

No. 808,030.

PATENTED DEC. 19, 1905.

J. W. FAESSLER.
FLUE OR TUBE EXPANDER.
APPLICATION FILED MAR. 3, 1904.

Fig. 1.

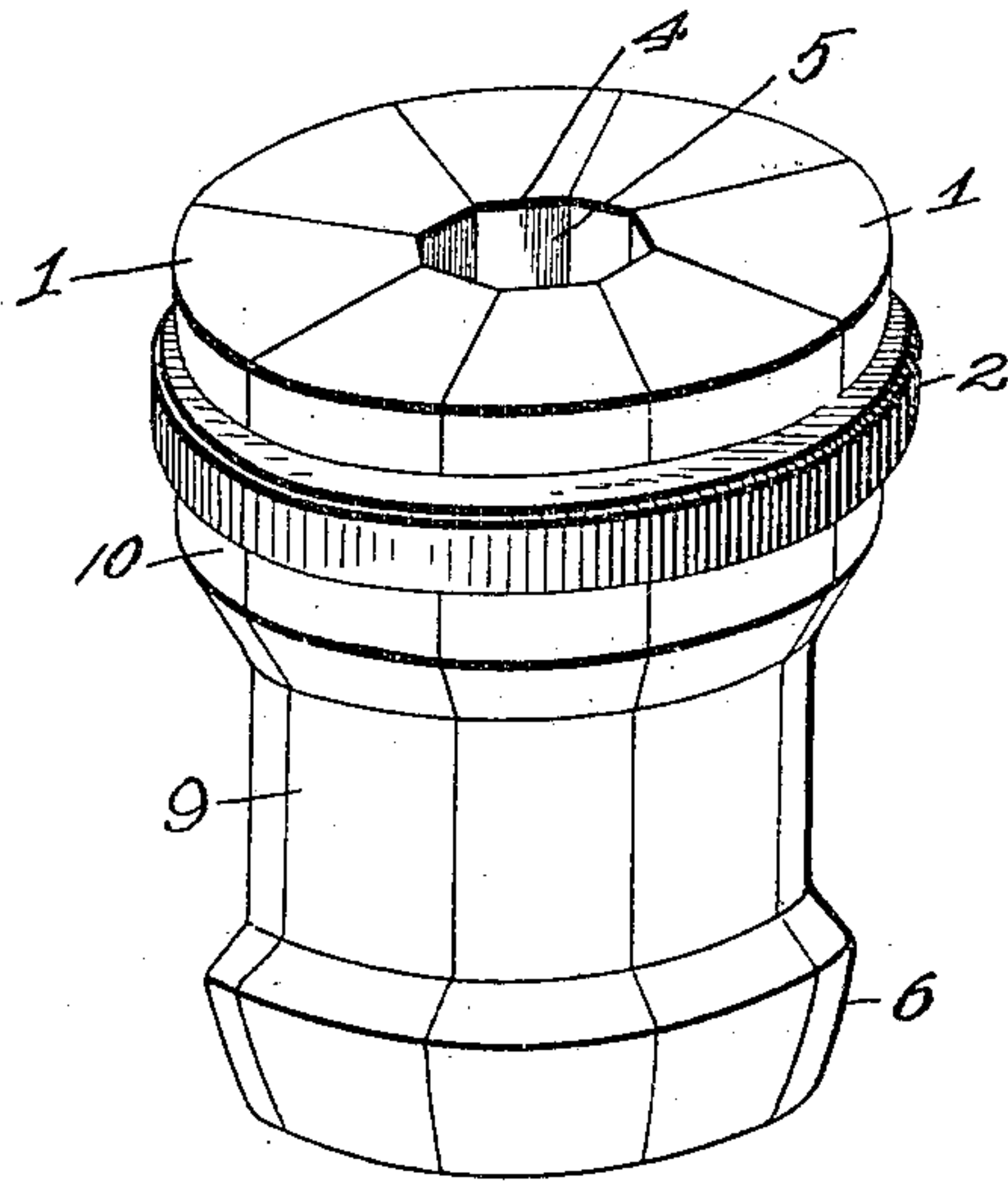


Fig. 2.

