Oct. 17, 1933. E. H. JAHNE 1,931,440

WRAPPING MACHINE

Filed Feb. 26, 1931

Fig.1

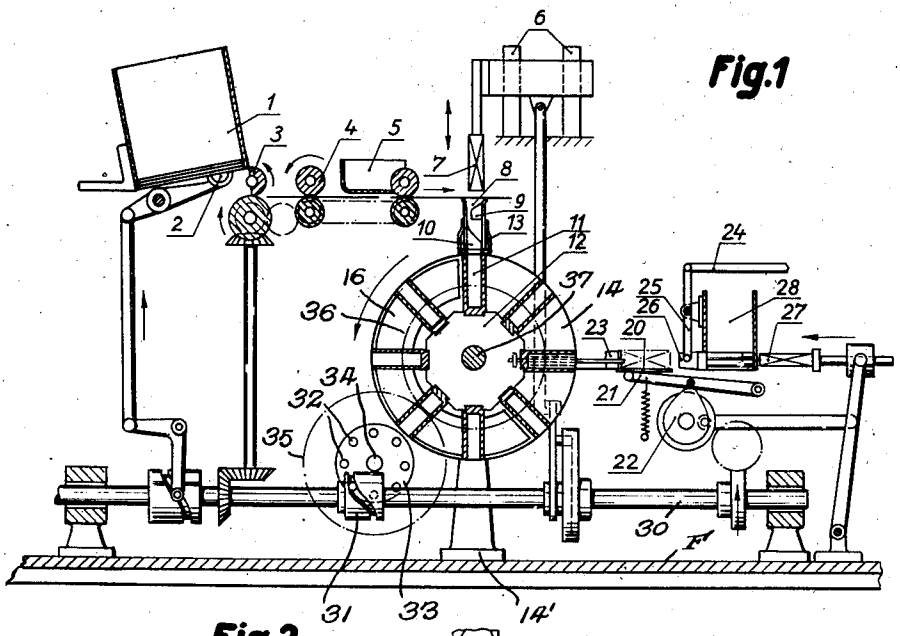


Fig.2

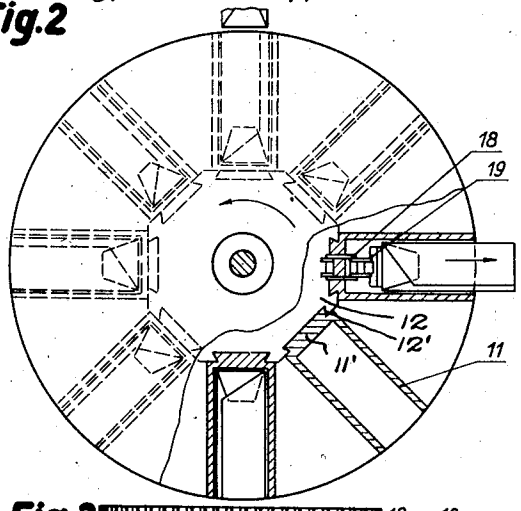
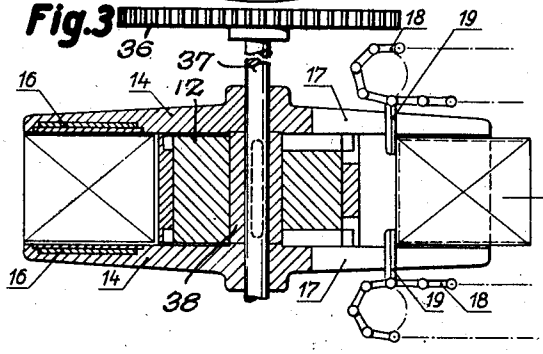


Fig.3



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WRAPPING MACHINE

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4 Claims. (Cl. 93—3)

The present invention relates to a combination of a device for producing paper and like containers and a device for filling and closing such containers. With this arrangement special care must be taken to ensure that in spite of the requisite high working speed, the container is quite dry when it arrives at the position where the filling members come into operation, in order that it is not burst open by the inserted goods.

This invention consists in that the container folded in a shaping channel of known type, is thrust by a former into the chambers of an intermittently rotated drum mounted between stationary lateral side plates, where during the return movement of the shaping block, they are retained by strippers, and then the containers are displaced past heating elements let into the lateral side plates to a removal position where by means of radially actuated rams projecting through slots in the lateral side plates they are withdrawn from the chambers and placed opposite a filling apparatus of known type.

According to the invention the plungers are mounted on a rotating chain and thrust the containers on to an intermittently actuated conveyer belt situated in front of the filling device, whereupon a reciprocating plunger, by means of a known conical filling frame, thrusts the goods into the container lying against a controlled abutment plate and the container is then passed by means of the conveyer belt to the known closing apparatus.

