W. H. HANNA.

Sewing-Machines.

No. 129,818. Patented July 23, 1872.

Fig. 1.

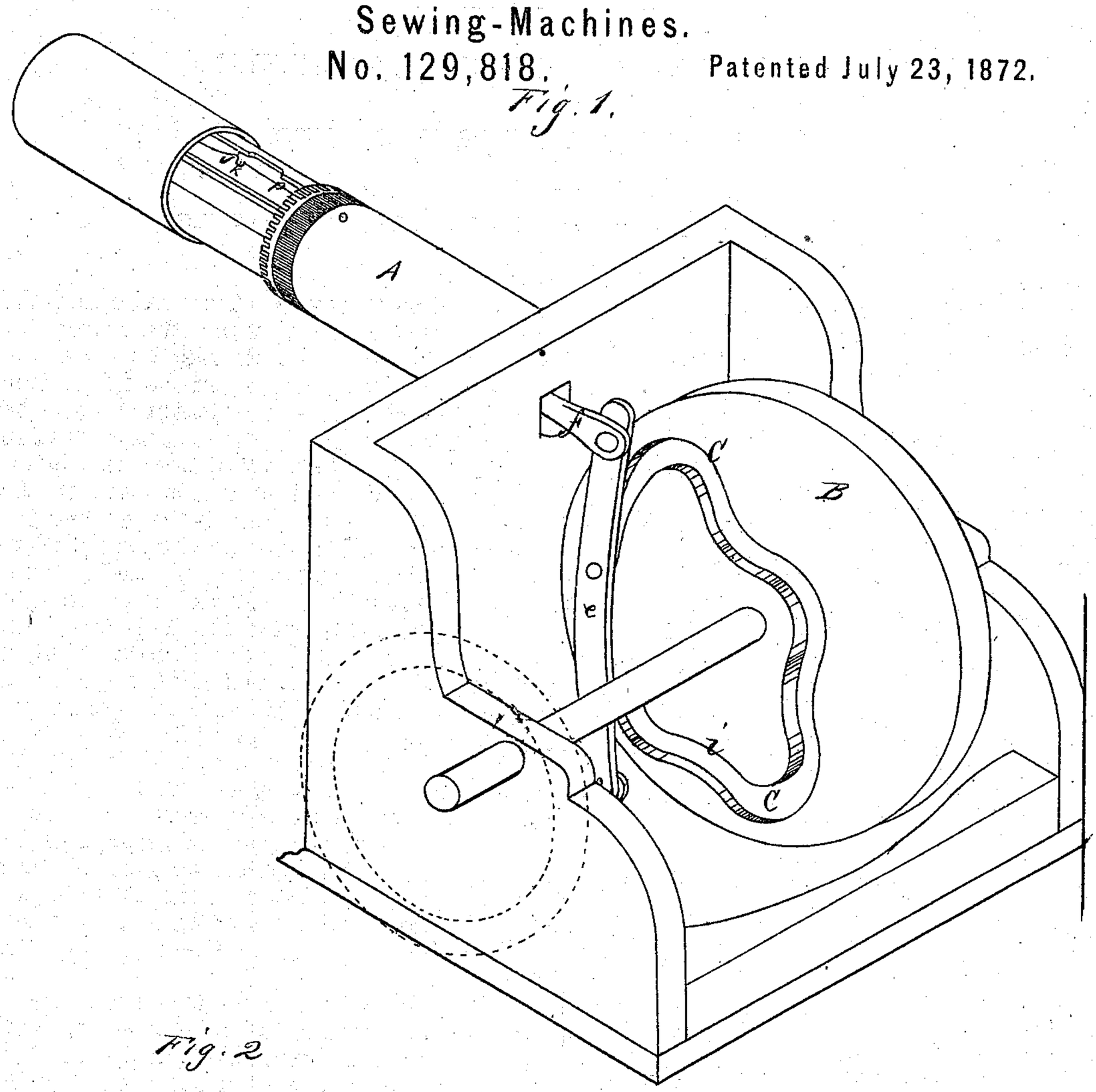


Fig. 2

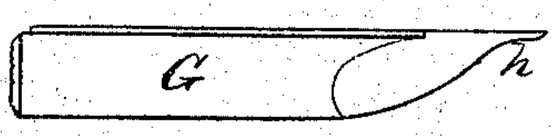


Fig. 3.




