

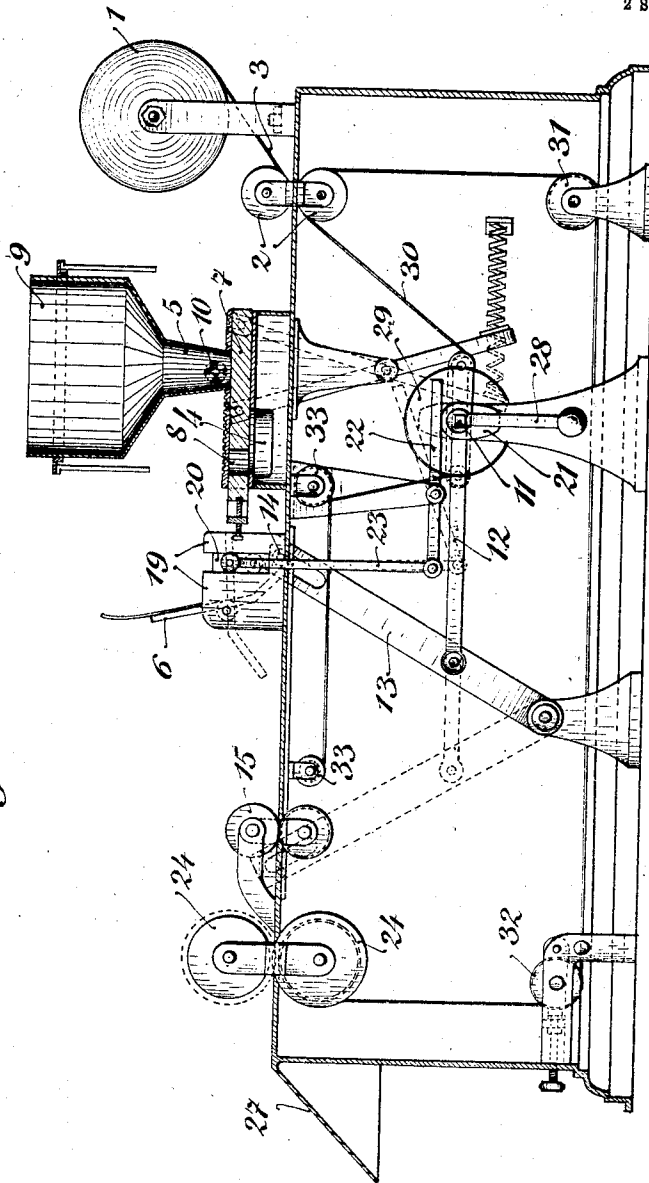
T. PARASKOVICH.
POWDER PACKING MACHINE.
APPLICATION FILED OCT. 1, 1910.

1,037,974.

Patented Sept. 10, 1912.

2 SHEETS—SHEET 1.

Fig. 1



Witnesses.
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Inventor:
Tadeus Paraskovich,
by B. Singer,
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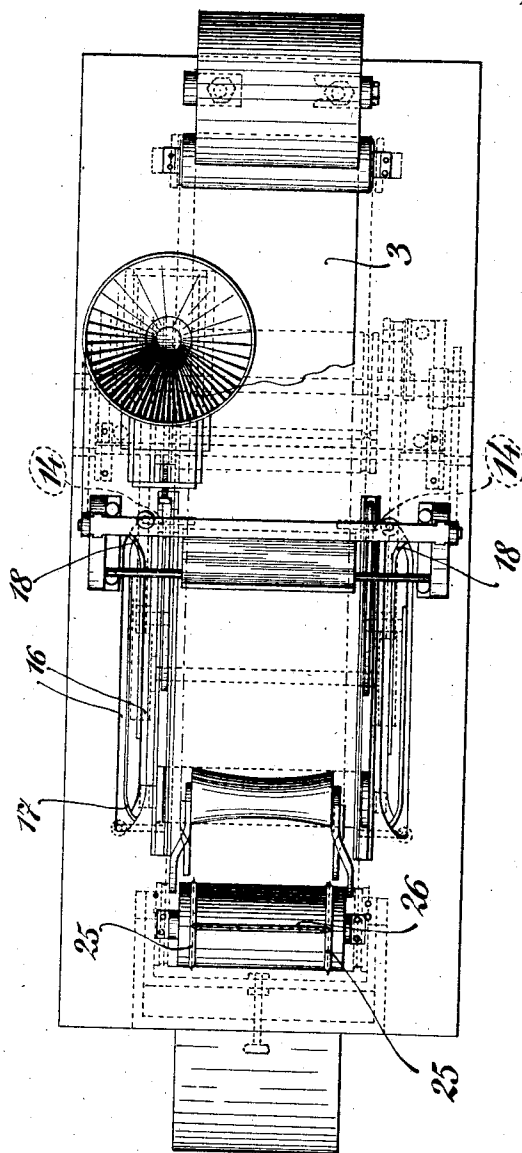
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2 SHEETS—SHEET 2.

Fig. 2



Witnesses

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UNITED STATES PATENT OFFICE.

