

Dec. 25, 1928.

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FEEDING DEVICE FOR MANUFACTURING AND WRAPPING
OF SWEETMEATS AND THE LIKE
Filed April 10, 1925

2 Sheets-Sheet 1

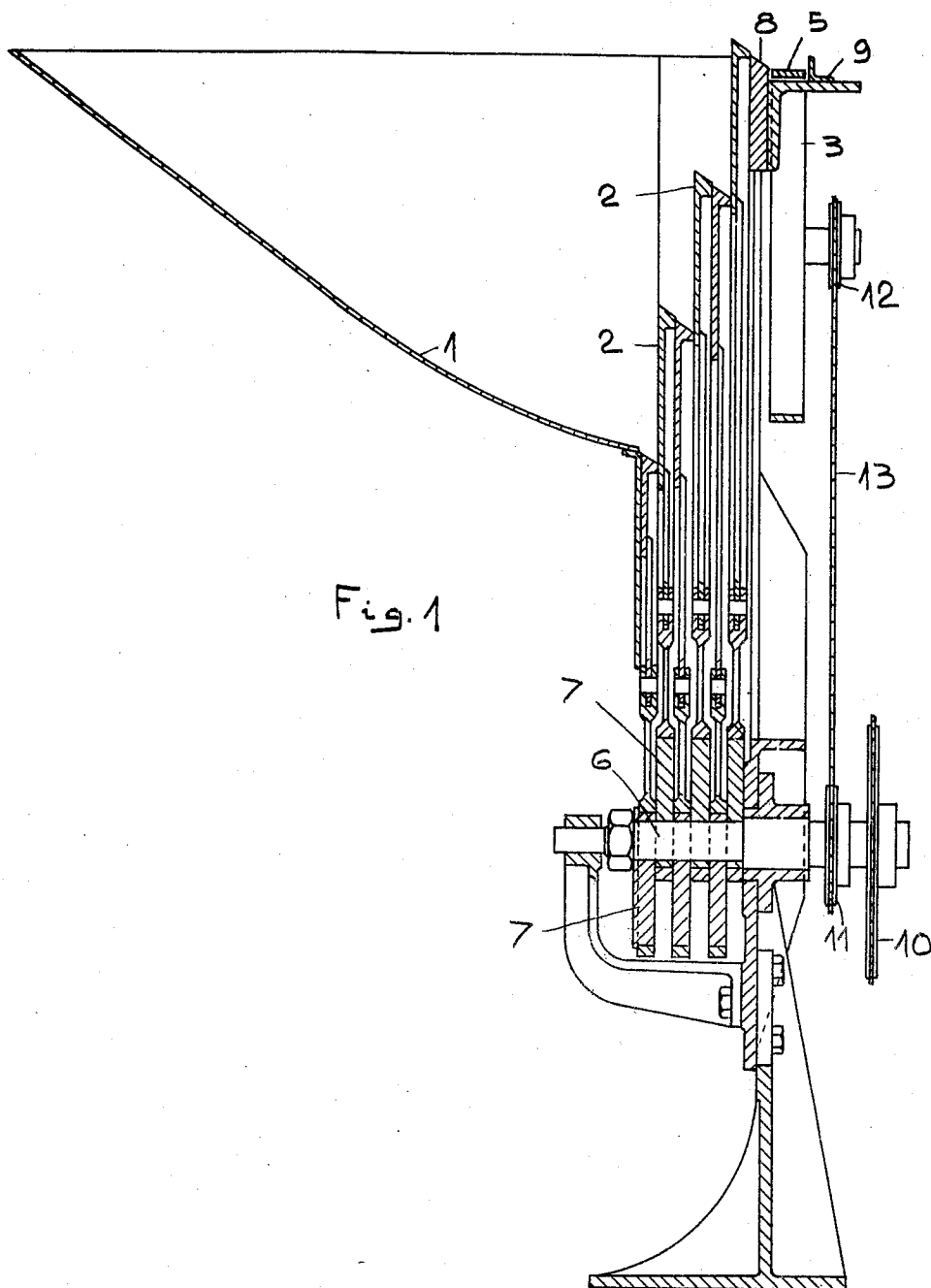


Fig. 1

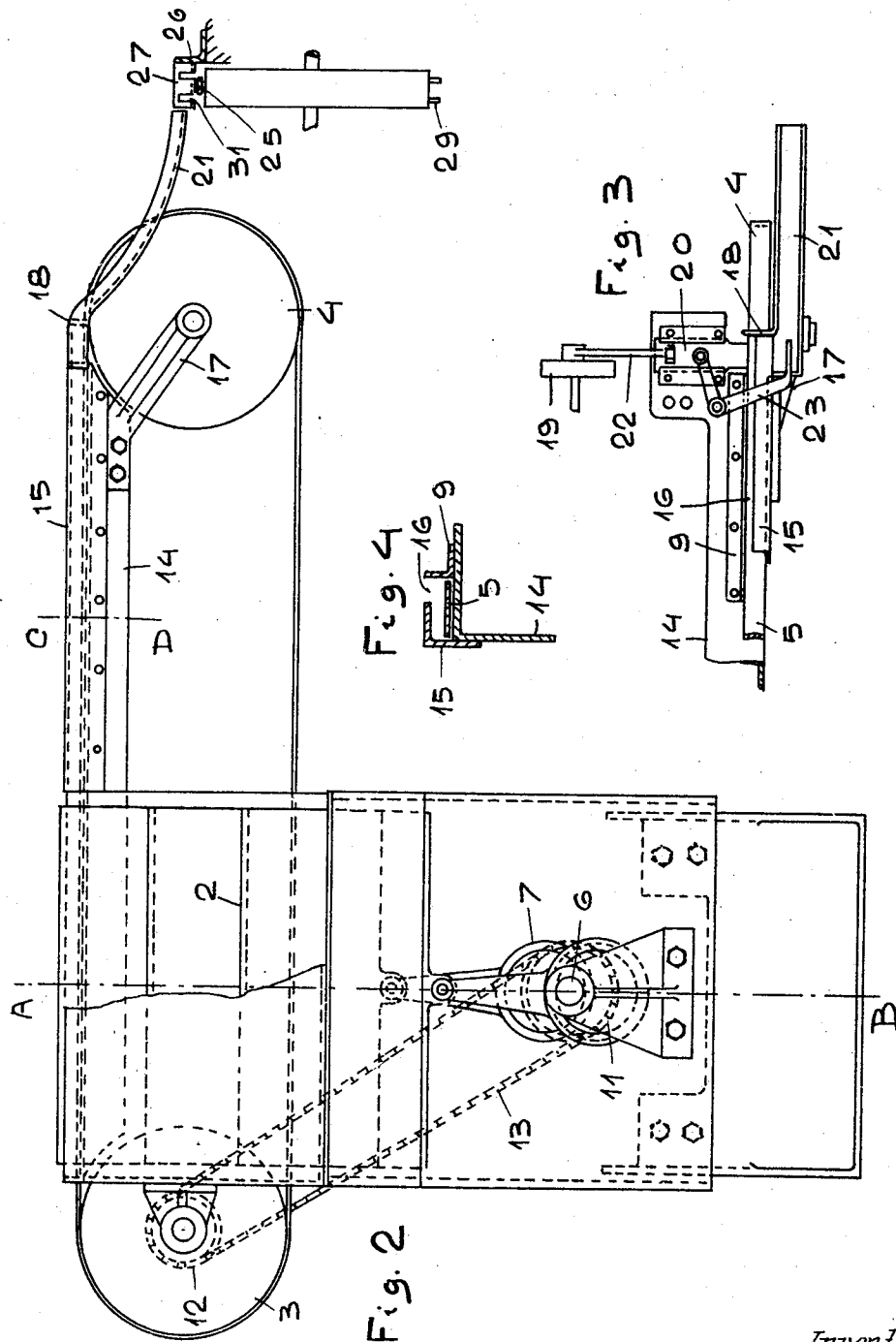
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2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE.

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FEEDING DEVICE FOR MANUFACTURING AND WRAPPING OF SWEETMEATS AND THE LIKE.

Application filed April 10, 1925, Serial No. 22,140, and in Suomi-Finland February 10, 1925.

This invention relates to a device, which automatically separates small objects as for instance sweetmeats etc. from a pile and transports them to a predetermined place, (for example a wrapping machine or to be further treated or stocked) putting them at the same time in order and bringing them to the required place either one at a time or in a continuous stream or procession. The principal advantage of the machine of this invention resides in its ability to feed the objects evenly and gently without damaging even very delicate articles such as some sorts of sweetmeats.

In the accompanying drawing which illustrates a preferred embodiment of the invention:

Fig. 1 shows a section on line A—B of Fig. 2.

