

(No Model.)

F. BUCK.
TAPE MEASURE.

No. 498,104.

Patented May 23, 1893.

-FIG. I-

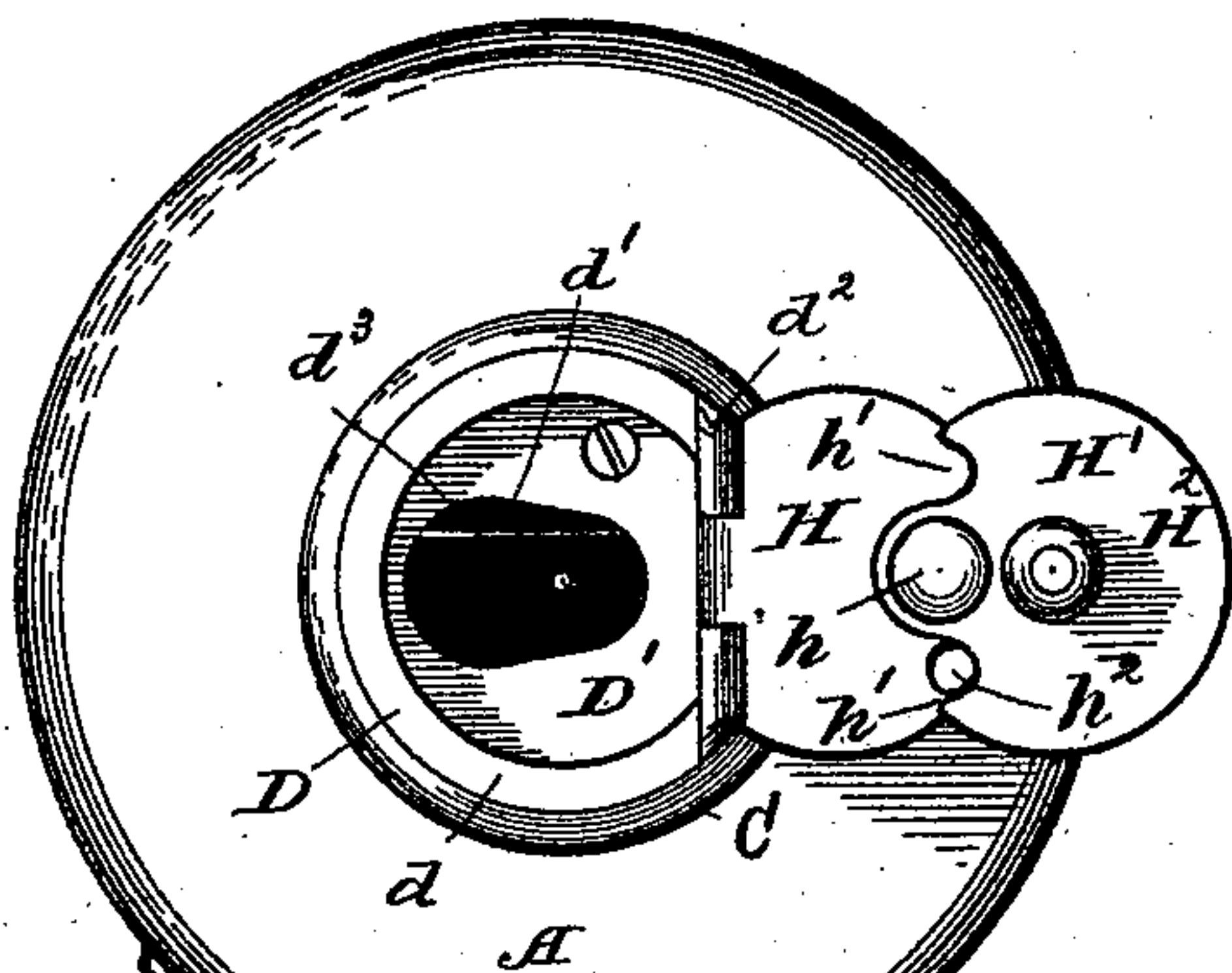
