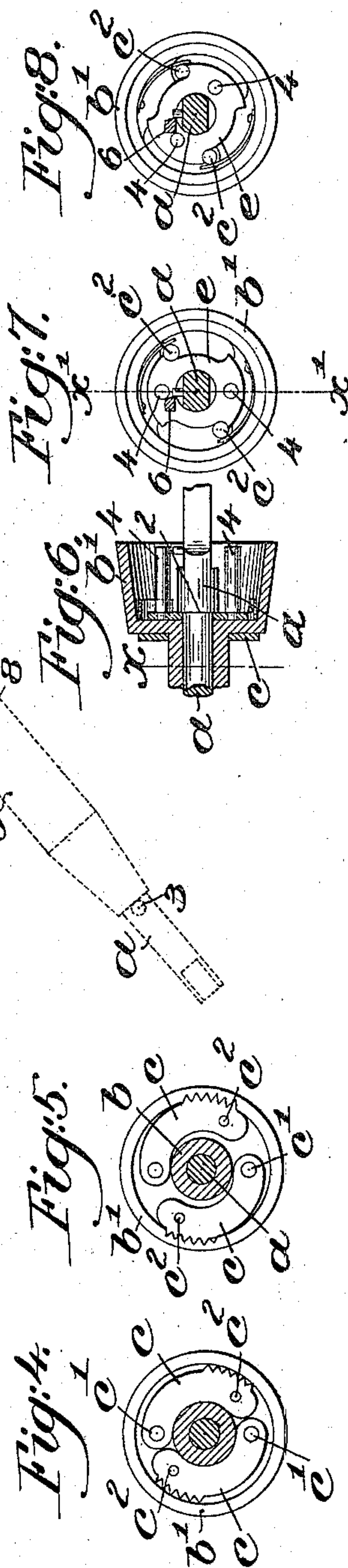
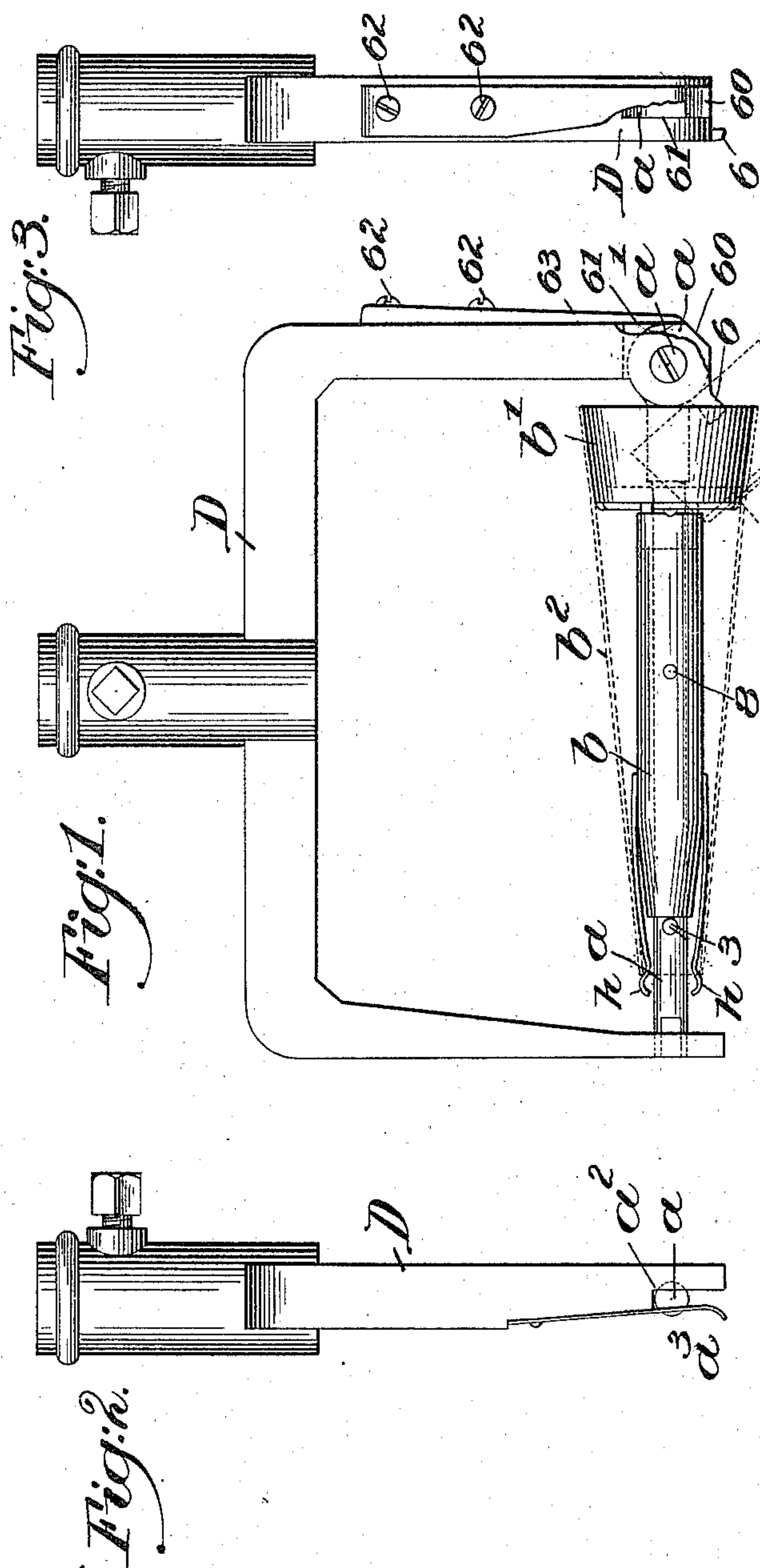