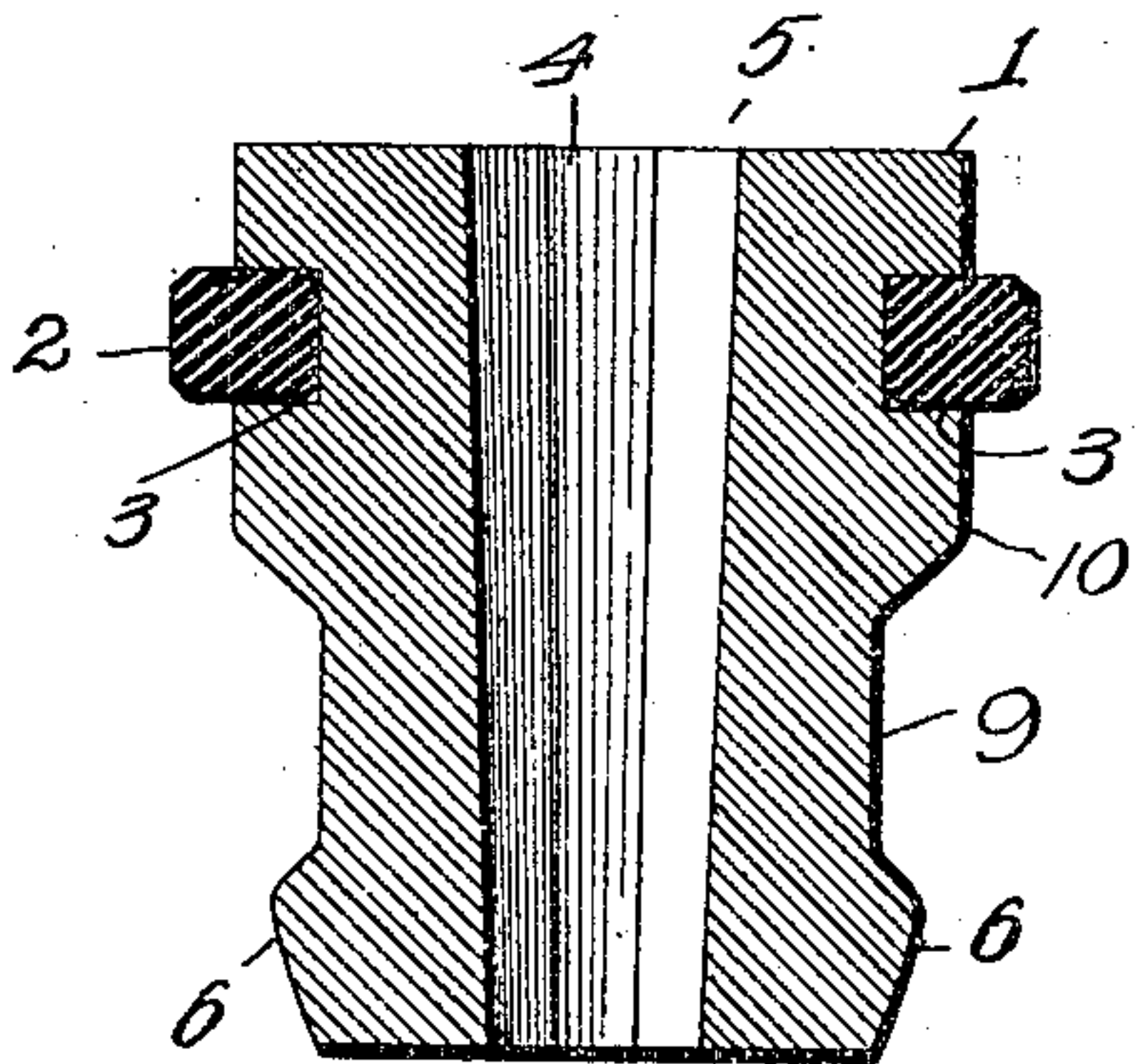


Fig. 3.