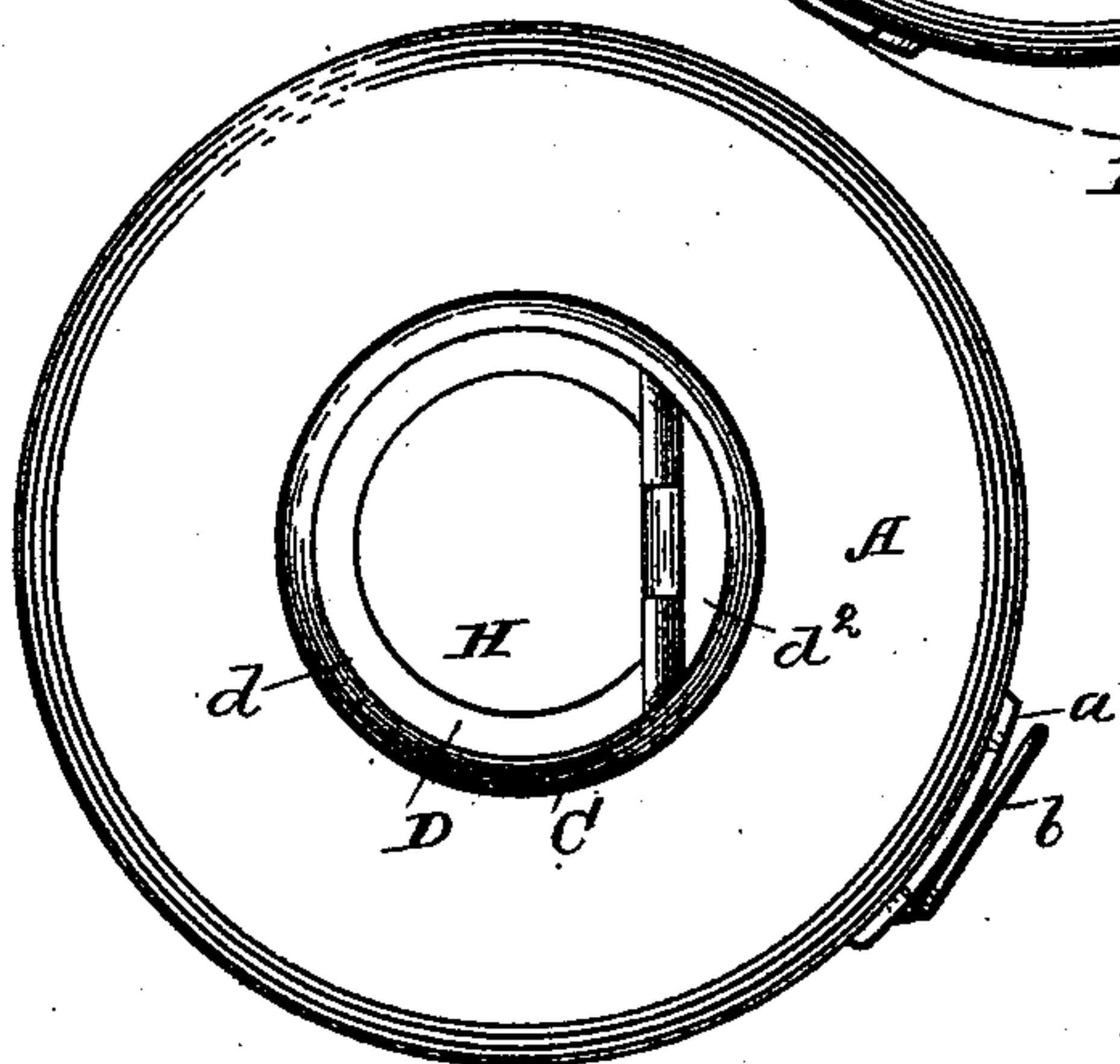
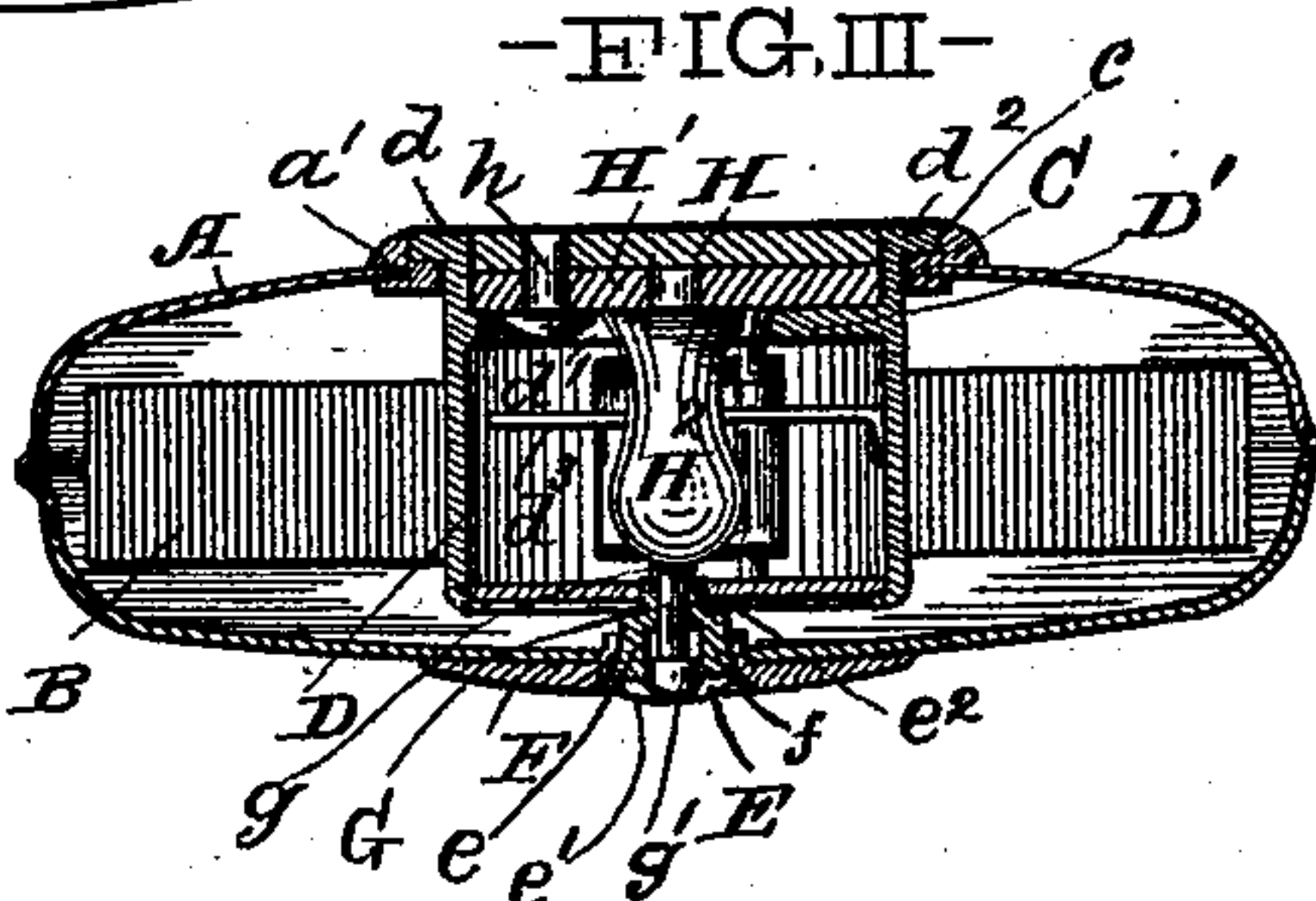