(No Model.)

J. W. FOSTER.
SHELL HOLDER FOR SPOOLING MACHINES.

No. 535,793.

Patented Mar. 12, 1895.



Witnesses.

Fred. S. Greenleaf.
Thomas J. Drummond.

Inventor:
John W. Foster.
by Crosby & Gregory
attys.

UNITED STATES PATENT OFFICE.

JOHN W. FOSTER, OF WESTFIELD, MASSACHUSETTS, ASSIGNOR TO THE
FOSTER MACHINE COMPANY, OF SAME PLACE.

SHELL-HOLDER FOR SPOOLING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 535,793, dated March 12, 1895.

Application filed May 18, 1894. Serial No. 511,681. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. FOSTER, of Westfield, county of Hampden, State of Massachusetts, have invented an Improvement in Shell-Holders for Spooling-Machines, of which the following description, in connection with the accompanying drawings, is a specification, like letters and numerals on the drawings representing like parts.

10 This invention has for its object the production of an improved holder for paper and other shells onto which yarn or thread is wound in spinning machines.

United States Patent No. 499,667, dated 15 June 13, 1893, shows a holder consisting of a spindle and an attached base or part with which is connected one end of the shell, and in my application, Serial No. 508,565, filed April 23, 1894, I have shown a holder such as 20 called for in said patent as pivotally mounted at one end on a bearing pivoted to a yoke. In my present invention I have made the said spindle hollow, and have mounted it loosely on a dead or non-rotating spindle which may 25 be pivotally connected with a winding yoke, or may have its ends sustained in bearings. I have combined with the head of the spindle a spring to aid in holding the spindle in either of its positions, and I have further combined 30 with the hollow spindle suitable shell-holding springs to engage the outer end of a conical paper shell.

Figure 1, in elevation shows one of my improved holders mounted in a yoke, the dotted lines showing the yoke turned out to enable a shell to be removed or applied, as desired. Fig. 2 is a left-hand end view of the yoke and holder shown in Fig. 1; Fig. 3, a right-hand end view; Figs. 4 and 5, a section in the 40 line x . Fig. 6 shows part of the base and holder in longitudinal section, the line of section being at x' , Fig. 7. Figs. 7 and 8 show the interior of the base in two positions corresponding to the positions of the dogs shown 45 in Figs. 4 and 5.

