

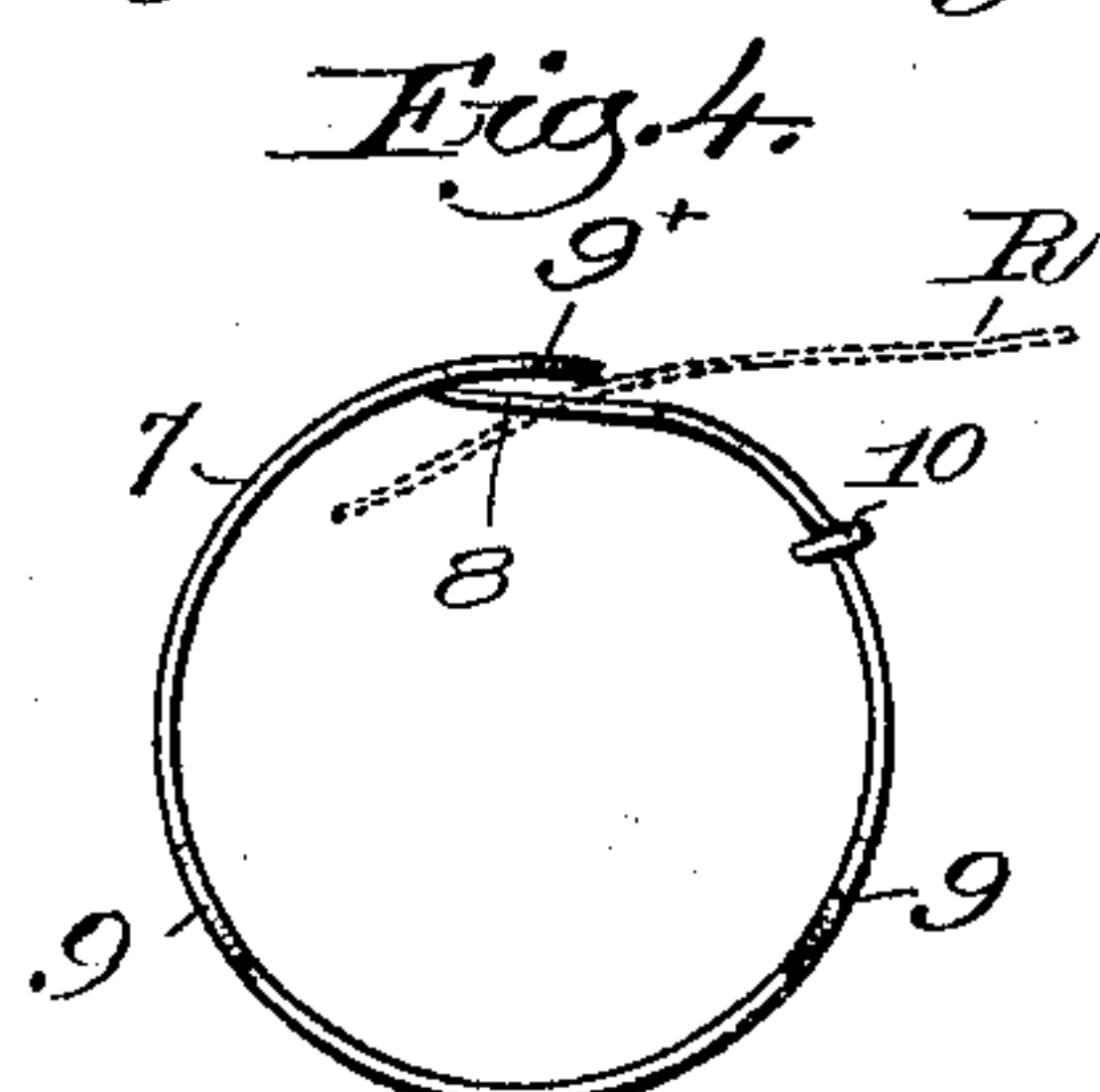
