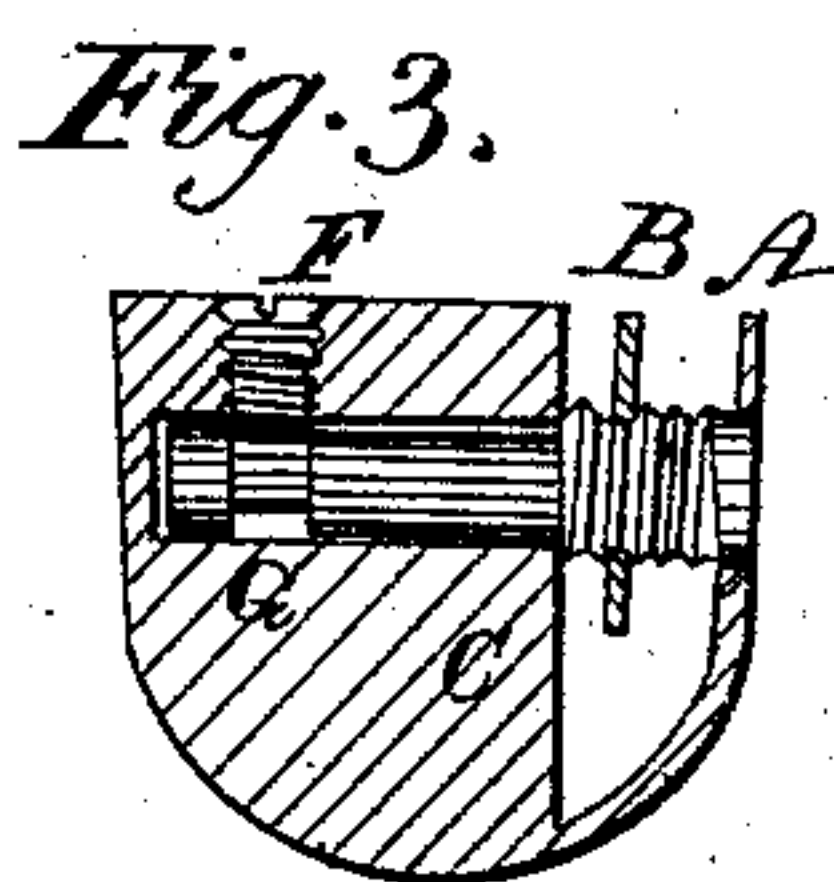
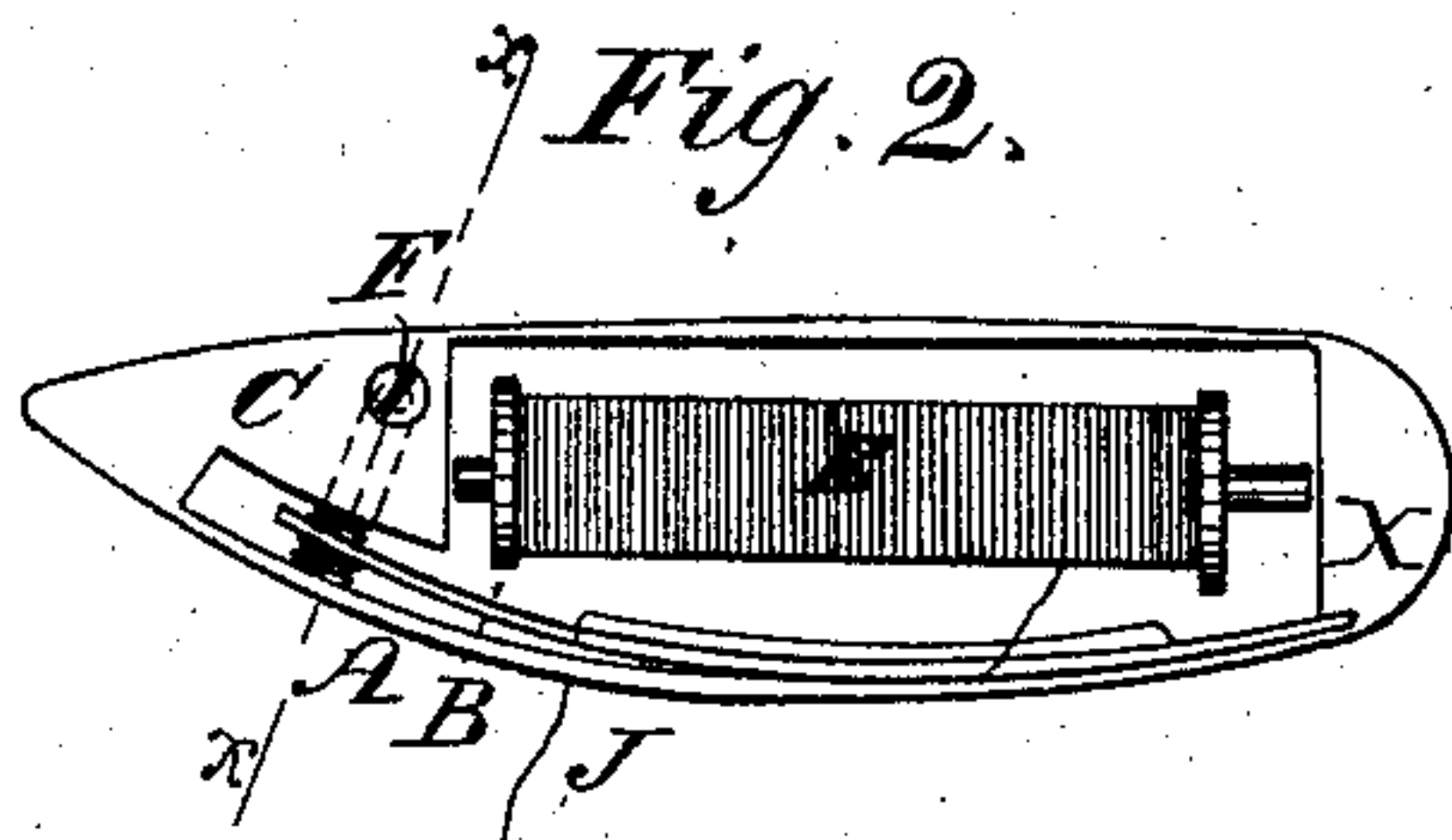
