2 Sheets--Sheet 1.

CHAUNCY O. CROSBY.

Improvement in Machines for Sticking Pins.

No. 121,493. Patented Dec. 5, 1871.

fig. 1

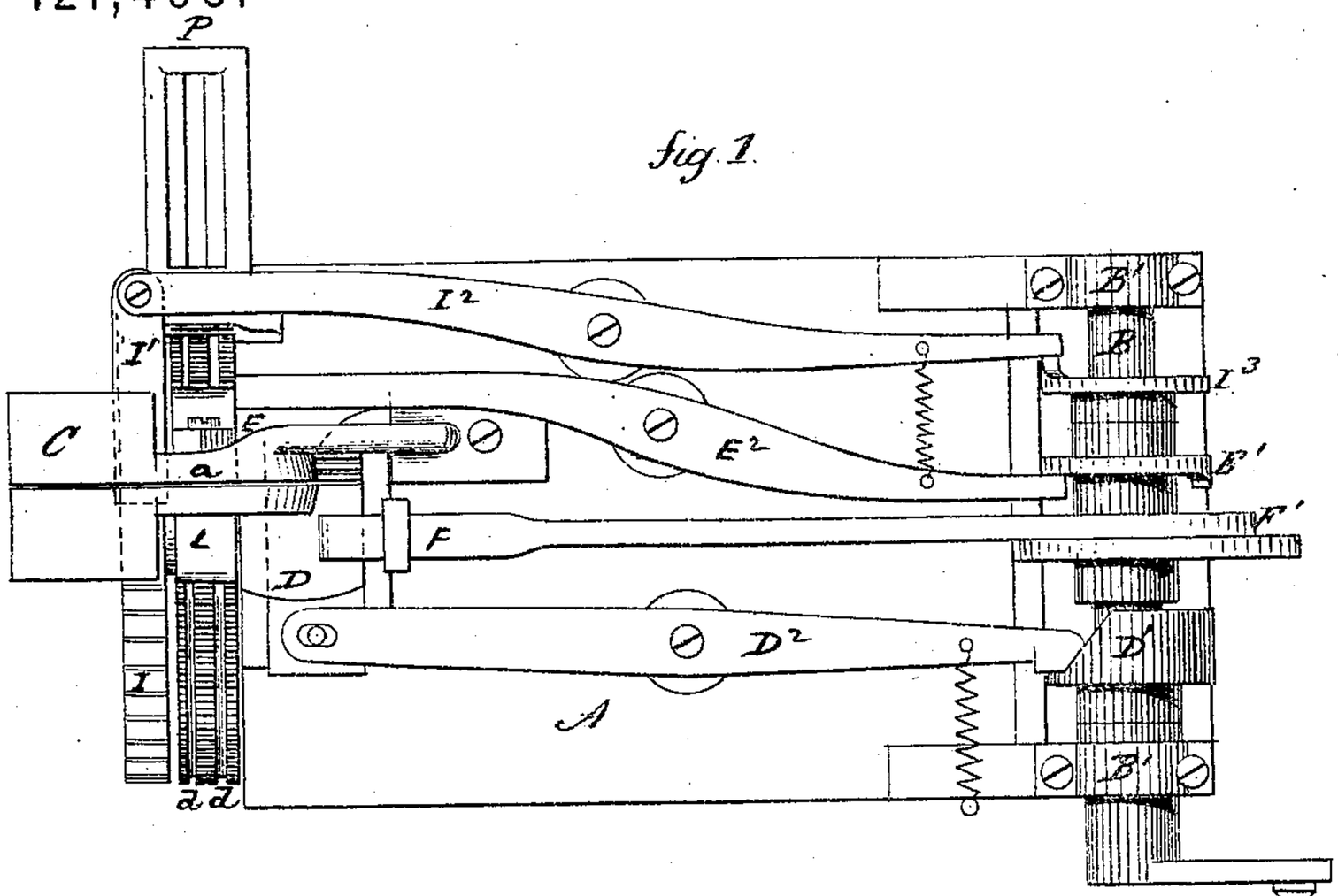


