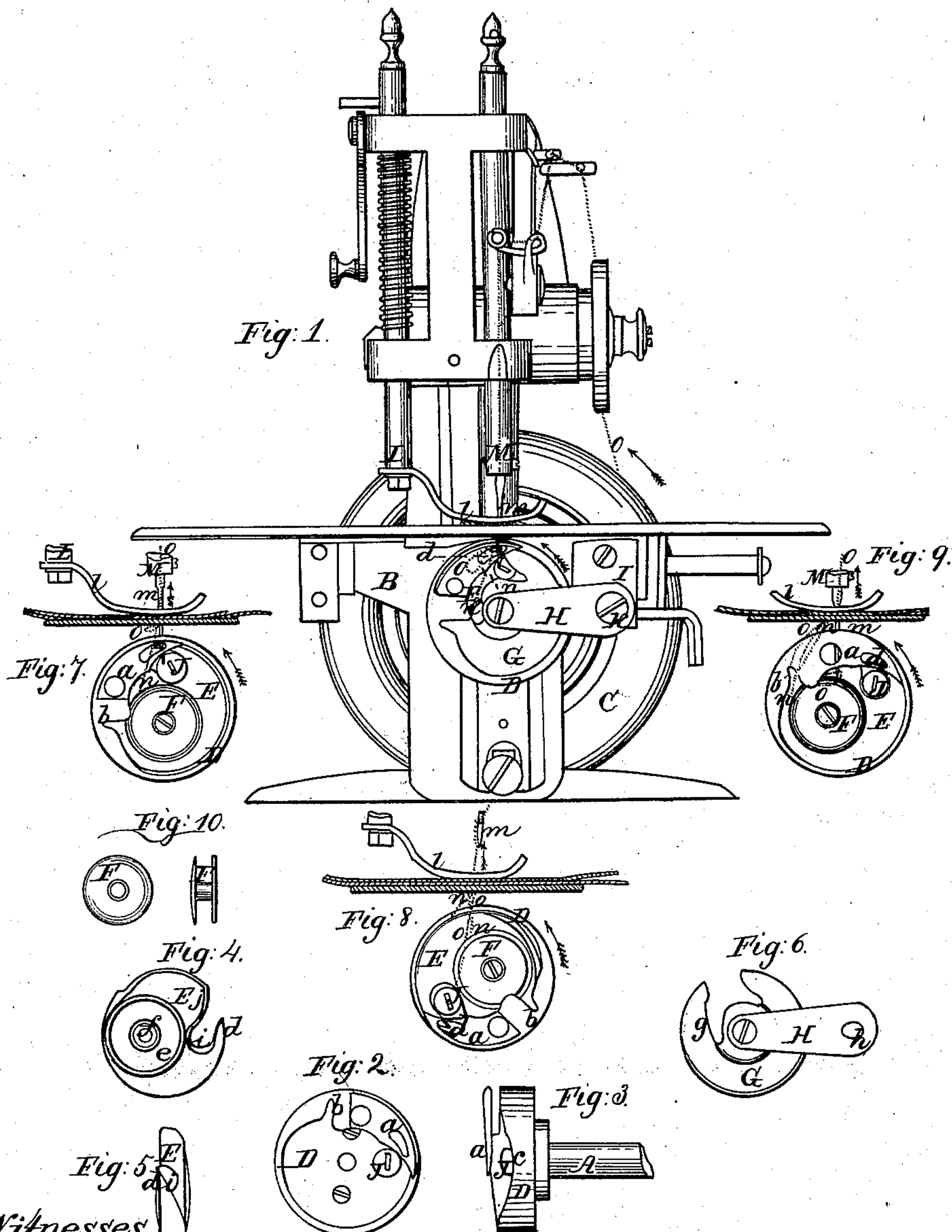


W. B. BARTRAM.

Sewing Machine.

No. 104,247.

Patented June 14, 1870.



Witnesses,
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WALKER B. BARTRAM, OF DANBURY, CONNECTICUT.

IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. **104,247**, dated June 14, 1870.

I, WALKER B. BARTRAM, of Danbury, in the county of Fairfield and State of Connecticut, have invented certain Improvements in Sewing-Machines, of which the following is a specification:

Nature and Objects of the Invention.

My invention relates to that class of sewing-machines in which an eye-pointed needle and shuttle are used to interlace the threads; and the invention consists in a novel construction, combination, and arrangement of the shuttle, and the mechanism for operating the same.