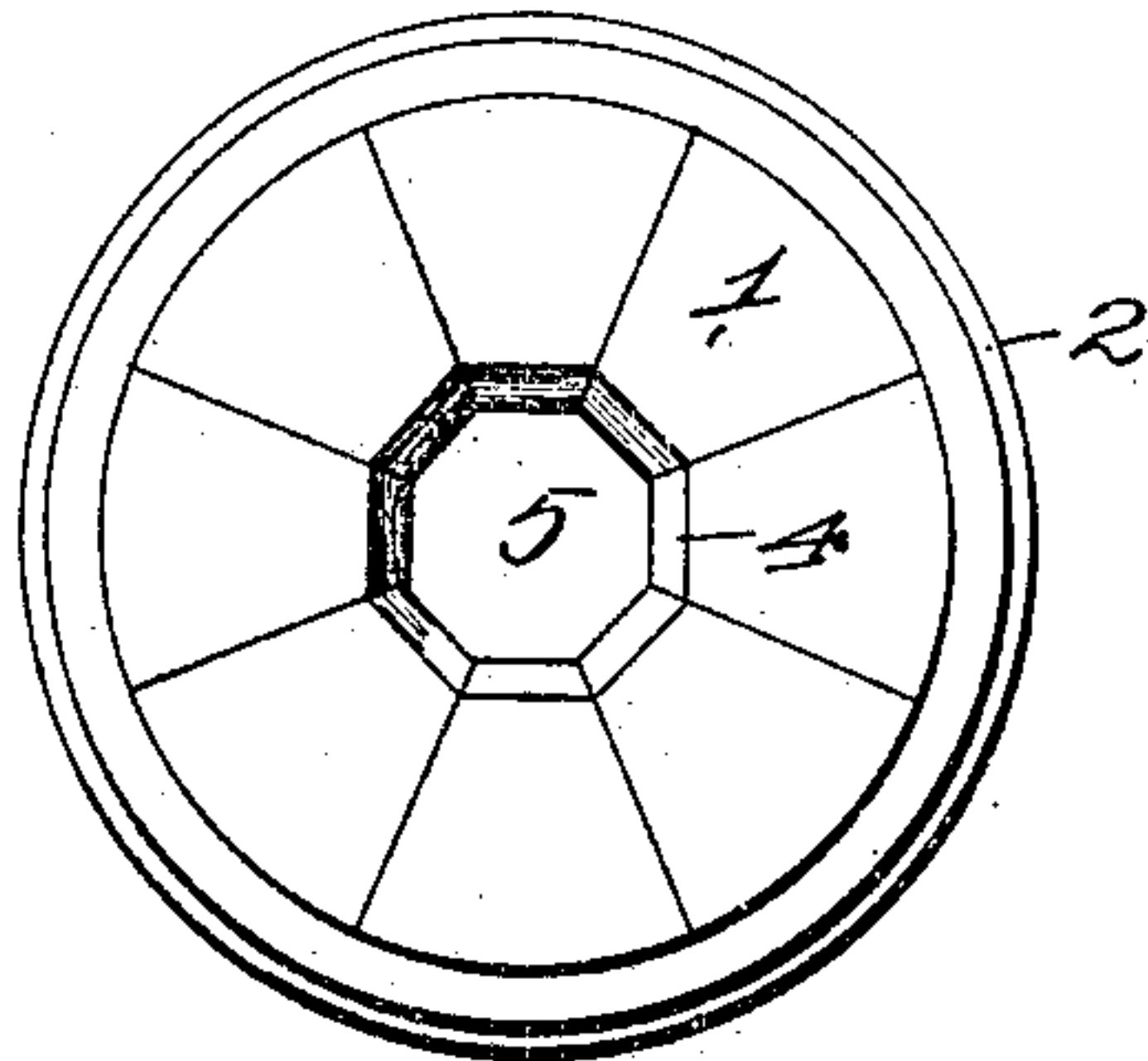


Fig. 4.