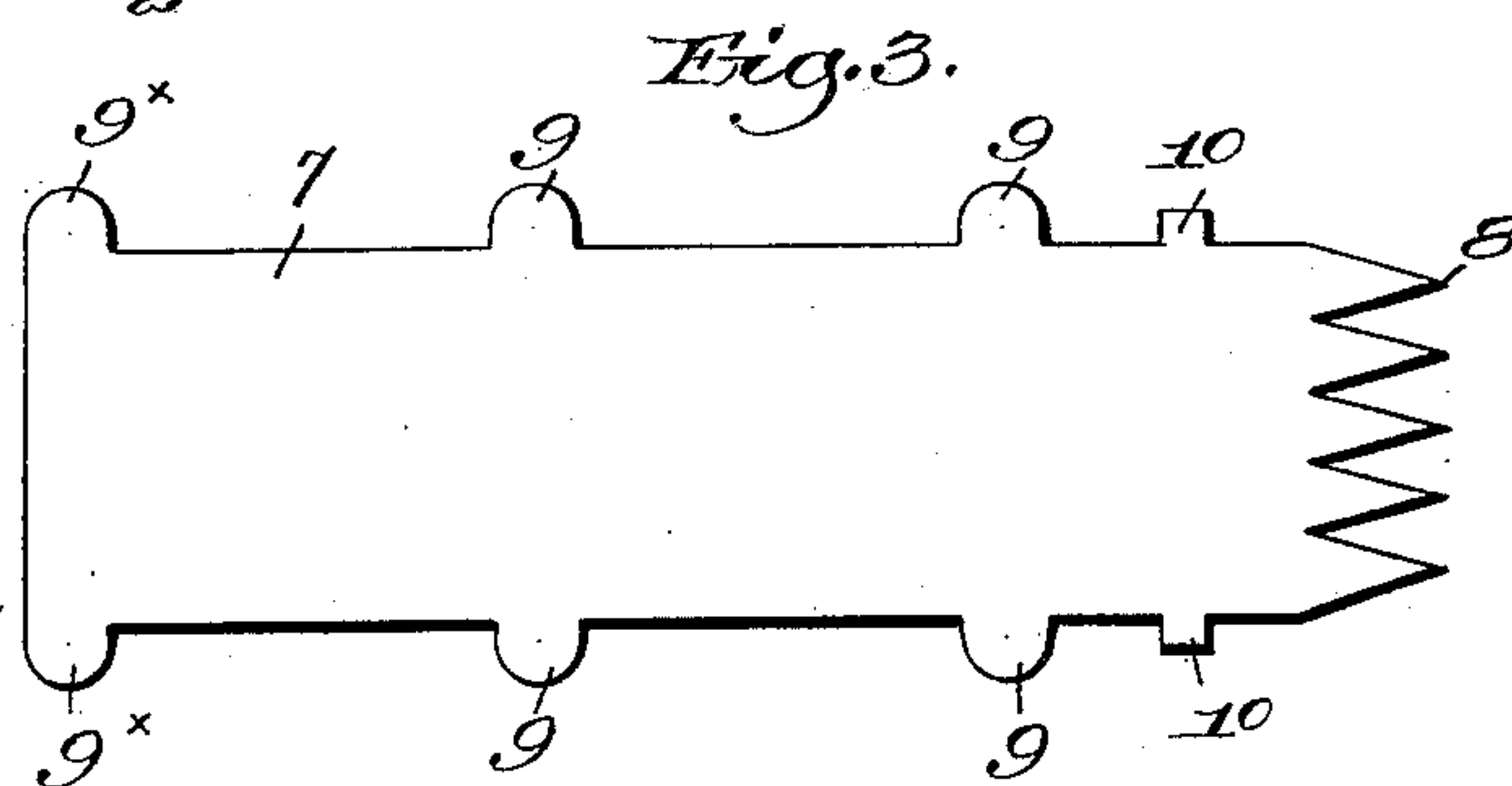