TADEUS PARASKOVICH, OF VIENNA, AUSTRIA-HUNGARY.

POWDER-PACKING MACHINE.

1,037,974.

Specification of Letters Patent.

Patented Sept. 10, 1912.

Application filed October 1, 1910. Serial No. 584,942.

To all whom it may concern:

Be it known that I, TADEUS PARASKOVICH, chemist, of Vienna IX, Apothekerhaus, Austria-Hungary, have invented a new and useful Powder-Packing Machine, of which the following is a full, clear, and exact description.

This invention relates to devices for packing powdered material such as drugs, chemicals and the like in determined quantities or doses of the type in which the wrapping material is fed into the device, the predetermined quantity of powder or the like is fed on to the wrapper, and the packet closed by pressing the edges together.

It has hitherto been proposed, in a device of the above type, to pass into the said device a previously gummed strip of paper, which strip was folded over in the direction of its length and then passed between hot rollers carrying suitable projections which united the edges of the packet, after which the packet was cut off from the continuous strip.

The invention has for its object an improved method of packing powdered drugs, chemicals and the like in any desired packing material such as paper, wafers or the like, in which all the conditions are fulfilled which should be observed from the hygienic point of view.

The invention consists substantially in an improved device for packing powders more particularly in doses or determined quantities, in which a previously unprepared wrapping material is fed into the device, the powder or the like being then fed on to the wrapper, after which one part of the wrapping material is super-imposed on the part carrying the powder, and the edges of the two parts are finally secured together.

In the accompanying drawings are shown by way of example two constructional forms of the improved device.

Figures 1 and 2 illustrate the device in side elevation and plan respectively.

As illustrated in the drawings, a band of paper 3 from a roll 1 passes between guiding rollers 2 below the delivery channel 4 of the measuring or distributing apparatus 5. The end of the band 3 lies on a plate 6 pivoted to the framework of the mechanism. The distributing apparatus 5 which is not a feature of the present invention may be of any suitable construction. The type illustrated in the drawing possesses a reciprocating tray

or slider 7 which has an opening 8, which tray carries the powder under the funnel 9 and distributes it on the paper strip during its motion along the delivery channel 4. A stirring device 10 prevents the powder from clogging in the neck of the funnel 9.

When the powder has been brought on the strip 3 two pins 14 are given longitudinal displacement through the agency of a bent shaft or the like, a connecting rod 12 and a lever 13, which pins as shown in Fig. 2 extend laterally over the strip of paper 3. The upwardly projecting end of the paper strip 3 on the plate 6 is, by the swinging of the plate into position shown in dotted lines in Fig. 1, bent backward in such a manner that it lies above the strip of paper carrying the powder, whereupon the strip of paper is folded and guided between the rollers 15. The pins 14, which are provided with members which slide in the channel 16 of the work table are pulled outward at the end of the guide channel 16 against the action of a spring 17 so that they release the strip of paper whereupon the pins on the back swing of the lever 13 are restored to their initial position by means of the said member sliding in the outer part of the guide channel 16, where they are again pushed over the paper strips with their inner ends, against the action of the spring 18. As soon as the paper strip is gripped by the guide rollers 15, a slide 20 reciprocating up and down between guides 19 and carrying a knife blade has attained its lowest position and separates the paper strip containing the powder from the remaining portion of the paper, this motion of the slider 20 being effected by means of the disk 21, a lever 22 and a draw rod 23. The free end of the paper strip is thereupon advanced through the rollers 2 on the plate 6 which has resumed its upward position by the action of a spring, and the distributing device gives another supply of powder. The rollers 15 now bring the cut off paper strip containing the powder under the rollers 24 which as shown in Fig. 2 are provided near the edge with teeth which connect together the covering strip and the underlying strip by means of their perforating action. In addition to the lateral teeth 25 perforating teeth 26 are also arranged along a generating line of the cylinder, by means of which the third open side of the packet is closed in the same manner as the side edges. From the rollers 24 the packet arrives on an ob-

lique downwardly directed plane 27 below which may be provided a suitable receptacle for the prepared packets of powder. Instead of perforating the edges gumming rollers may be provided between the guide rollers 2 and the distributing apparatus, by means of which the side edges of the strip are smeared with adhesive. In this case the rollers 15 would be designed as pressure rollers to enable the gummed side edges to be pressed together and the packet thus kept in closed condition.

For the driving of the moving parts a handle 28 is provided in the modification illustrated by means of which the shaft 11 may be rotated. On this shaft are mounted on one side the finger disk for the actuation of the slide, of the distributing device, and the knife slide 20, also the cranks or bends to which are attached the connecting rods 12 for the actuation of the pins 14. On both sides near the ends of the shaft 11 is mounted a grooved disk 29 over which the driving cord 30 for the actuation of the guide rollers and perforating rollers, is passed. This cord 30 is led from the driving disk 29 over the lower of the two guide rollers 2 a roller 31 to a tensioning roller 32 adjustable from the exterior from which the cord passes over the lower perforating roller 24 the lower advancing roller 15, the guide rollers 33 and 34 and returns to the driving disk 29. In this way it is possible to set all the moving parts of the device in action from the driving shaft 11.

