

G. WIEDEKE, SR.
TUBE EXPANDER.
APPLICATION FILED MAY 10, 1909.

930,821.

Patented Aug. 10, 1909.

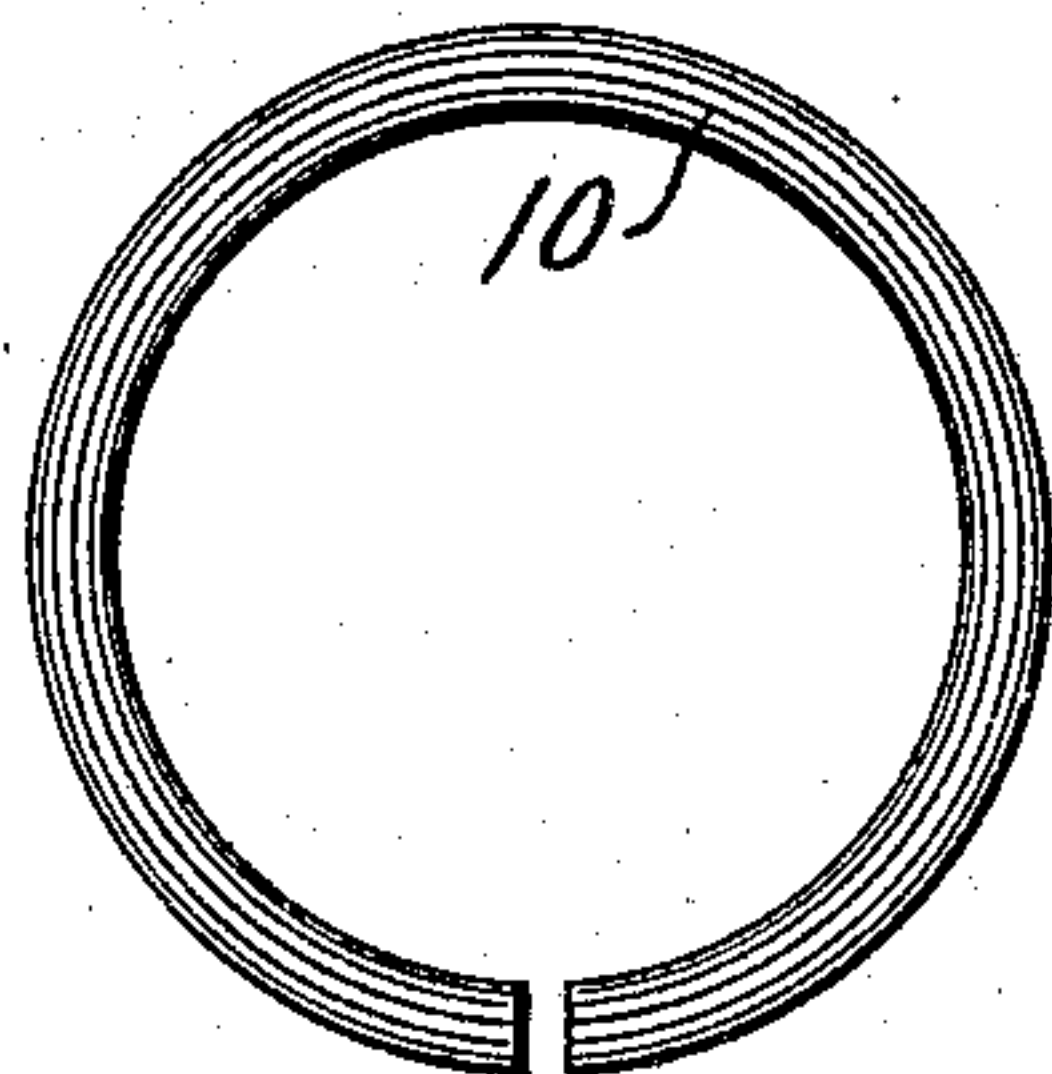
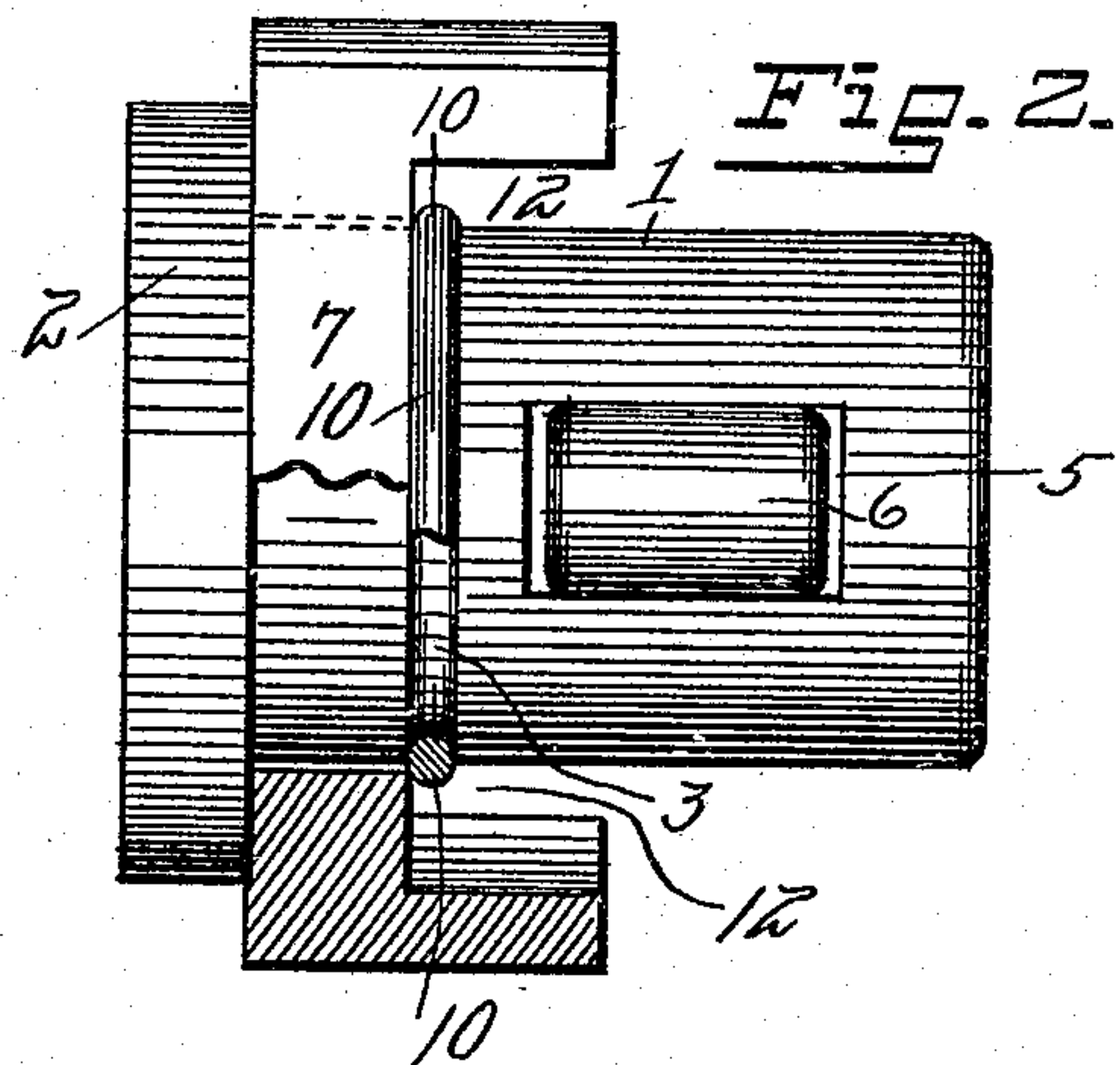