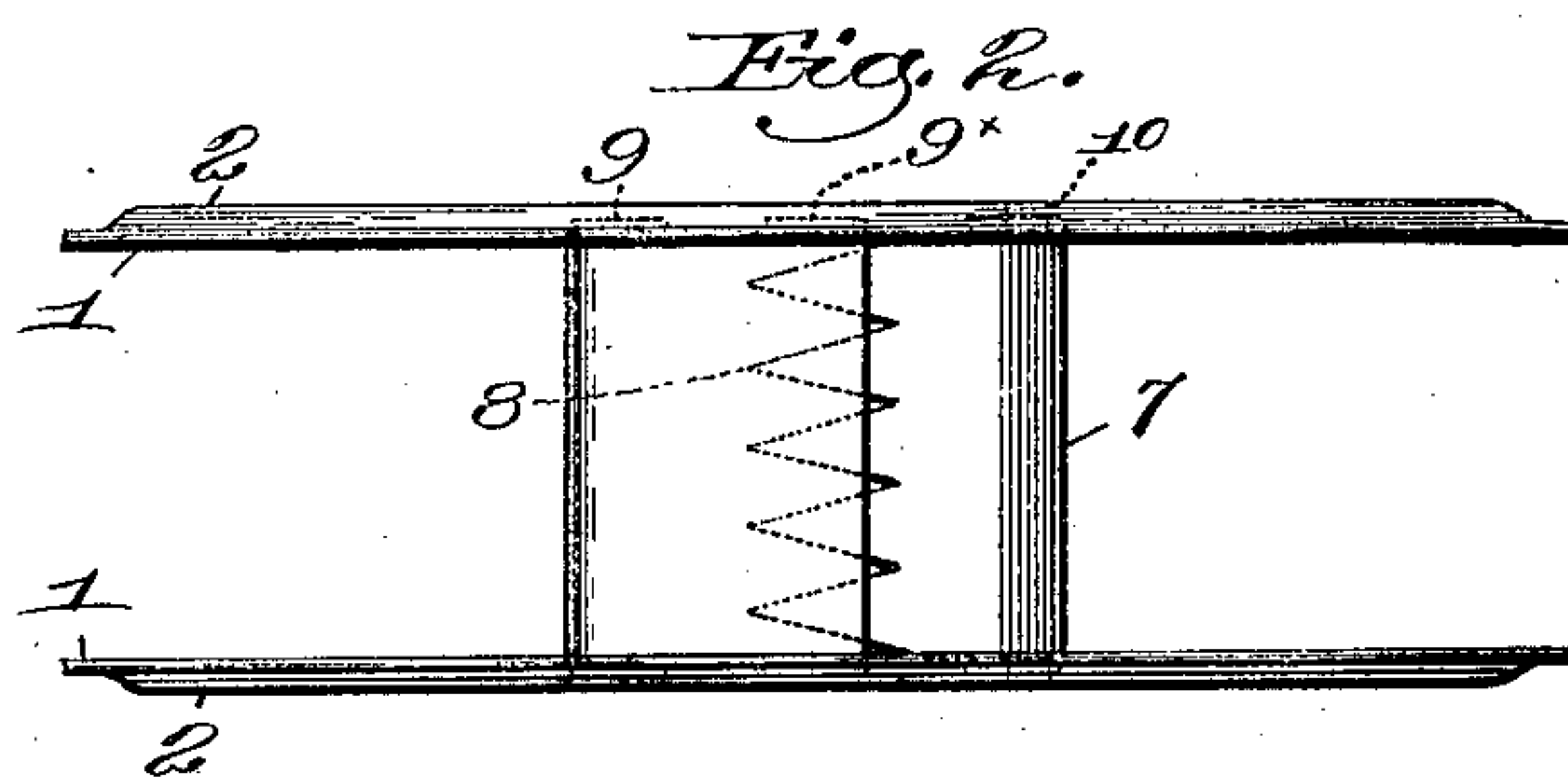
