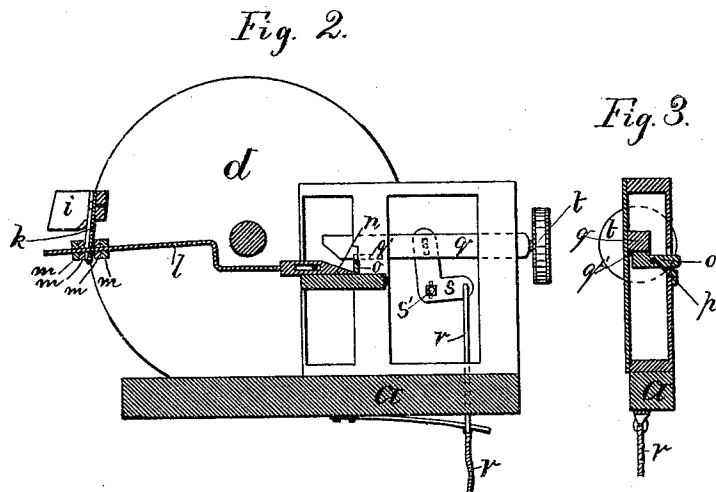
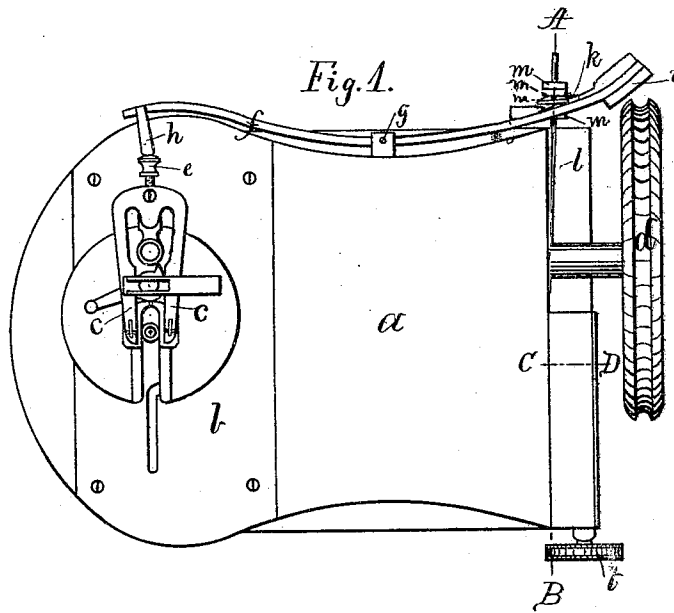


J. J. SULLIVAN.

ATTACHMENT FOR BUTTON-HOLE MACHINES.

No. 179,232.

Patented June 27, 1876.



Witnesses:

Henry Chadbourn.
H. Allen.

Inventor:

John J. Sullivan
by
Alban Andrew
his atty.

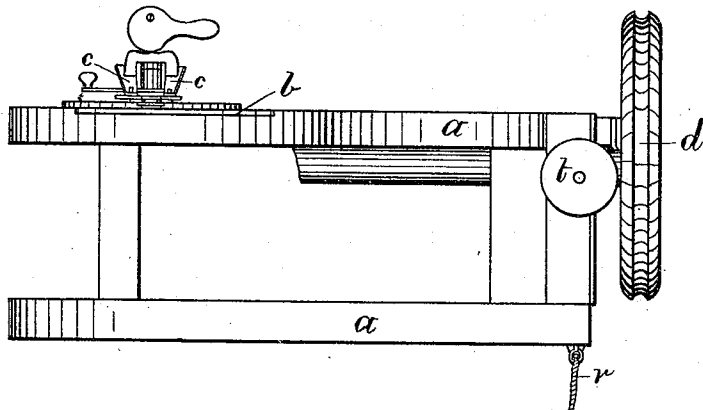
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Fig. 4.



Witnesses:

Henry Chadbourne.
F. Allen.

