

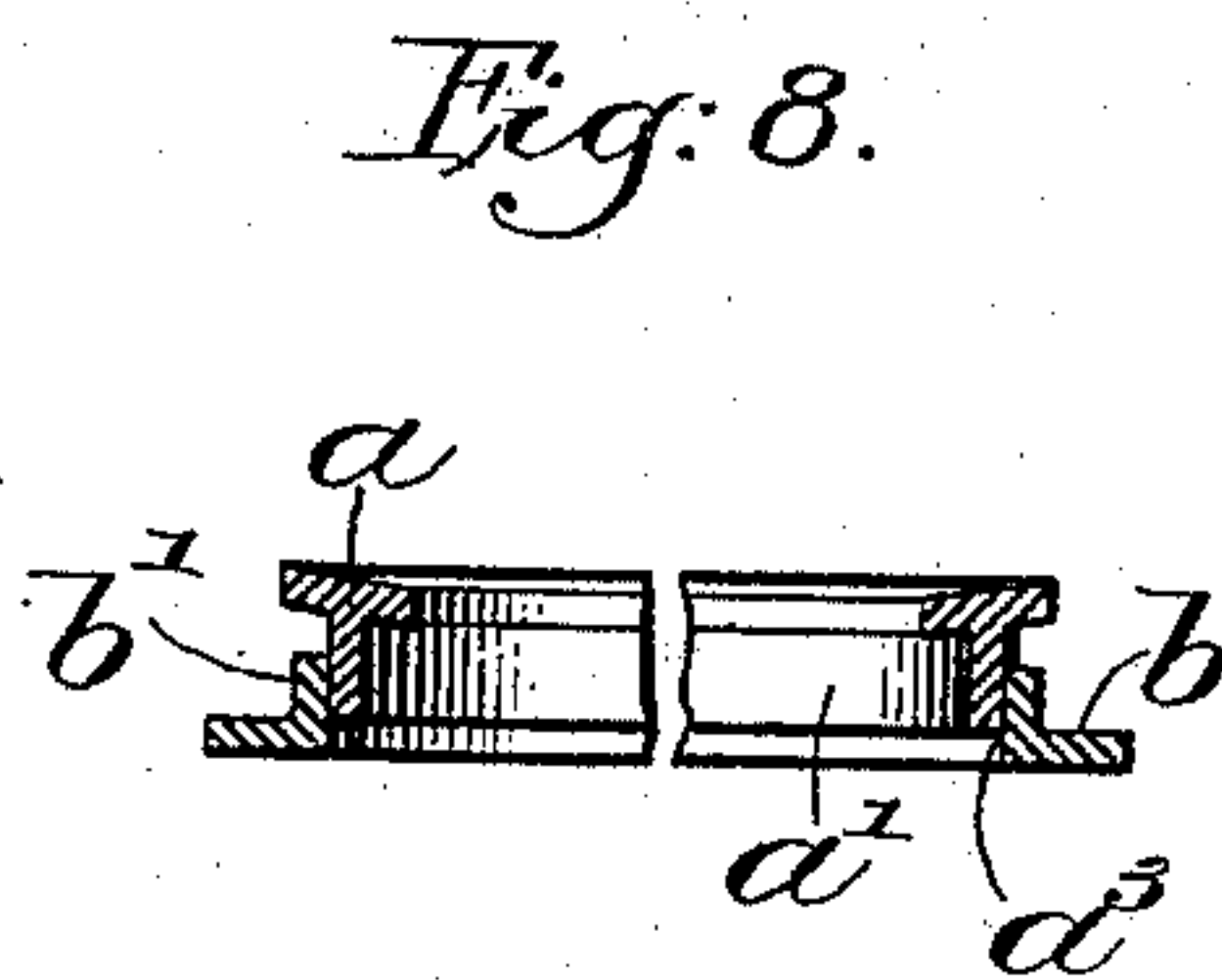
