

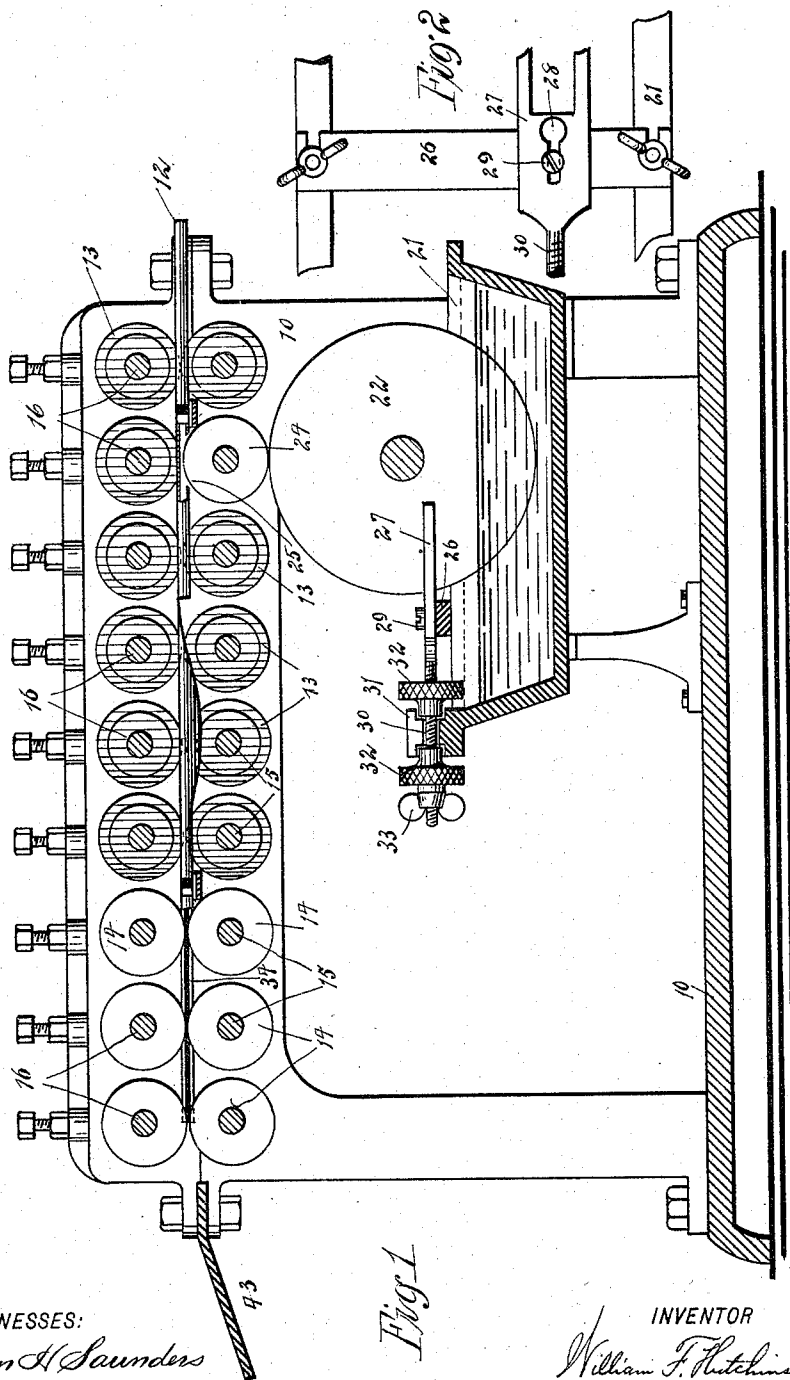
(No Model.)

2 Sheets—Sheet 1.

W. F. HUTCHINSON.
SHUCK GLUING MACHINE.

No. 571,321.

Patented Nov. 10, 1896.



WITNESSES:

