

(No Model.)

J. E. BERTRAND.
SHUTTLE FOR SEWING MACHINES.

No. 445,656.

Patented Feb. 3, 1891.

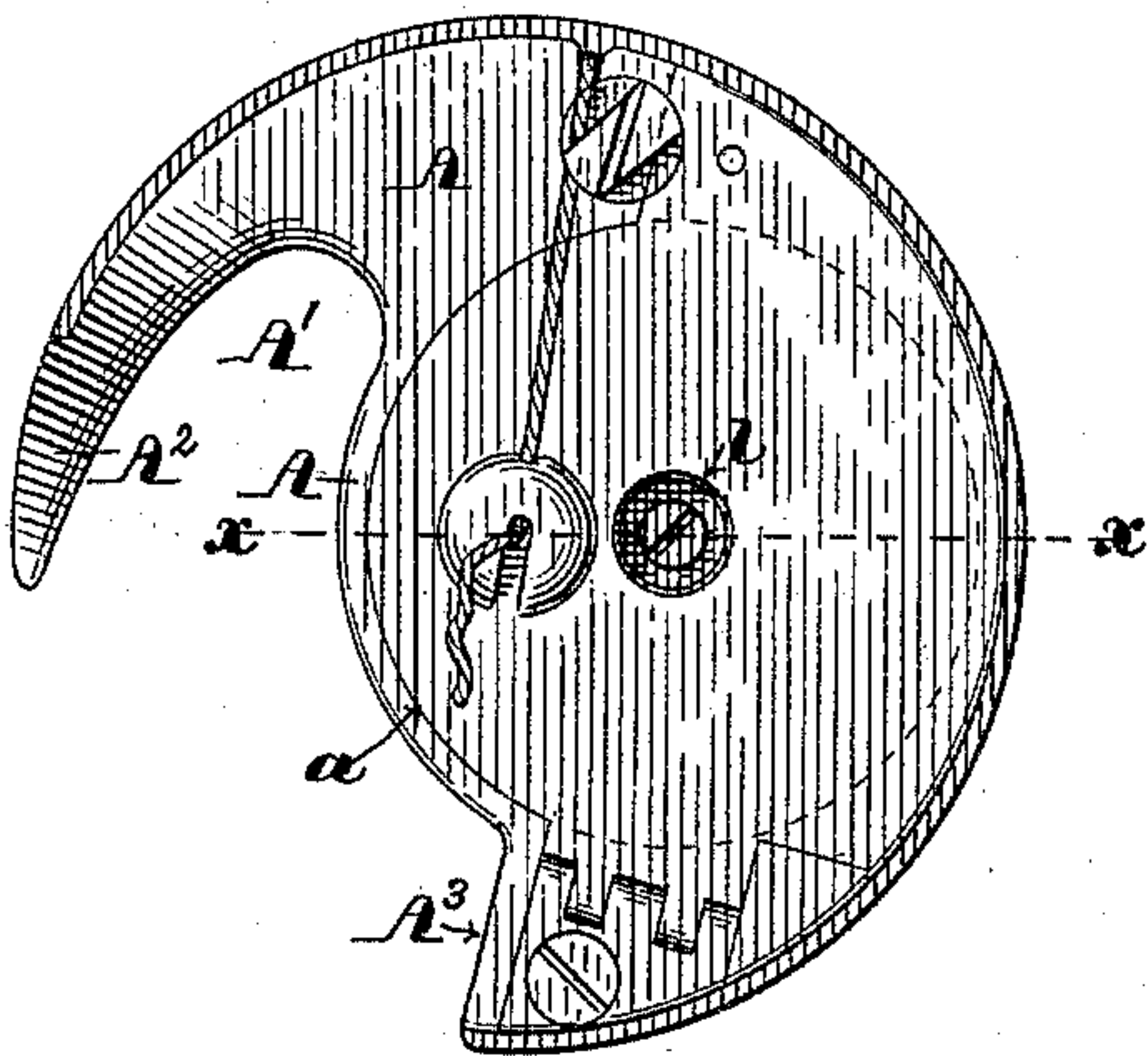


Fig. 1.

