

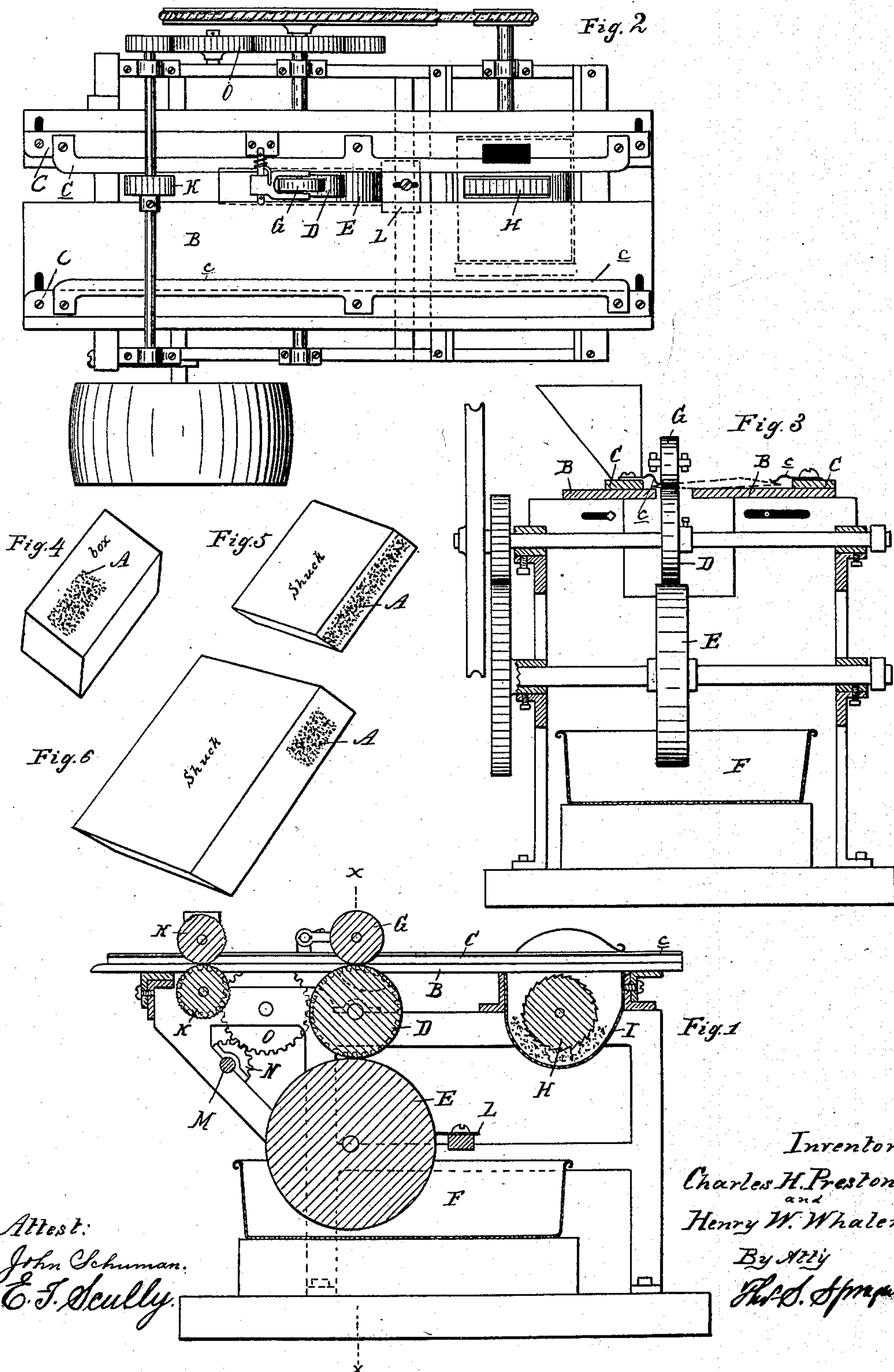
(No Model.)

C. H. PRESTON & H. W. WHALEN.

MACHINE FOR SANDING MATCH BOXES.

No. 388,582.

Patented Aug. 28, 1888.



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UNITED STATES PATENT OFFICE.

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MACHINE FOR SANDING MATCH-BOXES.

SPECIFICATION forming part of Letters Patent No. 388,582, dated August 28, 1888.

Application filed May 12, 1887. Serial No. 238,019. (No model.)

To all whom it may concern:

Be it known that we, CHARLES H. PRESTON and HENRY W. WHALEN, of Detroit, in the county of Wayne and State of Michigan, have
5 invented new and useful Improvements in Machines for Sanding Match-Boxes; and we hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings,
10 which form a part of this specification.

This invention relates to new and useful improvements in machines for sanding match-boxes or shucks; and the invention consists in an improved construction and arrangement of
15 different mechanical devices and their combination into an operative machine, whereby the work of sanding match-boxes or shucks is carried out mechanically instead of by hand.

Our machine is intended to sand that part
20 of the box called the "shuck," which is merely the outside shell of the box, and to save extra handling we prefer to attach the machine to the delivery end of the machine which manufactures these shucks. Where this, however,
25 is not desirable, we provide the machine with a suitable feeding device for independent operation, all as hereinafter described.