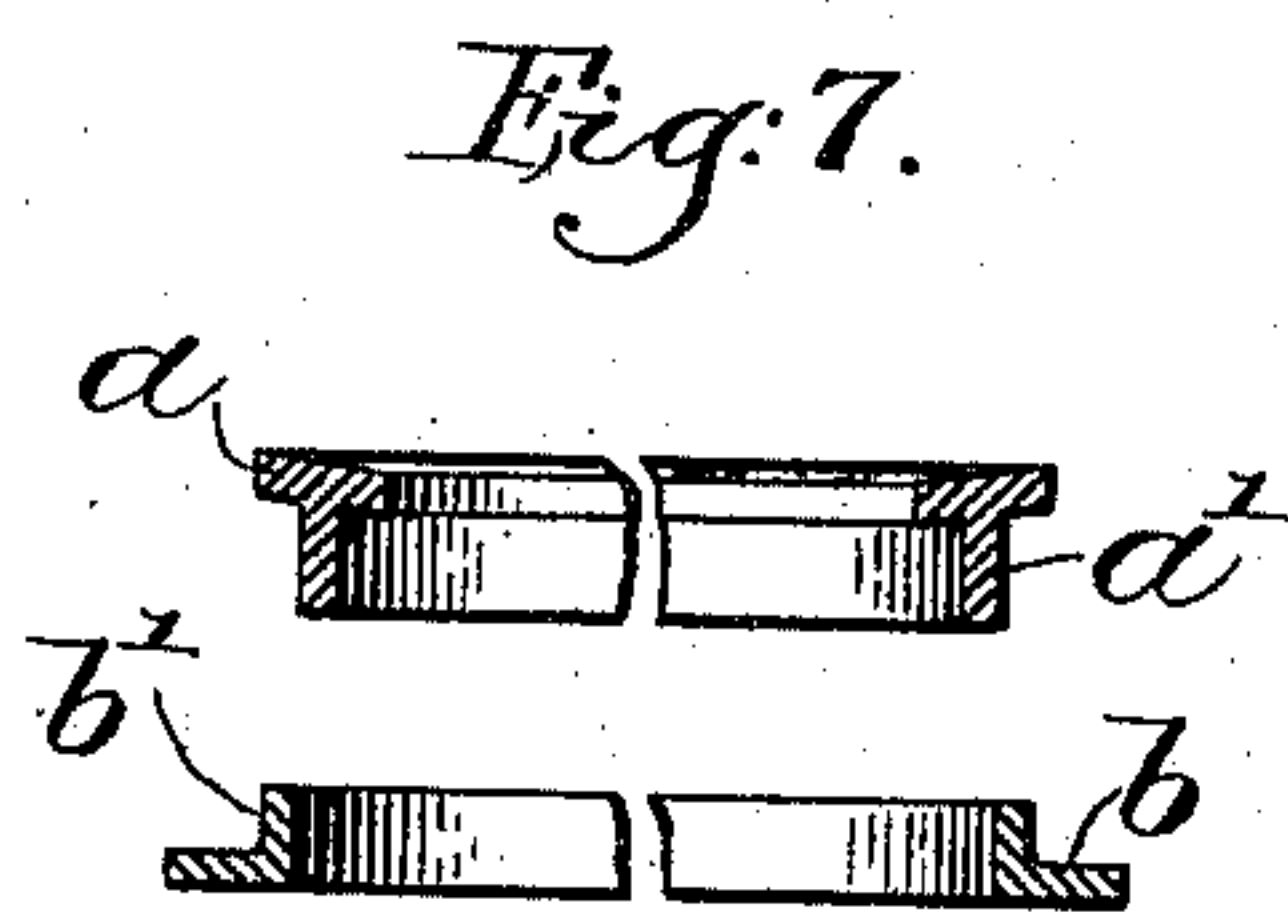
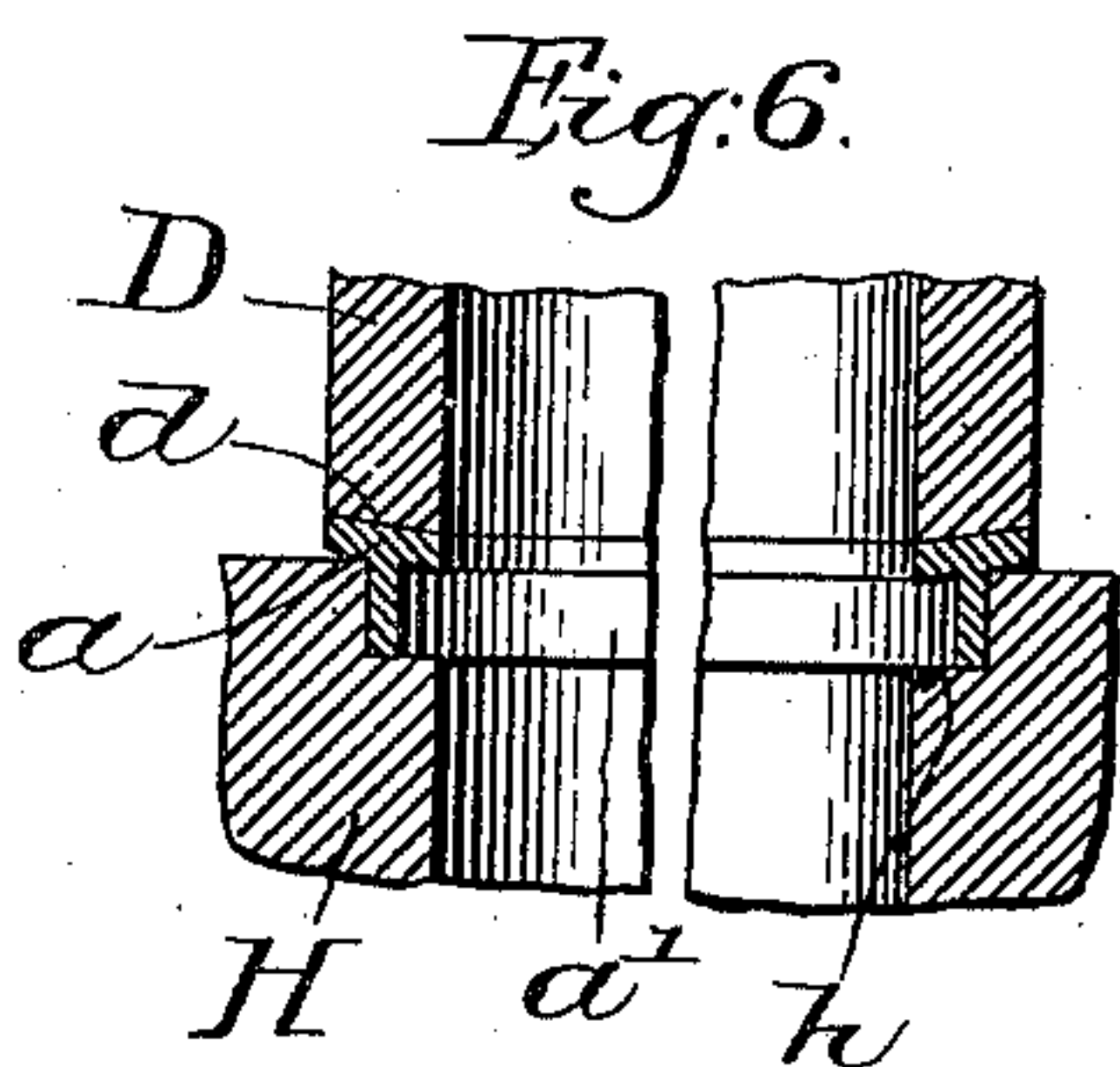