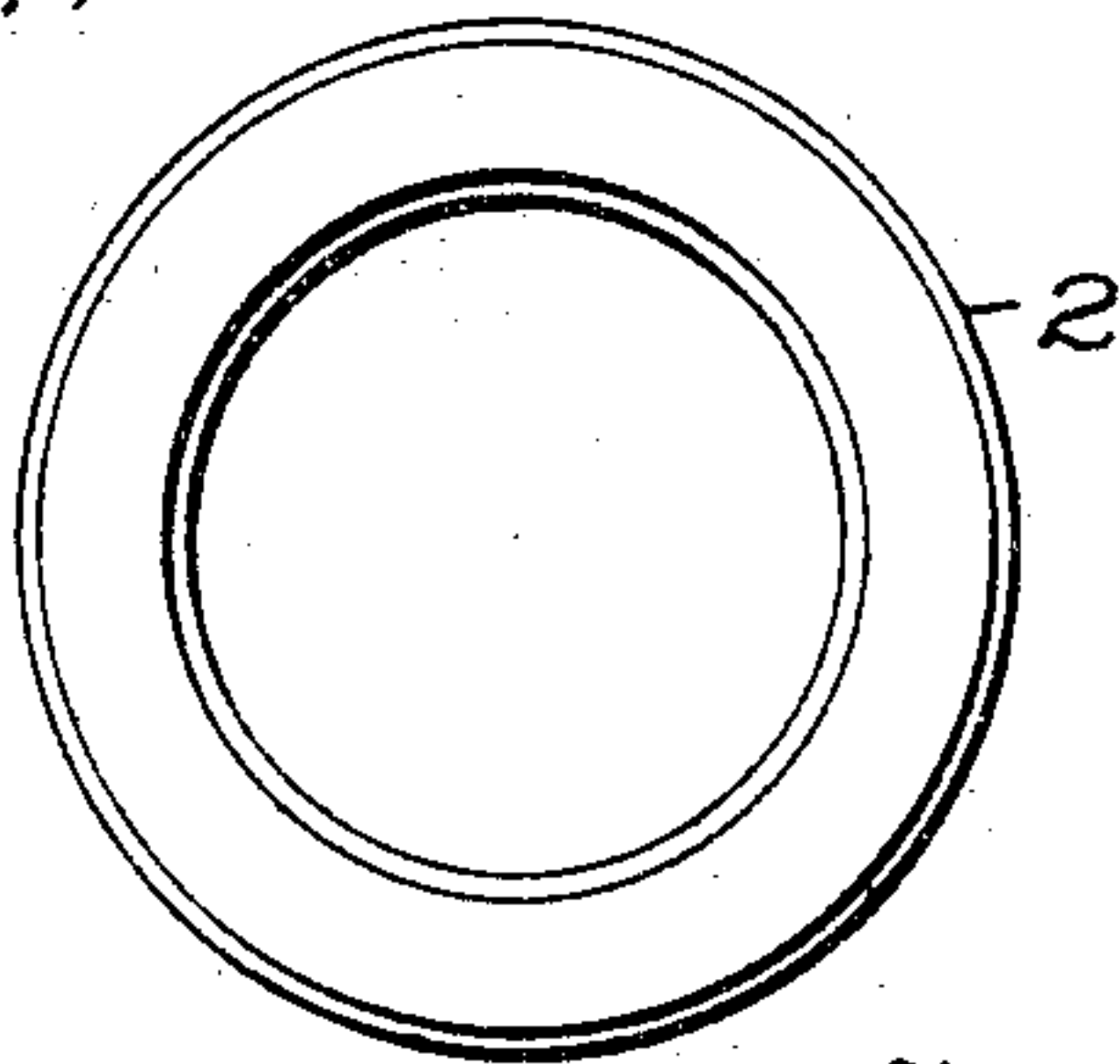
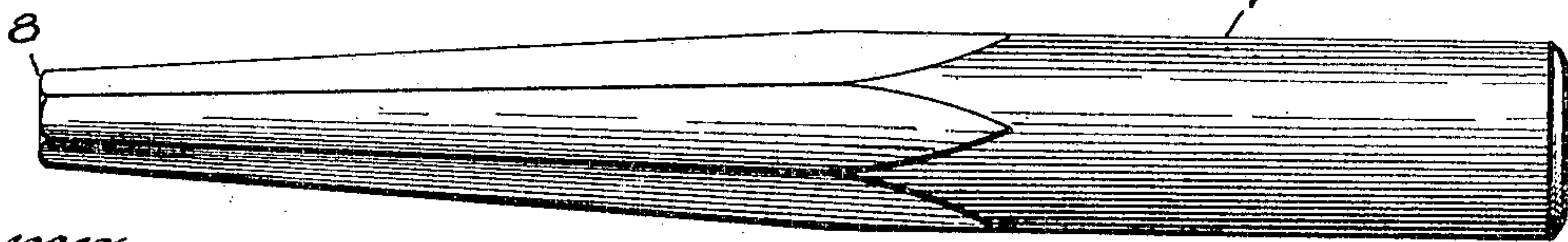


Fig. 5.