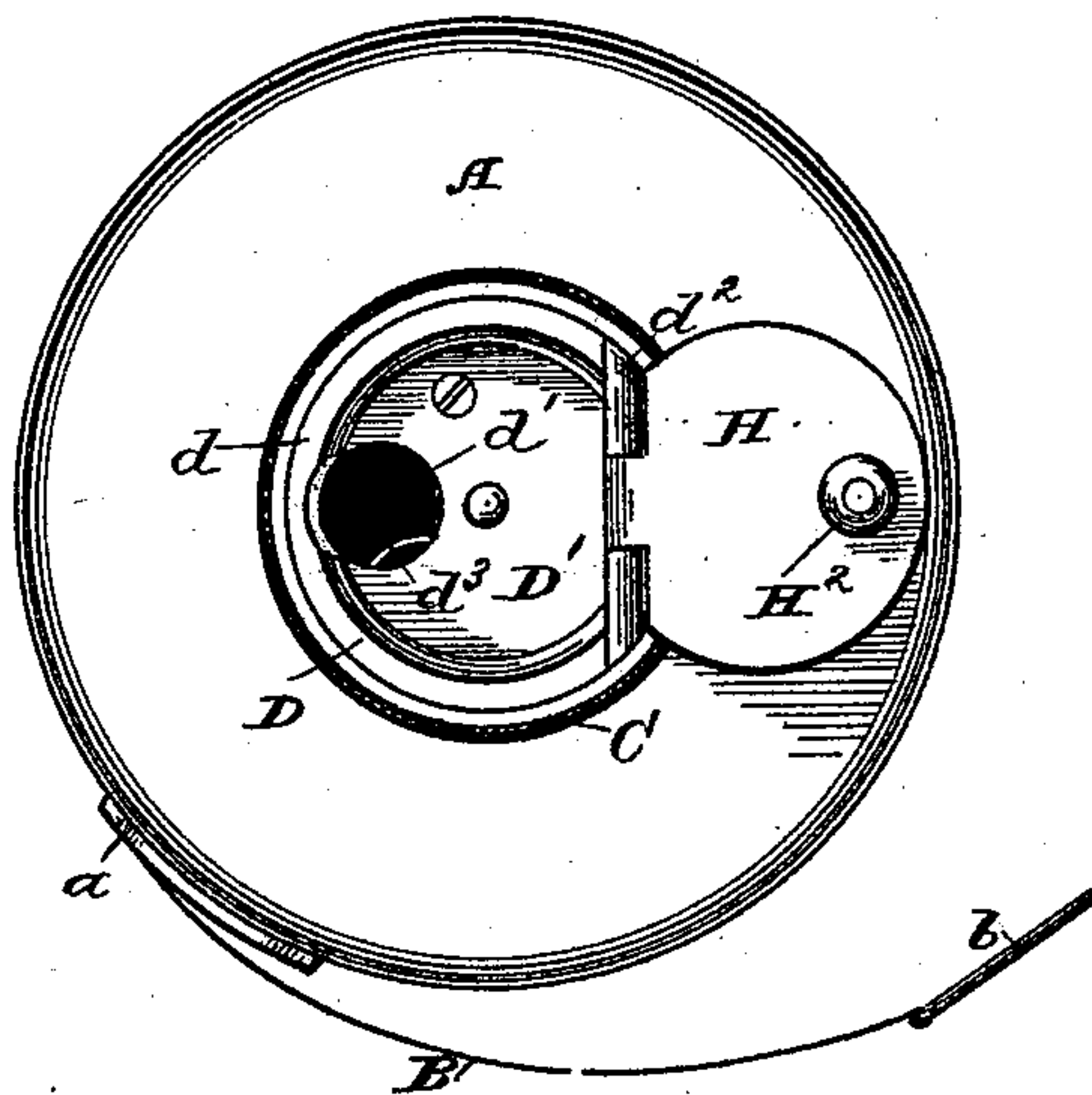
FIG. II



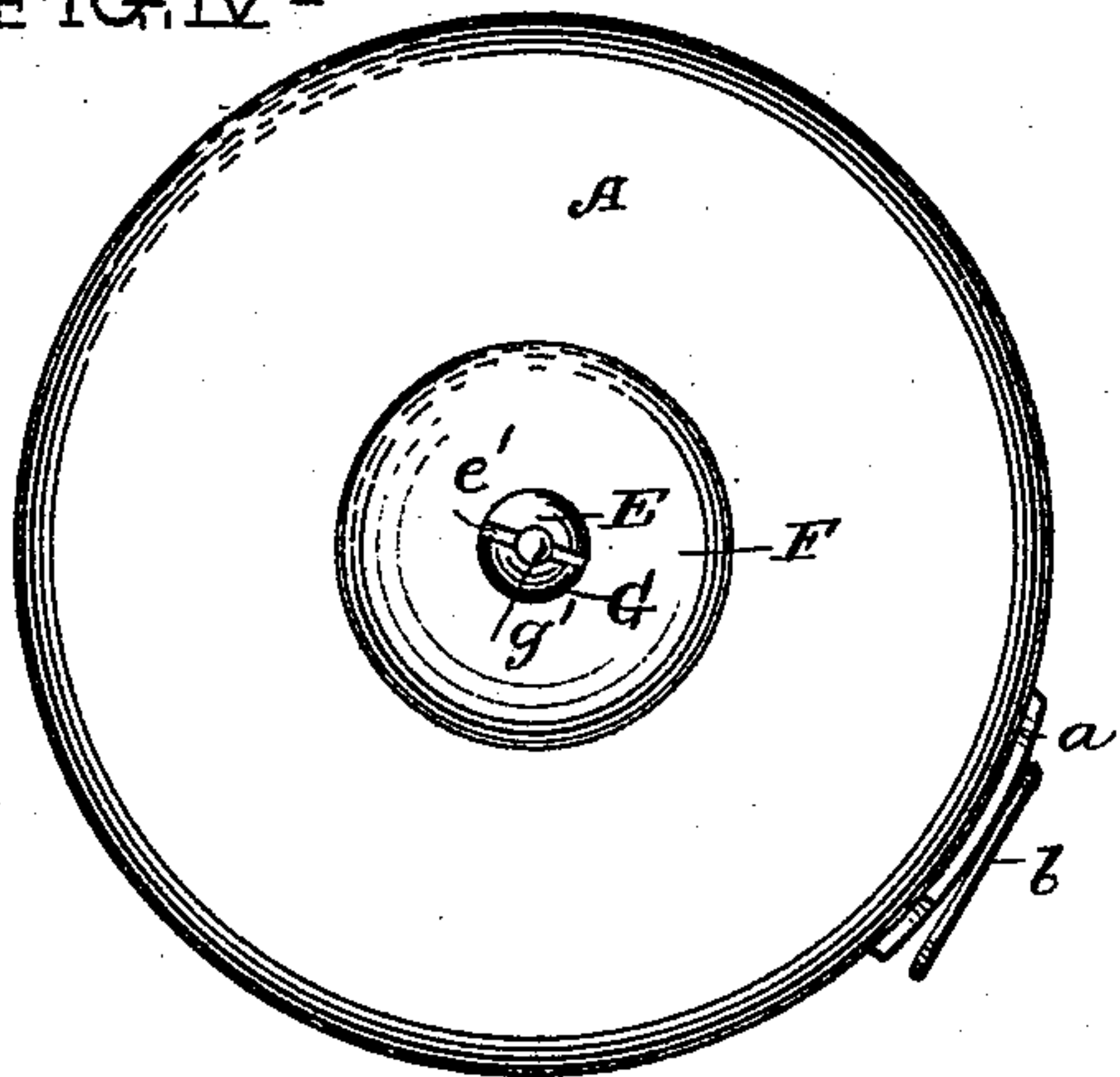
-FIG. III-



-FIG.V-



- FIG. IV -



WITNESSES:

J. C. Turner
Jm. Lecher

INVENTOR.

