(No Model.) 2 Sheets—Sheet 1.

G. W. PRENTICE.

BUTTON MACHINE.

No. 383,490. Patented May 29, 1888.

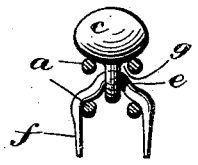

FIG. 1.

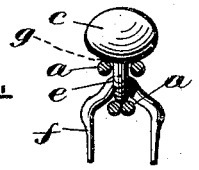

FIG. 2.

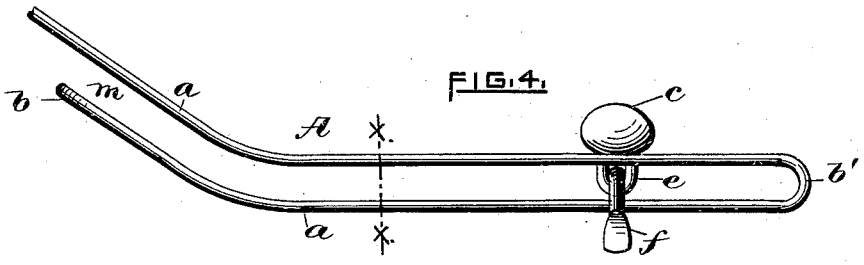

FIG. 4.

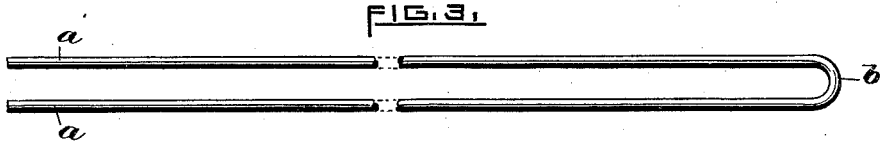

FIG. 3.

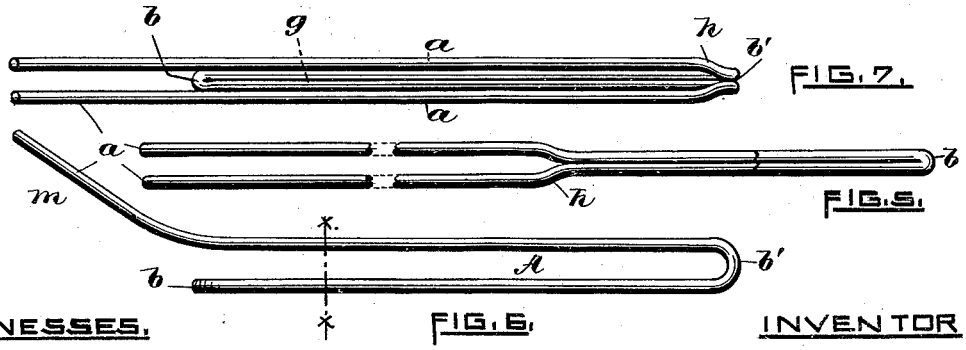

FIG. 7.

FIG. 5.

FIG. 6.

WITNESSES.

Charles Hannigan

Charles Greene.

INVENTOR

George W. Prentice.

(No Model.) 2 Sheets—Sheet 2.

G. W. PRENTICE.

BUTTON MACHINE.

No. 383,490. Patented May 29, 1888.