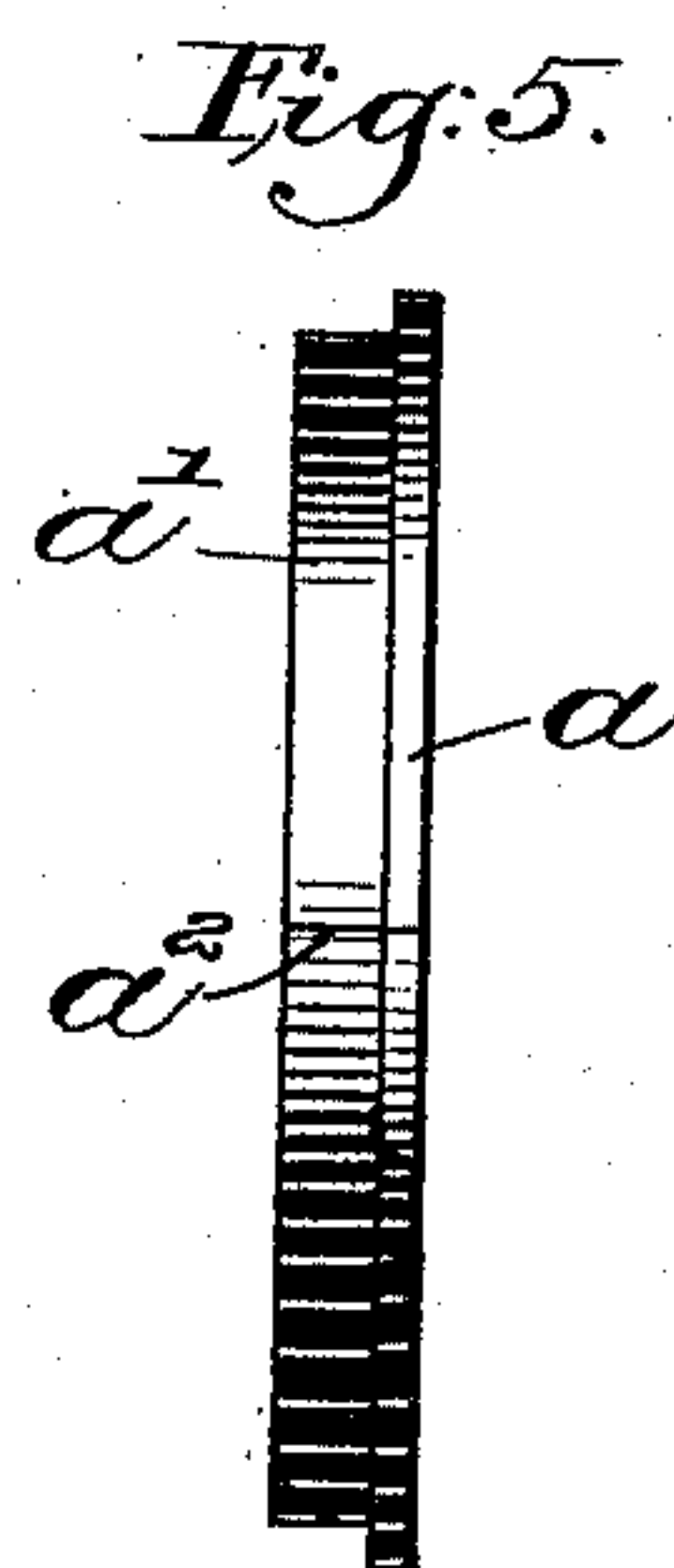
