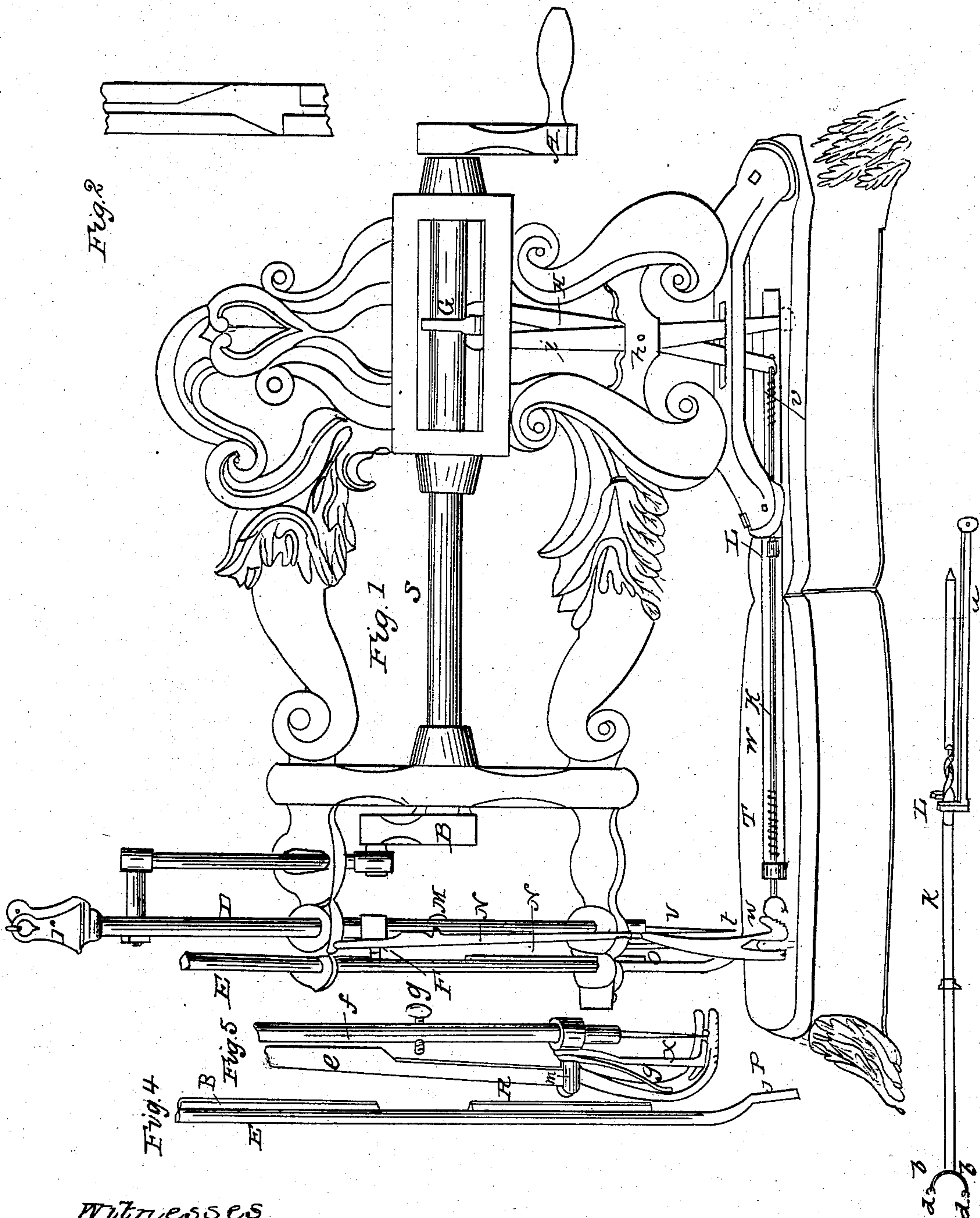


T. BURR.
Sewing Machine.

No. 32,023.

Patented April 9, 1861.



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UNITED STATES PATENT OFFICE.

THEODORE BURR, OF BATTLE CREEK, MICHIGAN, ASSIGNOR TO HIMSELF,
AUGUSTUS ROWER, AND PARCEL BRINKERHOFF.

IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. 32,023, dated April 9, 1861.