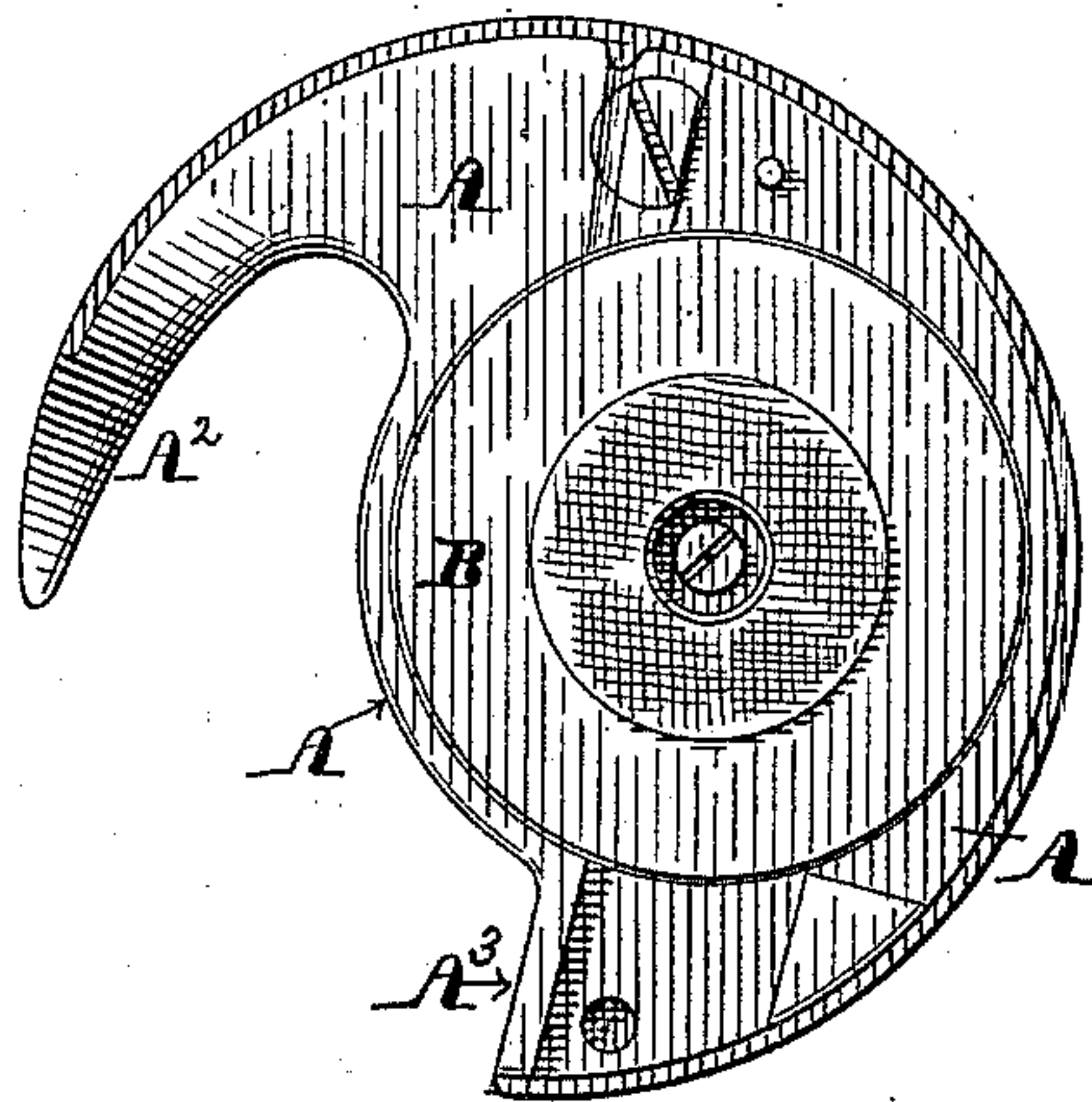


Fig. 2.