Description of the Accompanying Drawing.

Figure 1 is a view of my invention combined and arranged with the parts necessary to form a complete working machine. Figs. 2 and 3 are front and side views of the rotary shuttle-carrier. Figs. 4 and 5 are views of the rotary shuttle. Fig. 6 is a view of the stationary shuttle-guard. Figs. 7, 8, and 9 are diagrams, illustrating the manner in which the loop of needle-thread is seized by the shuttle, thrown over the shuttle-thread, and released. Fig. 10 is a view of the spool or bobbin containing the shuttle-thread.

General Description.

The shuttle-carrier D is secured to the end of the main shaft A, through which motion is imparted to various parts of the machine, immediately in front of the face-plate B. It is constructed of a cup-like form, as clearly shown in Figs. 2 and 3, with a portion of its rim extended from the point *b* to form the projecting guard-plate *a*. The shoulder *b* of this plate performs the office of a "cast-off," to throw the loop off from the point of the needle, while the plate itself acts as a guard to prevent the released loop from becoming entangled with or being caught by the needle or point of the shuttle.

A slit is formed in the rim of the holder, immediately behind the plate *a*, to permit the descent of the needle, and the edge of the rim from the point *c*, where it is cut away to permit the formation of the needle-thread loop, to the point *b* is formed of a gradual incline, in order to facilitate the passage of the needle-loop over the shuttle, and to insure of the loop

being regularly seized by the cast-off shoulder *b*.

The rotary shuttle E, Figs. 4 and 5, is held in place in the carrier D by the fixed stud J, which fits in the recess *i* in the side of the shuttle.

The point *d* of the shuttle is slightly raised above the plane of the shuttle-face, and its inner face is inclined to gradually spread the loop when seized.

A circular cavity, *e*, is formed in the face of the shuttle to receive the spool F, and a stud, *f*, is secured in its center, upon which the spool revolves as an axis.

A screw or spring washer, or any equivalent device to create friction upon the spool, is placed in the end of this stud to obtain the necessary tension upon the shuttle-thread.

The guard G, Fig. 6, is held in position by the set-screw K, by which the arm H, to the end of which the guard is secured, is clamped to the lug I, projecting from the face-plate. This guard serves to retain the shuttle and prevent its being lifted out of place by the action of the needle-loops; and the part *g*, where it is cut away, being placed at an angle with the edge of the cast-off *b*, immediately behind which it is situated, acts to insure the proper discharge of the loop of needle-thread from the cast-off.

The guard can be readily removed, when the carrier D is in the position represented in Fig. 9, for the purpose of removing or inserting the shuttle.

In diagram Fig. 7 the shuttle-point *d* is represented in the act of taking the loop from the needle *m*. As the shuttle-carrier continues its revolution, the loop is distended and drawn over the spool F, containing the shuttle-thread *n*, the end of the loop being drawn around between the stud J and the recess *i* in the shuttle, as represented in diagram Fig. 8. After the needle-loop *o* has been thrown over the spool F, and while its end is about slipping off the heel *j* of the shuttle, the shoulder *b* of the plate *a* acts to draw the loop down off from the needle, which has in the meantime descended again previous to the formation of the second loop, and to cast it off from the shuttle and shuttle-holder, to be drawn up by the ascent of the needle and the distention of

the succeeding loop, as shown in diagram Fig. 9. The other parts of the mechanism combined with my invention, in order to constitute a working machine, being such as are well known and in general use, a detailed description is not considered necessary.

Claims.

1. The cup-shaped rotary shuttle-carrier, having the projecting guard-plate and shoulder, and fixed stud for driving the shuttle, in combination with the rotary shuttle, all being constructed substantially as described, and operating as set forth.

2. The cup-shaped rotary shuttle-carrier, having the projecting guard-plate and shoulder and fixed stud, in combination with the rotary shuttle and the stationary notched guard, when constructed and arranged to operate substantially as described and set forth.

3. The cup-shaped rotary shuttle-carrier, having the projecting guard-plate and shoulder, and fixed stud for driving the shuttle, in combination with the rotary shuttle and eye-pointed needle, when constructed substantially as described, and operating as set forth.

4. The cup-shaped rotary shuttle-carrier, having the projecting guard-plate and shoulder and fixed stud, in combination with the rotary shuttle, the stationary notched guard, and eye-pointed needle, when constructed substantially as described, and operating as set forth.

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