

(No Model.)

E. S. GARY & H. T. HEATH.

SPOOLER.

No. 326,422.

Patented Sept. 15, 1885.

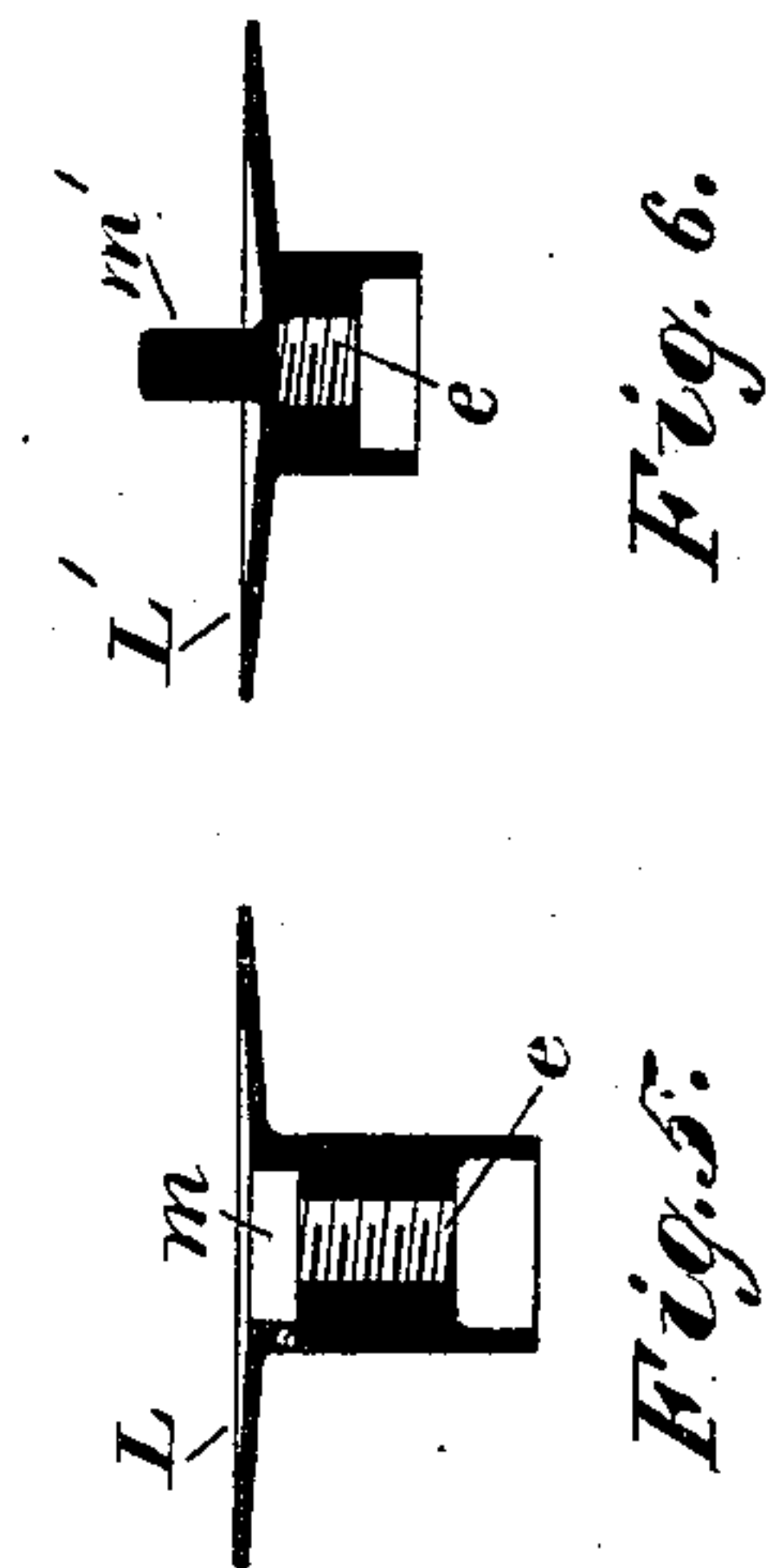


Fig. 6.