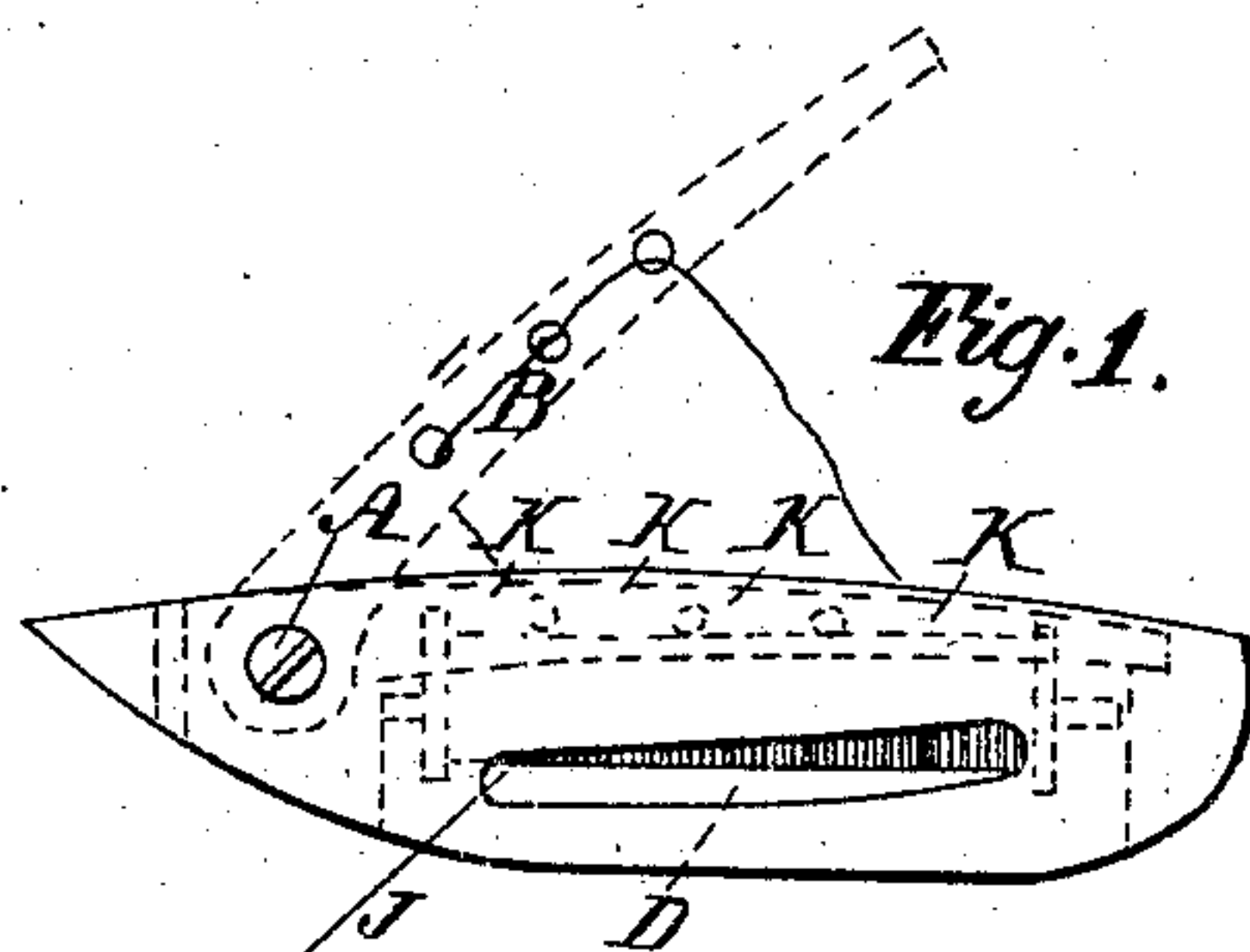