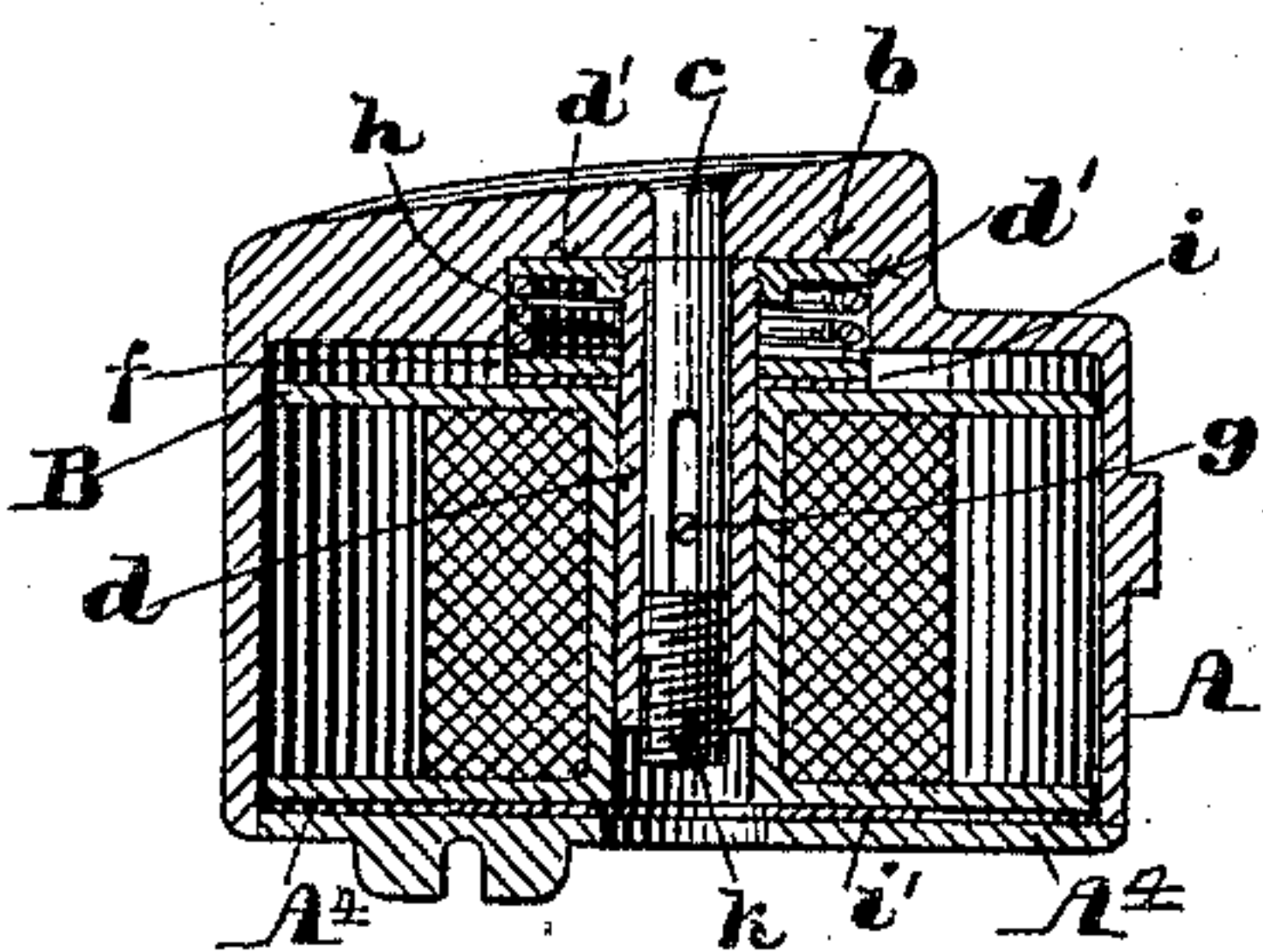


Fig. 3.