Fig. 2 shows the machine in side view.

Fig. 3 shows a part of the machine in plan view.

Fig. 4 is a section on line C—D of Fig. 2.

1 is a hopper, in which the sweetmeats are mixed with each other at random. The slide-plates 2 lift them up in good order and deliver them onto a steel band 5, which runs over the pulleys 3 and 4. The upper edge of each of the slide-plates is inclined away from the hopper so as to effect an automatic movement of the sweetmeats, by their own weight, over the top of the plate from edge to edge when the slide-plates move up and down passing each other snugly. The slide-plates get their motion from eccentrics 7 on the driving shaft 6, these eccentrics being so arranged, that one plate goes up when the adjacent plate has a downward motion. Thus the sweetmeats finally reach the outer edge of the remotest slide-plate and slide down over the sloping edge 8 onto the steel band 5, stopping against an angle iron 9. The sloping edges of the slide-plates are so narrow that sweetmeats which land crosswise upon them, are not taken along, but fall back into the hopper. The device above described does not damage even the most delicate sweetmeats, in delivering them to the steel band. Power is transmitted to the shaft 6 by means of the chain sprocket 10 and the pulley 3 receives its motion from the said shaft through a driving chain 13 and chain sprockets 11 and 12.

supports the lifting mechanism and hopper extends a platform member 14, over which the steel band 5 moves. This platform member is, on one side of the steel band, furnished with an angle iron 9 and on the other side with a protective plate 15, which is partially bent over the said steel band. The clearance between the steel band and the bent part of the plate is large enough only for the passage of one row of sweetmeats at a time. The plate 15 does not cover the whole breadth of the path, but leaves an opening 16 free for inspection. The member 14 furthermore carries a bracket 17 on which is mounted the pulley 4. The straight path of the travelling row of sweetmeats comes to an end at a cross plate 18 and there the said row of sweetmeats comes to a standstill, the steel band moving on further around the pulley 4. A slide 20 (see Fig. 3) receives a reciprocating motion from a crank disc 19, through a connecting rod 22, and is also pivotally connected to a bell crank lever 23, with which it therefore cooperates to push the sweetmeats into a chute 21, which has a suitable downward slope down which the sweetmeats glide into a wrapping machine or the like.

The drawing suggests a method for transporting the sweetmeats further by means of a wheel furnished with a pair of pins 29. The sweetmeats come gliding down the chute 21 to a fixed steel plate 25 and stop against an angle plate 27 and an angle iron 26. The plate 27 is provided with notches 31 through which the pins 29 can pass while the steel plate is narrow enough to clear the said pins 29.

The machine may in some cases be used without the slide (20) and lever (23) thus feeding the sweetmeats in a continuous row and various other modifications in constructional details are likewise possible without departing from the spirit of the invention.

I claim as my invention:

1. A transporting and feeding device comprising a hopper, a conveyor adjacent said hopper, a series of contiguous, vertically slidable plates disposed between said hopper and conveyor, means for simultaneously sliding adjacent plates in opposite directions, the upward limit of the movement of said plates being successively higher from the hopper to the conveyor, the plate nearest the conveyor being adapted to discharge on

From the upper part of the bracket which

the conveyor, said plates having inclined upper edges, whereby articles may be moved from the bottom of the hopper to the conveyor.

5 2. A device as claimed in claim 1, said upper inclined edges of the plates being narrower than the length of the objects to be carried thereby, whereby said edges are adapted to retain the objects only in longitudinal position.

10 3. A sweetmeat elevating device comprising in combination a hopper, a plurality of juxtaposed plates mounted for reciprocation therein, means for alternately reciprocating said plates whereby the sweetmeats within said hopper will be elevated in a step by step fashion and a conveyor arranged adjacent one of said plates.

15 4. A dispensing device for hoppers comprising a plurality of coincidentally dis-

posed slidable plates, means for transmitting motion to said plates whereby articles within said hopper will be transferred from one plate to the next adjacent plate and means cooperating with one of said plates for receiving articles transferred thereto. 25

5. The combination with a support, a hopper mounted thereupon, a plurality of article elevating members extending within said hopper, means for transmitting motion to said elevating members whereby articles within said hopper may be elevated from one elevating member to the next adjacent elevating member and one of said elevating members adapted to be moved beyond said hopper for dispensing articles therefrom. 30 35

In witness whereof I have hereunto set my hand.

KARL FRITTIÖF KRONQVIST.