

G. H. BENJAMIN.
BOBBIN.

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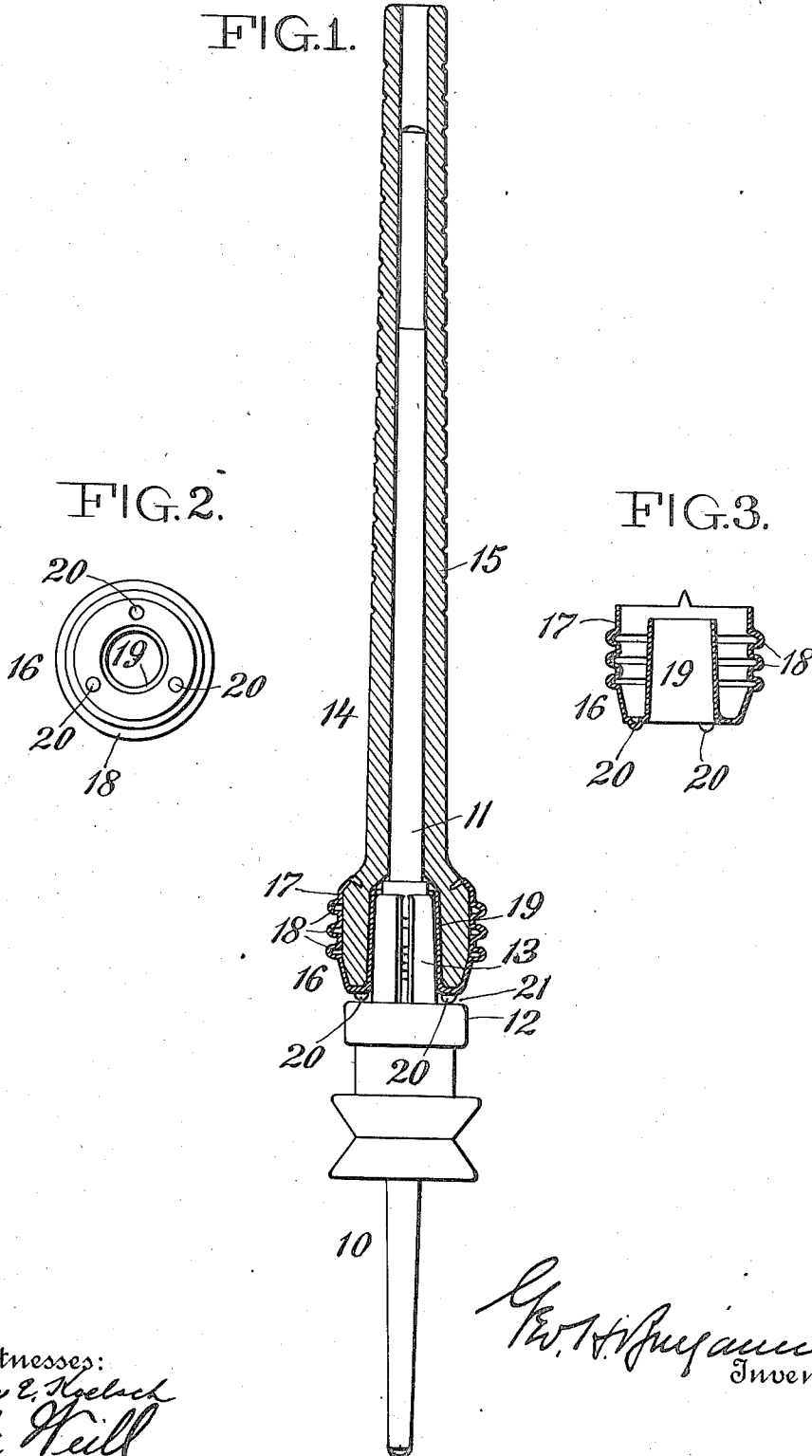
1,063,174.

Patented May 27, 1913.

FIG. 1.

FIG. 2.

FIG. 3.