fig. 2

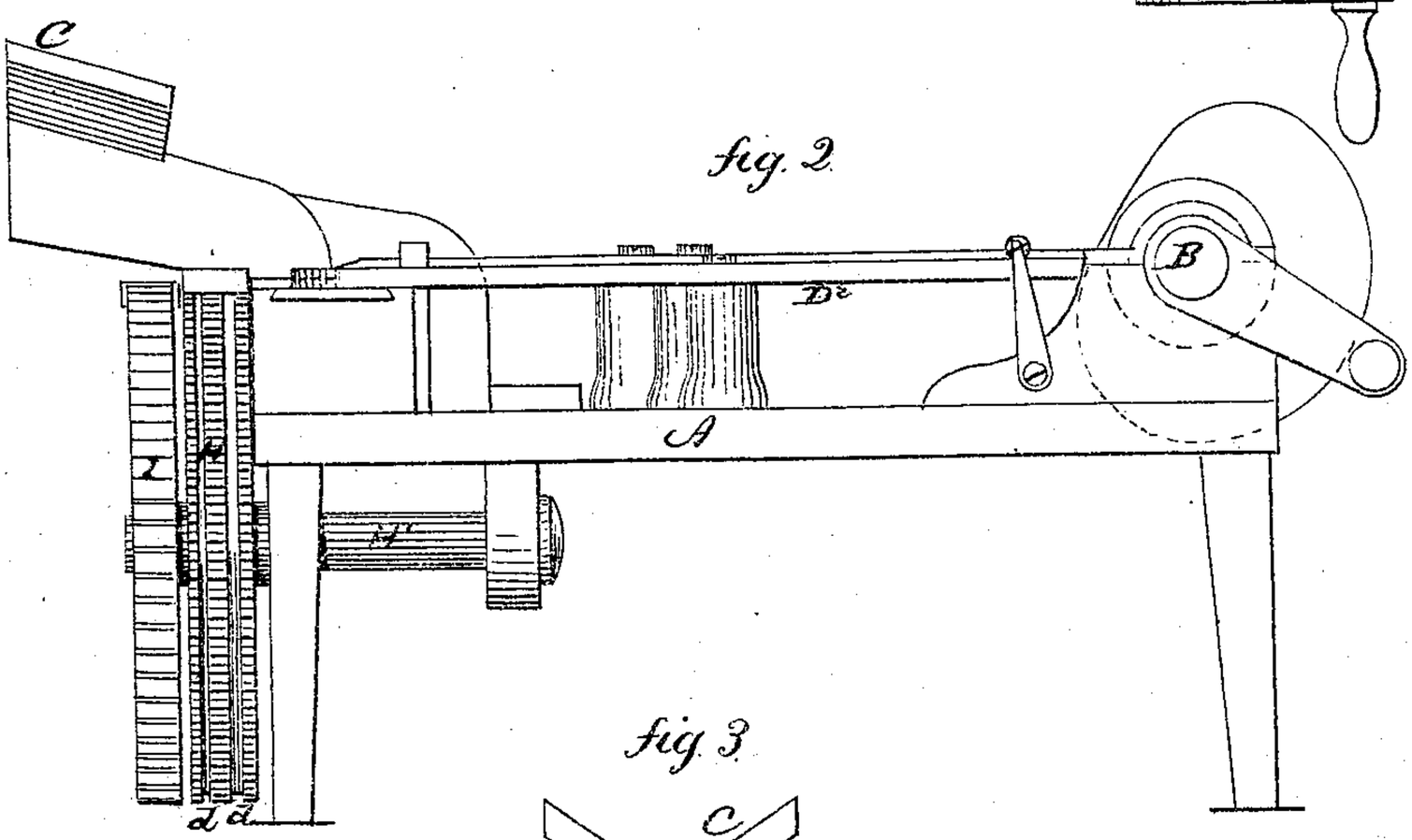


fig. 3

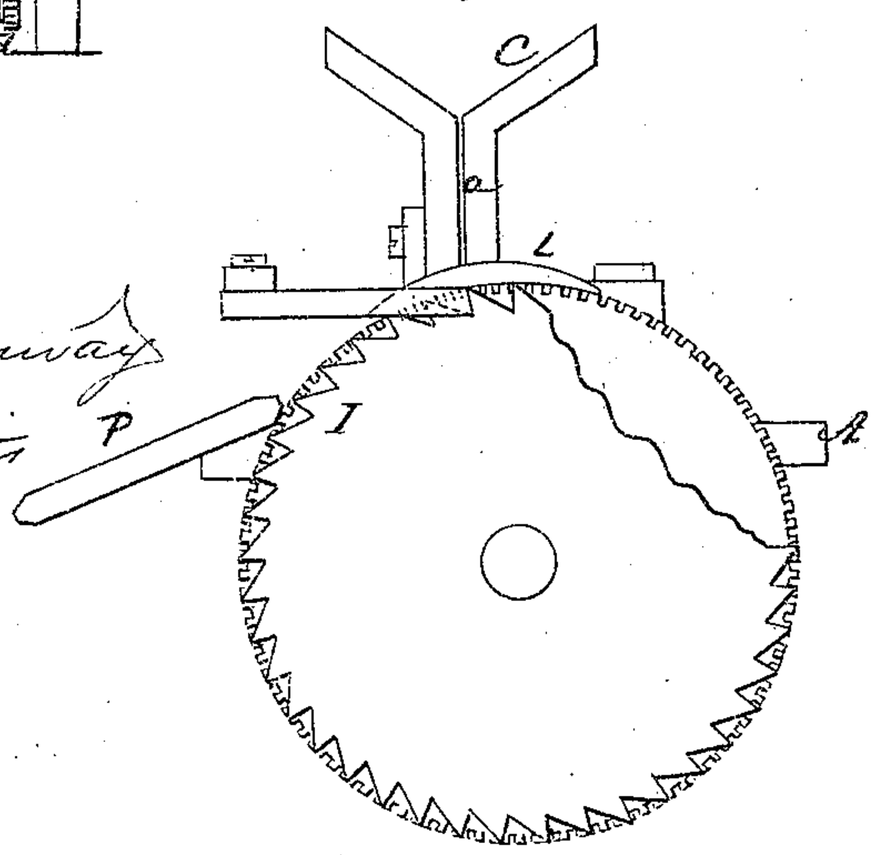
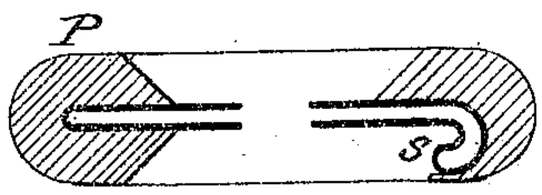


fig. 4



Witnesses

J. H. Shumway

A. J. Libbits

Chauncey O. Crosby

Inventor

By his Atty

John S. Earle

CHAUNCY O. CROSBY. 2 Sheets--Sheet 2.

Improvement in Machines for Sticking Pins.