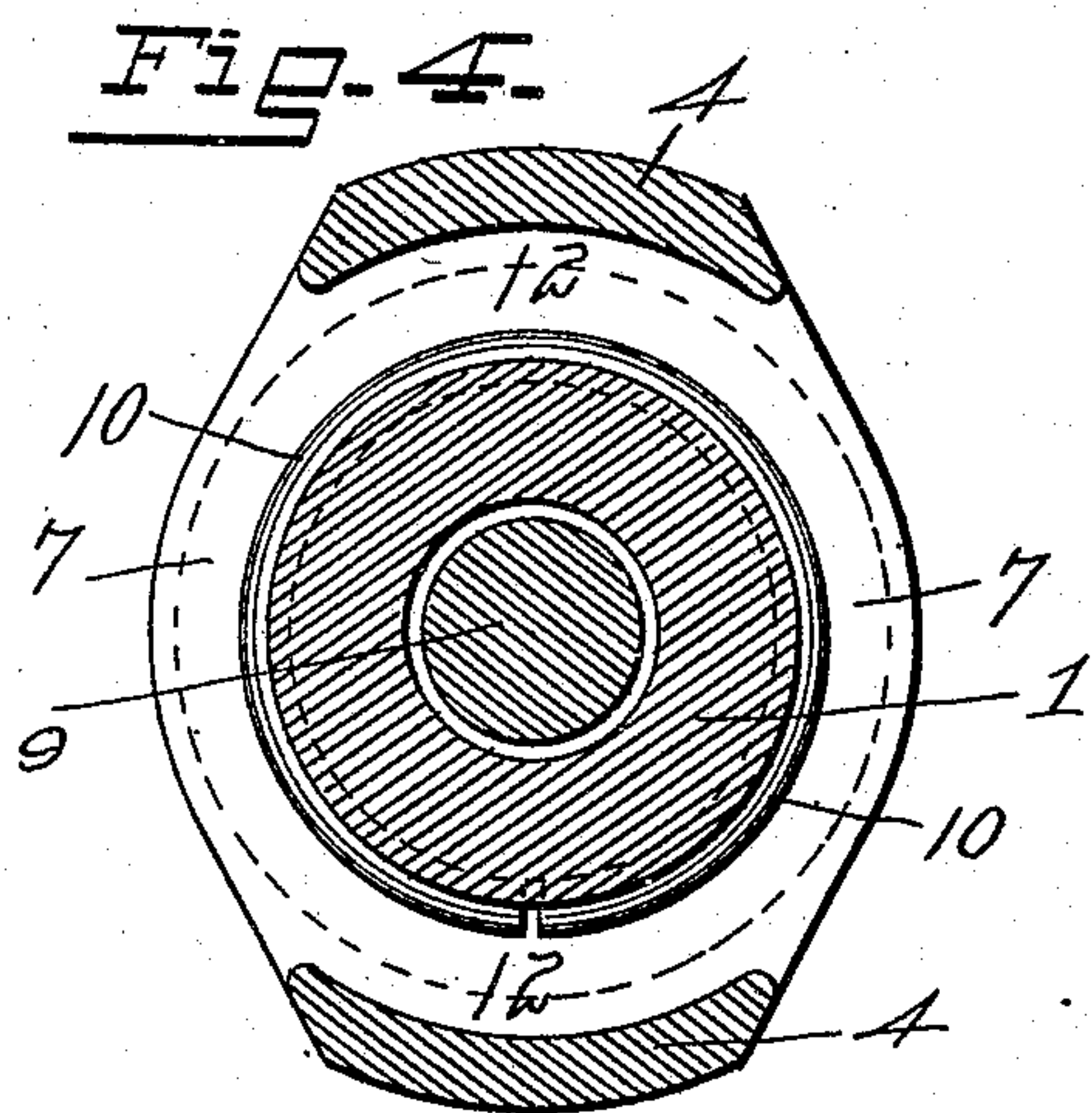
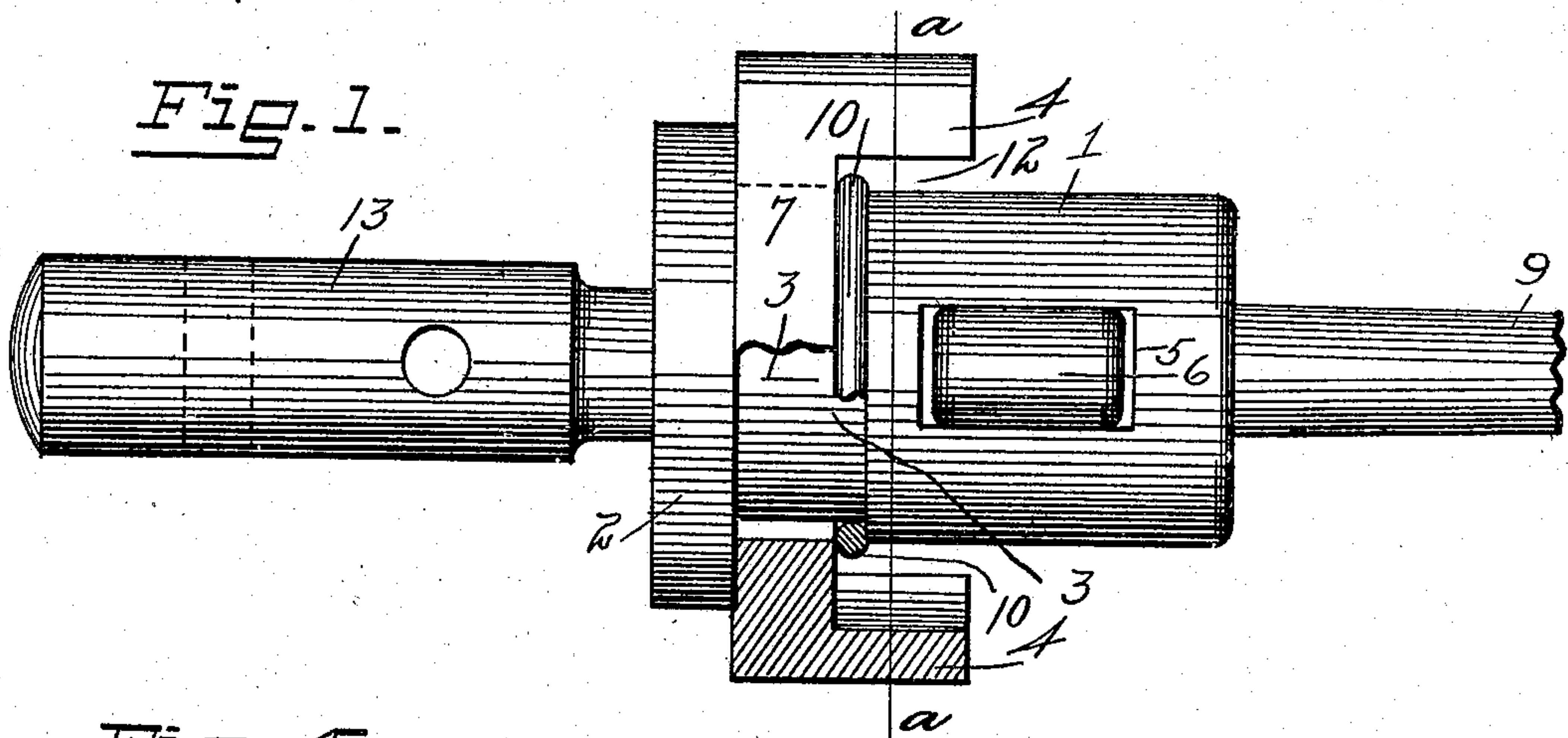