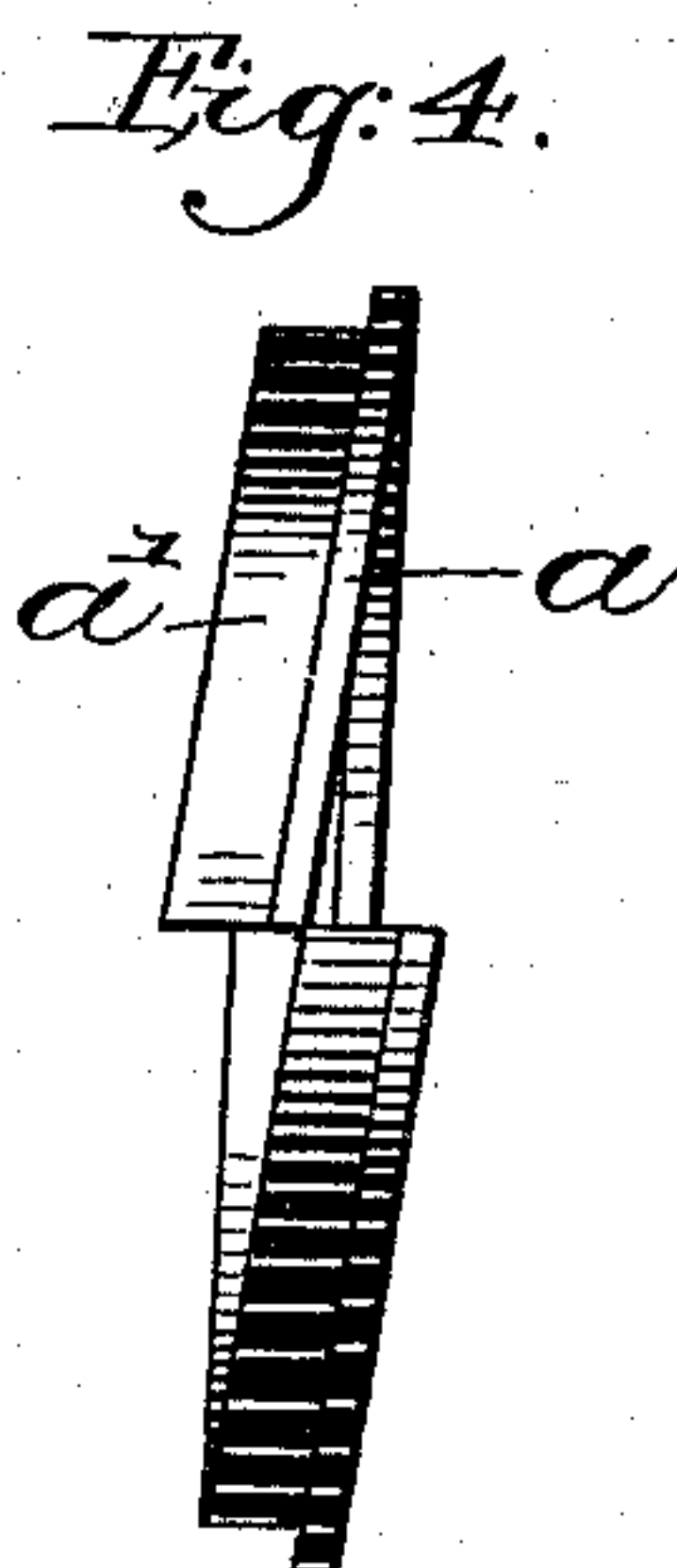
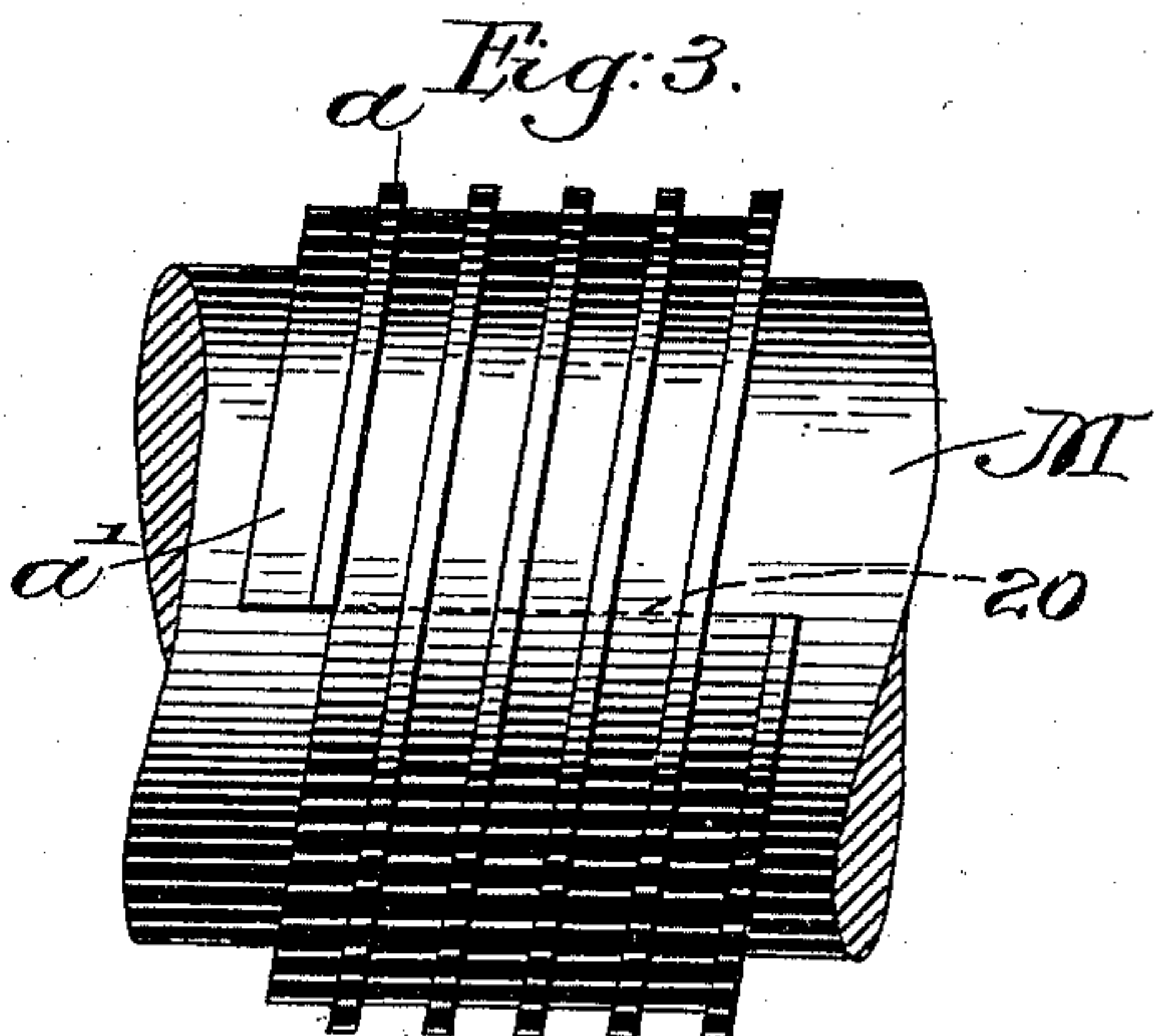
