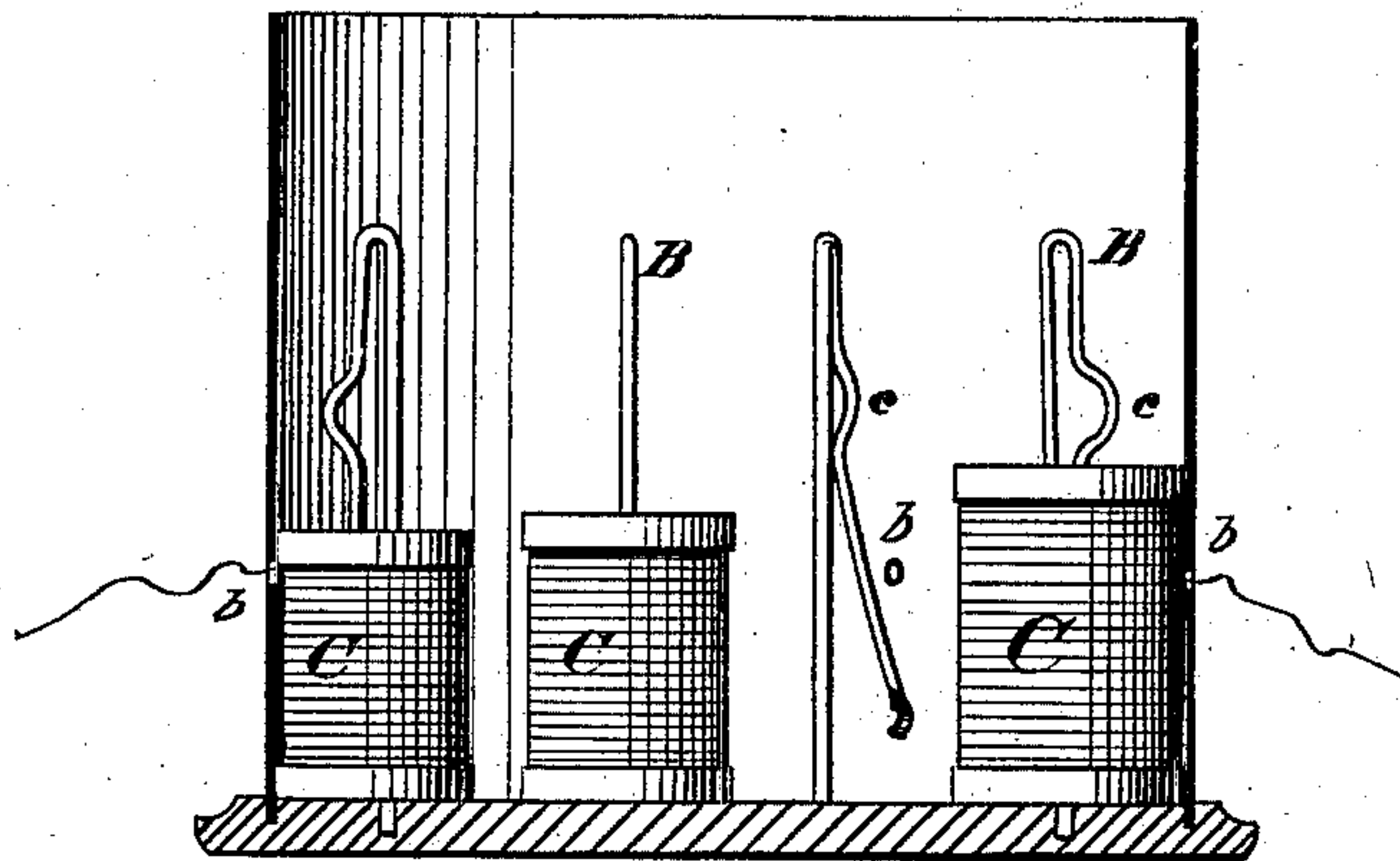


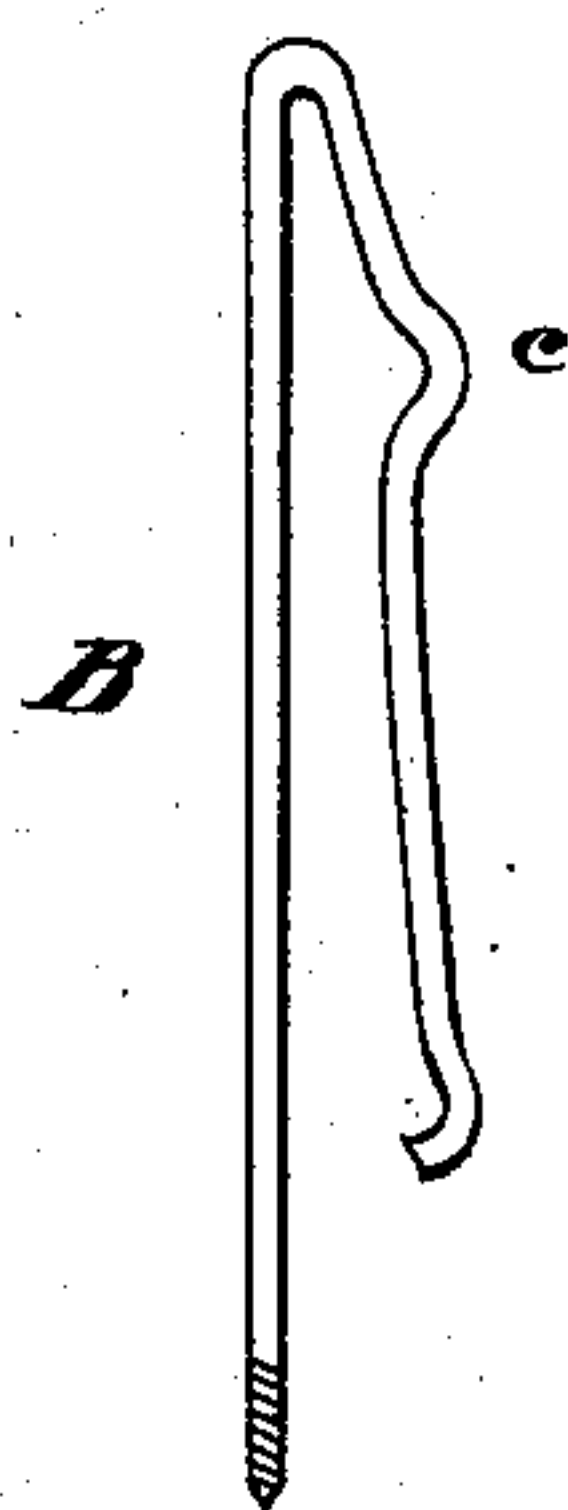
G. HARRINGTON.  
Spool-Box.

No. 199,644.

Patented Jan. 29, 1878.



*Fig. I*



*Fig. II*

*Witnesses*  
*Phelps Johnson*  
*W. B. Parker.*

*Inventor*  
*George Harrington*  
*by R. F. Hyde*  
*att'y.*

# UNITED STATES PATENT OFFICE.

GEORGE HARRINGTON, OF SPRINGFIELD, MASSACHUSETTS.

## IMPROVEMENT IN SPOOL-BOXES.

Specification forming part of Letters Patent No. **199,644**, dated January 29, 1878; application filed October 15, 1877.

*To all whom it may concern:*

Be it known that I, GEORGE HARRINGTON, of Springfield, Massachusetts, have invented an Improvement in Spool-Boxes, of which the following is a specification:

My invention relates to the combination, with a spool-box, of spring-wire spindles, constructed and adapted to operate as tension devices upon the thread-spools seated thereon.

The object of my improvements is the construction of a spool-box in which each spool will have a tension to regulate its delivery of the thread, while each tension device forms a spring spindle or stud, that holds the spool in proper position, and admits of its easy removal to be interchanged for a different one of any sized bore, while the tension-posts themselves are quickly removable to leave the box empty for other purposes.

In the drawings, Figure 1 is a vertical section through a box having my improvements, and Fig. 2 is a detached view of one of the tension-posts.

The spring-spindle B, I arrange in any order upon the bottom of the box, taking care only to leave space between them sufficient to prevent the spools from interfering, and a clear passage for the thread to the sides of the box, where openings *b* permit it to pass to the outside.

The spring-spindle B, I prefer to form of spring-wire, bent into the shape shown in Fig. 2, to leave the swell *c*, over which the spool can easily be passed, but which is amply sufficient to prevent the spool from rising when being rotated.