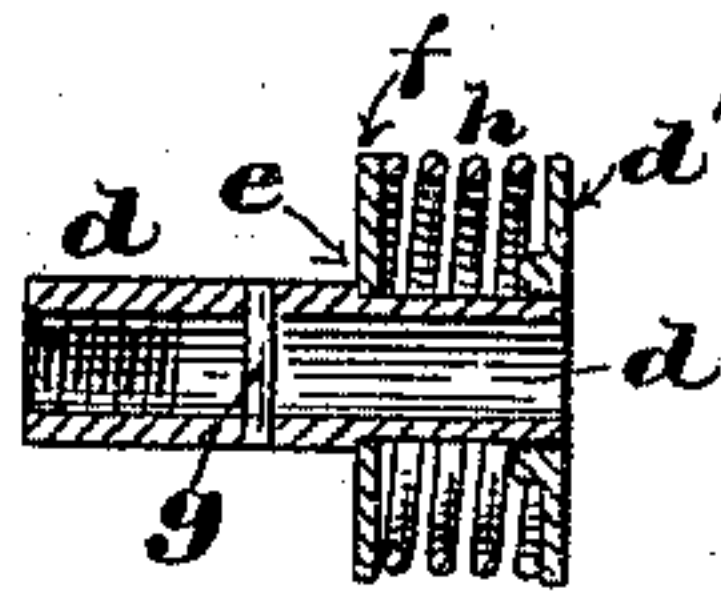


Fig. 4.

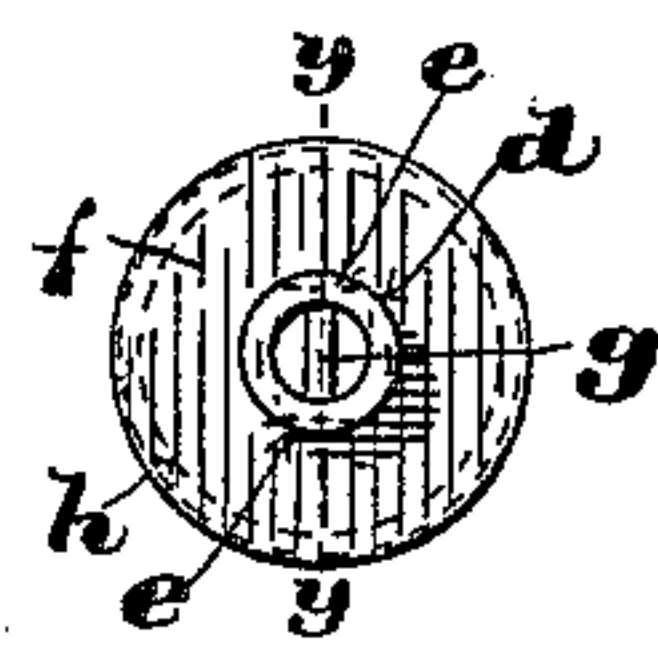


Fig. 5.

Witnesses
C. A. McBlure
Walter E. Lombard.

Inventor:
Joseph Eli Bertrand,
by N. P. Lombard
Attorney.

UNITED STATES PATENT OFFICE.

JOSEPH ELI BERTRAND, OF BOSTON, ASSIGNOR OF ONE-HALF TO MELLEN BRAY, OF NEWTON, MASSACHUSETTS.

SHUTTLE FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 445,656, dated February 3, 1891.

Application filed April 10, 1890. Serial No. 347,299. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH ELI BERTRAND, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Thread-Tension Devices for Sewing-Machine Shuttles, of which the following, taken in connection with the accompanying drawings, is a specification.

My invention relates to thread-tension devices for sewing-machine shuttles; and it consists in certain novel features of construction, arrangement, and combination of parts, which will be readily understood by reference to the description of the drawings and to the claims hereinafter given and in which my invention is clearly pointed out.