Witnesses
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UNITED STATES PATENT OFFICE.

JOHN W. FAESSLER, OF MOBERLY, MISSOURI.

FLUE OR TUBE EXPANDER.

No. 808,030.

Specification of Letters Patent.

Patented Dec. 19, 1905.

Application filed March 3, 1904. Serial No. 196,444.

To all whom it may concern:

Be it known that I, JOHN W. FAESSLER, a citizen of the United States, residing at Moberly, Randolph county, in the State of Missouri, have invented certain new and useful Improvements in Flue or Tube Expanders, of which the following is a specification containing a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to improvements in flue-expanders; and it consists of the novel features herein shown, described, and claimed.

In the drawings, Figure 1 is a perspective of a flue-expander embodying the principles of my invention. Fig. 2 is a sectional elevation. Fig. 3 is a top plan view. Fig. 4 is a plan view of the elastic ring. Fig. 5 is a view in elevation of the expanding-core.

Referring to the drawings in detail, the flue-expander comprises a series of segmental radial members 1, adapted to be assembled, as shown in Figs. 1, 2, and 3, and when so assembled a circular body is formed which is adapted to be inserted into the end of the flue, there being a groove around the circular body, the surface forming the groove being adapted to engage the interior of the flue and produce the desired shape. The enlargement below the groove 9 is intended to pass loosely into the end of the flue, and the enlargement 10 above the groove 9 is intended to be large enough to fit tightly in the end of the flue. A band-seat is formed in the periphery of the enlargement 10 substantially at its longitudinal center, said seat being squared or rectangular in cross-section, as shown in Fig. 2, and the elastic rubber band 2 is tightly mounted in this seat. The band-seat 3 is deep enough to receive more than one-half of the cross-section of the band, and the band projects beyond the periphery of the enlargement 9 to form a stop to engage the end of the flue, and limit the passage of the expander downwardly into the flue and to form a cushion around the expander. By seating the band deeply into the metal and making a complete fit the substance of the inner part of the band is protected from deterioration. The band is of sufficient

strength not only to draw the members 1 together, but it is also of sufficient strength to hold the members from endwise movement relative to each other. Each of the members 1 is provided with a flat inner face 4, so as to form a longitudinal opening 5, polygonal in plan or cross-section and tapered from end to end, the largest end being at the top. The expanding-core 7 has a round upper end adapted to be used as a handle and a tapered lower end adapted to fit in the opening 5, said tapered lower end being smaller at its point 8 than the lower end of the opening and said tapered lower end being polygonal and of the same taper as the opening 5, so as to fit in the opening from end to end, so that when the core is driven into the opening the members will be forced apart equally from end to end. The expander is inserted into the end of the flue, the core driven firmly into place to expand the end of the flue to the desired extent, then the core is removed, the tension of the band 2 draws the members 1 together, and the expander is removed.

I have found by actual practice and by the experience of many users that the construction involving the rubber band seated and protected in the metal of sufficient strength to prevent endwise motion of the members relative to each other and the tapering core fitting in the central opening from end to end are matters of great importance.

I claim—

In a flue-expander, the combination with a plurality of segmental jaws radially arranged to form a cylindrical body, there being coinciding notches formed in the outer face of each jaw so as to form a continuous groove in the cylindrical body, there being an abrupt shoulder formed in the outer face of the cylindrical body, and there being a rib formed on the outer face of the lower end of the cylindrical body, and there being inclined faces formed on the inner sides of each segmental jaw so as to form a tapered aperture through the cylindrical body, of a heavy rubber ring seated and embedded more than one-half its thickness in the continuous groove in the cylindrical body to yieldingly maintain the jaws together and form a stop

to limit the entrance of the expander into the
flue, and the tapered core adapted to be in-
serted in the cylinder, and being provided
with corresponding flat faces to fit the flat
5 faces on the interior of the tapered aperture in
the cylindrical body; substantially as speci-
fied.

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

JOHN W. FAESSLER.

Witnesses:

ALFRED A. EICKS,
M. M. BRAZILL.