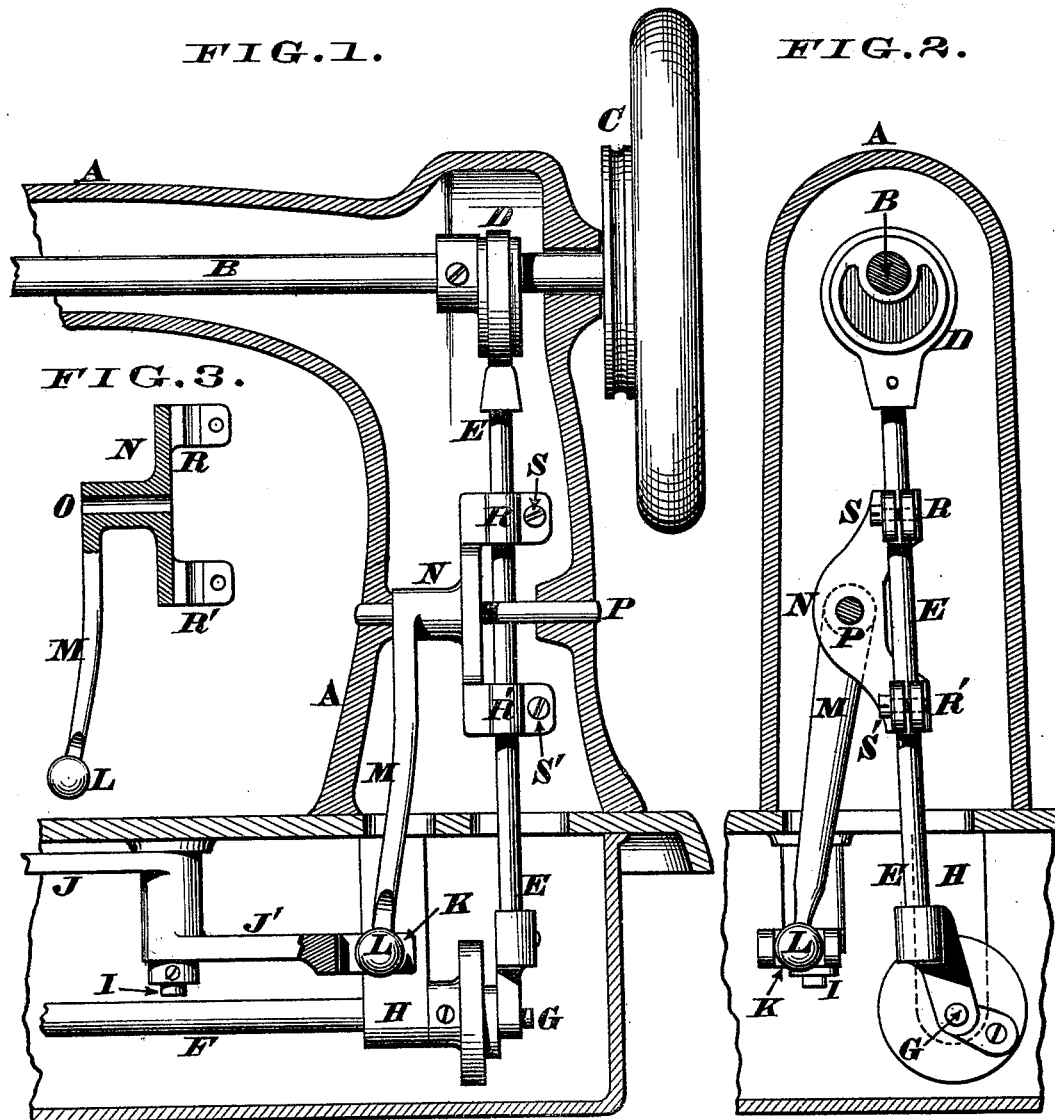


H. F. SCHLUETER.  
Sewing-Machine.

No. 218,141.

Patented Aug. 5, 1879.



Attest.  
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# UNITED STATES PATENT OFFICE.

