

E. JAGENBERG.
MACHINE FOR MAKING PASTEBOARD BOXES.
APPLICATION FILED JUNE 13, 1911.

1,016,269.

Patented Feb. 6, 1912.

2 SHEETS—SHEET 1.

FIG. 1.

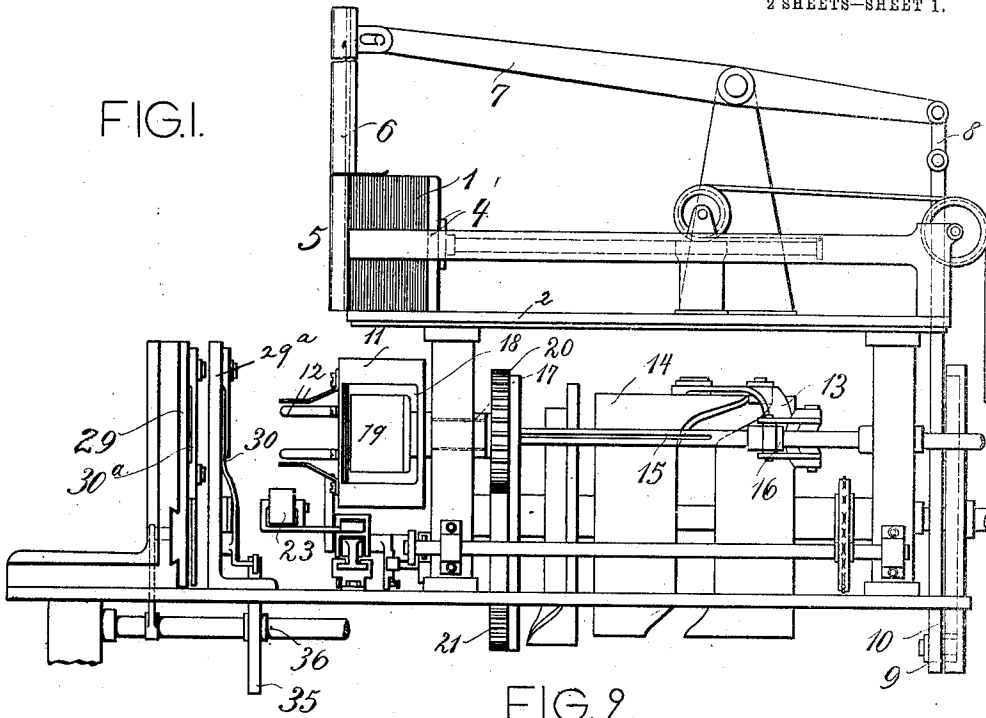
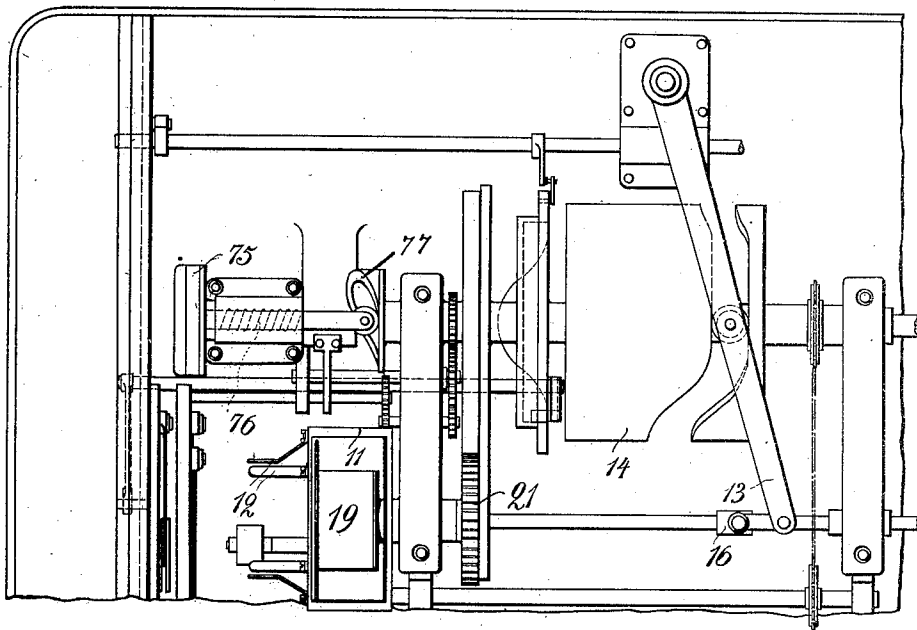


FIG. 2.