Witnesses:
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UNITED STATES PATENT OFFICE.

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BOBBIN.

1,063,174.

Specification of Letters Patent.

Patented May 27, 1913.

Original application filed December 22, 1911, Serial No. 667,294. Divided and this application filed June 25, 1912. Serial No. 705,728.

To all whom it may concern:

Be it known that I, GEORGE HILLARD BENJAMIN, a citizen of the United States, residing at New York city, in the county and State of New York, have invented certain new and useful Improvements in Bobbins, of which the following is a specification.

My invention consists in a construction whereby when a bobbin is placed upon a spindle, the bottom of the bobbin will be raised slightly above the top of the spindle whirl.

The object of my invention is to prevent contact between the bottom of the bobbin and the top of the spindle-whirl, and thus avoid cutting or crushing the thread when the bobbin is forced downward with considerable speed and pressure upon the top of the spindle whirl, as in replacing bobbins.

The accompanying drawings will serve to illustrate my invention, in which—

Figure 1 is an elevation of a centrifugal clutch and vertical section of a bobbin; Fig. 2 is a bottom view of the butt or head of the bobbin, and Fig. 3 is a longitudinal vertical section of the butt or head.

Referring to the drawings: 10 indicates a centrifugal spindle having a shank portion 11, whirl 12, and clutch 13. The top of the whirl is shown as horizontal. In certain forms of spindles the top of the whirl is inclined from above outwardly and downwardly—in others, concave. This fact, however, will not affect the features of invention herein disclosed.

Located upon the spindle is a bobbin 14, composed of a shank 15, and butt or head 16. The butt or head is shown as annular in shape and provided with an outer periphery 17 having corrugations 18 thereon. The inner periphery 19 is tapering and is adapted to coact with the clutch 13. The bottom of the head is provided with projections 20 which rest on the top of the spindle whirl 12 and serve to elevate the bottom of the spindle above the top of the spindle whirl and otherwise leave a space 21 between the bottom of the spindle and the top of the whirl, in which a thread, as usually wound upon a bobbin, may lie.

In Fig. 2, the bottom of the bobbin is shown as provided with three projections or knobs 20. This I find to be a convenient form, although one projection or knob will accomplish the purpose, provided the bobbin is centered by the spindle.

I wish it understood that I do not limit myself in any wise to the use of the projections or knobs 20 depending from the butt or head 16, as any device interposed between the spindle whirl and the bottom of the bobbin will be within the intent of my invention.

This application is a division of my former application, Serial No. 667,294, filed December 22nd, 1911, and substantially describes the construction shown in Fig. 2 thereof.

Having thus described my invention, I claim:

1. In combination with a spindle, a bobbin, and means interposed between the top of the spindle whirl and the bottom of the bobbin for maintaining a space between such parts.

2. In combination with a spindle, a bobbin, and means forming a part of the bobbin for maintaining a space between the top of the spindle whirl and the bottom of the bobbin.

3. In combination with a spindle, a bobbin, and a device interposed between the top of the spindle whirl and the bottom of the bobbin adapted to maintain a space between the two.

4. In combination with a spindle, a bobbin, and means for maintaining a distance between the top of the spindle whirl and the bottom of the bobbin, whereby thread carried by the bobbin may move freely through such space.

5. In combination with a spindle, a bobbin, means for centering the bobbin on the spindle, and means interposed between the bottom of the spindle and the spindle for elevating the bottom of the bobbin above the top of the spindle whirl.

6. In combination with a spindle provided with a clutch, a bobbin comprising a shank portion and a head portion, said head portion adapted to coact with the

clutch whereby the motion of the spindle
will be communicated to the bobbin, and
means interposed between the spindle
whirl and the bottom of the bobbin for
5 maintaining a space relation between the
bottom of the bobbin and the top of the
spindle whirl.

In testimony whereof, I affix my signature, in the presence of two witnesses.

GEORGE HILLARD BENJAMIN.

Witnesses:

HELEN E. KOELSCH.

MARCEL MULET.