Instead of a hand drive the device may be driven by power, by an electric motor for example or the shaft 11 set in rotation in any other manner.

It will be seen that my invention contemplates the mechanical fastening of the free end margins, and the free margins of one side of the wrapper, with the said margins in flat abutting relation and in a flat position. It will therefore be seen that only one fold of the paper is necessary and that I dispense with folding operation in connection with the fastening of the margins.

It will also be noted that the perforating means 25, successively engages the end margins to interlock the same, and that subsequently, the perforating means 26, simultaneously engages the free margins of the side to interlock the same and to complete the connection to form a packet with interlocked margins.

I claim:—

1. An apparatus for packing medicinal and other powders or the like, comprising in combination, a guide plate, means for advancing a continuous strip of paper on said plate, means for depositing a predetermined quantity of powder on the strip, means for bending the free end of the strip upon the deposited powder, means for severing the

strip, and means for perforating the side and end edges of the severed and folded paper to fasten the edges thereof and form a packet, substantially described.

2. An apparatus for packing medicinal and other powders or the like comprising in combination, a guide plate, means for advancing a continuous strip of paper on said plate, means for depositing a predetermined quantity of powder on said strip, means for bending the free end of the strip upon said powder deposited, means for severing the strip in the rear of the powder, and a roller provided with circumferential and transverse perforating means for fastening the side and end edges of the wrapper to form a packet for the contents thereof, substantially described.

3. An apparatus for packing powder comprising in combination, a guide plate, means for advancing a continuous strip of paper on said plate, a swinging holding plate intercepting the forward free end of said strip, means for depositing a predetermined quantity of powder on said strip, means for swinging said plate to fold the free end of said strip over said powder, means for advancing the strip, means for severing the strip in the rear of the powder, and means for mechanically interlocking the side and end edges of the packet in flat straight abutting relation, substantially described.

4. An apparatus for packing powder comprising in combination, a guide plate, means for advancing a continuous strip of paper on said plate, a spring controlled swinging folding plate normally held in an upright position to intercept and elevate the forward free end of the strip, means for depositing a quantity of powder on said strip, means for severing the strip in the rear of the powder, means for swinging said plate to fold the free elevated end of the strip over the powder, and means for mechanically connecting the side and end edges of the severed strip to form a packet, substantially described.

5. An apparatus for packing powder comprising in combination, a support, means for advancing a strip of paper on said support, means for depositing a predetermined quantity of powder on said strip, means for folding the free end of the strip over said powder to form a packet, means including pins for engaging the strip to advance the same by frictional engagement therewith, cams for withdrawing the pins from engagement with said strip at the end of such advancing movement, and means for interlocking the side and end margins of the strip with each other to complete the packet.

6. An apparatus for packing powder and like material comprising in combination, a flat guide plate for supporting the

strip in a flat position to receive the powder, means severing the strip, means for folding the free end of the strip in a flat straight condition upon the powder and the strip portions thereunder with the upper and lower strip portions and their margins in flat abutting relation, and means for mechanically interlocking the free, flat margins with each other to form a packet.

10 7. An apparatus for packing powder or like material, comprising in combination, a guide plate for supporting the strip in a flat position to receive the powder, means for severing the strip, means for folding the free end of the strip in a flat straight condition upon the powder and the strip portion thereunder with the upper and lower end strip portions and the two side strip portions and their margins in flat abutting relation with the powder therebetween, and means for mechanically interlocking the free end portions and the one side portion to form a packet.

25 8. An apparatus for packing powder, comprising in combination, a guide plate for supporting a piece of paper to receive the powder, means for folding one portion of the paper upon the portion receiving the powder with a free end and side margins of the paper in flat abutting relation, and means for mechanically interlocking the free abutting margins with each other to form a packet, substantially described.

30 9. An apparatus for packing powder, comprising in combination, means for supporting a suitable wrapper to receive the powder on one portion thereof with another

portion of the wrapper folded over the powder onto the lower portion to bring the free end margins and the margins of one side of the wrapper in flat abutting relation, and means for mechanically interlocking said free margins with each other in flat abutting relation to form a packet. 40

10. An apparatus for packing powder 45 comprising in combination, means for supporting a suitable wrapper to receive the powder on one portion thereof with another portion of the wrapper folded over the powder onto the lower portion of the wrapper 50 to bring the free margins thereof in flat abutting relation, and means successively engaging the area of the free margins to mechanically unite the same and simultaneously engaging the marginal area of the margins of one side to interlock the same to form a packet, substantially described. 55

11. An apparatus for packing powder comprising in combination, means for supporting a suitable wrapper to receive the powder on one portion thereof with another portion of the wrapper folded over the powder onto the lower portion to bring the end margins and the margins of one side into an abutting relation, and means for interlockingly perforating free margins to unite the same to form a packet, substantially described. 65

In testimony whereof I affix my signature in presence of two witnesses.

TADEUS PARASKOVICH.

Witnesses:

E. WOLF SHEUMER,
ARTHUR HERZOG.