By *F. Duck*
Hall & Gay A

ATTORNEYS.

UNITED STATES PATENT OFFICE.

FRED BUCK, OF SAGINAW, MICHIGAN.

TAPE-MEASURE.

SPECIFICATION forming part of Letters Patent No. 498,104, dated May 23, 1893.

Application filed December 5, 1892. Serial No. 454,020. (No model.)

To all whom it may concern:

Be it known that I, FRED BUCK, a citizen of the United States, and a resident of Saginaw, county of Saginaw, and State of Michigan, have invented certain new and useful Improvements in Tape-Measures, of which the following is a specification, the principle of the invention being herein explained and the best mode in which I have contemplated applying that principle, so as to distinguish it from other inventions.

The annexed drawings and the following description are set forth in detail, one mechanical form embodying the invention; such detail construction being but one of various mechanical forms in which the principle of the invention may be used.

In such annexed drawings—Figure I represents a top plan view of my improved tape measure, illustrating it as ready to wind the tape line; Fig. II, a top plan view of the measure, illustrating it as closed; Fig. III, an axial section; Fig. IV, a plan view of the under side of the measure, and Fig. V, a top plan view of another form of measure, illustrating it as ready to wind the tape line.

The case A of the tape measure may be made of any suitable material and in any suitable form. In the drawings it is illustrated as made of leather in the usual, approximately flat cylindrical, or lenticular shape, with the seam in the periphery of the case, and with the usual slotted plate *a*, through which the tape line B, passes. The upper side of the casing has a circular opening, *a'*,—to the edge of which an annular bushing, C, having a rabbet, *c*, is secured. A drum, D,—having one end of the tape line secured to it and upon which the tape line is wound,—is fitted through said bushing and has a flange, *d*, at its upper end, which flange fits and turns in the rabbet. A screw, E, has a smooth and inwardly tapering enlargement, *e*, which fits in a similarly tapering opening, *f*, of a bushing, F, secured upon the center of the under side of the case; and the smaller, screw-threaded end of said screw enters the lower end of the hollow drum D and secures the latter in the case. The outer end of the screw has the usual nick, *e'*, and an axial bore, *e''*, in which a pin G,—having heads, *g* and *g'*, at its ends,—has play.

The tape line B has a ring, *b*, or other finger-hold, at its free end, for drawing the tape out of the case. The drum D has an open upper end, and has a transverse partition, D', near its upper end, which partition is formed with an opening, *d'*. A disk, H, which is nearly circular, is hinged at its secant edge to a segmental flange, *d''*, in the open upper end of the drum and said disk and flange, together, close the open upper end of the drum when the disk is folded down over said open end. A circular disk, H', is pivoted upon a pin, *h*, at the edge of the disk and upon the under side of the hinged disk, near the outer edge of the latter. Said pivoted disk has a handle, H², projecting from the center of its under side, and has two notches, *h'*, at opposite sides of its pivot, which notches may engage a pin, *h''*, projecting from the under side of the hinged disk. The two disks and the handle form a folding crank by means of which the drum may be revolved and the tape line wound upon the same. When the crank is folded,—which may be done by turning the pivoted disk, or outer member, inward upon the hinged disk, or inner member, and thereupon folding said hinged disk into the open end of the drum, the crank will be completely within the drum. The end of the handle of the crank will bear against the inner end of the pin in the bottom of the drum, and inward pressure upon said pin will push the crank out so that it may be folded out for use. A spring, *d'''*, is secured in the drum and engages the side of the handle so as to keep the folded crank in place.

In the form, illustrated in Fig. V, the handle is upon the inner member of the folding crank.

