

(No Model.)

J. B. DESNOYERS & C. SINNING.

BUTTON HOLE SEWING MACHINE.

No. 291,701.

Patented Jan. 8, 1884.

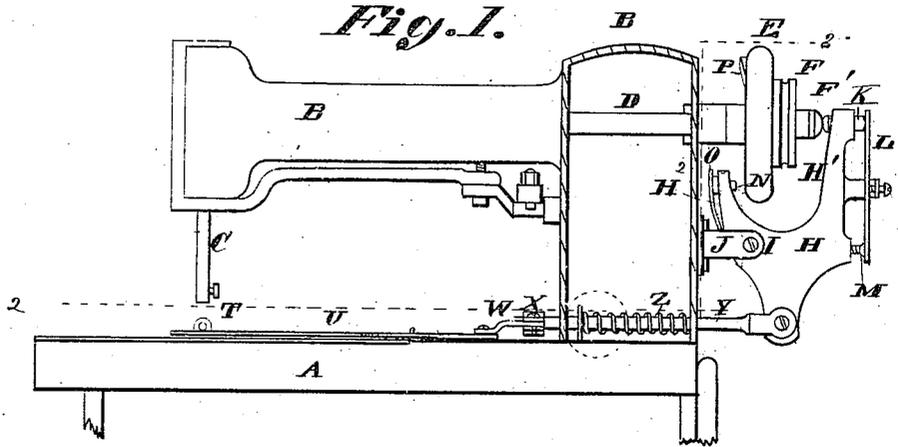


Fig. 2.

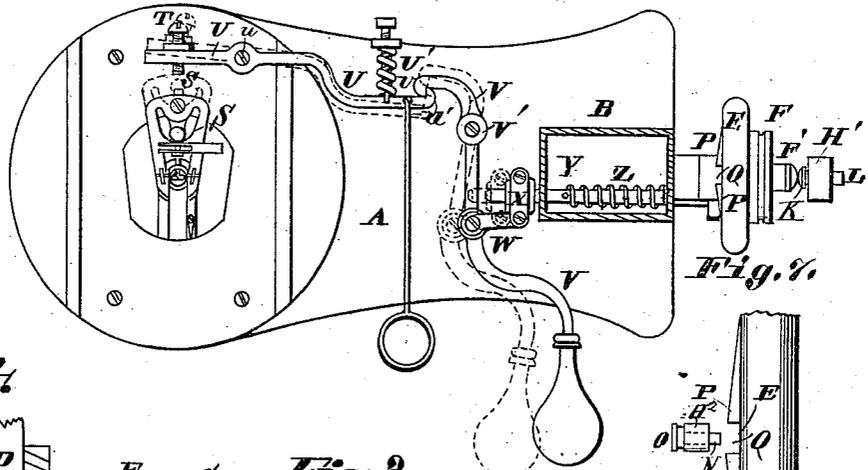


Fig. 4.

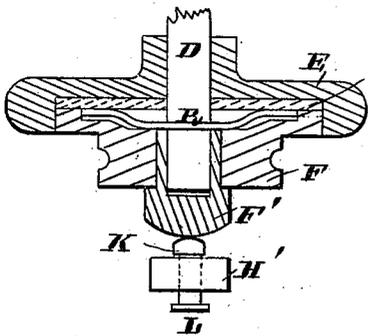


Fig. 3.

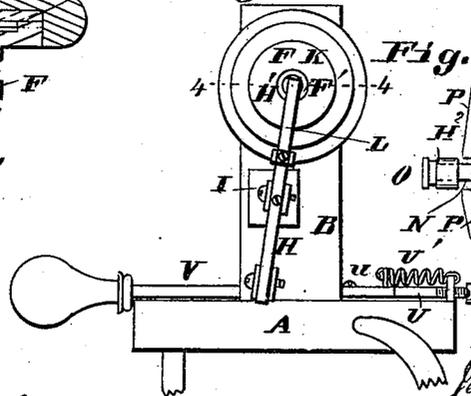
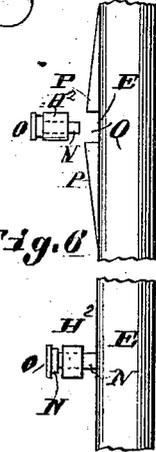


Fig. 5. Fig. 6.



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UNITED STATES PATENT OFFICE.

JEROME B. DESNOYERS AND CHARLES SINNING, OF ST. LOUIS, MISSOURI.

BUTTON-HOLE SEWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 291,701, dated January 8, 1884.

Application filed August 7, 1833. (No model.)

To all whom it may concern:

Be it known that we, JEROME B. DESNOYERS and CHARLES SINNING, both of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Button-Hole Sewing-Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

Reference is made to the claims for statement of invention.