The spool C, when passed over the post B, compresses the free arm of the spring, which, bearing against the inside of the spool, supplies the friction necessary for the tension.

It will be seen that from this tension device

the spool can be lifted as easily as it was placed thereon.

I form the end of the spring-spindle that enters the bottom of the box into a screw end, or else sharpen it, so that it can be fixed in place, or readily removed, if it is desired to temporarily use the box for other purposes.

By the use of a spring-tension the spools are all kept in position, so that it is nearly impossible for the different threads to become entangled or leave their spools, except when pulled therefrom, and the box may be inverted without changing the position of the spools; and in this connection I would say that although this tension is adapted to use in any box it is peculiarly applicable to the one for which patent was granted me May 29, 1877, No. 191,236, in which either end may serve for top or bottom, as, the spools being held and regulated by the tension-spring spindle in any position of the box, one end may be removed to change one spool, or the other where all the spools are to be placed, or the spring-spindle removed or fixed.

Without departing from the principle of my spring spindle or stud, its contour may be varied, and the free end of the wire may be bent around to supply a rim or outside friction.

Now, having described my invention, what I claim is—

1. In combination with the spool-box, the spring-spindle B, formed of spring-wire, constructed and adapted to operate as a tension device upon thread-spools.

2. In combination with the spool-box, the removable spring spool-spindles B.

GEORGE HARRINGTON.

Witnesses:

R. F. HYDE,  
F. A. JUDD.