(No Model.)

T. GARIÉPY.

SHUTTLE DRIVING MECHANISM FOR SEWING MACHINES.

No. 456,619. Patented July 28, 1891.

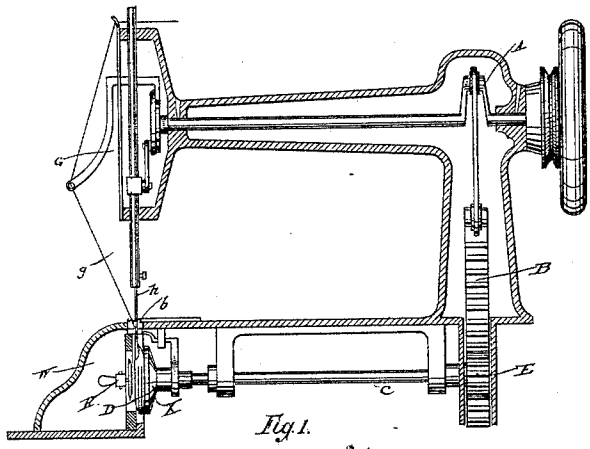


Fig. 1.

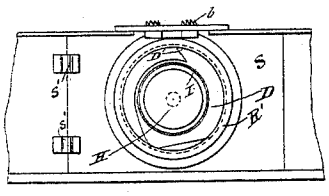


Fig. 2

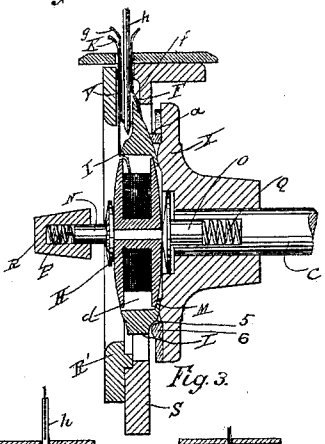


Fig. 3.

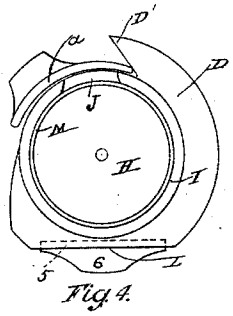


Fig. 4.

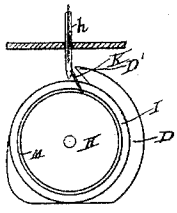


Fig. 5.

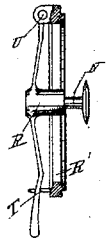


Fig. 9.

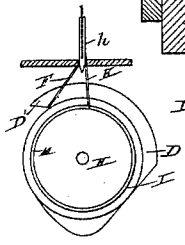


Fig. 6.

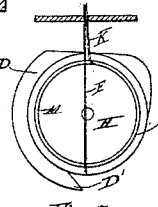


Fig. 7.

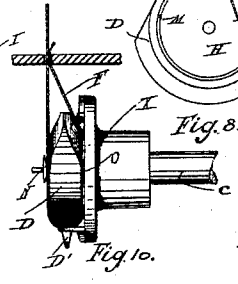


Fig. 10.

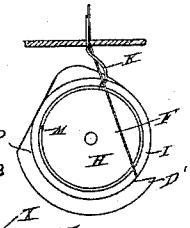


Fig. 8.

Witnesses.

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per: J. Emile Vanier

Attorney.

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UNITED STATES PATENT OFFICE.

TÉLESPHORE GARIÉPY, OF MONTREAL, CANADA.

SHUTTLE-DRIVING MECHANISM FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 456,619, dated July 28, 1891.

Application filed October 30, 1889. Serial No. 328,675. (No model.)

To all whom it may concern:

Be it known that I, TÉLESPHORE GARIÉPY, a citizen of the Dominion of Canada, residing at the city and district of Montreal, and Province of Quebec, Canada, have invented certain new and useful Improvements in Sewing-Machines; and I do hereby 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.

This invention relates to sewing-machines; and it consists in the novel construction and combination of the parts, hereinafter fully described and claimed.

