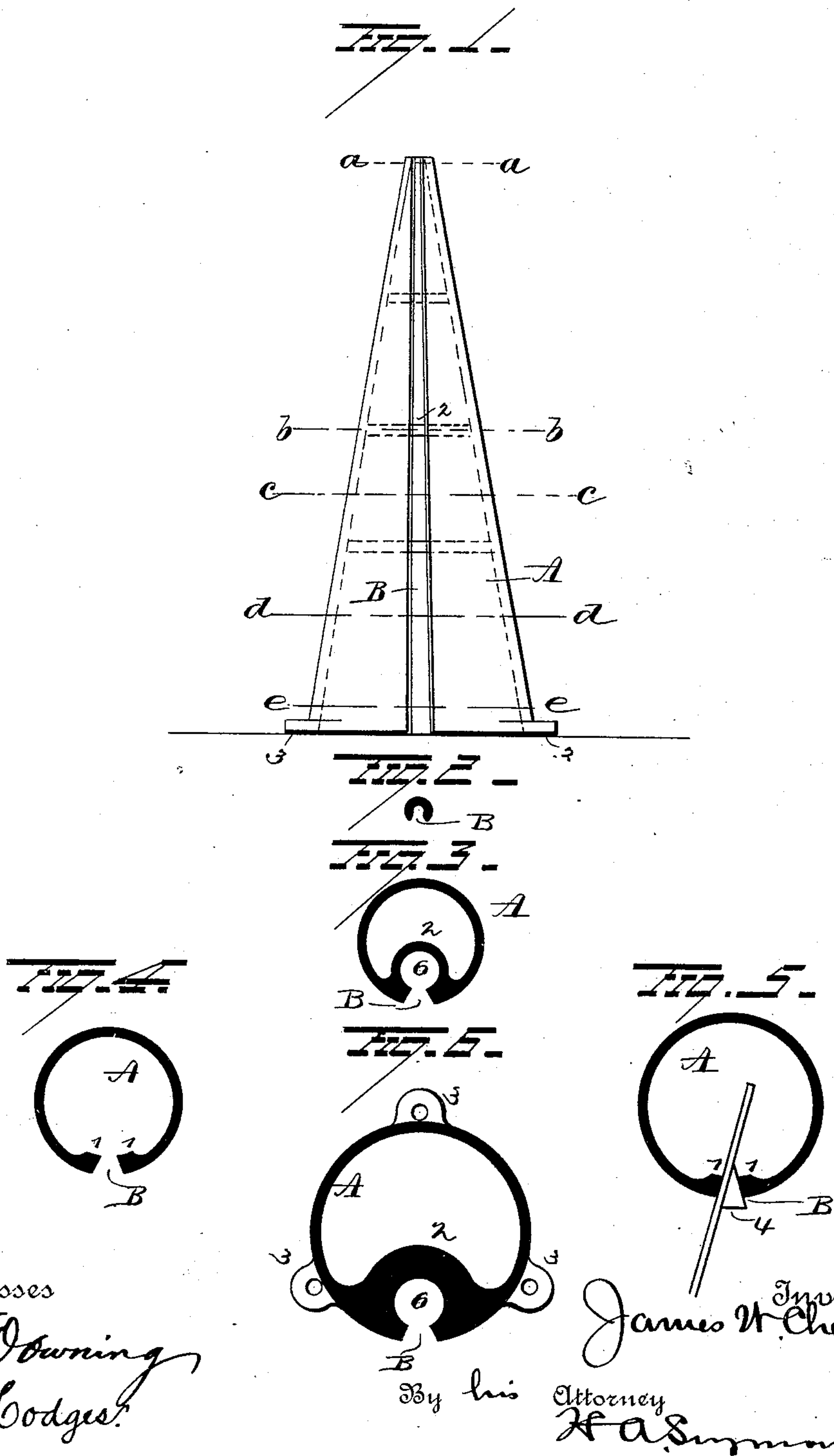


(No Model.)

J. W. CHENEY.
BLACKSMITH'S MANDREL.

No. 407,851.

Patented July 30, 1889.



Witnesses

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JAMES W. CHENEY, OF INDIANAPOLIS, INDIANA.

BLACKSMITH'S MANDREL.

SPECIFICATION forming part of Letters Patent No. 407,851, dated July 30, 1889.

Application filed May 13, 1889. Serial No. 310,494. (No model.)

To all whom it may concern:

Be it known that I, JAMES W. CHENEY, of Indianapolis, in the county of Marion and State of Indiana, have invented a certain new and useful Improvement in Blacksmiths' Mandrels; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improvement in blacksmiths' mandrels.

Hitherto the mandrels commonly employed in the manufacture and rounding of rings, bands, and similar appliances have consisted of a conical piece of metal over which the metal is placed while being made into bands. Some of these mandrels have been formed with a groove running the entire length of the cone to furnish room to facilitate in grasping the work with tongs, or when a ring is being made with an eyebolt or similar attachment the groove furnishes a convenient receptacle for the eyebolt. While the latter class of mandrels has in a large measure accomplished the object sought, yet it is the object of my invention to extend the functions and possibilities of such devices; and to this end it consists in a hollow tapering mandrel having an opening the entire length of one side, and strengthening-webs located at suitable distances apart to furnish the required support to its walls.

It further consists in certain novel features of construction and combinations of parts, as will be hereinafter fully described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a side elevation of my improved mandrel. Fig. 2 is a longitudinal section on line *a a*. Fig. 3 is a similar section on line *b b*. Fig. 4 is a section on line *c c*. Fig. 5 is a section on line *d d*, and Fig. 6 is a section on line *e e*.

A represents the mandrel, consisting of a hollow cone-shaped piece of cast metal. An opening B is formed in one side extending in a straight line from base to apex. The edges of this opening are preferably slightly

tapered inward, as shown, and the shell is thickened at these edges 1 1 to give it strength; also, to give additional strength the interior wall is braced or re-enforced at intervals across the opening B by means of webs 2 2, and particularly at the base, as shown in Fig. 6, and near the middle, as shown in Fig. 3. Still further support may be given at points indicated by the dotted lines, if desired. These webs are so formed as to leave an enlarged recess 6 back of the opening B, so as to form no obstruction for anything passing through the latter.

At its base the mandrel may be furnished with several ears 3 3 3, whereby it may be bolted or otherwise secured to a suitable support. The opening B to the interior not only possesses all the advantages of a groove, but in addition also admits of forming other articles where the obstruction—such as an eyebolt—is too large or long for a groove, as my device admits it through its side no matter how large or long it is. It also serves as a means for the bending of bars. As shown in Fig. 5, the end of the bar is inserted in the opening between braces, where it is held by a wedge 4. It may then be bent around the mandrel to form a ring or band.

It is evident that slight changes might be resorted to in the form and arrangement of the several parts described without departing from the spirit and scope of my invention, and hence I do not wish to limit myself to the particular construction herein set forth; but,

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

1. A mandrel consisting of a tapering hollow block of metal having an opening through one side, substantially as set forth.

2. A mandrel consisting of a tapering hollow block of metal having an opening in one side extending its entire length, the edges of said opening being beveled, substantially as set forth.

3. A mandrel consisting of a conical hollow block of metal having a straight opening in

one side extending its entire length, the edges of said opening being beveled and thickened, substantially as set forth.

4. A mandrel consisting of a conical hollow
5 block of metal having a straight opening in one side extending its entire length and strengthening - webs extending across the openings at proper intervals, substantially as set forth.

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

JAMES W. CHENEY.

Witnesses:

L. M. CURTIS,
F. I. CURTIS.