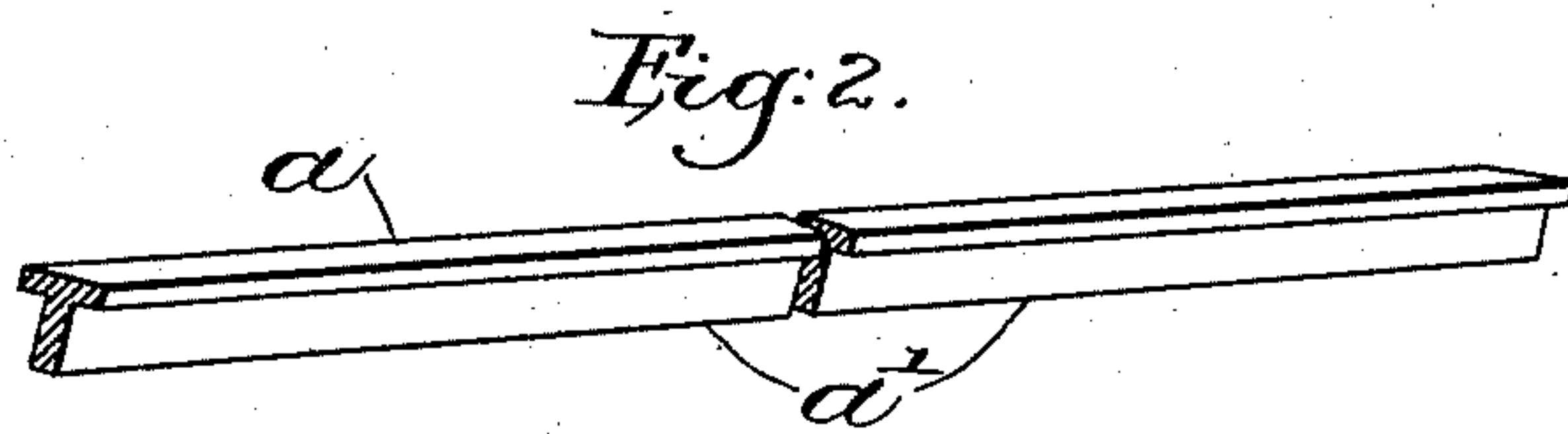