In the drawings, Figure 1 is a longitudinal section through the sewing-machine, showing the devices for oscillating the shuttle. Fig. 2 is a front view of the hinged plate which encircles the shuttle. Fig. 3 is a cross-section through the shuttle and its co-operating parts. Fig. 4 is a front view of the shuttle, showing also portions of the devices for operating it. Figs. 5, 6, 7, and 8 show the series of positions assumed by the shuttle in making the loop. Fig. 9 is a sectional plan view of the devices for retaining the bobbin in the shuttle. Fig. 10 is a side view of the shuttle and the shuttle-carrier.

The needle *h* is reciprocated in the ordinary manner, and A is a crank which imparts a reciprocating motion to the rack B.

E is a pinion secured on the shuttle-carrier shaft *c*, and arranged to gear into the said rack.

X is the shuttle-carrier secured on the shaft *c*, and provided with a projection *a* for engaging with the shuttle. The shuttle is oscillated back and forth by the shuttle-carrier and is moved through three-quarters of a revolution at each oscillation.

G is the take-up, and *b* is the feed, both of which are of ordinary construction.

The shuttle D consists of a ring provided with a circular projection I, which forms the chamber *d* for the bobbin. The projection I is cut away at J to permit the needle *h* to pass into the chamber *d*.

D′ is the hook of the shuttle, which engages with the thread *g* of the needle and forms the loop.

L is a flat place on the shuttle opposite the hook D′. A notch or groove 5 is formed in the shuttle behind the flat part L, and 6 is a projection on the carrier, which engages with the said notch, and, together with the projection *a*, secures the oscillation of the shuttle. The shuttle has an internal flange M at the bottom of the chamber *d*.

H is the bobbin, which is made very large, so that it may hold considerable thread. The bobbin rests in the chamber *d* against the said flange M.

O is a sliding friction-piece, which slides in a hole in the end of the shaft *c*, and Q is a spring for pressing the sliding piece O against the rear side of the bobbin, as shown in Fig. 3.

S is a plate provided with an aperture which encircles the shuttle. This plate is attached to the frame of the machine by hinges S′, so that it may be turned around out of the way and permit free access to the shuttle and its carrier.

The bobbin is pressed against the flange M of the shuttle, and the shuttle is thereby held against the face of the shuttle-carrier in the following manner:

R is a cross-bar, (shown in Fig. 9,) which is pivoted by the pin U to the ring R′, which is secured to the plate S, as shown in Fig. 3.

T is a retaining-catch for the end of the cross-bar R to engage with.

N is a sliding friction-piece carried by the cross-bar R, and P is a spring for forcing the said sliding piece N against the outer side of the bobbin.

The bobbin is inserted in the chamber *d*, and is secured by turning the cross-bar to the position shown in Fig. 9, in which it engages with the catch T. The shuttle is moved through the successive positions shown in the Figs. 5, 6, 7, and 8 by means of the oscillating shuttle-carrier, and is then moved back again to its original position. The shuttle engages with the thread *g* during its forward motion, and the thread forms a loop F, which is drawn up by the take-up G, together with the thread I from the bobbin, when the shut-

tle reaches the position shown in Fig. 8 and just before it commences its return movement. The springs Q and P permit the passage of the looped thread between the sliding pieces O and N and the sides of the bobbin.

W is a guard-plate for preserving the parts from injury.

What I claim is—

The combination, with the stationary plate S and the ring R′ secured thereto, of the cross-bar R, pivoted to the said ring, the catch T for retaining the cross-bar in position, the oscillating shuttle-carrier, the shuttle provided with the chamber *d*, the bobbin in said chamber, the spring-actuated sliding piece N, carried by the said cross-bar and adapted to hold the shuttle and the bobbin in position against the said carrier, and the spring-actuated sliding piece O bearing against the rear side of the said bobbin, substantially as and for the purpose set forth.

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

TÉLESPHORE GARIÉPY.

Witnesses:
JAMES LAWIN,
J. EAUTE VANIER.