In the drawings which accompany this specification, Figure 1 is a vertical central longitudinal section of our machine. Fig. 2 is a
30 plan thereof. Fig. 3 is a cross-section on the line *xx* in Fig. 1. Figs. 4, 5, and 6 are perspectives of a match-box and shuck, illustrating the work our machine is intended to perform.
35

In the drawings, Figs. 4 and 5 show in perspective two so-called "match-box shucks" provided with the sanding A, usually applied to one side, either along the whole length or
40 only partly so, and this sanding is obtained by first applying glue to the surface to be sanded and then enough sand to form a rough face for striking the match thereon. The shucks are made of thin straw-board, and are delivered from the box-machine in a flattened condition, as shown, and the function of the machine is to receive these shucks or boxes
45 preferably directly from the box or shuck machine and perform the work of applying the

glue and sand perfectly automatically. To
50 this end the machine is provided with a bed, B, provided with parallel guides C the width of the shucks or boxes apart and suitably arranged to confine them to the bed, so they may push each other endwise over the bed. 55 These guides are adjustable on the bed by means of the slots and set-screws, as shown in Fig. 2, or in any suitable manner, and are provided with spring-guides *c*, which press on the shucks and hold them down, as best seen in
60 Fig. 3.

Near the front end and underneath the bed is journaled in suitable bearings in the frame the wheel D, and underneath this wheel is journaled another wheel, E, which dips into a
65 glue-pan, F, all so arranged that by a suitable rotation of these wheels the face of the wheel D will receive a coating of glue from the face of the wheel E and apply it to the shuck or box in its passage over the bed. The bed is
70 longitudinally slotted to expose the required portion of the under side of the shuck or box to the operation of the glue-wheel D, and a suitable pressure foot or roll, G, is placed above the wheel D to insure contact between
75 such wheel and the shuck or box.

H is the sanding-wheel, placed in rear of the wheel D. It is suitably journaled in the frame underneath the bed, and is inclosed in a box, I, which contains the sand or its equivalent, 80 and which may also be provided with a suitable hopper for keeping up the supply of sand. The sanding-wheel is provided with a series of peripheral pockets or indentations, and is driven at a relatively high rate of speed, so as
85 to throw the sand by centrifugal force upwardly and against the under side of the shuck or box, so that it will embed itself into the glue previously applied. The shucks or boxes after passing the sanding-wheel drop off the
90 bed completed.

No feeding device is needed if the machine is attached to the box-machine just in rear of the knife-cylinders which cut off the shucks, as the latter will shove each other forwardly; 95 but where this is not desirable or applicable we provide the machine near its forward end with one or more sets of feed-rolls, K.

To regulate the amount of glue put onto the shucks, we place a gage-bar, L, in rear of the wheel E and secure it adjustably to scrape off the superfluous glue. To keep the glue in the
 5 pot warm, we provide the latter with any suitable device for that purpose. If the face of the wheel D is made perfectly continuous, the glue will be put the whole length of the shuck or box. If this is not required, then we use a
 10 wheel which has a portion of its face cut away, so as to apply the glue only to a portion of the length of the shuck or box, as shown in dotted lines in Fig. 1.

To adapt the machine to work on different
 15 sizes of match-boxes or shucks, we preferably provide suitable adjustments for all the parts where it is required and construct the bed in two parts, so as to be readily adjusted to shucks or boxes of any width.

20 The machine may be driven by suitable connection with the box or shuck machine or otherwise. As shown in the drawings, the power is applied to a shaft, M, and from there is transmitted by a pinion, N, on said shaft to a
 25 pinion, O, which gives motion to a pinion on the shaft of one of the feed-rolls and to a pinion on the shaft of the wheel D. From there it is transmitted to a pinion on the shaft of the wheel E. The sanding-wheel H is driven at
 30 a relatively high rate of speed by a belt from a suitable pulley on the shaft of the wheel D.

Importance is attached to the intermediate glue-wheel, D, for by its use the amount of glue applied to the shucks may be regulated
 35 so that a very thin coat can be applied, so that the same will dry in a very short time.

While we have described the operation of the machine in connection with sanding so-called "shucks," we want it understood that the machine is adapted for sanding match-
 40 boxes of any form—such as are made by box-machines of other descriptions—it being merely required to provide guides suitable for the style of box for which the machine is intended to be used, and, if necessary, the bed may also
 45 be provided with top guides for the boxes.

We do not limit ourselves to the use of an indented wheel for applying the sand to the glued surface of the shuck.

What we claim as our invention is— 50

1. In a machine for the purpose described, the combination, with the gluing and sanding devices, of the bed B, formed in two parts, and the guides adjustably secured to said bed, substantially as and for the purpose specified. 55

2. In a machine for the purpose described, the combination, with the gluing and sanding devices, of the bed B, the parallel guides, and the spring guides c, secured to said parallel guides, substantially as and for the purpose
 60 specified.

3. In a machine for the purpose described, the combination, with the gluing and sanding devices, of the bed B, the adjustable parallel guides, and the spring-guides c, secured to said
 65 parallel guides, substantially as and for the purpose specified.

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Witnesses:

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