HENRY F. SCHLUETER, OF CINCINNATI, OHIO.

## IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. **218,141**, dated August 5, 1879; application filed April 14, 1879.

*To all whom it may concern:*

Be it known that I, HENRY F. SCHLUETER, of Cincinnati, Hamilton county, Ohio, have invented certain new and useful Improvements in Sewing-Machines, of which the following is a specification.

This is an improvement in those sewing-machines in which the shuttle-lever is operated from the connecting-rod that communicates motion from the main shaft to the feed-shaft; and my invention comprises a novel device for driving such shuttle-levers. This device is a rocker suitably pivoted in the frame of the machine, and provided with two eyes, boxes, or bearings, traversed by the connecting-rod, said rocker being furnished with a depending arm, whose vibrations impart the desired motion to the heel of the shuttle-lever. The preferred method of coupling this arm to the lever is by means of a ball at the lower end of the former, which ball engages with a fork or slot in the heel of said lever.

By this construction the rocker has an extended bearing on the connecting-rod, thereby insuring a positive vibration of the former, while the ball serves as a universal joint, to operate the shuttle-lever with the least possible friction and without imparting any vertical motion to the latter.

In the annexed drawings, Figure 1 is a side elevation, partly in section, of a portion of a sewing-machine embodying my invention. Fig. 2 is a transverse view of the same; and Fig. 3, a vertical sectional view of the rocker on a slightly reduced scale.

Suitably journaled in the frame A is the main or driving shaft B, carrying a customary belt-pulley, C, and eccentric D, to which latter is coupled the connecting-rod E, that communicates motion to feed-shaft F by means of wrist G, said feed-shaft being supported in hangers H, or otherwise.

Adapted to vibrate on stud I is the shuttle-lever J, whose heel J' is forked or slotted at K to receive snugly within it the ball L, situated at the lower end of an oscillating arm, M, which arm is cast with or rigidly secured to rocker N. This rocker is pierced at O to admit a pivot, P, which pivot is fastened in frame A.

Furthermore, said rocker has two eyes, boxes, or other bearings, R R', within which reciprocates freely the connecting-rod E, and said boxes may be split and provided with screws S S', respectively, to take up any lost motion.

The fork K may be split in a similar manner, and provided with a screw to adjust the pressure on the sides of ball L with the utmost nicety.

It will be readily understood that the vibrations of connecting-rod E, as it communicates its motion to wrist G, cause rocker N to swing on pivot P, because said rod E traverses the bearings R R'. Consequently a corresponding swinging motion is imparted to arm M and its spherical termination L, which sphere vibrates shuttle-lever J J' K on the stud I, and by properly locating this stud any desired throw of the shuttle may be obtained.

From the above description it is evident the extended bearing of rod E in rocker N R R', insures the most positive action of the latter, while the ball L operates shuttle-lever J J' K with the least possible friction and without tending to produce any vertical vibrations of said lever.

My invention may be modified by forking the operating end of arm M, and causing it to engage over the heel J' of the shuttle-lever.

I am aware it is not new to impart motion from the connecting-rod of a sewing-machine to the shuttle-lever of the same by means of bell-cranks and similar appliances having but a very limited bearing on such rods; but I know of no instance where a device is employed that has an extended bearing on the rod, and that operates without exercising an elevating and depressing action on the heel of the shuttle-lever.

I claim as my invention—

1. The combination, in a sewing-machine, of driving-shaft B, eccentric D, connecting-rod E, feed-shaft F, pivoted rocker N, provided with extended bearings R R', vibrating arm M, and shuttle-lever J J', substantially as described.

2. The combination, in a sewing-machine, of driving-shaft B, eccentric D, connecting-rod E, feed-shaft F, forked shuttle-lever J J' K, pivoted rocker N, provided with extended bearings R R', and arm M, provided with ball L, substantially as herein described.

In testimony of which invention I hereunto set my hand.

HENRY F. SCHLUETER.

Witnesses:

JAMES H. LAYMAN,  
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