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PROCESS FOR SHAPING AND PRINTING CARDBOARD BLANKS FOR THE MANUFACTURE
OF BOXES AND MACHINE FOR THE WORKING OF SAID PROCESS
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Fig. 1. A schematic diagram of a mechanical device, likely a textile machine, showing various components labeled 1 through 14. The device includes a large wheel (1), a smaller wheel (2), a series of rollers (3, 4, 12, 13), a large circular component (8), and a complex assembly of gears and levers (5, 6, 7, 9, 10, 11, 14).

A perspective view of the device from the front. It shows a rectangular front plate 5 with rounded corners and a central rectangular opening 16. To the left of the front plate are two vertical side plates, labeled 8 and 9. To the right is a vertical rear plate 10. The side plates 8 and 9 have rectangular openings 16' and 17 respectively. Dashed lines indicate internal components or hidden edges. An arrow labeled 'A' points downwards from the bottom center of the front plate. An arrow labeled 'B' points horizontally to the right from the right edge of the front plate.

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PROCESS FOR SHAPING AND PRINTING
CARDBOARD BLANKS FOR THE MANU-
FACTURE OF BOXES AND MACHINE FOR
THE WORKING OF SAID PROCESS

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3 Claims. (Cl. 93—58)

This invention relates to a process for shaping and printing cardboard blanks intended for the manufacture of boxes, said process being characterized by the fact that, as the shaping operation is effected from a reserve of cardboard forming a continuous band, the blanks are so presented to the printing device as to be gripped by their joining folds.

This invention also relates to a machine for working said process and comprising for this purpose, means for shaping the cardboard blanks issuing from a reserve of cardboard forming a continuous band, said shaping means being so arranged that the instrumentalities, for introducing the blank which has been shaped into the printing device, grip said blank by means of its joining fold by means of which said blank is maintained during the whole printing operation.

The drawing represents an embodiment of said machine, given by way of example.

Fig. 1 is a semi-diagrammatic view.

Figs. 2 and 3 represent two cardboard blanks finished but not yet printed.

From the reserve reel 1, the band 2 is led by means of the cylinders 3 and 4 to the printing device consisting in a rotary printing device 5 for printing sheets. Between the cylinders 3 and 4, at 6, are located different shaping means not shown.

At 7 is located an oscillating gripper intended to grip the cardboard blanks, and then to pass them to the printing cylinder 8, itself provided with other grippers 9, 10, 11.

The cardboard blanks, which could be laid on by any process are here laid on by the fact that the band 2 advances gradually to an extent equal to the length of the blank, and in such a manner that the end of the band always comes and lodges right in the oscillating gripper 7. The gripper then maintains the end of the band in place, while a cutting member 12 severs the blank from the band. The oscillating gripper 7 then passes the blank, severed from the band, to one of the grippers 9, 10 or 11 of the printing cylinder, the rotation of which causes the printing of said blank, which then comes and lodges on the pile 14.

In the existing machines for shaping and printing cardboard blanks intended for the manufacture of boxes, said blanks advance and are led through printing members in the direction of the arrows A of Figs. 2 and 3. In the machine represented said advance must be effected in the direction of the arrows B, in order that the joining folds 15, 16 respectively of the cardboard blanks precede said blanks and in order that the grippers, or other means according to the mode of feeding adopted, may fulfil the condition, that

of gripping said cardboard blanks by means of the joining folds.

Due to this fact, the non-printed part covered over by the feeding means and that part of the printing which is not clear and which always occurs here in this kind of printing, are to be found on the joining fold, itself hidden when the box is assembled, as the joining folds then come and lodge at 15', 16' respectively, under a part which has been correctly printed.

The feeding of the cardboard blank preceded by the joining fold through the printing device can either be effected according to the example given in Fig. 1, by so cutting out the blanks that the joining fold is always to be found at the end of the band, or with a shaping resulting in a lateral disposition of the joining fold, in which case the passage into the printing press is effected in a direction perpendicular to the advancing direction of the band.

What I claim is:—

1. Process for shaping and imprinting blanks intended for the manufacture of boxes, consisting in shaping blanks fed from a continuous strip of material, gripping the free end of the shaped strip by its assembly flaps in the direction of the feed line, cutting the blank and feeding same to a printing device and imprinting one face of said blank while the latter is securely held in said gripping relationship.

2. In a machine for shaping and imprinting blanks for the manufacture of boxes in combination with a printing device, initial cutting and shaping means for shaping and cutting the main profile of the blanks in a strip, gripping means holding the shaped strip by its assembly flaps in the direction of the feed line, cutting means, and grippers provided upon the printing device, said grippers receiving and securely holding the shaped blank in said gripping relationship and said cutting means releasing said shaped blank from said strip while said shaping means shape a new profiled blank in the strip.

3. In a machine for shaping and imprinting blanks for the manufacture of boxes in combination with a printing device, initial cutting and shaping means for shaping and cutting the main profile of the blanks in a strip, oscillating gripping means holding the shaped strip by its sealing flap in the direction of the feed line, cutting means, and grippers provided upon the printing device, said grippers receiving and securely holding the shape blank in said gripping relationship and said cutting means releasing said shaped blank from said strip while said shaping means shape a new profiled blank in the strip.

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