To all whom it may concern:

Be it known that I, Dr. THEODORE BURR, of Battle Creek, in the county of Calhoun and State of Michigan, have invented a new and useful Machine for Working Button-Holes; and I do declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a perspective view. Fig. 2 is the cam in its open form. Fig. 3 is the horizontal fork-shaft, provided with a spiral twist near the center, and also a fork, (marked *a*,) showing its relative position with the fork-shaft K, and having a slot, so as to allow the movement of the spiral twist between its prongs. Its opposite end is so constructed as to form a joint and be attached to the lever *i* in Fig. 1, the shaft K being provided with a fork with two prongs at the end of the shaft, and each prong (marked *b b*) being provided with a fork (marked *d d*) turned at right angles with the prongs *b b*, the opposite end of shaft K being pointed, for the purpose of rotating in the foot of lever H in Fig. 1. Fig. 4 is a perpendicular shaft, having a groove cut in its lower end sufficiently deep to receive the point of the spring marked *o*, Fig. 1, and the pivoted fork-shaped hook marked P. Two feathers or beads (marked R R) are also fixed upon the shaft marked E, where it plays in the bearings, for the purpose of keeping it in its position, and for the purpose, also, of being operated upon by the cog or spur F, which, by means of a screw, is adjustable upon the needle-shaft marked D in Fig. 1. Fig. 5 is a perspective view of the feeding-lever marked *e* and spring *y*, showing their relative position to the needle-shaft D in Fig. 1 and *f* in Fig. 5. For the purpose of feeding, a set-screw, (marked *g*,) which is set in the needle-shaft *f*, operates upon the upper end of the lever marked *e*, attached to a fulcrum, *m*, at its center, and having a forked feeding-foot so constructed as to allow the movements between its prongs of the hook-fork P, Fig. 4, the needle and the spring-foot X to hold the cloth.

This invention consists of a metallic frame so arranged as to admit a line-shaft with two cranks—the first marked A, by which the machine is set in motion, the second (marked B)

being attached to a pitman which connects to a perpendicular shaft (marked D in Fig. 1,) the lower end of this shaft being provided with a needle in its proper position by a hole in the end of the shaft D, and the upper end being provided with heads and screws *r*, by which means the spool is secured to the shaft. In line with the needle-shaft D is placed a second perpendicular shaft or rod, (marked E,) as described in Fig. 4, it being so arranged that while the cog or spur F is passing in the space between the two feathers or guides the hook-shaft E is held to its position by the spring *o*, whose lower end bears against the shaft with sufficient force for that purpose, until the cog or spur F comes in contact with the feather R R, and carries it either up or down sufficiently far for securing the loop on the hook-fork P while below, and bringing the same above the cloth through the button-hole. During the ascent of the shaft E this hook P is, by means of the point of the spring *o*, thrown outward and immediately under the needle, and held by the spring *o* in the proper position for the needle to pass through the slot in the hook-fork P, and thus secure the loop. A cam (marked G) is fixed on the line-shaft marked S, which operates upon two levers, H and *i*, which pass up through the frame in a vertical position, and crossing each other at or near the center, at which point the levers H and *i* are attached to the frame by means of a pin, (marked *h*,) so as to allow a movement by the action of the cam between the levers at their upper ends, the lever H being first operated upon by the action of the cam, so as to press forward the horizontal shaft K, which is placed in the slot in the center of the stand marked W, and secured by means of two boxes, so as to allow a horizontal rotating movement of the shaft K, thus, in pressing the shaft forward with the prongs *b b*, laying the one perpendicular over the other in the proper position for the two forks *d d* on the points of *b b* to catch the thread from the needle and carry it in line with the hook-fork *t*, which is down at this point of the operation, and then the pressure being stayed until the operation of the cam G upon the lever *i*, being attached to the fork L in Fig. 1, which draws upon the spiral part of the horizontal shaft K and rolls the upper prong *b*, with its fork *d*, over

the hook-fork *t*, so that the raising of the hook-fork *t* by the action of the cog on spur *F* catches the loop from the forks *d d*, and, bringing it up through the button-hole, is then, by means of the point of the spring *o*, thrown outward and immediately under the needle, and held by the spring *o* until the needle passes through the slot in the hook-fork *t* and secures the loop thus formed. Then, by means of coiled springs *T* and *u* upon the horizontal shaft *K* and the action of the cam *G* upon the lever *H*, the shaft is thrown back to its former position.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination of the cam *G*, the levers *H* and *i*, operating upon the horizontal shaft *K*, having forked prongs *d d* and *b b* and spiral twist, and the fork *a*, as described, and for the purpose set forth.

2. The cog or spur *F*, in combination with the shaft *E*, provided with feathers *R R* and hook-fork *P*, operated upon by spring *o*, substantially as and for the purpose set forth.

THEODORE BURR.

Attest:

JOHN MUCHUN,
LEVI MORHER.