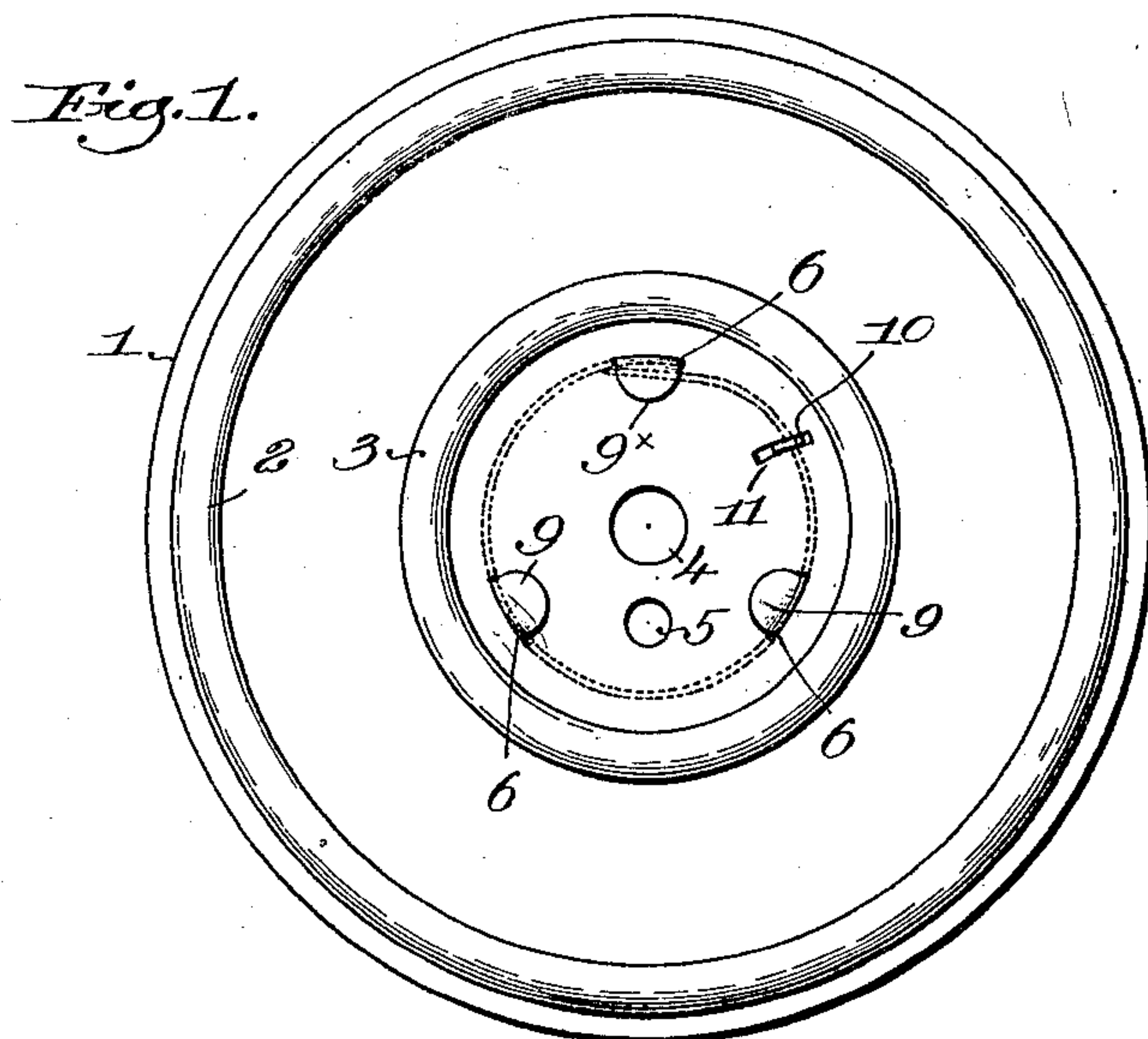
No. 754,116.