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fig. 5

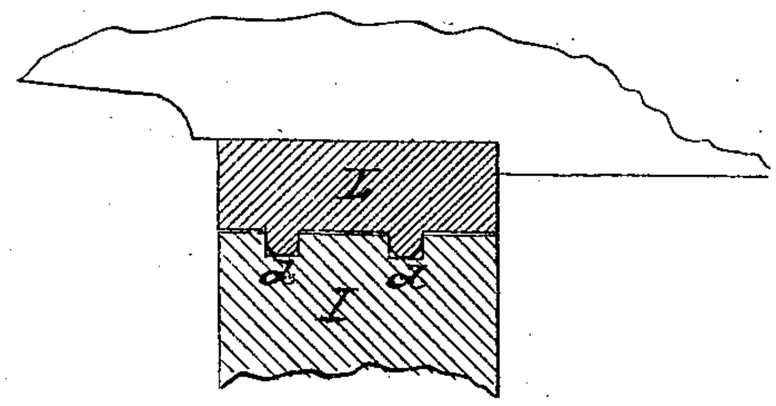


fig. 6

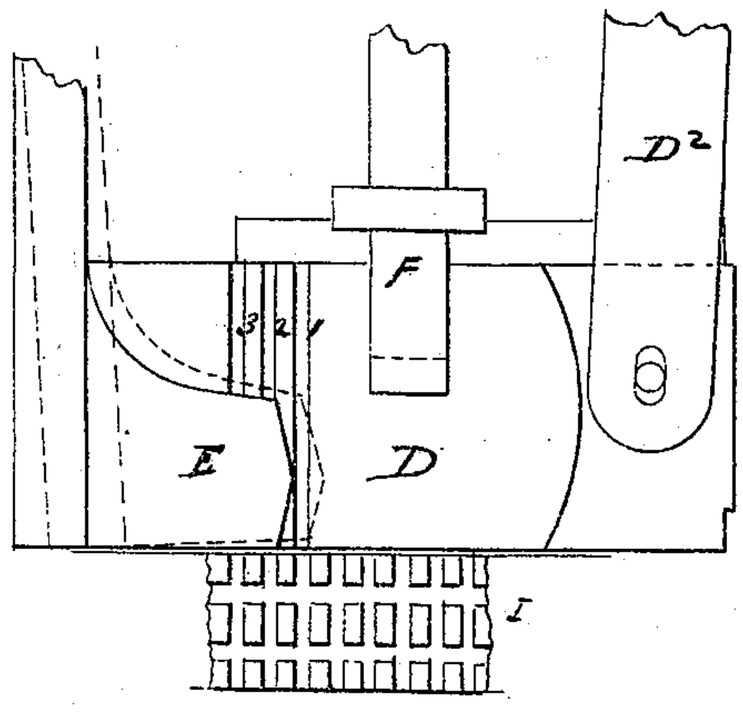


fig. 8

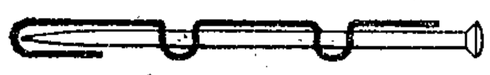
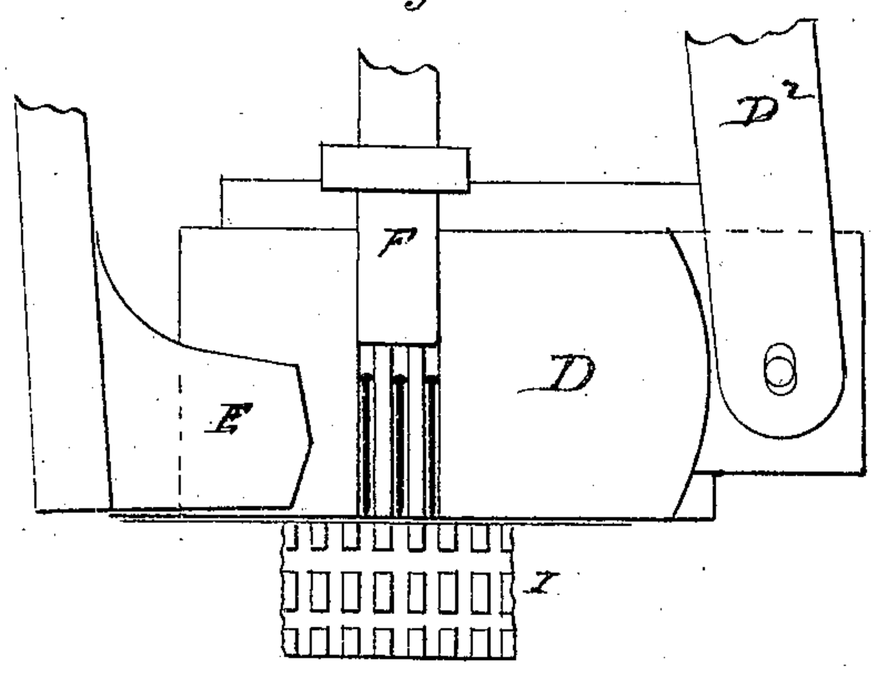


fig. 7



Witnesses.

D. H. Shumway

A. J. Tibbits

Chauncy O. Crosby
Inventor
By his Atty.
John F. Earle

121,493

UNITED STATES PATENT OFFICE.

CHAUNCY O. CROSBY, OF NEW HAVEN, CONNECTICUT.

IMPROVEMENT IN MACHINES FOR STICKING PINS.

Specification forming part of Letters Patent No. 121,493, dated December 5, 1871.

To all whom it may concern:

Be it known that I, CHAUNCY O. CROSBY, of New Haven, in the county of New Haven and State of Connecticut, have invented a new Improvement in Machines for Sticking Pins; and I do hereby declare the following, when taken in connection with the accompanying drawing and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawing constitutes part of this specification and represents in—

Figure 1, a top view; Fig. 2, a front view; and in Figs. 3 to 8, inclusive, detached views.

This invention relates to the construction of a machine for sticking pins into a ribbon of paper; and this invention consists in the combination of mechanism for feeding and sticking the pins and supplying the paper, as more fully hereafter described. Also in the arrangement of the pins in a strip or ribbon of paper or other suitable material, longitudinal crimps being formed in the paper through which the pins are stuck, and the edge of the strip at the points turned over so as to cover the points and support the pins in proper relative position, the heads all in the same line.

