

WILLIAM A. MACK.

Improvement in Sewing Machines.

No. 123,493.

Patented Feb. 6, 1872.

FIG. 1.

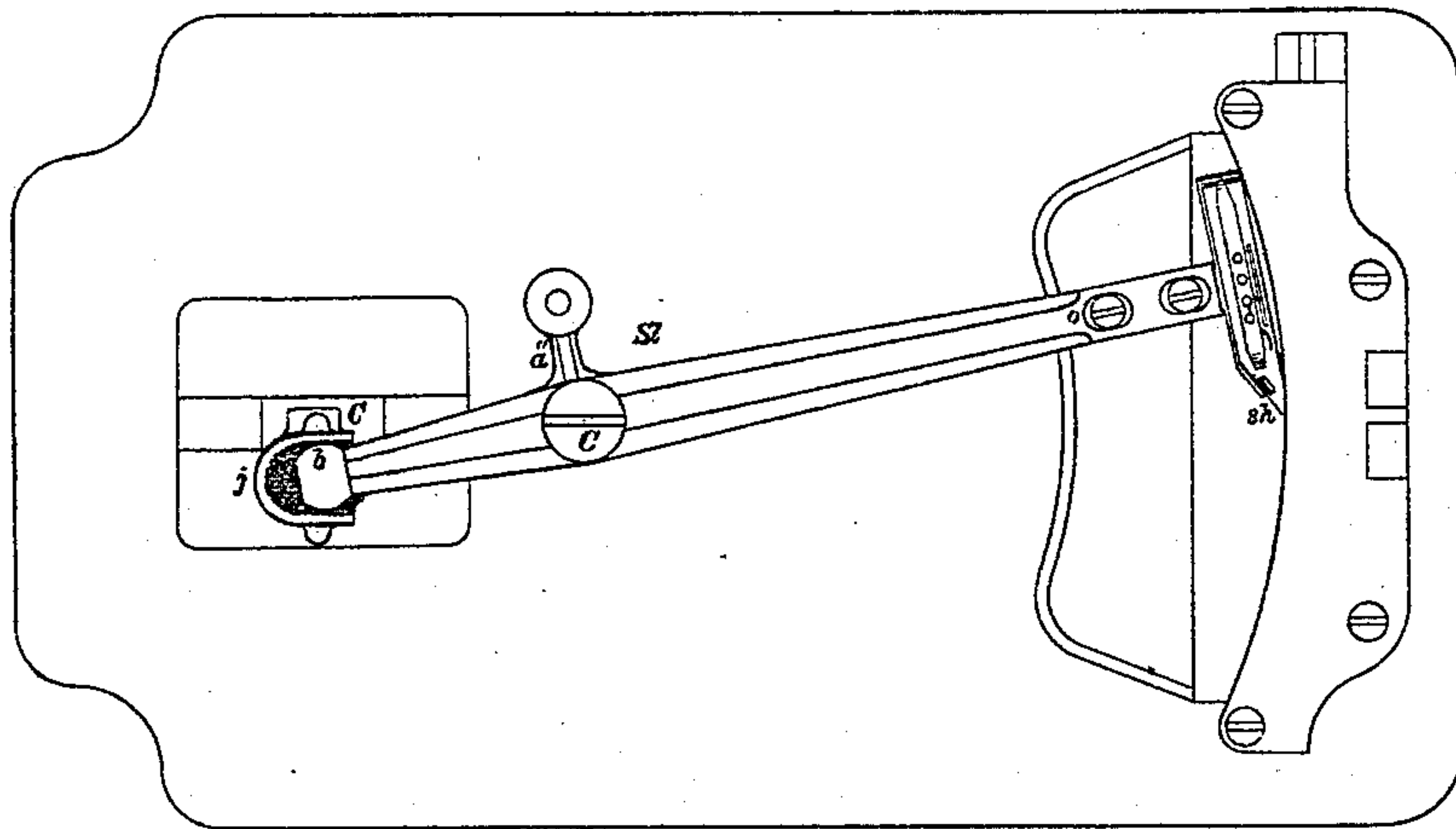


FIG. 2.