Bertram H Saunders
 Edward L Coman

Fig 1

INVENTOR

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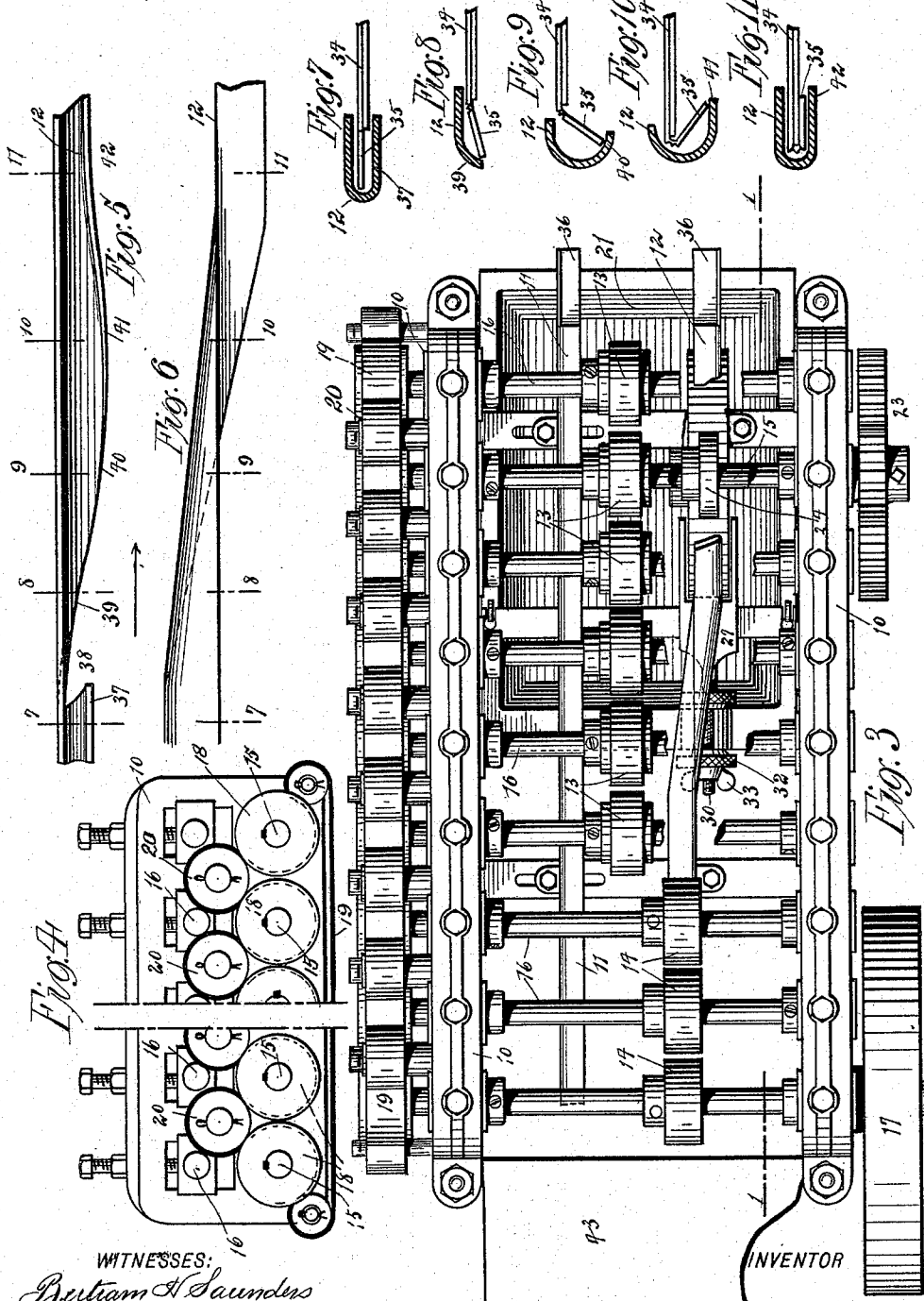
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UNITED STATES PATENT OFFICE.

WILLIAM F. HUTCHINSON, OF NEW YORK, N. Y.

SHUCK-GLUING MACHINE.

SPECIFICATION forming part of Letters Patent No. 571,321, dated November 10, 1896.

Application filed November 22, 1895. Serial No. 569,822. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM F. HUTCHINSON, of New York, in the county and State of New York, have invented certain new and useful Improvements in Shuck-Gluing Machines, of which the following is a full, clear, and exact description.

My invention relates to improvements in that class of machines which are used in forming and gluing the shucks or wrappers of that kind of boxes which have an internal tray and external shuck. In making shucks of this kind it is customary to form them from a long strip of paper, a machine being used which automatically shapes and glues a shuck-tube and then cuts off the shucks to the required length. In using a machine of this sort, however, there are many shucks cut which are not properly glued and do not stick, and when the machine is stopped and again started there is a long strip of material which is not properly stuck or glued and is cut off in strips corresponding to the length of a shuck.

The object of my present invention is to produce a simple and efficient machine for working up the odds and ends of material provided in the manner above described, which machine will properly glue the single shucks and thus utilize what would otherwise be waste material.

To these ends my invention consists of certain features of construction and combinations of parts which will be hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a longitudinal section of my machine on the line 1 1 of Fig. 3. Fig. 2 is a detail plan view of the mechanism for keeping the main gluing-wheel clean. Fig. 3 is a broken plan view of the machine. Fig. 4 is a broken side elevation illustrating the means of driving the feed and compression rolls. Fig. 5 is a broken inside elevation of the doubling-guide. Fig. 6 is a plan view of said guide. Fig. 7 is a cross-section on the line 7 7 of Figs. 5 and 6. Fig. 8 is a cross-section on the line 8 8 of the same figures. Fig. 9 is a cross-section on the line 9 9 of said figures. Fig. 10 is a cross-section on the line 10 10 of

said figures, and Fig. 11 is a cross-section on the line 11 11 of said figures, the cross-sections in Figs. 7 to 11, inclusive, showing the various positions of the shuck-flap as it is turned and glued and the changing shape of the doubling-guide.