Figure 1 is a side view of the machine. Fig. 2 is a horizontal section at 2 2, Fig. 1. Fig. 3 is an end view. Fig. 4 is an enlarged detail section at 4 4, Fig. 3. Figs. 5, 6, and 7 are enlarged detail views illustrating the construction of the brakes.

A is the bed-plate of a button-hole sewing-machine.

B is the goose-neck, carrying the needle-bar C and shaft D, actuating the needle-bar, as usual.

E is a balance-wheel fast upon the shaft D.

F is the drive-wheel turning loose on the shaft D.

G is a friction pad or plate interposed between the balance-wheel and the drive-wheel, so that the pressure of the latter against the pad or plate communicates motion to the shaft D. The drive-wheel is grooved to receive the ordinary drive-belt.

H is a forked lever fulcrumed at I to a bracket, J, extending from the vertical post of the goose-neck. The arm H' of the forked lever carries at its upper end a movable pin, K, in line with the shaft D, and which may be made to press against the center boss, F', upon the drive-wheel F, to force it against the friction pad or plate G, the pin sliding endwise in its socket. The pin is pressed toward the boss F' by a spring, L, whose force is adjusted by a screw, M, bearing against its inner side. The arm H² of the forked lever carries a steel brake-shoe, N, whose shank works endwise in the arm, and is pressed toward the balance-wheel by a spring, O.

P P are two inclined steel jaws upon the side of the balance-wheel, the jaws having between them a gap, Q, large enough to receive the brake-shoe. The relative arrangement of the pressure-pin K and brake-shoe N is such that when

either of them is in action the other one is inactive. For instance, when the machine is in operation, as shown in Figs. 1 and 2, the pin K is forcing the friction-wheel toward the balance-wheel and the brake-shoe N is out of the course of the brake-jaws P, whereas when the forked lever H takes its other position the brake-shoe is carried into the course of the brake-jaws P, which come in contact with the shoe and tend to check the motion of the balance-wheel, and when the gap Q is presented to the shoe the latter enters it and at once stops the motion of the machine. The gap Q is in such place upon the balance-wheel that when the brake-shoe enters it the needle is in its upper position, so as to allow the adjustment of the work upon the clamp. When the brake-shoe is thrown toward the balance-wheel by the movement of lever H, said movement carries back the pressure-pin K, and the friction-wheel F is forced away from the balance-wheel by a concealed spring, R, between them, and ceases to act upon the balance-wheel, so that the brake easily stops its rotation.

S is the ordinary movable clamp-plate to which the work is attached in a button-hole sewing-machine, no novelty being claimed in this.

s is a projection which comes in contact with a screw, T, upon a lever, U, when the button-hole is about completed and pushes said lever into the position shown in dotted lines in Fig. 2. This lever works on a pin, u, and has a catch, u', engaging a catch, v, upon a spring-lever, V.

U' is a spring tending to hold the lever U in the position shown in full lines in Fig. 2, so that when the clamp S is moved forward the lever resumes this position. The spring-lever V is fulcrumed at V'.

W is a link connecting the lever V with a collar, X, fixed upon a rod, Y, that is connected to the lower end or arm of the forked lever H.

Z is a spiral spring surrounding the rod Y, and tending to throw the lever into the position shown in dotted lines in Fig. 2, and thus disengage the friction-gear E F.

The operation in brief is as follows: The parts being in position shown in dotted lines in Fig. 2, the work is secured to the clamp S, as usual, and then the lever V moved into the position shown in full lines in Fig. 2, which

puts the friction-gear in engagement. When the button-hole is finished, the stud *s* comes in contact with the end of screw *T* and disengages the catches *u' v*, when the springs *Z* and *R* dis-
 5 engage the friction device, and the brake-shoe first checks and then stops the movement of the balance-wheel. The position of the brake when the machine is moving is shown in Fig. 7. Its position when first applied to the bal-
 10 ance-wheel is shown in Fig. 6, and its position when the machine is stopped is shown in Fig. 5. The brake mechanism herein shown and described forms the subject-matter of another ap-
 15 plication for Letters Patent.

We claim as our invention—

1. The combination, with a moving clamp, *S*, of a sewing-machine, of levers *U* and *V*,

with engaging-catches, a spring connecting-rod, *Y Z*, forked lever *H*, with pressure-arm *H'* and brake-arm *H''*, and a friction-clutch actu- 20 ated by the pressure-arm *H'* and a relieving-spring, *R*.

2. The combination, in a button-hole sewing-machine, of a work-clamp, *S*, levers *U V*, with catches *u' v*, springs *U' Z*, forked lever *H*, spring 25 pressure-pin *K L*, friction-wheel *F*, relief-spring *R*, balance-wheel *E*, jaws *P*, and spring-brake *N O*, substantially as set forth.

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Witnesses:

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 EDW. E. ISRAEL.