The operation of the device is the same as that of the former device, but the crank is shorter.

The tape measure provided with my improvement will present a smooth exterior, and it will not be necessary to insert the finger-nail under the outer member of the folding crank, such as is usually necessary in the commonly used tape measures; but the crank may be opened by pushing upon the pin, from the under side of the case.

Other modes of applying the principle of my invention may be employed for the mode

herein explained. Change may therefore be made as regards the mechanism thus disclosed, provided the principles of construction set forth respectively in the following claims are employed.

I therefore particularly point out and distinctly claim as my invention—

1. In a tape measure, the combination with a revoluble drum for the tape line; of a disk hinged to said drum to fold into one end of the same, and a disk pivoted to the face of said first disk to swing in the plane of the face of said disk and provided with a handle projecting from its face, substantially as set forth.

2. In a tape measure, the combination with a revoluble drum for the tape line, formed with an opening in one end; of a disk hinged to said drum to fold into and close the open end of the same, a disk pivoted to the face of said first disk to swing in the plane of the face of said disk and provided with a handle projecting from its face, and a stop upon one of said disks adapted to limit the outward swing of the second disk, substantially as set forth.

3. In a tape measure, the combination with a revoluble drum for the tape line, of a folding crank consisting of two or more members pivoted to be extended and to fold one upon the other;—said folding crank being hinged at one edge to fold into the end of the drum, substantially as set forth.

4. In a tape measure, the combination of a revoluble drum for the tape line, formed with an opening in one end, a disk hinged to said drum to fold over the open end of the same, a disk pivoted at one end to near the free edge of the face of said disk and having a handle upon its face and two opposite notches at the sides of the pivot, and a stop upon the hinged disk to engage said notches, substantially as set forth.

5. In a tape measure, the combination of a revoluble drum for the tape line, having an open end and a partition formed with an opening, a crank hinged to fold into said open end and having a handle projecting through the opening in the partition when the crank is folded, and a spring within the drum engaging said handle, substantially as set forth.

6. In a tape measure, the combination of a revoluble drum for the tape line, a crank hinged to fold over the end of said drum, and a pin, separate from the crank, and movable through the drum to project at one end of the same and to bear with its oppo-

site end against the crank when the latter is folded, substantially as set forth.

7. In a tape measure, the combination of a revoluble drum for the tape line, formed with an open end, a crank hinged to said drum to fold into and flush with the open end of the same, and a separate pin longitudinally movable in the drum and projecting at one end of the same and bearing with its other end against the crank when the latter is folded, substantially as set forth.

8. In a tape measure, the combination of a case, a drum for the tape line, journaled in one head of said case, and having that end open, a screw journaled in the opposite head of the case and entering the closed end of the drum, said screw having an axial bore, a crank hinged to the drum to fold into and flush with the open end of the same, and a pin fitted in the bore of the screw and bearing with its inner end against the crank, substantially as set forth.

9. In a tape measure, the combination of a case formed with a large central and circular opening in one side and with a small concentric opening in the opposite side, a cylindrical drum for the tape line, fitting and turning in the large opening of the case and having a closed inner end, and a screw journaled with its smooth portion in the small opening of the case and having its threaded end secured in the center of the closed inner end of the drum, substantially as set forth.

10. In a tape measure, the combination of a case formed with a large central and circular opening in one side and with a small concentric opening in the opposite side, a cylindrical drum for the tape line, fitting and turning in the large opening of the case and having an open outer end and a closed inner end, a crank hinged to one side of the open end of the drum to fold outward and to fold inward to close the open end of the drum, and a screw journaled with its smooth portion in the small opening of the case and having its threaded end secured in the center of the closed inner end of the drum, substantially as set forth.

In testimony that I claim the foregoing to be my invention I have hereunto set my hand this 1st day of December, A. D. 1892.

FRED BUCK.

Witnesses:

W. W. VAN BRUNT,
SAMUEL G. HIGGINS.