Witnesses

A. J. Dewey.

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By his Attys

Dewey & Co.

AM. PHOTO-LITHOGRAPHIC CO. N.Y. (OSBORNE'S PROCESS.)

# UNITED STATES PATENT OFFICE.

WILLIAM H. HANNA, OF PETALUMA, CALIFORNIA.

## IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. **129,818**, dated July 23, 1872.

### SPECIFICATION.

Be it known that I, WILLIAM H. HANNA, of Petaluma, county of Sonoma, State of California, have invented Improvements in Sewing-Machines; and I do hereby declare the following description and accompanying drawing are sufficient to enable any person skilled in the art or science to which it most nearly appertains to make and use my said invention or improvement without further invention or experiment.

My invention consists in a shuttle constructed and operated as hereinafter described, and with its forward part so formed that the loop of needle-thread, just at the time the eye of the needle is rising up through the cloth, shall be free from strain, in order to prevent the liability of breaking the needle-thread, as is often the case when the eye is at that point, and this loop is held securely by the shuttle; and after the eye passes through the cloth the shuttle continues its passage through the loop. My invention also consists in constructing the shuttle-guide so that the kinking and consequent breaking of the thread are avoided.

In sewing upon thick or heavy work with the ordinary Howe cylinder machine the thread is often broken as the needle rises out of the work. This is occasioned by an insufficiency of thread after the loop has been taken up by the shuttle to allow the needle to rise, thus causing the tension which breaks the needle-thread. It also frequently happens in such machines that the shuttle-thread is dropped between the shuttle and shuttle-guide when the shuttle moves forward, and is broken or disarranged. My arrangements for overcoming these difficulties are fully shown and described in the following description, in which reference is had to the accompanying drawing, forming part of this specification, as follows:

Figure 1 is a perspective view of my invention. Fig. 2 is a side view of the shuttle. Fig. 3 is a plan, showing the shuttle-guides.

In the said drawing, A is the cylinder of a large-sized Howe sewing-machine, such as is employed for sewing leather and other heavy work. A driving-wheel, B, is provided with a cam-groove, C, on its side, by means of which the proper motion is given to the shuttle-carrier *d* by means of the lever *e* and arm *f*. In order to leave the loop of needle-thread slack just as the eye of the needle and the thread are passing through the material, I construct or form the shuttle G with an indentation or depression, *h*, on the under side near the point. This indentation is made by cutting away part of the metal, as shown, so as to reduce the shuttle to almost half its ordinary thickness of metal just back of the point. The cam-groove C on the side of the driving-wheel B I construct with an additional small curve, *i*, at the proper point to cause the lever *e* to give a backward movement to the shuttle-carrier after the loop has been caught and opened by the shuttle so as to move the shuttle back and allow the loop to drop forward into the depression in the point of the shuttle, and be relieved from strain, and while in this position the eye of the needle passes up through the cloth. The shuttle, being larger at the point where the loop was formed than at the portion cut away, as described, allows a sufficient amount of slack thread for the needle, and after it has risen above the material the shuttle is moved forward through the loop in the ordinary manner.

In this kind of a machine it is necessary to use a shuttle similar to the one shown, and the shuttle-thread, when the shuttle is drawn back, is apt to get between the shuttle-guide *p*, and it is often cut, broken, or disarranged by the forward motion of the shuttle. In order to remedy this, I provide a flange, *j*, on the guide, and back of the hole *k*, through which the needle passes, and it projects out far enough to prevent the shuttle-thread from getting between the shuttle and the guide.

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

1. The shuttle C, constructed as described, and having a reverse movement while the needle is rising out of the work, substantially as set forth.

2. The flange *j* on the shuttle-guide *p*, substantially as and for the purpose above described.

In witness whereof I hereunto set my hand and seal.

WILLIAM HAMILTON HANNA. [L. S.]

Witnesses:
J. L. BOONE,
P. F. HOOPER.