p* are operated so as to take up positions within the wrapper at the side of the mold-wheel before the material *m* is fed to the recess *c*, thereby forming two solid ends to the package during the pressure of the plunger P in forming the package. The toes T have in the meanwhile been withdrawn from the wrapper *w*. Upon the rotation of the mold-wheel the top sides of the wrapper, which have hitherto been in the positions illustrated, Figs. 3 and 6, are now folded over the material and the plungers *p p* by the clamping-plate 25, Fig. 8. These plungers *p p* meantime hold the material in place; but to inclose the ends of the package by folding the extending ends of the wrapper obviously necessitates the withdrawal of the plungers *p p*, then leaving the ends of the material free. This is unimportant when packing stringy material; but it prevents the use of the Rose machine for packaging loose granular material, such as pulverulent tobacco or like materials, so fine that they will flow down out of their formed position on the withdrawal of the plungers *p p* to finish the formation of the package. I meet and get over the difficulty by placing within the wrapper cardboard or the like reinforcing ends before the material is placed therein, and I allow these end pieces to remain in position throughout the packing operation and in the finished package. For this purpose I mount upon the frame A of the machine boxes B B above and one on each side of the rotating mold-wheel M and opposite the sides of the hopper H. These boxes are supplied with cards 10, which are pressed toward the hopper by a plunger 1, actuated by a spring 2. Between the inner ends of the boxes B B and the hopper H, I mount an inter-



mittently-reciprocating card-selecting plunger 3 3, which may be operated in any suitable manner, so long as it is timed to select a card with its undercut edge 4, Figs. 4 and 5, and place it in a wrapper before the plunger P has completed its packing stroke. These cards are held in place against the pressure of the plunger P by the before-described plungers *p p*. After the withdrawal of the plungers the cards have enough frictional hold in the wrappers to prevent the joggling out of the cards or the granular material.

I have shown in Figs. 1, 2, and 3 mechanism for operating the card-selectors, consisting of a cam 5 on a cam-shaft 15, a lever 6, operated by the cam and fast on the shaft 7. At the other extremity of the lever 6 I have shown a segmental gear 8 engaging with a like gear 9 on a shaft 12 in bearings 11 on the frame A. To the other end of the shaft 12 I secure a segmental gear 13, engaging with a like gear 14 on the end of a lever 15, pivoted at 16 to the frame. The other end of the lever 15 is formed with a nosepiece 17, adapted to bear on the hardened surface 18 of the selector 3 by its under side, while an adjusting-screw 19 on the selector bears on the upper side of the nosepiece. A cranked connecting rod or shaft 70 (shown dotted in Fig. 3) connects the lever 6 on one side of the machine with the corresponding lever 6 on the other side of the machine to cause both selectors to act simultaneously. These mechanisms are preferably so timed as to cause the cards to be inserted in the wrapper just before the material is fed thereto. The selectors 3 3 may be withdrawn either before or after the material has been fed to the package without materially altering the efficiency of the operation.

By using the reinforcing ends I am enabled to not only get a more nearly air-tight package than formerly, but I am also enabled to paste the inclosing ends of the wrapper to each other in a much more secure and effi-

cient manner, due to the increased stability of the package.

I claim as my invention—

1. The herein-described mechanism for packaging granular material in wrappers, consisting of means for feeding reinforcing ends to an open wrapper, means for feeding the material to the wrapper between the reinforcing ends and means for folding the wrapper to inclose the material and the reinforcing ends, substantially as described.

2. The herein-described mechanism for packaging granular material, consisting of a mold-wheel having a recess, a card-box, a selector adapted to select cards from the box and feed them to the wrapper in the recess, means for feeding material to the wrapper, and operating mechanism timed to act on the selector to place the cards in the wrapper before the material has been fed thereto.

3. The herein-described mechanism for packaging granular material, consisting of a rotating mold-wheel having recesses and means for feeding material to the wrapper in each recess and means for folding the wrapper in combination with means for feeding reinforcing ends to the open wrapper before the folding of the latter about the material.

4. The herein-described machine for packaging granular material, consisting of a rotating mold-wheel having recesses, a plunger to press the material into the wrapper in each recess, plungers to hold the material at the edges of the recess, and means to fold the wrapper, in combination with means for supplying reinforcing end pieces in front of said plungers at the edges of the recess.

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

EDWARD L. BRACY.

Witnesses:

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