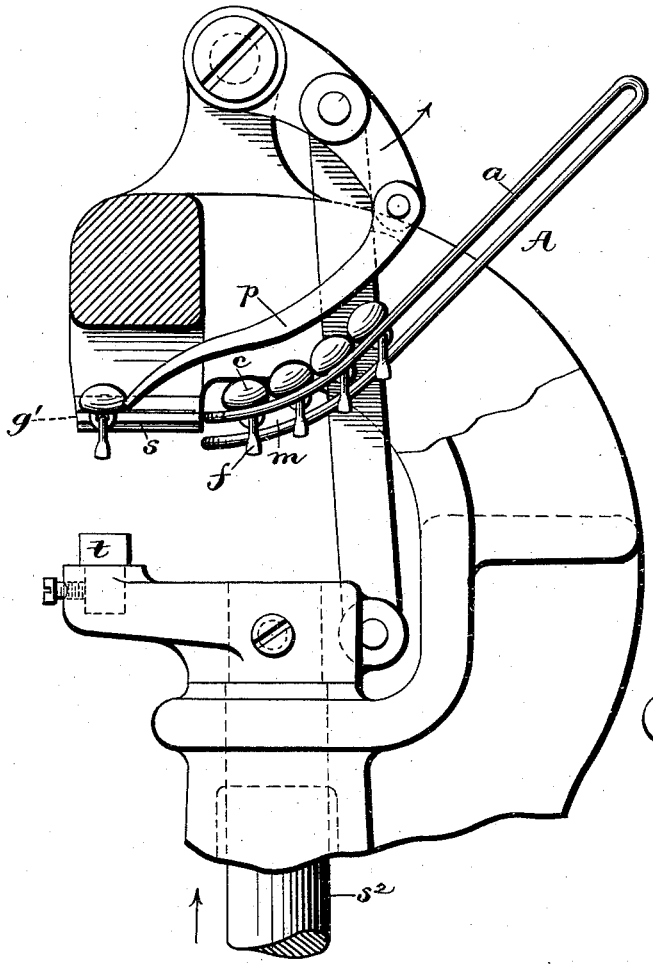

FIG. 9.

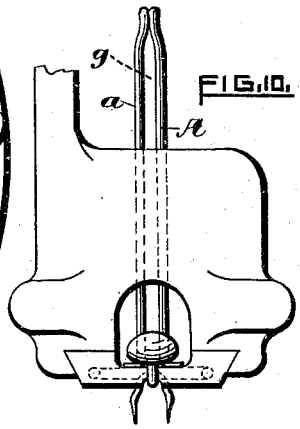

FIG. 10.

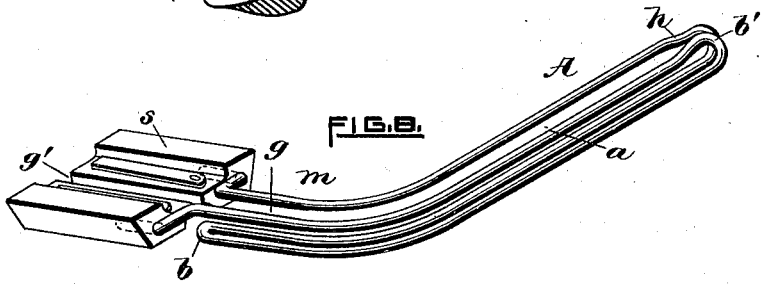

FIG. 8.

WITNESSES.

Charles Cannigan.

Charles Greene.

INVENTOR.

George W. Prentice

UNITED STATES PATENT OFFICE.

GEORGE W. PRENTICE, OF PROVIDENCE, RHODE ISLAND.

BUTTON-MACHINE.

SPECIFICATION forming part of Letters Patent No. 383,490, dated May 29, 1888.

Application filed September 29, 1887. Serial No. 251,029. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. PRENTICE, a citizen of the United States, residing at Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Combined Holder and Runway for Buttons and Fasteners; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

In machines or instruments adapted for securing buttons to fabrics, &c., by means of metallic fasteners it is very desirable that the buttons and fasteners be so arranged that they can be readily conducted to the feeding and attaching devices of the machine in the most expeditious and reliable manner. To this end longitudinally-slotted feed-tubes having one end closed have been employed, the fasteners being threaded into the eyes of the buttons and then mounted side by side in the tube. In this case the fasteners are concealed by the tube and the buttons rest upon the exterior slotted side thereof and are connected with the fastener through their eyes, which extend through the slot into the tube. A tube thus filled with buttons and fasteners can be readily conveyed from one place to another without disarranging them, and by placing the tube at a suitable angle in a machine adapted to receive it the buttons and fasteners will freely slide down the tube by gravity, there to be successively secured to the fabric or material through the agency of feeding and attaching mechanisms. The tube, when emptied, can be instantly removed from the machine and another filled tube substituted with scarcely any appreciable loss of time.

