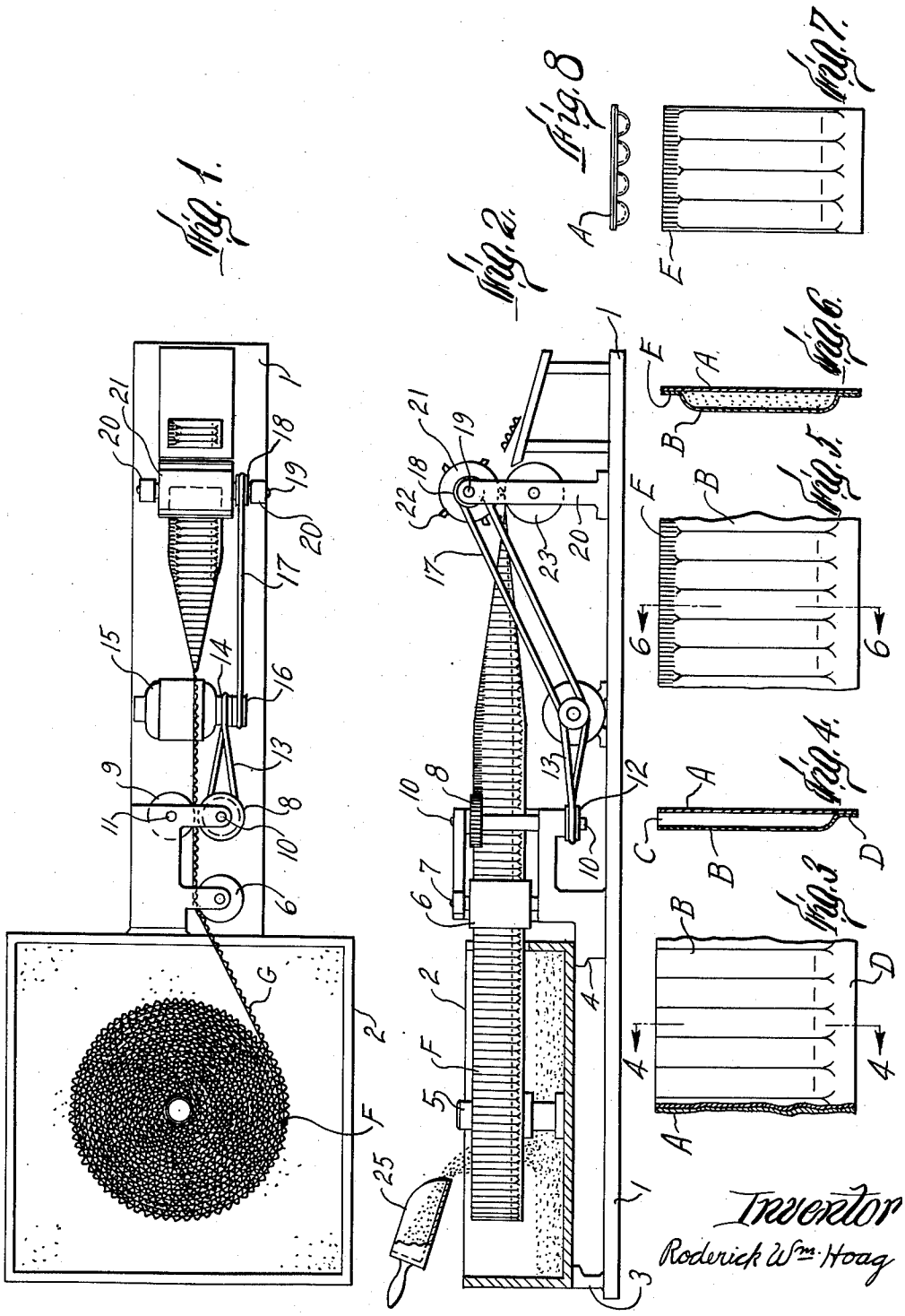
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METHOD AND DEVICE FOR FILLING AND CLOSING PACKETS

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METHOD AND DEVICE FOR FILLING AND CLOSING PACKETS

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This invention relates to methods and devices for filling and closing containers generally, and more specifically to the filling and closing of packets in web or strip form to produce individual, filled, sealed, fluted packets of the kind described and claimed in my copending application filed June 22, 1945, to which Serial No. 601,022 has been assigned, now Patent No. 2,499,313.