Fig. 5.

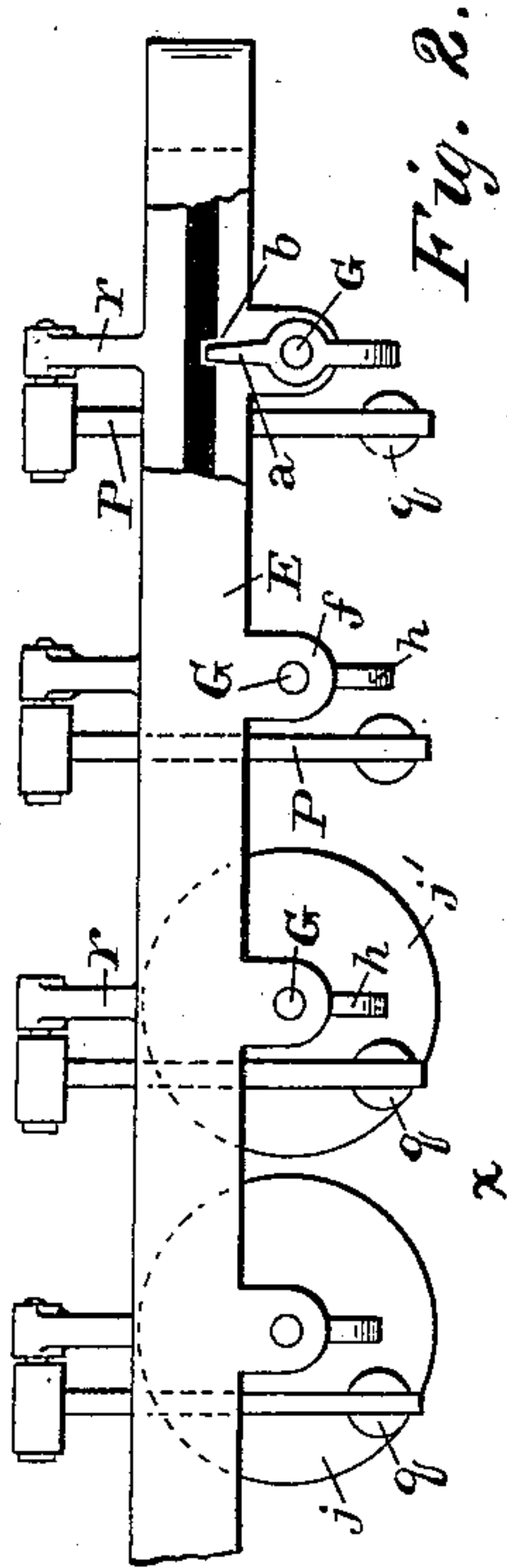


Fig. 2.