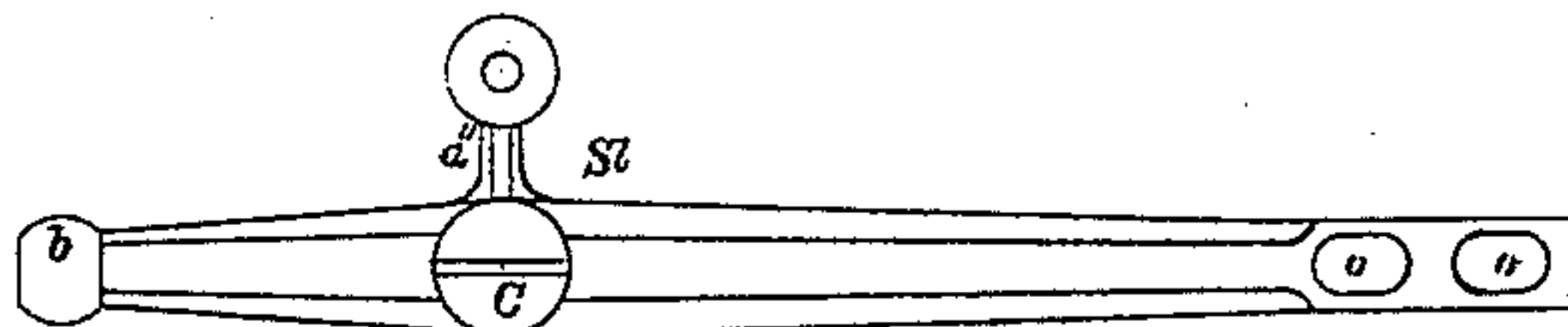
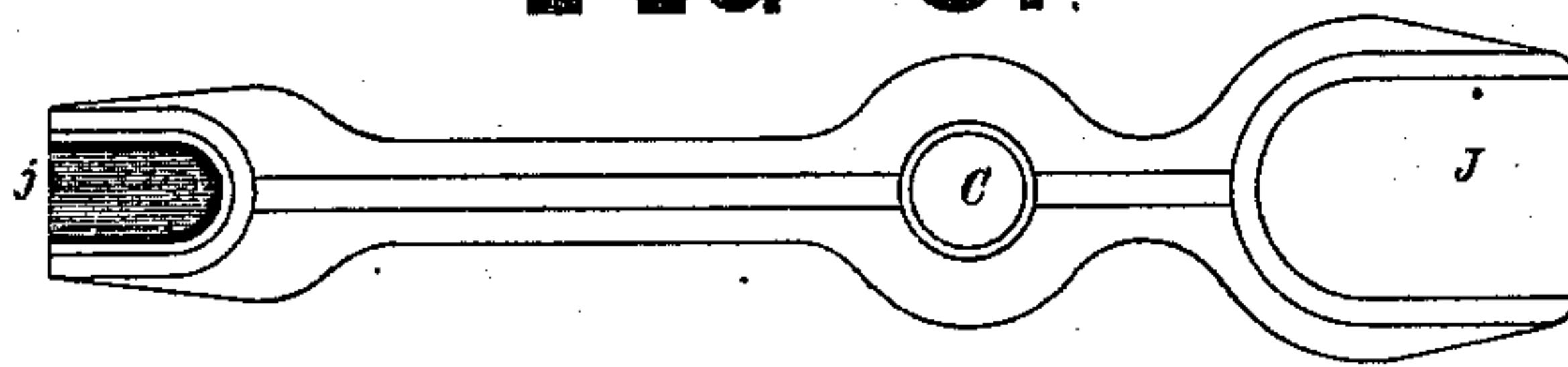


FIG. 3.



Witnesses  
H. A. Breyer,  
Chas. E. Rube

William A. Mack Inventor  
by his attorney in fact  
James A. Skilton

# UNITED STATES PATENT OFFICE.

WILLIAM A. MACK, OF NORWALK, OHIO.

## IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. 123,493, dated February 6, 1872; antedated January 22, 1872.

I, WILLIAM A. MACK, of Norwalk, in the county of Huron and State of Ohio, have invented certain Improvements in Sewing-Machines, of which the following is a specification:

### *Nature and Object of the Invention.*

The first part of my invention relates to a method of actuating a horizontal shuttle-lever for an elevated main shaft by a pendent lever, itself actuated by a cam thereon; and more particularly to the method whereby the two fixed levers, vibrating in planes at right angles to each other, transmit and receive motion, respectively, with a minimum of strain or friction. To this end the shuttle-lever is furnished with a ball termination at the end opposite the shuttle, and the pendent lever with what would be a forked terminal were its outer sides not closed by a solid extension and union thereof. This somewhat forked terminal engages the ball terminal of the shuttle-lever and allows it free play during action. The second part of my invention consists in a shuttle made nearly straight operating in a curved shuttle-race or against a shuttle-race face, so that only the point and heel of the shuttle touch the face, thereby giving steadiness to the shuttle.

### *Description of the Accompanying Drawing.*

Figure 1 is a plan of each part of my inven-

tion in place in the machine. Figs. 2 and 3 represent the two levers.

### *General Description.*

*b* is a ball on the shuttle-lever. *j* is the jaw of the pendent lever. *sh* is the shuttle in place.

The jaws *j*, joined by a solid curtain which protects the end of the ball *b* from flying dust, embraces the ball *b*, and in its pendulum-like action, which it receives from its cam, slightly slips on the periphery of the same, because of the two planes of motion at right angles.

By this arrangement the oil on and near the friction-points is protected from dust, and the adjustment of the machine in all its parts, in manufacturing, is rendered much easier and cheaper, for each lever may be centered and so exactly fitted for its functions as to require little special adjustment in place. The shuttle *sh*, being supported at each end instead of at the middle, has better bearing and less wobble when in action.

I claim—

The pendent lever having the curtained fork, in combination with the shuttle-lever provided with the ball-like termination, for the purposes set forth.

W. A. MACK.

Witnesses:

C. W. FLINN,  
A. F. ROWLAND.