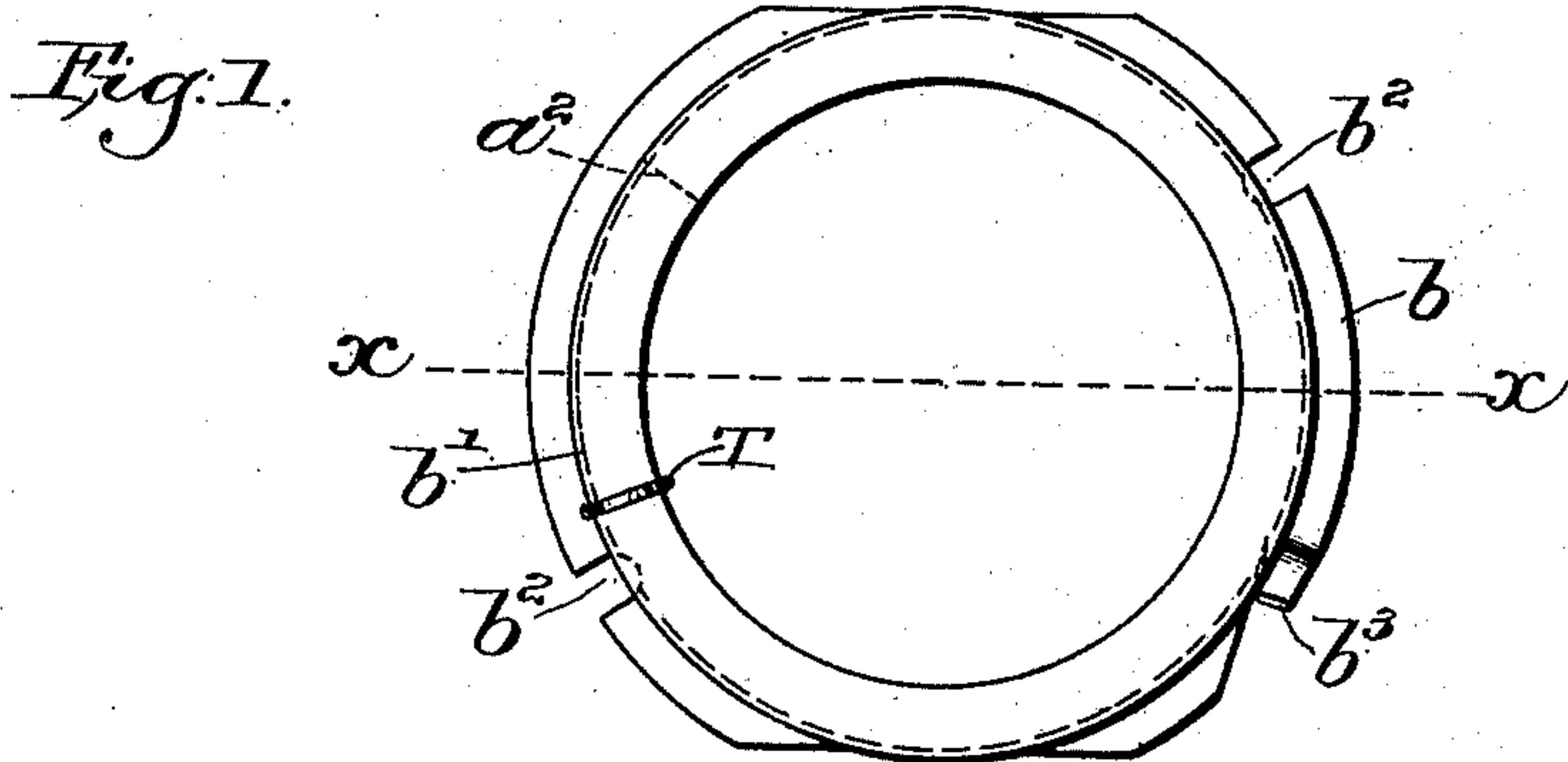
No. 654,468.