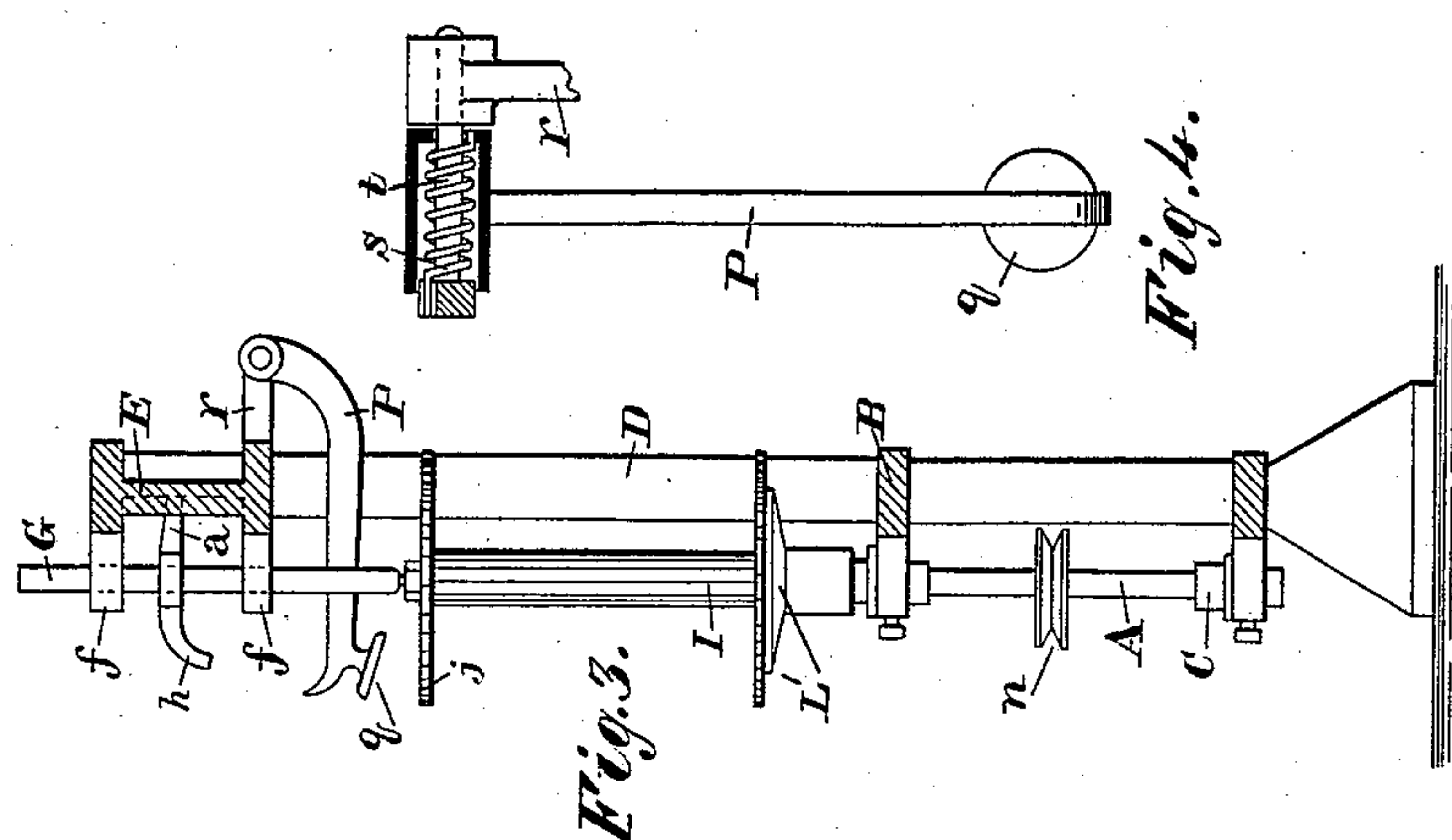


Fig. 3.

Fig. 4.