Inventor:

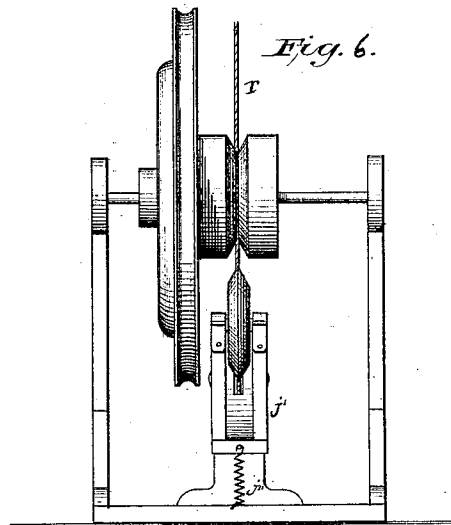
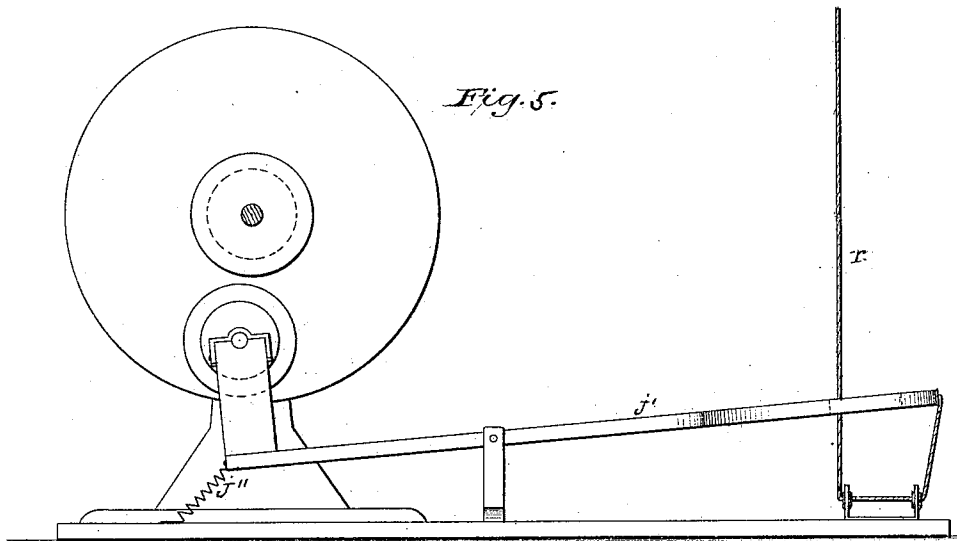
John J. Sullivan
by
Wm. Andrew
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Attest:

Wm. Appleton
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Inventor:

John J. Sullivan

UNITED STATES PATENT OFFICE

JOHN J. SULLIVAN, OF IPSWICH, MASSACHUSETTS.

IMPROVEMENT IN ATTACHMENTS FOR BUTTON-HOLE MACHINES.

Specification forming part of Letters Patent No. **179,232**, dated June 27, 1876; application filed April 3, 1876.

To all whom it may concern:

Be it known that I, JOHN J. SULLIVAN, of Ipswich, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Automatic Attendants for Button-Hole Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, which 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 letters of reference marked thereon, which form a part of this specification.

My invention relates to a new and useful attachment to button-hole and similar machines, adapted to automatically stop the machine as soon as each button-hole is finished, by which one operator may run two or more machines at the same time, thus saving a great deal of costly labor, as compared with the running of button-hole machines without an automatic attendant, in which latter case a separate operator was required for each machine.

My invention consists of an adjustable projection on the clamps for holding the material, in combination with a lever, movable on a fulcrum, which lever is provided at its rear end with a brake, that acts upon the driving-wheel of the machine, and stops it as soon as the aforesaid projection strikes against the forward end of said lever when the button-hole is supposed to be finished. Immediately after the brake aforesaid has touched the driving-wheel a rod attached to the brake-lever, and having a wedge or incline in its other end, acts upon a small lever movable around a fulcrum, by which the said small lever is released from a groove in the shipper-bar, in which it was resting. The shipper-bar in moving laterally operates a bent lever around its fulcrum, the lower end of which is connected to the treadle or other shipper device that is used by means of a cord, chain, rod, or other suitable connection.

