R. H. St. JOHN.

SHUTTLE-LEVERS FOR SEWING-MACHINES.

No. 191,193. Patented May 22, 1877.

Fig. 1.

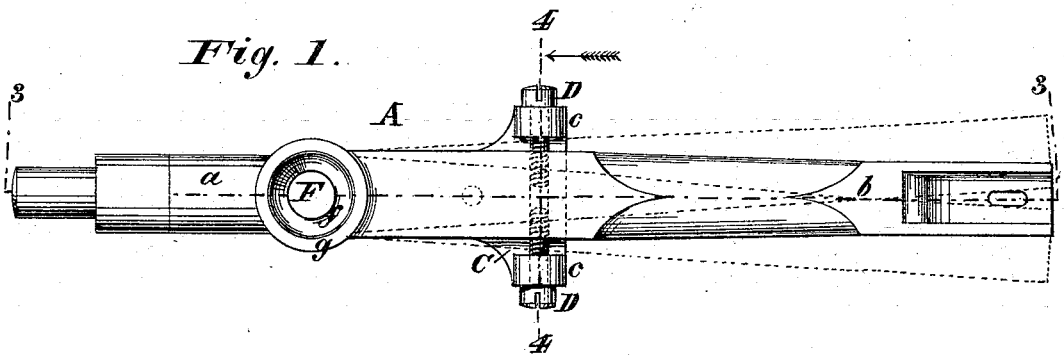


Fig. 2.

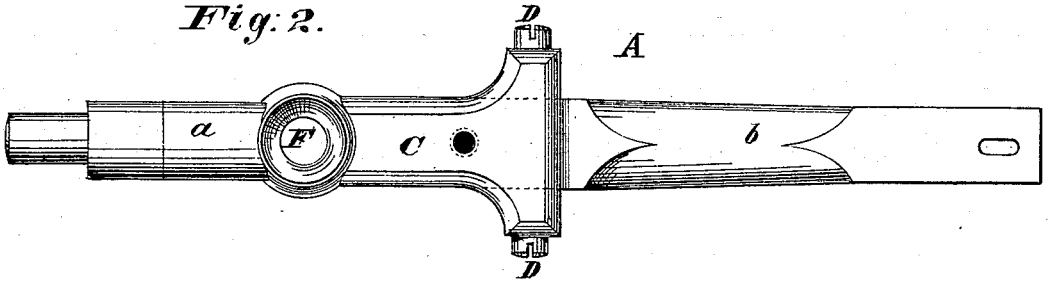


Fig. 3.

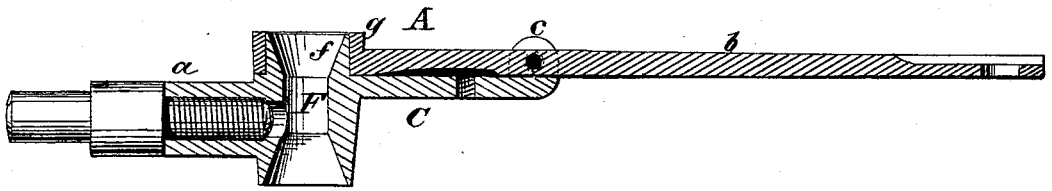
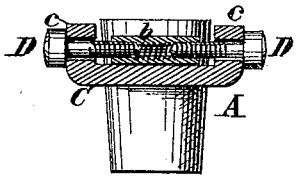


Fig. 4.



WITNESSES

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ROSWELL H. ST. JOHN, OF SPRINGFIELD, OHIO.

IMPROVEMENT IN SHUTTLE-LEVERS FOR SEWING-MACHINES.

Specification forming part of Letters Patent No. **191,193**, dated May 22, 1877; application filed March 2, 1877.

To all whom it may concern:

Be it known that I, ROSWELL H. ST. JOHN, of Springfield, in the county of Clarke and State of Ohio, have invented an Improved Shuttle-Lever for Sewing-Machines, of which the following is a specification:

My improvement consists in a compound shuttle-lever adjustable about its own center stud or fulcrum, so as to permit the deflection of its free end relatively to that to which the power is applied.

My improvement consists, further, in constructing the lever with an arm having lugs or ears, between which the free end of said lever is held by set screws.

In the accompanying drawings, Figure 1 is a plan view of my improved adjustable shuttle-lever. Fig. 2 is an under-side view thereof. Fig. 3 is a vertical longitudinal section on the line 3 3, Fig. 1. Fig. 4 is a vertical transverse section on the line 4 4, Fig. 1, looking rearwardly.

The dotted lines in Fig. 1 show the extreme positions of the lever.

A may represent a compound lever having a rear end, *a*, to which the vibrating power is applied, and a free end, *b*, to which the shuttle-carrier is attached.

F is an orifice, adapted to fit a center stud, which secures the lever to the bed of a machine.

The rear end *a* of the lever is constructed with an arm, C, and a neck, *f*. The arm supports the free end of the lever, and the neck receives the eye *g* of said lever and forms a joint at the center of action. The position of the free end is regulated by means of set-screws D, turning in the ears or lugs *c c* on the arm C, and between which lugs the free end can be moved laterally.

By the above construction of shuttle-lever I can control the position thereof in such a manner that the shuttle and needle can be put in time without bending or springing the lever, thus avoiding the throwing of the shuttle-carrier out of square with race, which is the usual result of timing shuttle and needle by the bending or springing of lever.

When the shuttle-carrier is out of square with race, the face of shuttle is not presented squarely to race, and is more or less liable to fail in catching loop.

Having thus described my invention, the following is what I claim as new and desire to secure by Letters Patent:

1. The shuttle-lever consisting of the two members *a b*, relatively adjustable on their common axis, as and for the purpose set forth.

2. The compound lever A, constructed with an arm, C, having ears or lugs *c*, between which the free end *b* of said lever is held by set-screws D, as and for the purpose set forth.

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Witnesses:

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