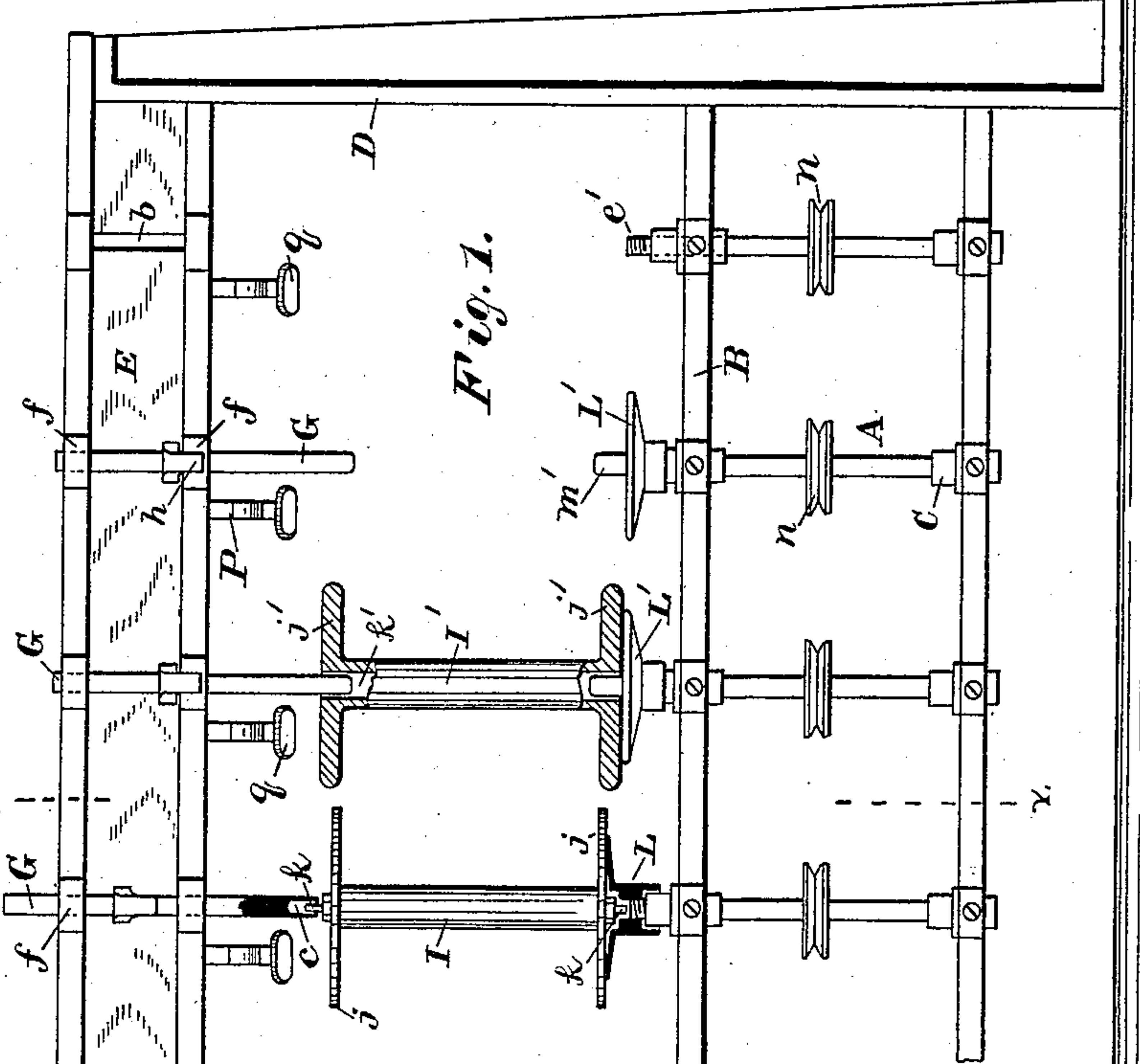


Fig. 1.