Figure 1 of the drawings is a front elevation of a revolving shuttle having my invention applied thereto. Fig. 2 is an elevation of the same with the bobbin-inclosing hinged door or cover removed. Fig. 3 is a section on line *x x* on Fig. 1. Fig. 4 is a plan of the bobbin-carrying sleeve and the spring-pressed washer mounted thereon, and Fig. 5 is a longitudinal section on line *y y* on Fig. 4.

In the drawings, A is the main body of the shuttle, having a considerable portion of its periphery cut away to form the curved recess A' between hook A² and the heel A³ and having formed in its front face the circular chamber *a* to receive the thread-bobbin B and a smaller circular recess *b*, in the center of which is set in a fixed position the pin *c*, having its free end slotted, as shown in Fig. 3. A sleeve *d*, having firmly secured to one end thereof the flange *d'* and loosely mounted thereon between said flange and the shoulder *e* the collar *f* and provided with the pin *g*, extending transversely across the bore of said sleeve, is mounted upon the pin *c*, with the pin *g* resting in the slot in said pin, so as to prevent said sleeve revolving on said pin.

Between the flange *d'* and the movable collar *f* is placed the spiral spring *h*, the tension of which tends to press the collar *f* against the end of the bobbin B and said bobbin against the door or cover A⁴, as shown in Fig. 3.

Between the collar *f* and the inner end of the bobbin B is placed a washer *i*, of cloth, leather, or other non-metallic material, and

between the opposite end of said bobbin and the door or cover A⁴ is placed a similar washer *i'*, which washers serve to increase the friction upon the bobbin.

The sleeve *d* has formed in its outer end a female screw-thread, in which is fitted the set-screw *k*, the inner end of which bears upon the end of the slotted pin *c*, as shown in Fig. 3, and serves as a means of regulating the tension upon the bobbin, as by turning the said screw in one direction the sleeve *d* and flange *d'* will be moved toward the front of the shuttle, thus diminishing the distance between said flange *d'* and the inner end of the bobbin, and as a consequence compressing the spring *h* and increasing its tension, and by turning said screw in the opposite direction the reverse effect is produced. This tension device has been practically tested and found to produce a smooth even tension and one that is very readily adjusted to meet different conditions without removing the shuttle from its race or opening the door or cover A⁴, said door being provided with an opening *l* directly opposite the screw *k*, through which a screw-driver may be inserted to adjust said set-screw whenever it is desired to vary the tension of the bobbin.

The shuttle shown and partly described in this application forms the subject-matter of and is claimed in another application of mine filed April 10, 1890, Serial No. 347,298.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In combination with a revoluble shuttle-bobbin and a shuttle-case inclosing the same, a slotted stud or pin set in the shuttle-case in a fixed position, a flanged sleeve mounted on said stud and provided with a pin to enter the slot in said stud, so that said sleeve shall be non-revoluble, but movable endwise thereon, and serve as a bearing for said bobbin, a movable collar on said sleeve, a spiral spring between said collar and the flange of said sleeve, and a set-screw fitted in the end of said sleeve and arranged to bear upon the end of said stud.

2. In combination with a shuttle having a circular bobbin-containing chamber and a cover for closing the same, a fixed slotted stud or pin set in the center of said chamber, a

flanged sleeve mounted upon said stud and
provided with a pin to enter the slot in said
stud to prevent revolution of said sleeve there-
on, a movable collar on said sleeve, a spring
5 located between said collar and the flange of
said sleeve, a bobbin mounted upon said
sleeve, a set-screw in the end of said sleeve
and arranged to bear upon the end of said
slotted stud, and a door or cover for closing
10 the bobbin-containing chamber, having an

opening directly opposite the adjusting set-
screw, as and for the purposes described.

In testimony whereof I have signed my
name to this specification, in the presence of
two subscribing witnesses, on this 7th day of 15
April, A. D. 1890.

JOSEPH ELI BERTRAND.

Witnesses:

N. C. LOMBARD,

WALTER E. LOMBARD.