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Inventor:
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by his attorneys
Brenner & Fritzsche

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2 SHEETS—SHEET 2.

FIG. 3.

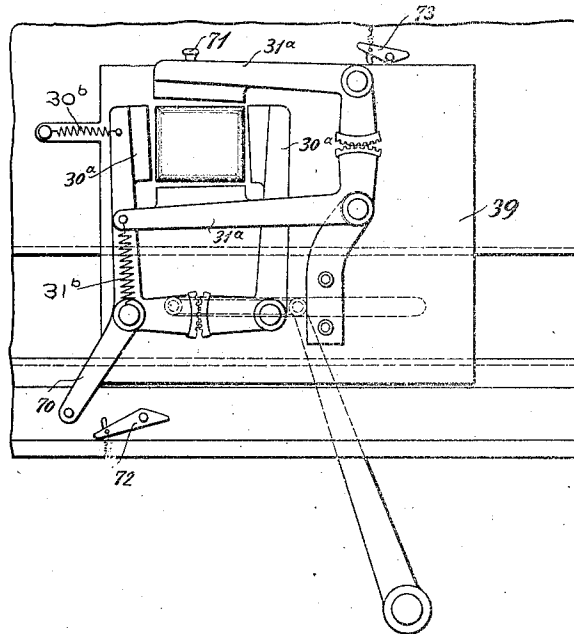
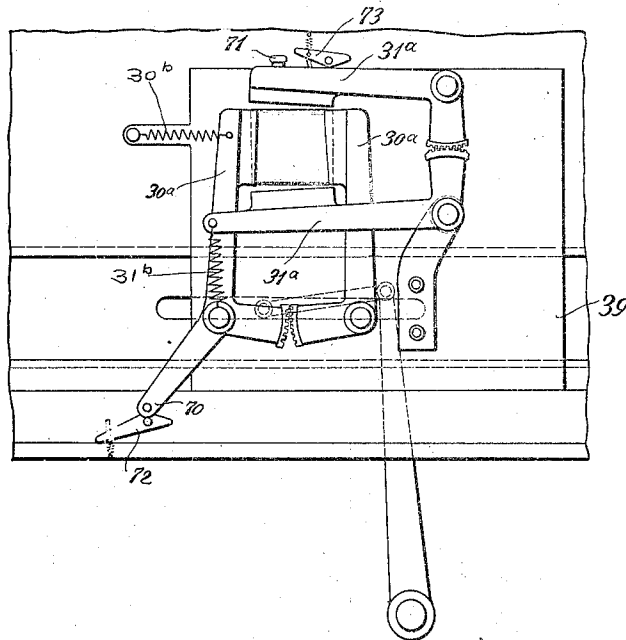


FIG. 4.



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UNITED STATES PATENT OFFICE.

EMIL JAGENBERG, OF DUSSELDORF, GERMANY.

MACHINE FOR MAKING PASTEBOARD BOXES.

1,016,269.

Specification of Letters Patent.

Patented Feb. 6, 1912.

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To all whom it may concern:

Be it known that I, EMIL JAGENBERG, manufacturer, a subject of the German Emperor, and resident of 107 Himmelgeisterstrasse, Dusseldorf, Kingdom of Prussia, Germany, have invented certain new and useful Improvements in Machines for Making Pasteboard Boxes, of which the following is a specification.

10 The present invention relates to a machine for manufacturing boxes of pasteboard or similar material, in which the sides of the box are covered with paper or the like, which is folded over at the bottom and the open side. For folding over the ends projecting at the open side a folding device is employed with folders, made in form of levers, which are attached to a slide carrying a matrix adapted to receive the piece of work.

20 The improvement consists in an arrangement of such a character, that the folders are moved during the sideward travel of the slide over the edges of the box and moved back by the latter, when the slide has reached its terminal position.

25 The present invention is exemplified in a constructional form in the accompanying drawing.

30 Figure 1 is a side elevation of the machine; Fig. 2 is a top view of a part of the machine; Figs. 3 and 4 show the new arrangement in front elevation on an enlarged scale.

35 The pieces of work 1, which have already been cut to size and ripped are arranged behind each other on a table 2. The foremost piece is pressed by a plunger 4 against the plate 5 or the like and will then be beneath a slide 6 which is connected to a lever 7 and a rod 8. The latter is guided by means of a roller 9 in a cam disk 10 in such a manner, that the slide will be at times moved downward at a comparatively rapid speed whereby the foremost piece of work will be pushed into a frame 11 lying below it. This frame is of such a size, that it will just take the piece of work. The space inclosed by the said frame corresponds to the section of the box which is to be made.