Fig. 3.

Witnesses
M. Liebler.
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UNITED STATES PATENT OFFICE.

GUSTAV WIEDEKE, SR., OF DAYTON, OHIO, ASSIGNOR TO GUSTAV WIEDEKE & COMPANY,
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TUBE-EXPANDER.

No. 930,821.

Specification of Letters Patent.

Patented Aug. 10, 1909.

Original application filed March 6, 1909, Serial No. 481,799. Divided and this application filed May 10, 1909.
Serial No. 495,090.

To all whom it may concern:

Be it known that I, GUSTAV WIEDEKE, Sr., a citizen of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Tube-Expanders; 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, reference being had to the accompanying drawings, and to the characters of reference marked thereon, which form a part of this specification.

This invention relates to new and useful improvements in tube expanders.

The present application is divided from my pending application Serial No. 481,799, filed March 6, 1909.

In the process of using these implements, much handling or manipulation of the same is incidental thereto, and the guard being an independent part of the implement, it is desirable that the same shall not become detached from the implement, but shall be a permanent part thereof.

It is therefore, the object of the present invention to provide simple and efficient means for maintaining the guard upon the implement at all times without employing a greater number of parts than is desirable, as hereinafter described and claimed.

Preceding a detail description of the invention, reference is made to the accompanying drawings, of which—

Figure 1, is a longitudinal elevation of a tube expander having my guard-retaining means applied thereto; a portion of the guard is broken away. Fig. 2, is a similar view with the mandrel removed. Fig. 3, is a view of the retaining-ring removed. Fig. 4, is a section on the line *a a* of Fig. 1.

In a detail description of the invention, similar reference characters indicate corresponding parts.

The roller cage 1 is provided with a suitable number of openings 5 which extend from the longitudinal central bore to the periphery thereof and in which are placed a series of expanding rollers 6. Integral with the roller cage 1, is an end flange 2 and between said end flange and the cage or body of the implement is an annular peripheral groove 3 as in Fig. 1

and which is occupied by the guard 7. In Fig. 2, the peripheral groove 3 is smaller and does not extend to the flange 2. On opposite sides of the guard are lateral extensions or abutments 4 which rest against the tube sheet or head (not shown) when the implement is placed in an operative position, in which position the ends of the tubes project between said extensions 4 and the cage into the space 12 which surrounds the cage. The tubes have not been illustrated as the operations of tube expanders thereon are well understood.

Lying within the annular peripheral groove in front of the guard, is a resilient ring or band 10 which maintains the guard in position between said band and the flange 2. This annular band is itself maintained in position by the annular shoulder formed on the cage by the groove 3, and by the guard so that while the band itself prevents the guard from slipping off the cage or implement, the band is also maintained in position owing to its resiliency and to the annular shoulder on the roller cage before referred to.

Should it be desirable to reverse the position of the guard, this may be done easily by removing the band 10 which is done by expanding the same and slipping it over the cage. The usual tapered mandrel 9 is a well-known feature of tube expanders, the same being provided with a handle 13 by means of which the tapered body of the mandrel is forced into the cage to expand the rollers 5.

I claim as my invention:

In a tube expander, a roller cage having an integral flange at one end and an annular recess in the periphery of said cage which lies between the roller openings in said cage and said integral flange, a guard mounted upon said cage and abutting on one side with said integral flange, and an annular resilient band lying within the peripheral recess of the cage and adapted to maintain the guard in position upon the cage, said annular band engaging the side of the guard opposite the integral flange.

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

GUSTAV WIEDEKE, SR.

Witnesses:

MATTHEW SIEBLER,
R. J. McCARTY.