My improved holder consists of a dead spindle a , or a spindle on which is mounted to rotate a sleeve b having an attached base or enlargement b' , said enlargement being 50 adapted to receive the inner or enlarged end of a shell b^2 supposed to be of paper or thin

light weight material, the shell being shown as of cone shape, and as being held in position by dogs c , c , pivoted on the base at c' , and having pins c^2 extended through holes in 55 the base, a suitable cam or device, to be hereinafter described, acting on said pins to throw the dogs out, as in Fig. 5, to engage and hold the shell, or to draw them in as shown in Fig. 4, to release the shell, the dogs acting as de- 60 scribed in said patent.

The dead spindle herein shown has at one end an eye, through which is extended a pivot bolt a' to thus pivot the dead spindle to one arm of the yoke D of usual construction, the 65 opposite arm of the yoke having a shoulder a^2 and spring a^3 to co-operate with the free end of the dead spindle and hold it steadily when in the position shown by full lines Fig. 1, but enabling the spindle to be turned out, 70 as shown by dotted lines. The sleeve b is kept on the dead spindle between a shoulder 2 and a pin 3.

At the rear side of the base b' and, as shown, within it and surrounding the dead 75 spindle loosely, I have provided a cam plate e having, as shown, two pins 4, 4, one of which pins will strike a stop 6 carried by the yoke, when the spindle is turned out, as shown by dotted lines Fig. 1, one or the other of said 80 pins striking said stop according to which direction the sleeve and base are turned about the spindle, and as soon as the cam plate is arrested by the stop 6, the further movement of the sleeve and base causes the pins c^2 of 85 the dogs to ride over the edge of the cam plate e and throw the dogs c in or out, as desired. One pin 4 would answer, but with two, the dogs are moved more quickly or with less rotation of the sleeve. The inner end of the 90 sleeve will be suitably shaped to receive the end of the shell to be used, and instead of the particular dogs shown, I may use any other known device or devices heretofore employed to engage and hold the inner end of a paper 95 or non-rotatable shell.

This invention is not limited to the exact shape shown for the dead spindle, or for the yoke to hold it while the sleeve rotates.

The sleeve b is shown as provided with an 100 oil hole 8 for the introduction of oil between it and the dead spindle.

The dogs constitute one form of shell engaging device.

The head or pivoted end of the spindle *a* is shown as flattened at 60, 61, and the yoke has 5 connected to it by screws 62 a spring 63, the latter acting on said flattened faces 60 or 61 to keep the spindle in one or the other of its two positions. I have also shown the hollow sleeve *b* as provided with shell-holdingsprings 10 *h, h*, which engage the interior of the small end of the shell or cone *b*², and aid in keeping it steadily in place.

Having described my invention, what I claim, and desire to secure by Letters Patent, 15 is—

1. The yoke, its attached stop; the dead spindle pivoted at one end on the yoke, the loosely surrounding hollow sleeve or spindle having a conical base, and provided with de- 20 vices to engage and hold the shell on which thread is to be wound, combined with devices contained within said base and adapted to bear against said stop to effect the independ-

ent movement of the engaging devices on said base, for the purposes set forth. 25

2. The yoke, and the dead spindle pivoted thereon, combined with the surrounding hollow sleeve or spindle provided with engaging devices to engage and hold a shell placed thereon, substantially as described. 30

3. The yoke, and the dead spindle pivoted thereon, combined with the surrounding hollow sleeve or spindle provided with engaging devices to engage and hold a shell placed thereon, and with a spring attached to said 35 yoke and acting on the head of the dead spindle to hold it in either an open or closed position, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of 40 two subscribing witnesses.

JOHN W. FOSTER.

Witnesses:

A. F. LILLEY,
THERESA M. SHEA.