On the accompanying drawings, Figure 1 represents a plan. Fig. 2 represents a cross-section on the line A B shown in Fig. 1. Fig. 3 represents a cross-section on the line C D, also shown in Fig. 1; and Fig. 4 represents a front elevation. Fig. 5 represents a side elevation of the treadle mechanism and shaft

for operating the machine, and Fig. 6 is a rear elevation of the same.

Similar letters refer to similar parts wherever they occur on the different parts of the drawings.

a represents the frame of an ordinary button-hole machine, of which *b* is the work-plate. *c c* are the clamps for holding the work; and *d* is the driving or balance wheel, arranged in the ordinary way. The rear of the clamps *c c* is provided with an adjustable projection, *e*, that can be adjusted to and from the clamps *c c*, as may be desired. *f* is the rocking lever, movable on the fulcrum *g*, and provided in its forward end with a projection, *h*, that is operated by the projection *e* on the clamps *c c*, for the purpose of automatically stopping the machine as soon as each button-hole is finished. The lever *f* is provided with a brake, *i*, in its rear end, that is pressed against the balance-wheel *d* when the projection *e* strikes the projection *h* on the lever *f*. The rear of said lever *f* has attached to it a downward-projecting piece, *k*, having a hole in its lower end, through which the screw-threaded rod *l* projects, having adjustable nuts *m m m m*, by which its proper position in relation to the lever *f* can easily be arranged. The screw-threaded rod *l* is provided in its opposite end with a wedge or incline, *n*, that acts upon the outer end of a small rocking lever, *o*, that is movable on the fulcrum *p*, as shown in Fig. 3. The inner end of the small lever *o* rests in a groove, *q'*, on the shipper-bar *q* when the button-hole machine is in operation; but as soon as the projection *e* on the clamps *c c* strikes the projection *h* on the lever *f*, or immediately after such contact has taken place, the shipper-bar *q* is released from the small lever *o*, by the screw-threaded rod *l* and its wedge *n* moving forward by means of lever *f* with its brake *i* acting on the balance-wheel *d*. As soon as the shipper-bar *q* is released it will be moved to its proper place by the spring *j''*, attached to the treadle *j'*, acting through the cord or chain *r*, as shown in Fig. 5, the upper end of which is jointed or connected to the knee-lever *s*, movable on the fulcrum *s'*, and provided in its upper end with a slot, fitting over a pin on the shipper-bar *q*, as shown in dotted lines in Fig. 2. *t* is a handle on the

outer end of the shipper-bar *g*, by which the latter can be set in operation.

The drawings represent the respective positions of the various parts when the machine is in running order; but as soon as the clamps *cc* commence to move to the rear, corresponding to the finish of the button-hole that is made, the projection *e* on the clamps *cc* operates the lever *f* on its fulcrum *g*, and in so doing not only brakes on the balance-wheel *d*, but also automatically operates the shipper-bar *g* and its connecting mechanism to the treadle, and in this manner stops the machine automatically as soon as each button-hole is finished.

To start the machine, all that is necessary to do is to place the clamps *cc* and the work resting between them in their proper positions in the ordinary way, and to push the handle *t* of the shipper-bar *g* toward the machine to the position shown in Fig. 2, when the knee-lever *s* is turned on its fulcrum *s'*, and thereby

operates the connection *r* and the ordinary treadle mechanism.

What I wish to secure by Letters Patent, and claim, is—

1. In combination, with the clamps *cc* of a button-hole machine, the adjustable projection *e*, lever *f*, with its projection *h*, brake *i*, and driving or balance wheel *d*, as and for the purpose set forth and described.

2. In combination, the clamps *cc*, adjustable projection *e*, lever *f*, projection *h*, rod *l*, wedge *n*, lever *o*, shipper *g*, the knee-lever *s*, and link or connection *r* to the treadle mechanism, substantially as and for the purpose set forth and described.

In testimony that I claim the foregoing as my own invention, I have affixed my signature in presence of two witnesses.

JOHN J. SULLIVAN.

Witnesses:

ALBAN ANDRÉN,
HENRY CHADBOURN.

1500 words