50 The frame is provided on the one side with elastic fingers 12 inclined toward each other, while a lever 13 is disposed on the other side of the frame which lever engages with a roller or a slipper attached to it in a cam disk 14. The said lever 13 is coupled

by means of a link member with a sleeve 16 arranged pivotally but not separately displaceable on a rod 15. The rod 15 is rotatably journaled and on it is fitted a plate 18 having a sleeve 17 adapted to receive the rod, the said plate being connected to a frame 11, and arranged in such a manner, that the frame must revolve with the rod, whereas the latter may be axially displaced therein. To rod 15 is rigidly attached a plunger 19, the section of which is approximately equal to the inside clear space of the box to be made. On the said rod is further fitted a spur wheel 20, in which the rod may be likewise axially displaced the same as in the frame, but which cannot move independently thereof. With the spur wheel 20 meshes a larger driven spur wheel 21, which is toothed over a part of its periphery only, so that it will produce a rotation of the movement of the wheel 20 only during a part of its rotation, during which part rotation it will make said wheel 20 complete a full revolution. The grooves of the cam disks 10 and 14 are made of such a shape that the plunger 19 is moved forward immediately after the piece has been pressed down by the slide 6, whereby the said plunger will on passing through the frame fold over at right angles the intended sides of the box, which have been marked by rips. The piece is displaced by the plunger so far that the fingers 12 will grip slightly over the edges of the sides of the box on the plunger and retain these in their position. The piece will now be above the roller 23, which is rotatably fitted to a lever 22 and under action of a spring or a weight.

95 When the strip of paper which is to be pasted on has been brought between the roller 23 and the box; it will be pressed under action of the spring or weight, not shown in the drawing, against the box, which commences at this moment its single revolution, so that the box will be covered all around with said strip. Now the cam disk 14 starts another feed motion, by which the piece is moved into the folding device. This device consists of a frame 29 and two pairs of folders 30, 31 attached thereto and having the form of levers. These lever shaped folders are so operated by eccentrics or cams 35 on the shaft 36, that they will move over the bottom of the box and fold over the projecting edges of the strip of paper and paste them down. The cam disk

14 thereupon further advances the plunger with the piece and the latter is introduced through the first folding device into the matrix 39 in the displaceable slide 29. On this slide is arranged the second folding device, which consists of the folder pairs 30^a, 31^a respectively pivotally fitted to the slide and coupled by toothed segments. The one folder of the pair 30^a is provided with an abutment arm 70 and the upper folder of the pair 31^a is provided with an abutment arm 71, the said folder reaching with said arms 70, 71 respectively into the path of stops 72, 73 respectively provided on the body of the machine of the guide of the slide. When the slide with the folding device is moved to one side, and the arms 70, 71 abut against the stops 72, 73 respectively the respective folders and also the two folders coupled to them by the toothed segments will be turned and moved over the edges of the box. The slide travels together with the folding device and the arms 70, 71 beyond the stops. These therefore again release the folding device and the folders return into their initial position by the action of springs 30^b, 31^b before the slide has reached the end of its travel.

At the end of the travel of the slide the matrix with the piece will be opposite to a second plunger 75, which will press the ends of the paper, which have been folded over the front edges of the box, against the insides of the latter. This plunger is operated by means of a cam disk 77 or the like against the action of a spring 76 in front of and into the box.

The stops may, as shown, be made and arranged in a movable manner, so that on the slide returning the arms 70, 71, which

have corresponding recesses in their sides will clear with these the stops on the sides opposite to those on which the previously passed, and these stops will correspondingly recede, so that the folding device will not be operated.

I claim:

1. In a machine of the character described, means for providing a box with a covering strip that projects beyond the bottom and top thereof, a first folding device adapted to fold said strip over the box bottom, a slide, means for actuating the same, a second folding device on said slide adapted to fold the strip over the box top, a plunger for projecting the folded strip into the box, and means for actuating and retracting the second named folding device prior to the arrival of the slide opposite the plunger.

2. In a machine of the character described, means for providing a box with a covering strip that projects beyond the bottom and top thereof, a first folding device adapted to fold said strip over the box bottom, a slide, means for actuating the same, a second spring-influenced folding device on the slide adapted to fold the strip over the box top, a plunger for projecting the folded strip into the box, and abutments located intermediate the first folding device and the plunger for actuating the second folding device, said abutments clearing said second folding device and causing the same to be retracted through its spring control prior to the arrival of the slide opposite the plunger.

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Witnesses:

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