A is the bed of the machine upon which the operative mechanism is arranged. B is the driving-shaft, supported, and so as to revolve freely, in bearings B′. C is the hopper upon which the mass of pins is placed, the hopper leading into a channel, *a*, so that the pins fall into the said channel and, supported by the head, are conducted down to a grooved slide, D, so that one of the pins will fall into a groove of the said slide when that groove lies directly beneath the channel in the hopper. A reciprocating movement is imparted to the said slide by a cam, D^1, through a lever, D^2. The movement of this slide is shown in detached views, Figs. 6 and 7. The channel of the hopper lies directly over the groove 1, and while the slide D is passing to that position a cut-off, E, actuated by a cam, E^1, through a lever, E^2, passes beneath the channel, as denoted in broken lines, Fig. 6, and when the groove 1 is directly beneath the channel then the cut-off E is withdrawn from beneath the channel to uncover the groove 1 and allow a single pin to drop therein; the cut-off returning, supports the column of pins until the next groove 2 passes beneath the channel, then in like manner the groove is uncovered and a second pin drops therein, and so on through the several grooves; and when all the grooves are filled, be they one or more, the slide D carrying the pins is drawn from beneath the hopper and presented before the follower F, which is actuated by the cam F′, so that when the pins are presented before the said follower, as in Fig. 7, the said follower moves forward, striking the heads of the pins, and, forcing them off the slide, sticks them into the paper prepared for the purpose. In conjunction with the slide D a wheel, H, is arranged upon an axis, H′, parallel with the grooves on the slide D, the said wheel revolving freely, and to which an intermittent movement is given by a ratchet-wheel, I, on the said shaft, actuated by a pawl, I^1, through the lever I^2 and cam I^3. The said wheel H is constructed with annular grooves *d d*, as seen in Fig. 5, and with transverse grooves upon the periphery, distant from each other corresponding to the distance from one pin to the next. The said grooves *d d* are made for the purpose of forming the crimps, as more clearly seen in Fig. 5. Over the said wheel is arranged a shoe, L, which said shoe has upon its under surface two ribs corresponding to the grooves *d d* in the wheel, as seen in Fig. 5. The ribbon of paper is introduced between the wheel and shoe, the said ribs on the shoe pressing the paper into the grooves on the wheel to such a depth that the pin will pass through the crimps, as seen in Fig. 8, being upon a large scale. In order to turn the edge of the paper over the points, as in Fig. 8, which is done for the purpose of forming a stop for the points of the pins, and retain them all in the same relative position, I introduce the ribbon of paper through a guide, P, shown in section in Fig. 4, the said guide being of tubular form with one edge turned, as at S, so that the paper passing through is correspondingly turned in substantially the same manner as the fabric is turned in what is known as a feller in sewing-machines. The edge thus folded passes onto the wheel, so that points of the pins enter between the two surfaces, as seen in Fig. 8. The paper lying between the surface of the wheel I and the shoe—perfectly flat, it will be observed—would not move by the simple turning of the wheel; but when a pin is stuck through the transverse grooves in the wheel into the crimps of the paper then the wheel and paper become so connected that the paper must turn with the wheel; hence, when

sticking but a single pin at each operation, the paper will not be moved unless a pin is stuck. Thus the sticking of pins in regular order is insured. I therefore do not wish to be understood as confining myself to the sticking of several pins at each operation, as represented in the drawing. The strip of material into which the pins are to be stuck is crimped longitudinally, as seen in transverse section, Fig. 8; and through these crimps the pins are successively stuck, the strip being of sufficient width to be turned up over the points, as also seen in Fig. 8, the points of the pins setting down onto the material thus turned up, and are thereby supported in the same relative position to each other throughout the strip. After the strip has been thus stuck it is taken from the machine to be put up in any desirable form for market.

While I have described the ribbon upon which the pins are to be stuck as of paper, I wish to be understood as including a ribbon of any material upon which the pins may be stuck in substantially the same manner.

I claim as my invention—

1. In combination with the longitudinal or annular grooved feeding device I constructed with transverse grooves, the shoe L constructed with ribs corresponding to the said annular or longitudinal grooves to form the crimps in the paper to receive the pins, substantially as set forth.

2. In combination with the grooved slide D, the cut-off E, and follower F, the longitudinal or annular grooved feeding device, the shoe L constructed with ribs corresponding to the said annular or longitudinal grooves to form the crimps in the paper to receive the pins, substantially as set forth.

3. In combination with the subject-matter of the second clause of claim, the guide P, constructed to turn one edge of the paper, substantially in the manner and for the purpose described.

4. A continuous strip or ribbon of material having longitudinal crimps through which pins are transversely stuck, and having the edge of the strip turned up over the points, substantially in the manner and for the purpose specified.

CHAUNCY O. CROSBY.

Witnesses:
A. J. TIBBITS,
LEAMIN M. RIGGS.

(104)