PATENTED MAR. 8, 1904.

J. A. BEDWORTH.
RIBBON SPOOL.

APPLICATION FILED DEC. 10, 1903.

NO MODEL.



Witnesses:

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UNITED STATES PATENT OFFICE.

JOHN A. BEDWORTH, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO F. S. WEBSTER COMPANY, OF BOSTON, MASSACHUSETTS, A CORPORATION OF MAINE.

RIBBON-SPOOL.

SPECIFICATION forming part of Letters Patent No. 754,116, dated March 8, 1904.

Application filed December 10, 1903. Serial No. 184,513. (No model.)

To all whom it may concern:

Be it known that I, JOHN A. BEDWORTH, a citizen of the United States, and a resident of Boston, county of Suffolk, State of Massachusetts, have invented an Improvement in Ribbon-Spools, of which the following description, in connection with the accompanying drawings, is a specification, like numerals on the drawings representing like parts.

This invention has for its object the production of a strong, effective, and cheap ribbon spool or reel particularly adapted for use in type-writing machines to carry the inked ribbon, the spool being so constructed that it can be directly inserted in the machine and used when the previous ribbon has become worn out. By winding the ink-ribbon on a spool, so that it can be readily inserted in the machine without unwinding and rewinding on a permanent spool in the machine, the operator avoids soiling the fingers and facilitates the operation of changing ribbons. Inasmuch as such ribbon-spools are often thrown away, it is of importance that they can be manufactured easily and cheaply, so that very slight additional cost is involved for the ribbon so mounted. My present invention provides for such a ribbon-spool, the construction being such that it can be rapidly and very cheaply made, and I have also provided means for securely holding the inner end of the ribbon onto the spool so that it will not be pulled off when unwound by the operation of the machine.

The various novel features of my invention will be fully described in the subjoined specification and particularly pointed out in the following claims.

Figure 1 is a side elevation of a ribbon-spool embodying one form of my invention. Fig. 2 is a top or plan view thereof. Fig. 3 is a plan view of the strip or blank from which the hub of the spool is formed, and Fig. 4 is an end view of the hub formed by rolling the strip or blank into tubular form.

The ribbon-spool in the present embodiment of my invention consists of two like heads 1, shown as disk-like or circular, preferably

stamped or struck up from thin sheet metal, and an interposed tubular connecting-hub. Each head 1 is preferably provided with concentric annular stiffening or strengthening ribs or corrugations 2 3 and with an axial hole 4 for the usual spindle of the type-writing machine, a smaller hole 5 being made adjacent thereto to be entered by a pin on the machine to effect positive rotation of the spool.

I have herein shown a plurality of circularly-arranged elongated apertures 6 in each head, three being illustrated, for a purpose to be described.

The hub is made from a flat strip or blank 7, Fig. 3, of thin resilient sheet metal of a width corresponding to the desired distance between the heads, one end of the strip being toothed, as at 8, and along the sides of the blank series of ears 9 project therefrom. Three ears are shown on each side edge, the ears 9^x being at the non-toothed end of the strip.

The hub is formed by bending the strip into tubular form (see Fig. 4) with its ends overlapping, but unconnected, and with the toothed end beneath the other end of the strip.

To assemble the parts, the ears 9 and 9^x are passed through the apertures 6 in the heads 1 and upset or bent over, as clearly shown in Fig. 1, thereby securely connecting the heads to the hub and in parallelism with each other.