Patented July 24, 1900.

F. M. MARCY.
SPINNING RING.

(Application filed July 17, 1899.)

(No Model.)



Witnesses
Gustave F. Magwitzky
Adolf C. Kahser

Inventor
Frank M. Marcy.
by Crosby & Mayon,
Attys.

UNITED STATES PATENT OFFICE.

FRANK M. MARCY, OF WORCESTER, MASSACHUSETTS, ASSIGNOR OF ONE-HALF TO THE DRAPER COMPANY, OF PORTLAND, MAINE, AND HOPE-DALE, MASSACHUSETTS.

SPINNING-RING.

SPECIFICATION forming part of Letters Patent No. 654,468, dated July 24, 1900.

Application filed July 17, 1899. Serial No. 724,035. (No model.)

To all whom it may concern:

Be it known that I, FRANK M. MARCY, of Worcester, county of Worcester, and State of Massachusetts, have invented an Improvement in Spinning-Rings, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

10 This invention has for its object the production of a novel spinning-ring of peculiar construction and very low cost, the ring being made in two parts—a soft sheet-metal base portion stamped or struck up into shape with
15 an annular upright lip, and a body portion of hardened steel, providing a flange for the usual traveler, the depending web of the flange being held in the upright lip of the base.

In order to obviate the expensive drop-
20 forged steel rings now in very extended use, I form the body of the ring, preferably, by rolling a steel blank into substantially T shape in cross-section and thereafter bend the rolled blank into an annulus, welding or
25 otherwise permanently connecting the ends thereof. I am thus enabled to obtain a body portion wherein the grain or fiber of the metal will lie substantially in the direction of the length of the ring or substantially
30 parallel to its circumference. This prevents the disarrangement and breaking up of the fiber in drop-forging, and thereby preserves the hard skin or dry surface of the drawn metal intact, and as the grain is in the direction
35 of movement of the traveler friction is greatly reduced and a smooth hard path is provided for the traveler without requiring great care in turning and smoothing, as is necessary with forged rings. After the rod,
40 strip, or wire of any desired length has been subjected to the action of roller or other dies to shape the same properly in cross-section the shaped bar is wound spirally about a cylindrical arbor or mandrel of the proper
45 diameter, and by a suitable cutter the spiral is slit or cut longitudinally, leaving a series of rings of proper length, and these sections are straightened and their ends welded together. The annular blank is then placed
50 in a holder, and the flange is acted upon by a die to incline it relatively to the web. The body portion may then be hardened in usual

manner, and it may be trued, if necessary, by any suitable means, after which it is secured to the base portion or holder by sweating, soldering, or even by frictional contact, if desired.