J. C. WADE.  
Sewing-Machine Shuttle.

No. 93,845.

Patented Aug. 17, 1869.



Witnesses,  
O. E. Doolittle  
R. H. Higgin

Inventor,  
James C. Wade  
by his attorney B. W. Williams & Son

# United States Patent Office.

JAMES C. WADE, OF BOSTON, MASSACHUSETTS.

Letters Patent No. 93,845, dated August 17, 1869.

## IMPROVEMENT IN SHUTTLES FOR SEWING-MACHINES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, JAMES C. WADE, of Boston, in the county of Suffolk, and State of Massachusetts, have invented a new and useful Improved Shuttle for Sewing-Machines; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention consists in an improved shuttle for sewing-machines, by which the tension of a thread may be varied or regulated, by means of a screw or spring, as described below, at the will of the operator, without taking the shuttle out of the machine.

Figure 1 represents the shuttle as it lies in the machine, with the head only of the screw A exposed to view, by turning which, by a screw-driver or any proper implement, the tension of the thread is regulated.

B represents the spring raised from the shuttle, with the holes through which the thread has been passed.

K represents the spring lying in the shuttle in its proper position, with one end resting or secured in the slot x; (see Figure 2,) and the other end attached to the screw A, the thread of which, as the screw is turned with a driver, moves the spring out or in, at the pleasure of the operator.

The mode of attaching the spring to the screw is as follows:

Through one end of the spring is made a hole of just such size and character as to permit the screw part of A to enter it, and yet confine the spring positively between its threads, so that it is not possible to shift its position thereon, to vary its degree of tension, except by turning the screw.

The screw-spindle or stock is also so applied, as hereinafter described, that it neither advances nor retreats by being turned, the screw, during such turning, taking hold of and actuating nothing but the spring to graduate its pressure upon the bobbin-thread.

The spring B, being so applied, is, therefore, itself perfectly free to be turned up or down upon the screw as its centre, as shown in fig. 1, to facilitate the threading or unthreading of the thread through the perforations in B.

The tension is obtained by the thread being pressed between the spring and inside of the shuttle.

D represents the long opening in the side of the shuttle, through which the thread J passes from the bobbin.

Figure 2 represents the interior of the shuttle.

E is the bobbin.

B is the spring, with the thread J in it, through which the screw A, which regulates the tension, passes.

C is the block of metal through which the unthreaded portion of the screw A passes, and which it is free to turn, as seen in fig. 3.

F is the head of the small screw in the top of the block C. The inner end of this screw passes into an annular groove near the inner end of A, (see fig. 3, G,) and prevents the large screw from working out or in.

Figure 3 shows the thread of the large screw A, with the end of the spring B confined in the thread.

C is the block of metal into which the spindle of the large screw A passes.

F represents a section of the small screw passing down into the groove G, in the large screw A, as described above.

What I claim, and desire to secure by Letters Patent, is—

In a sewing-machine shuttle, adapted for having the tension of its thread adjusted through an opening in its upper side, the screw-threaded spindle A, having no endwise movement, the thread of which actuates and controls the pressure of a spring thread-brake, substantially as described.

Also, the combination, with a shuttle, of the grooved and threaded spindle A, and its detaining-screw F and spring B, arranged and applied substantially as shown and described, and so that the screw-stock shall neither advance nor recede during its revolution.

Also, the combination, substantially as described, of a swinging tension-spring, B, with a fulcrum which is a screw-thread, so that the fulcrumed end shall be positively confined between the threads of the screw, and be free to turn thereon, while the adjustment of the screw shall vary the pressure of the free end of the spring against the wall of the shuttle.

JAMES C. WADE.

Witnesses:

H. W. WILLIAMS,  
O. E. DOOLITTLE.