As will be manifest, the ears 9^x serve to rigidly connect the non-toothed end of the hub-strip with the heads, so that no relative movement of such end can take place. The toothed end 8 passes beneath the overlapping fixed end, as clearly shown in Figs. 1, 2, and 4, and the end R of the ribbon (see dotted lines, Fig. 4) is inserted between said fixed and toothed ends of the hub-strip and caught upon the teeth, the resiliency of the toothed end permitting the ready insertion of the ribbon. Any pull on the ribbon serves only to more firmly engage it upon the teeth, and the latter cannot be pulled out because of the overlapping fixed end of the hub-strip, which covers the points of the teeth and prevents them from being bent outward.

In order to provide an additional safeguard for the toothed end and prevent its withdrawal from beneath the fixed end, I have formed lugs 10 on the sides of the strip 7 near the teeth. These lugs enter and slide in elongated slots 11 in the heads, the lugs being slightly twisted, Fig. 1, to enable them to enter the slots, the latter being substantially transverse to the curvature of the hub. A limited movement of the toothed end of the hub-strip is thus permitted toward and from the fixed end to facilitate engagement of the ink-ribbon with the teeth, but preventing disengagement therefrom subsequently.

When the spool is in the type-writing machine and the ribbon has been unwound, the pull of the mechanism cannot detach the ribbon from the spool.

The heads are stamped, ribbed, perforated, and slotted in a suitable press, and the hub-strip or blank 7 is stamped out at one operation, so that the construction of the spool is rapid and exceedingly cheap.

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

1. A ribbon-spool comprising two heads, and a tubular connecting-hub, the separated ends of the hub being overlapped and the inner end thereof having ribbon-holding teeth extended beneath the other, overlapping end.

2. A ribbon-spool comprising two apertured heads, and an interposed tubular hub having ears adapted to be passed through the apertures and upset to connect the heads and hub, the unconnected ends of the latter being overlapped and the inner end having ribbon-holding teeth extended beneath the overlapped end.

3. A ribbon-spool comprising two axially-apertured, disk-like heads, an interposed hub consisting of a metal strip bent into tubular form with its ends overlapped, means to connect the sides of the strip and the heads, and teeth on the inner end of said strip extended beneath the overlapping outer end of the strip, to engage and hold the end of a ribbon.

4. A ribbon-spool comprising two heads and a tubular hub interposed between and connecting them, said hub consisting of a metal strip having loosely-overlapped ends, means to rigidly connect the outer end with the heads, and teeth on the inner end of the hub,

extending beneath the overlapping end, to engage and hold the end of a ribbon.

5. A ribbon-spool comprising two sheet-metal, apertured heads, a hub connected therewith and consisting of a metal strip having its ends overlapped and provided on its sides with ears to pass through the apertures in the heads and be upset, the inner end of the strip having ribbon-holding teeth or prongs extended inward beneath the outer or overlying end of the strip.

6. A ribbon-spool comprising two like sheet-metal heads each having an axial hole and a plurality of circularly-arranged apertures, an interposed hub consisting of a metallic strip toothed at one end and having ears on its sides, said strip being bent into tubular form with its toothed end overlapped by the other end, the ears passing through the apertures in the head and being upset, to connect the heads and hub, and means to rigidly hold the non-toothed end of the strip from movement relative to the heads.

7. A ribbon-spool comprising two disk-like heads each having an axial hole, and a connecting-hub consisting of a metallic strip bent into tubular form and having its ends overlapped, the inner end of the strip having ribbon-holding teeth, means to rigidly connect the heads and the overlapping end of the strip, and means to permit limited separation of the toothed end from said rigidly-connected end of the hub-strip.

8. A ribbon-spool comprising two like sheet-metal heads each having an axial hole, a hub interposed between and connecting said heads, the hub consisting of a resilient metal strip bent into tubular form with its ends overlapped and separated from each other, means to rigidly hold the outer end from radial movement, ribbon-holding teeth on the inner end, and means to permit limited radial movement of said toothed end, whereby the end of a ribbon may be inserted between the overlapped ends and caught upon the teeth.

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

JOHN A. BEDWORTH.

Witnesses:

JOHN C. EDWARDS,
MARGARET A. DUNN.