Figure 1 is a top or plan view of a spinning-ring embodying my invention. Fig. 2 is a perspective view of the shaped bar or rod preparatory to bending. Fig. 3 shows the shaped bar as wound spirally about an arbor or mandrel, the line 20 indicating the cut by which the bar is subsequently divided into sections. Fig. 4 is an edge view of one of the cut sections. Fig. 5 is a similar view showing the body-section straightened and ready to have its ends united. Fig. 6 shows in section a holder with an annular body held therein, the flange being bent over by a die, also shown in section. Fig. 7 is a diametral sectional view of the spinning-ring on the line $x x$, Fig. 1, the body or flanged portion and the base being separated; and Fig. 8 is a similar view with the flanged portion in place on the base.

In accordance with my invention the ring comprises a preferably-hardened steel body or flanged portion and a soft sheet-metal base, secured thereto by a solder joint or otherwise.

Referring to Figs. 1, 7, and 8 of the drawings, the base portion b , having an integral upright annular lip b' , is stamped out of or struck up from soft sheet-metal stock, a very rapidly-made and cheap form of construction, the base being notched, as at b^2 , Fig. 1, for the reception of screws or other devices to attach it to the rail, an upturned tongue b^3 , also integral with the base, serving as a clearer for the traveler. The body portion of the ring is made from steel wire drawn into proper cross-section by roller or other dies (herein shown as substantially T-shaped in cross-section) to form the flange a and web a' , and the bar is then wound or coiled spirally around a suitable arbor or mandrel M , Fig. 3, of the requisite diameter, after the manner of a spiral spring. A cutter of suitable shape is then moved longitudinally of the coil along the line 20, Fig. 3, dividing the coil into a number of sections, one of which is shown separately in side elevation, Fig. 4, the ends being slightly offset owing to the

spiral. Each section comprises a web a' and a flange a and is to form the body portion of the completed ring. The sections are then straightened, and the opposed and adjacent ends are united, preferably, by an electric weld; as at a^2 , Fig. 5, (see also dotted lines, Fig. 1,) the welding being effected in usual manner by any well-known electric welding apparatus. The annular body portion is then placed in a holder H, Fig. 6, having an internal annular seat h to receive the web a' , and a cylindrical die D, having its lower face d formed as a truncated cone, is brought down upon the top of the flange a , inclining the flange uniformly toward the axial center of the ring and at a slight angle to the web, the inclination of the flange assisting the movement of the traveler T, Fig. 1, in its circular path.

By forming the body portion of the ring as described the grain or fiber of the metal runs in the direction of the length of the ring—that is, in the direction of the traveler-path—a very material factor in reducing friction, and manifestly the hard external surface or skin due to the drawing or rolling is maintained intact, and, as a matter of fact, rings made in accordance with my invention start up much more easily than the best-polished drop-forged ring in which the grain is not circular and the skin not present.

Another very important feature of my ring is the cheapness of construction, the rolling or shaping of the blank being rapidly and easily accomplished and giving to the blank a smooth and hard skin or surface, eliminating the expensive polishing heretofore absolutely necessary.

After the body portion is made it is applied to the top of the annular upright b' of

the base and permanently secured thereto by sweating or by a soldered joint, as at a^3 , Fig. 8, or the union may be effected by frictional contact, if desired.

I am thus enabled to construct a ring having a hardened-steel flange and adjacent web and a soft-metal body, the electric welding of the ends of the flange in no wise deteriorating the hardness of the flange.

The body-blanks are readily made from the drawn wire, bent to shape and cut into the proper length, as described, while the soft-metal bases can be stamped out in quantity from suitable stock.

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

1. As a new article of manufacture, a spinning-ring formed of a rolled metallic blank, with the grain or fiber of the metal lying in the direction of the length of the ring, and having the ends of the blank welded together, whereby the skin or hard surface of the blank is retained to present a hard, substantially-continuous wearing-surface.

2. As a new article of manufacture, a spinning-ring formed of drawn or rolled metal blank T-shaped in cross-section, having its ends welded together, whereby the hard smooth skin of the drawn blank is retained to present a substantially-continuous wearing-surface.

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

FRANK M. MARCY.

Witnesses:

GEORGE H. OLNEY,
CHARLES A. MERRILL.