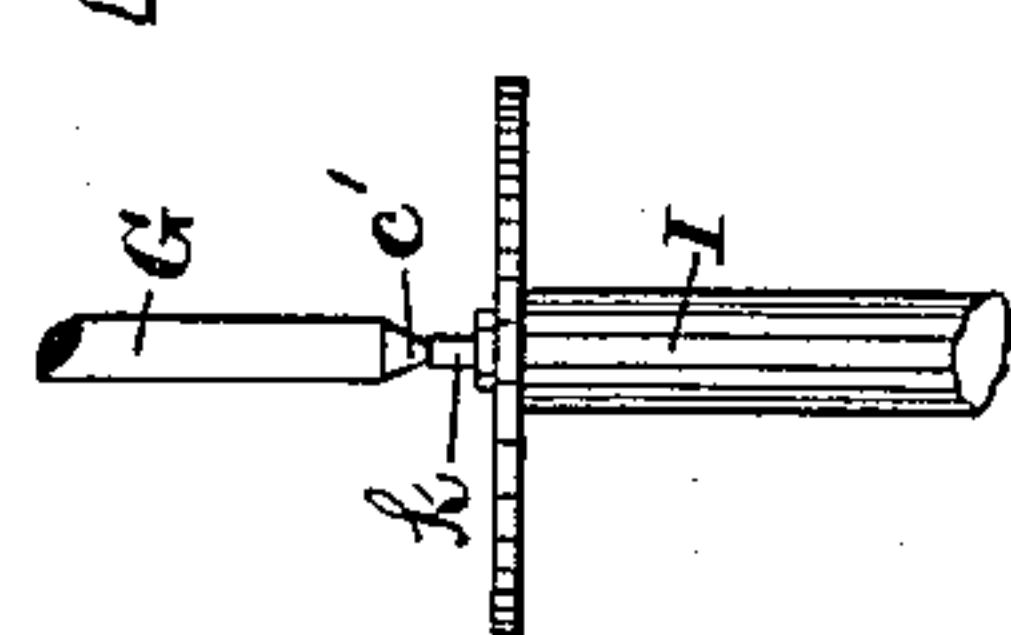


Fig. 7.

Witnesses:  
A. C. Eader  
Jno. O. Morris.

Inventors:  
E. Stanley Gary  
Harris T. Heath  
By Chas. B. Mann  
Attorney.

# UNITED STATES PATENT OFFICE.

E. STANLEY GARY, OF BALTIMORE, AND HARRIS T. HEATH, OF ELYSVILLE,  
MARYLAND.

## SPOOLER.

SPECIFICATION forming part of Letters Patent No. 326,422, dated September 15, 1885.

Application filed January 31, 1884. (No model.)

*To all whom it may concern:*

Be it known that we, E. STANLEY GARY, of the city of Baltimore, and HARRIS T. HEATH, of Elysville, in the county of Howard, State of Maryland, have invented certain new and useful Improvements in Spoolers, of which the following is a specification.

Our invention relates to that class of machines used in cotton manufacture known as "spoolers."

The object of the invention is to provide a spooler with means whereby spools made of either metal or wood, or both, may be used in the same machine. The construction of the improved devices whereby the desired result is accomplished will be described in connection with the accompanying drawings, which illustrate what is deemed the best method of carrying the invention into effect.

Figure 1 is a front elevation of part of a spooler, showing our invention applied thereto. Fig. 2 is a top view of the spools, brake-lever, and upper bar having the bearings for the non-rotating spindles. A portion of the bar is shown in section. Fig. 3 is a vertical section of the spooler viewed endwise on the broken line seen in Fig. 1, showing the improvements. Fig. 4 is a detail view, on a larger scale and partly in section, of the spool stop or brake. Figs. 5 and 6 are vertical sections of the lower spool-seat, designed, respectively, for wood and metal spools. Fig. 7 shows a modification in the upper vertical spindle.

The letter A designates the ordinary spindle, B the bar wherein they have their upper bearing, and C are their steps. These parts are sustained by standards D, which also support an upper bar, E, having bearings *f* for non-rotating upper spindles, G.

The spool I has metal heads *j*, and a bolt, passing entirely through it endwise, has an end, *k*, projecting beyond each head. These ends form journals, by which the spool is supported. These metal-head spools, it will be understood, have heretofore been used in spoolers constructed to sustain the spools only in a horizontal position, so that the spools rotated in a vertical plane.

The spool I' has wood heads *j'* and a central bore, *k'*, extending entirely through. These

all-wood spools have heretofore been used in a spooler constructed to sustain the spools only in a vertical position, whereby they rotate in a horizontal plane, same as shown in the drawings. To this end each shaft A in the spooler referred to has a seat for the end of the spool to rest on, and a spindle projects upward from the center of the said seat, and this spindle is to occupy the bore in the spool.