The object of my invention is to produce a combined holder and runway for buttons and fasteners which possesses the advantages of the slotted tube before referred to, but at the same time is much cheaper in its construction as well as being lighter.

I make my improved runway from wire, the same being bent and doubled so that the buttons automatically pass therefrom to the conveyer when mounted in the machine, as will be more fully hereinafter set forth.

In the two accompanying sheets of drawings illustrating my invention, Figure 1 represents a transverse sectional view of a combined holder and runway having a button and a two-prong or staple fastener mounted therein. Fig. 2 is a similar view of the parts, the relation of the wires to each other, however, being slightly changed. Fig. 3 is a perspective view of a piece of bent wire preparatory to being folded and bent to produce the finished runway shown in Fig. 4. Figs. 5, 6, and 7 represent similar views of a piece of wire, the finished runway being sectionally shown in Fig. 2. Fig. 8, Sheet 2, is a perspective view of the runway having its lower end adapted to be mounted in a button-setting machine. Fig. 9 is a side view, in partial section, showing the runway thus mounted, only the upper portion of an organized machine being represented; and Fig. 10 is a front view thereof, some of the buttons being omitted.

In the construction of my improved holder and runway I take a piece of wire, *a*, of suitable size and appropriate cross-section, preferably round, and bend it at *b* so as to make parallel sides, as shown in Fig. 3. I next bend it back upon itself at *b'*, Fig. 4, leaving a space between the upper and lower sides, as clearly shown in said figure, and as also shown in Fig. 1, which latter is a transverse sectional view taken on line *x x* of Fig. 4. It will be noticed that the upper and lower sides of the holder are separated laterally at *g*, thereby serving both as a guide for the button *c* and connected fastener *f*. (See Fig. 1.)

A indicates the complete runway.

In Fig. 2, however, the wires forming the upper side of the holder are brought nearer together laterally at *g*, thus serving as a guide proper for the eye *e* of the button. The wires forming the lower side are pressed close together and, if need be, united by solder. These two sides are united by the bend *b'*, which gradually expands therefrom at *h* into the said parallel wires forming the upper side. The lower (or, as drawn, the left) end portion of the runway is bent, as at *m*, so as to gradually guide the buttons and fasteners from the straight inclined portion to the conveyer *p* when mounted in a machine, as shown in Fig.

9. The free ends of the wires may be separated and connected with a block, *s*, which in turn is secured in the head of the machine. A space or groove, *g'*, formed in said block coincides with and forms a continuation of the guide or space *g* of the runway, as clearly shown in Sheet 2 of the drawings. By this construction the runways may be readily placed in the machine or removed therefrom, as desired.

I make no specific claim to the manner of mounting the runway in the head of the machine, as it is obvious that others may be used without departing from the spirit of the invention.

In a machine having a wire runway the operation of securing buttons to fabrics is substantially the same as though a slotted tube were employed to carry the buttons and fasteners to the attaching mechanism.

Referring to Fig. 9, it will be observed that upon forcing the upright shaft s^2 in the arrow direction to its limit, the anvil *t*, coming in contact with the depending prongs of the fastener, will force them through any suitable material placed in position and clinch them thereunder, the connected conveyer *p* in the meantime moving rearwardly into position to engage another button and carry it ahead from the runway upon the return of the anvil to its normal position.

It is obvious that for certain types of buttons and fasteners the form of the wire guide and runway may be substantially as shown in Fig. 3.

I claim—

1. The runway hereinbefore described, made of wire, having its upper portion adapted to receive the shanks of buttons and the lower portion of the runway arranged to guide the fasteners laterally when connected with the buttons.

2. The combination, with button feeding and attaching mechanisms, of a runway, substantially as described, made of wire, adapted to hold a series of buttons and fasteners, and having its lower end portion arranged to connect with said machine, and forming a continuation of the slotted guide, along which the buttons and fasteners are intermittently passed to the action of the clinching-die, substantially as hereinbefore described.

In testimony whereof I affix my signature in the presence of two witnesses.

GEORGE W. PRENTICE.

Witnesses:
CHARLES GREENE,
E. FISHER.