One object of my invention is to produce a simple method for packaging powdered, granular, and pellet like materials, comprising, filling and closing a series of packets in web form, and thereafter severing the packets from the web.

Another object of my invention is to provide a simple device for filling and closing a series of packets in web form, and thereafter severing the packets from the web.

With said objects in view and others that will be apparent to persons skilled in the packaging art, my invention consists in the method and device for forming, filling and closing a succession of packets substantially as hereinafter described and claimed.

Of the accompanying drawings:

Fig. 1 is a plan view of the device.

Fig. 2 is a front elevation of the device.

Fig. 3 is an elevation of a section of the webb of packet elements before the filling and closing operations have been performed.

Fig. 4 is a section at 4—4 of Fig. 3.

Fig. 5 is an elevation of a section of the web of packet elements after the filling and closing operations have been performed.

Fig. 6 is a section at 6—6 of Fig. 5.

Fig. 7 is an elevation of a packet unit of four flutes severed from the web of filled and closed packets.

Fig. 8 is a top view of Fig. 7.

Similar reference characters indicate similar parts or features in all of the views.

It will aid toward an understanding of the device to first describe the web or succession of empty packets, and then explain the device as it is operated to fill and close a succession of packets.

Referring to Figs. 3 and 4, there is shown a web of fabricated material, which is longitudinally flexible, but relatively rigid transversally. The web is made up of a strip of relatively flat paper or other material A to which is secured a corrugated member B. The flutes or pockets C are sealed along the bottom margin D of the web by flattening and securing the ends of the flutes against the adjacent surface of the web element A. The commodity to be packaged is placed in

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the flutes C of the corrugations. After the filling operation has been completed, the tops of the packets are closed by means of crimping wheels which serve to close the open top ends of the flutes as shown at E.

In the method of filling and closing a web of packets with the aid of my improved device, the first step consists in convolutely winding a web of empty packet elements G, to form a roll, as shown at F (Figs. 1 and 2). The flute of each packet extends transversally across the web is closed on the bottom side of the web and open on the top side. The roll of packets is then placed in horizontal position upon a spindle 5 which is free to rotate. The position of the roll of packets F is such that the openings of the flutes of the packets in the roll face upwardly. While the roll is in this position, the commodity to be packaged is poured upon the roll, by use of a hand scoop 25 or any other suitable means, until all the flutes of the packets have been filled. The surplus commodity poured upon the roll passes downward between the packets and into a receiving hopper 2 from which the spilled commodity is picked up to fill other packets. Then the end of the outermost section of web on the roll is advanced to a crimping device which serves to crimp and seal the top of each packet element as the web is drawn from the roll. The final operation consists in severing individual packet units from the web.

Referring to Figs. 1 and 2, there is illustrated my improved device for filling and closing the flutes of the packets in a web of packets. The several units of the device are mounted upon a base 1. A receiving hopper 2 supported by brackets 3 and 4 on base 1 is positioned at one end of the device. A spindle 5 is pivotally and removably mounted in the center of the said receiving hopper. The spindle 5 being designed to receive a convolutely wound web of packets with the open tops of the packets facing upwardly. A guide roller 6 secured to shaft 7 journaled in bracket 4 serves to lead the web of packets to the top crimping and closing element. The bracket closing unit is comprised of two crimping wheels 8 and 9 secured respectively to shafts 10 and 11 journaled in bracket 4. Also secured to shaft 10 is a pulley 12 driven by belt 13 which in turn is driven by pulley 14 on motor 15 secured to base 1. A second pulley 16 on said motor 15 drives endless belt 17 which rotates a pulley 18 secured to shaft 19 journalled in standards 20 secured to base 1. Also secured to shaft 19 is a web severing roller 21 which is provided

with cut-off knives 22 positioned transversally thereof to sever packet units from the traveling web of packets. A base roller 23 also journaled in standards 20 serves to hold the web while the web severing operation is being performed. The packet units severed from the web are delivered singly and successively upon table 24 from which the packets are picked up for use.