The machine has a suitable frame 10, extending longitudinally across which are the guides 11 and 12, the former being longer than the latter, however, and being perfectly straight and U-shaped in cross-section, like the beginning of the guide 12, as shown in Fig. 7. The guide 11 is adapted to guide the doubled part of the shuck, which is straight and has no flap, and the guide 12 is intended to double the flap and gradually bring it into contact with the body portion of the shuck.

The shucks are carried longitudinally through and between the guides 11 and 12 by feed-rolls 13, which are preferably rubber-covered and are arranged one above the other, as shown in Fig. 1, and the glued edge of the shuck is then carried between compression-rolls 14, which are similarly arranged, but are preferably of metal and are placed at the rear end of the guide 12. The rolls 13 and 14 are carried by cross-shafts 15 and 16, journaled on the frame 10, and the upper shafts 16 are adjustable vertically in the usual manner in order that the rolls may be held the desired distance apart.

The machine can be driven in any suitable way. As illustrated, it has a driving-pulley 17 (see Fig. 3) on one of the shafts 15, and these several shafts 15 are provided with grooved pulleys 18, which are connected by a belt 19, (see Fig. 4,) this belt running under one pulley, then over an idler 20, then beneath the next pulley and over the next idler, and so on in a common well-known manner.

Near the front end of the machine and beneath the guide 12 is a glue-pot or fountain 21, in which turns a main glue-wheel 22, which is driven by a gear mechanism 23, (see Fig. 3,) connecting with one of the shafts 15, and above the wheel 22 and in contact with it is a second wheel 24, which takes the glue from the wheel 22 and delivers it through an opening 25 in the under side of the guide 12 upon the flap of the shuck, as hereinafter described. Extending across the fountain and near the wheel 22 is a cross-bar 26, which

is secured to the sides of the fountain in a detachable manner, as shown in Fig. 2, and this cross-bar supports a cleaning-fork 27, which straddles one edge of the wheel 22 and is adjustable back and forth on the cross-bar 26 by means of the keyhole slot 28 in the fork and the guide-screw 29 in the cross-bar. (See Fig. 2.) The shank 30 of the fork 27 is screw-threaded and held in the slot 31 at one edge of the fountain 21 by means of the jam-nuts 32 and lock-nut 33. The above arrangement is not very essential, however, and any suitable gluing and cleaning mechanism may be used.

The shucks 34 (see Figs. 7 to 11) have a flap 35 on one edge, which is scored in the usual manner and has to be doubled over upon the body of the shuck and glued; but guides 11 and 12 are cut away at the top, as shown at 36 in Fig. 3, in order that the shucks may be easily fed into the guides, and the guide 11 is of U shape throughout its whole length, and the guide 12 is U-shaped on the start, as shown in Fig. 7, so that the flap 35 can lie straight in it, as shown in the said figure.

When the shuck is fed into the machine, it is caught by the rolls 13 and carried along through the two guides, and the flap 35, as it passes over the wheel 24 and through the opening 25, is smeared on the under side with glue. The flap then enters the guide 12 again and passes through a cut or opening 38 in the under side of the guide and then engages the first curve or bend 39 (see Fig. 8) of the guide, which curve or bend is shaped to turn down the flap 35 slightly, and the guide 12 gradually turns under more and more until at the point 40 (see Figs. 3 and 9) the flap is turned farther than at the point 39, and the guide is still further contracted and turned under until at the point 41 the flap is farther doubled over, and, finally, at the point 42 the guide

resumes its U shape, and the flap is here brought into contact with the under part of the shuck-body (see Fig. 11) and is then carried out from the guide and between the compression-rolls 14, which squeeze this edge of the shuck, and so firmly unite the flap to the body portion of the shuck. After leaving the compression-rolls the shuck is discharged upon a ledge or shelf 43 at the rear end of the machine.

It will be seen from the foregoing description that the machine is only adapted to form shucks after they have been scored and cut, but that it does this very nicely and rapidly and firmly secures the flap to the body portion of the shuck.

I am aware that gluing arrangements like that illustrated are in common use, also that it is not unusual to use guides to double over a portion of the shuck-body, and I do not claim such features broadly; but my invention consists in the combination and arrangement of the two guides, the feed and compression rolls, and means for applying glue at the right point.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

In a machine of the kind described, the combination of the two guides essentially parallel with each other and of a general U shape in cross-section, one of them having one side gradually bent to double the flap of a box-shuck, feed-rolls between the two guides, compression-rolls at the discharge end of the doubling-guide, and means for applying glue to a box-flap through one side of the doubling-guide, substantially as described.

WILLIAM F. HUTCHINSON.

Witnesses:

WILLIAM D. PECK,
WARREN B. HUTCHINSON.