

(No Model.)

F. FOELL.  
SEWING MACHINE.

No.262,756.

Patented Aug. 15, 1882

FIG. 1.

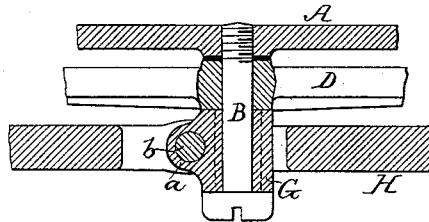


FIG. 2.

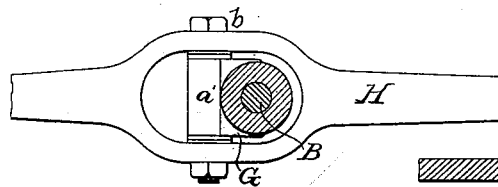


FIG. 3.

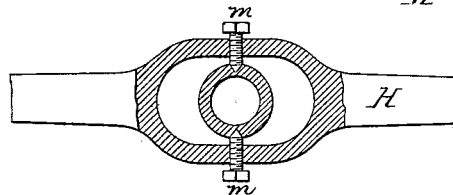


FIG. 4.

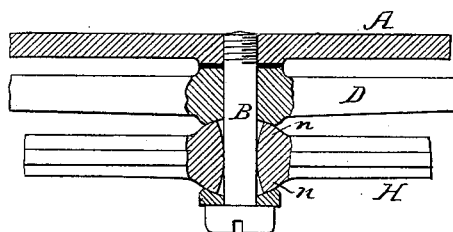
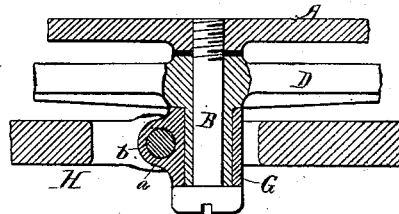


FIG. 5.



Witnesses:  
James J. Tobin  
Hamilton D. Turner.

Inventor  
Franklin Foell  
by his Attorneys  
Howe and Sons

# UNITED STATES PATENT OFFICE.

FRANKLIN FOELL, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO THE AMERICAN BUTTONHOLE, OVERSEAMING AND SEWING MACHINE COMPANY, OF SAME PLACE.

## SEWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 262,756, dated August 15, 1882.

Application filed April 11, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, FRANKLIN FOELL, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented an Improvement in Sewing-Machines, of which the following is a specification.

My invention relates to an improvement in that class of sewing-machines in which two horizontal levers are pivoted to the underside of the base-plate, one lever for operating the shuttle and the other for actuating the feed-dog, the Patent No. 246,753, granted to the assignees of G. S. Rominger, April 18, 1882, affording an example of shuttle and feed levers of this class.

My improvement consists in combining these levers with a single pin which serves as an ordinary pivot for the shuttle-lever and as part of a universal or gimbal joint for the feed-lever, substantially in the manner described hereinafter, the object of my improvement being simplicity and economy in construction.

In the accompanying drawings, Figure 1 shows part of the base-plate of a sewing-machine with the shuttle and feed levers hung to one pin; Fig. 2, a plan view of part of the feed-lever; Figs. 3 and 4, views representing modifications of my invention; and Fig. 5, a sectional view, illustrating a modification of Fig. 1.

In Figs. 1 and 2, A represents in section part of the base-plate of a sewing-machine, and B is a vertical pin secured to the under side of the plate. The shuttle-lever D is pivoted directly to this pin, so that the said lever may be vibrated in a horizontal plane; but the lower portion of the pin is adapted to and forms the pivot for a sleeve, G, the latter having a projection, *a*, to which the feed-lever H is pivoted by a pin, *b*, the latter being situated at right angles to the pin B, and passing through the said projection *a* of the sleeve and through the feed-lever, which is slotted to receive the sleeve and its projection, as shown in Fig. 2. It will thus be seen that while the pin B serves as a pivot for the shuttle-lever it forms, with the sleeve G and transverse pivot-pin *b*, a gimbal or universal joint, which permits the feed-lever to be vibrated both vertically and laterally to meet the requirements of the feed-dog of the sewing-machine.

It has not been deemed necessary to illustrate or describe the mechanism for actuating the levers, as different operating devices may be employed for this purpose. The mechanism shown in the aforesaid patent may, for instance, be used as a medium for operating the feed-lever from the driving-shaft of the machine.

Instead of a pin, *b*, passing through a projection, *a*, on the sleeve G, the feed-lever may be pivoted to the sleeve through the medium of set-screws *m m*, the points of which enter recesses in the said sleeve, as shown in Fig. 3; or sections of spheres *n n* may be formed on the feed-lever, one on the upper and the other on the lower side of the same, the upper section of the sphere being adapted to a corresponding socket in the hub of the shuttle-lever or in a collar on the pin B, and the lower section of the sphere being adapted to a socket formed in a washer, *p*, which is confined by the head of the pin B, the whole forming the well-known ball-and-socket joint, which is the equivalent of the universal or gimbal joint described above, the object in the different modifications being to utilize the pivot-pin B, demanded by the shuttle-lever, by converting it into part of a universal joint for the feed-lever.

It will be understood that in the modification, Fig. 4, the feed-lever H is quite loose on the pin, the lateral position of the lever being determined solely by the ball-and-socket joint.

Should it be desirable for the shuttle-lever D, Fig. 1, to have a more extended bearing on the pin B, a tubular projection, *w*, Fig. 5, may be cast on the said lever, and the sleeve G may be pivoted to the said tubular projection.

I claim as my invention—

The combination of the shuttle-lever and feed-lever of a sewing-machine with a fixed pin, B, serving as a pivot for the shuttle-lever, and forming part of a universal joint by which the said feed-lever is hung, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FRANKLIN FOELL.

Witnesses:

HARRY DRURY,  
HARRY SMITH.