Changes in construction, operation, and sequences of operations of my improved device may be made without departing from the spirit of my invention.

Having now described my invention, I claim:

1. The method of filling, closing and severing a web of packet elements to provide individual packet units, consisting in convolutely rolling a web of empty packet units having flutes parallel with the axis of the roll and with the flutes closed on one side of the roll and open on the opposite side of the roll; positioning the roll of packets to be horizontally rotatable about its center and with the open end of the flutes facing upwardly; pouring a commodity to be packaged into the open ends of the flutes of the web; drawing the outermost web convolution from the roll; closing and crimping the open ends of the flutes; and transversally severing the web to provide packet units.

2. The method of filling, closing and severing a web of packet elements to provide individual packet units, consisting in convolutely rolling a web of empty packet units having flutes parallel with the axis of the roll and with the flutes closed on one side of the roll and open on the opposite side of the roll; positioning the roll of packets to be horizontally rotatable about its center and with the open end of the flutes facing upwardly; pouring a commodity to be packaged into the open ends of the flutes of the web; drawing a section of the web from the roll; closing the open ends of the flutes; and severing the web to provide packet units.

3. The method of filling and closing a web of packet elements to provide individual packet units, consisting in convolutely rolling a web of empty packet units having packet elements parallel with the axis of the roll and with the packet elements closed on one side of the roll and open on the opposite side of the roll; positioning the roll of packets to be horizontally rotatable about its center and with the open end of the packet elements facing upwardly; pouring a commodity to be packaged into the open ends of the packet elements of the web; drawing a section of the web from the roll; and closing the open ends of the packet elements.

4. The method of filling and closing a web of packet elements to provide individual packet units, consisting in convolutely rolling a web of empty packet units having packet elements parallel with the axis of the roll and with the packet elements closed on one side of the roll and open on the opposite side of the roll; positioning the roll of packets horizontally with the open end of the packet elements facing upwardly; pouring a commodity to be packaged into the open ends of the packet elements of the web; drawing a section of the web from the roll; and closing the open ends of the packet elements.

5. In a device for producing filled packets from a web of empty packet elements, comprising a base for supporting the several units of the device, a receiving hopper, a vertically extending spindle in the center area of the hopper to rotatably support a convolutely wound web of upright flute elements lying transversally of the web and with the flutes closed on one margin of the web and open on the opposite margin; a crimping device to draw the outermost convolution from the roll after the flutes have been filled with the product to be packaged, while simultaneously crimping the open ends of the flutes; and means to transversally sever the web to provide individual packet units.

6. In a device for producing filled packets from a web of empty packet elements, comprising a base for supporting the several units of the device, a receiving hopper, a vertically extending spindle in the hopper to rotatably support a convolutely wound web of upright flute elements lying transversally of the web and with the flutes closed on one margin of the web and open on the opposite margin; a crimping device to draw web sections from the roll after the flutes have been filled with the product to be packaged, while crimping the open ends of the flutes; and means to transversally sever the web to provide individual packet units.

7. In a device for producing filled packets from a web of packet elements, comprising a base for supporting the several units of the device, a receiving hopper, a spindle in the hopper to rotatably support a convolutely wound web having flute elements closed on one margin of the web and open on the opposite margin; a device to draw the outermost convolution from the roll after the flutes have been filled with the product to be packaged, and means to seal the open ends of the flutes.

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The following references are of record in the file of this patent:

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