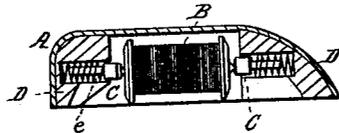


V. CUTTER.  
Sewing Machine Shuttle.

No. 49,092.

Patented Aug. 1, 1865.



Witnesses:

*W. A. Kearney*  
*Thos. J. Suck*

Inventor:

*V. Cutter*  
*Byrdman Co*  
*Atty*

# UNITED STATES PATENT OFFICE.

VOLNEY CUTTER, OF CINCINNATI, OHIO.

## IMPROVEMENT IN SHUTTLES FOR SEWING-MACHINES, &c.

Specification forming part of Letters Patent No. 49,092, dated August 1, 1865.

*To all whom it may concern:*

Be it known that I, VOLNEY CUTTER, of Cincinnati, in the county of Hamilton and State of Ohio, have invented a new and useful Improvement in Shuttles; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing, forming part of this specification.

The drawing, consisting of only one figure, shows a longitudinal vertical section of a shuttle containing my improvement.

The invention consists in providing spring-bearings for both journals of the bobbin of a shuttle, and it is designed chiefly for use in sewing-machines.

It is desirable in operating sewing-machines that the shuttle-thread be delivered in proper quantities and at proper times, and not in excess, so as to make much slack thread. It has therefore been common to compel the bobbin to revolve with more or less friction on its journals, so as to detain the thread in its delivery. Tension is also made on the shuttle-thread by means of devices placed on the sides of the shuttle, with a view of preventing much slack being made between the shuttle and the line of sewing and of intercepting slight pulls on the thread, so that they shall not act on the bobbin itself.

The best modes hitherto devised of arranging the bobbin and shuttle have been attended with difficulties, owing partly to the wearing out of the journals of the bobbin and of their bearings. The bearings have been made solid at both ends, and they have been made with a solid bearing at one end and a yielding bearing at the other. When a bobbin has both bearings solid it soon wears loose, and good work cannot be done with it until the bearings or journals are repaired or renewed. When one bearing is solid and the other yielding the solid bearing is soon hammered by the journal which runs in it and the end of the journal becomes blunted, thereby destroying the nice tension required. Sometimes, also, the heads of the bobbins are battered and knocked loose. The end pieces of the shuttle in which the solid bearings are made are of hardened steel, yet the continual pounding they get from the bobbin soon makes a hole therein or so enlarges the bearings that the head of the bobbin is suffered to come up against the end piece of the shuttle, thereby destroying the tension,

since the bobbin will then run loose, the spring of the yielding bearing at the other end being at full length. Moreover, the bobbin is often knocked out of its true center, in which case the bobbin-head is made to rub on the sides of the shuttle and against the sides of the machine, causing the bobbin to catch in the needle-slot of the machine.

The object of my invention is to improve the construction of the shuttle and avoid the difficulties and objections above stated, and I accomplish this object by making yielding bearings for the bobbin at both ends. Among the advantages of this construction are the following: that a longer bobbin can be used, because both the spring-bearings yield when the bobbin is inserted; that the bobbin cannot fall out without both springs yield or give way in opposite directions at the same time, which will not be likely to occur unless by design; that the bobbin is easily put into and taken out of the shuttle; that the tension is uniform, and that the journals and bearings aforesaid will not wear unequally on different ends, so as to get the bobbin out of center.

A represents a shuttle so made, containing a bobbin, B.

D D are the solid end pieces of the shuttle. Sockets or recesses *e e* are made in them to receive the inner ends of bolts C C, whose outer ends form the bearing-points or centers which carry the journals of the bobbin. The inner ends of the bolts C C are smaller than their outer ends, so as to form shoulders, against which spiral springs placed in the recesses *e* about the bolts press continually, so as to hold the bobbin with a constant but a yielding pressure. The inner ends of these bolts do not extend far enough to abut against the solid end pieces, D, thus leaving sufficient play for any compression of either of the springs.

I do not claim any particular form or construction of yielding or spring-bearings; but,

Having thus set forth my invention, what I desire to secure by Letters Patent is—

The combination and arrangement of the spiral springs with the bearings of the bobbin-journals, for the purpose of producing the requisite friction to prevent the thread from being paid out faster than it is needed, as specified.

VOLNEY CUTTER.

Witnesses:

LEVI B. HANCOCK,  
LYMAN B. DE CAMP.