The apparatus according to the invention is mainly intended for the packing of cigarettes into paper containers, but can also be used equally well for any other goods.

One form of construction of the invention is illustrated in the annexed drawing, in which:—

Fig. 1 is a side view with parts thereon shown in section.

Fig. 2 shows a side view of the drum, partly cut away, on an enlarged scale.

Fig. 3 is an horizontal longitudinal section.

The blanks are removed from a magazine 1 in known manner by means of a reciprocating suction head 2 and passed between pairs of conveyer rollers 3 and 4 to an adhesive applying device 5, and thence to the former 7 adapted to be displaced on the vertical rod 6. This former first folds the blanks into an U-shape by pressing them into the shaping channel 8, whereupon by means of a controlled finger, not shown, and by inclined members 9, 10 the longitudinal and transverse flaps are folded on the former one after the other, in known manner. In the further course of operation the former 7 passes the container into a chamber 11 of the intermittently rotated drum 12, where, on the return movement of the former, it is retained by means of the spring controlled tongues 13 acting as strippers.

The lateral side plates 14, of the drum are fitted in a stationary manner to the frame of the machine and are provided with electric heating members 16 which cause the gummed seams of the container which are displaced in immediate proximity to them to dry quickly.

At the position where the containers should be removed from the drum, slots 17 are provided in the lateral side plates, through which pass the plungers 19 mounted on the chain 18. As shown in Fig. 3, the plungers come into position behind the containers and thrust them on to an intermittently actuated conveyer belt 20, which is stationary at that moment. Now an abutment plate 23 which is mounted on a lever 21 is actuated by a cam 22 and assumes a position behind the container. A part of the conical filling member 26 actuated by means of a rod 24, 25 is inserted in the opening of the container, whereupon a plunger 27 thrusts the two bottom layers of cigarettes from the reservoir 28 through the filling member into the container. After the return movement of the filling member and the plunger 27, the conveyer belt 20 is set in motion and brings the filled container to a known closing device, not shown in the drawing.

In Figure 1 the extent of the electrical heating member 16 is shown. The side plates 14 are also provided with standards 14' which standards are attached to the base plate F of the machine frame.

Upon the main drive shaft 30 there is mounted a cam disk 31 which cooperates with the pins 32 which are arranged axially upon the disk 33. In this manner the continuously rotating drive shaft 30 intermittently drives the shaft 34 upon which the disk 33 is mounted. Mounted upon the shaft 34 there is also a gear 35 which meshes with the gear 36. The gear 36 is mounted on shaft 37 upon which the housing 38 is mounted and prevented from rotation by means of a tongue and groove. The drum 12 is mounted upon the housing 38 and is provided on its periphery with dove-tailed depressions 12' in which the substantially U-shaped chambers 11 are inserted with corresponding members 11'.

The drive of the apparatus can be easily seen

in the drawing, and needs no further description.

Having thus described the nature of the said invention and the best means I know of carrying the same into practical effect, I claim:—

1. An apparatus for the manufacture, filling and closing of paper or like containers comprising means for forming a container, stationary side plates, a rotatable drum mounted between said side plates, pockets in said drum into which said containers are inserted by said forming means as soon as formed by said forming means, strippers for stripping said container from said forming means, heating elements located in said side plates, means for removing said containers from said pockets and means for filling said containers.

2. An apparatus for the manufacture, filling and closing of paper or like containers comprising means for forming a container, stationary side plates, heating means located in said stationary side plates, an intermittently rotating drum mounted between said side plates having pockets therein into which said containers are inserted by said forming means, strippers for removing said container from said forming means, said side plates having slots therein, means operating through said slots for removing said containers from said drum and means for filling the container.

3. An apparatus for the manufacture, filling and closing of paper or like containers comprising forming means for said container, an intermittently rotated drum having pockets therein into which said containers are inserted by said forming means as soon as said containers are formed, means for discharging said containers from said pockets, means for heating said containers while in said drum and means for filling said containers.

4. An apparatus for the manufacture, filling and closing of paper or like containers comprising forming means for said containers, a rotatable drum having pockets therein into which said containers are inserted by said forming means, means for stripping said containers from said forming means, means for heating the containers while in said drum, stationary plates upon each side of said drum, said stationary plates having radial slots therein, a rotating endless chain, plungers carried by said endless chain passing through said slots to discharge said containers from said drum, an intermittently operated conveyor belt adapted to receive said containers when discharged from said drum, an abutment plate adapted to support the rear of said containers when being filled and intermittently operated filling means adapted to fill said containers.

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