Our improvements here shown are designed to enable either or both of these spools to be used in a vertical position on the same spooler.

The upper spindles, G, are adapted to move freely up and down in the bearings *f*, and a handle, *h*, projects from the spindle, by which it may be so moved. On the opposite side from the handle is a lug, *a*, projecting into a vertical slot, *b*, formed in the front side of the upper bar. While this lug permits the upper spindle to move up and down, as described, it prevents it from turning. The lower end of this spindle is of size to loosely enter the bore *k'* of the wood spool, and has a socket, *c*, to receive the journal *k* of the metal spool. Thereby the upper spindles are adapted for either and both kinds of spools.

Two seats differing in construction are here shown, one being specially suited for the metal and the other for the all-wood spool. The seat L for the metal spool (shown in Fig. 5) has a central socket or opening, *m*, to receive the nut and the journal *k*, and also has an internal thread, *e*, to screw onto the upper end, *e'*, of the shafts A. The seat L' for the wood spool (shown in Fig. 6) has a central upward-projecting pin, *m'*, to enter the bore *k'*, and an internal thread, *e*, for its attachment to the shaft A. These seats L and L' are thus readily interchangeable. A spooler-machine, it will be seen, may have all of one kind, all of the other, or may have part of each, to suit the spools that happen to be in use.

The spools are placed in position and removed therefrom by simply moving up the upper spindle, G, so as to release its lower end from the upper end of the spool.

The spools are rotated as usual by a belt passing around the pulleys *n* on the shaft.

When a thread which is being wound on a spool breaks, the spool may be stopped by



pressing with the hand on the top end; but as a better means for stopping the spool, and especially better in the case of the metal spool, we employ a brake-lever, P, which has a head or block, q, adapted to press upon the upper spool-head. This lever is pivoted by one end to a lug, r, one of which projects from the rear side of the upper bar near each upper spindle. The lever is curved from its pivoted end downward and extends below and to the front side of the bar, as shown in Figs. 2 and 3. A spiral spring, s, is arranged at the pivot-bolt, t, and is connected with the lever in such manner (see Fig. 4) as to maintain the front end of the lever normally elevated or raised. When, therefore, the operator desires to stop a spool, it is only necessary to press the front end of the brake-lever down until the block q on the lever comes in contact with the upper head of the spool. Upon releasing the lever the spring will cause it to rise again.

The advantages of our improvements, we think, will be seen by those practically conversant with the class of machines in question. It will be seen that the interchangeable seats have internally-threaded shanks of different length, the object of which is to secure a uniform horizontal range for all the spools, both metal and wood, as seen in Fig. 1, in order that the traverse-bar may guide the thread of all the spools alike.

It is obvious that the upper vertical spindle, instead of having a socket in its lower end,

may have its end formed into a tapered point, C', like the tail-stock of a lathe, and that the projecting journals k on the metal-head spool may have on the end a center indentation into which the tapered point sets.

Having described our invention, we claim and desire to secure by Letters Patent of the United States—

1. The combination, substantially as set forth, of a spool-seat for the end of a spool to rest on, a rotatable spindle supporting said seat, and a non-rotating upper vertical spindle having in its lower end a socket for the journal of the spool, and mounted directly above the seat, and a bearing that permits the latter spindle to move up and down, substantially as described.

2. The combination, substantially as set forth, of a rotatable spindle-shaft, A, a spool-seat having means for ready connection and disconnection with the said spindle-shaft, a non-rotating upper vertical spindle, G, directly above said shaft, and having a free up-and-down movement and a suitable bearing to support the non-rotating spindle, substantially as shown and described.

In testimony whereof we affix our signatures in presence of two witnesses.

E. STANLEY GARY.  
HARRIS T. HEATH.

Witnesses:

BENJ. LACY,  
A. W. MONROE.