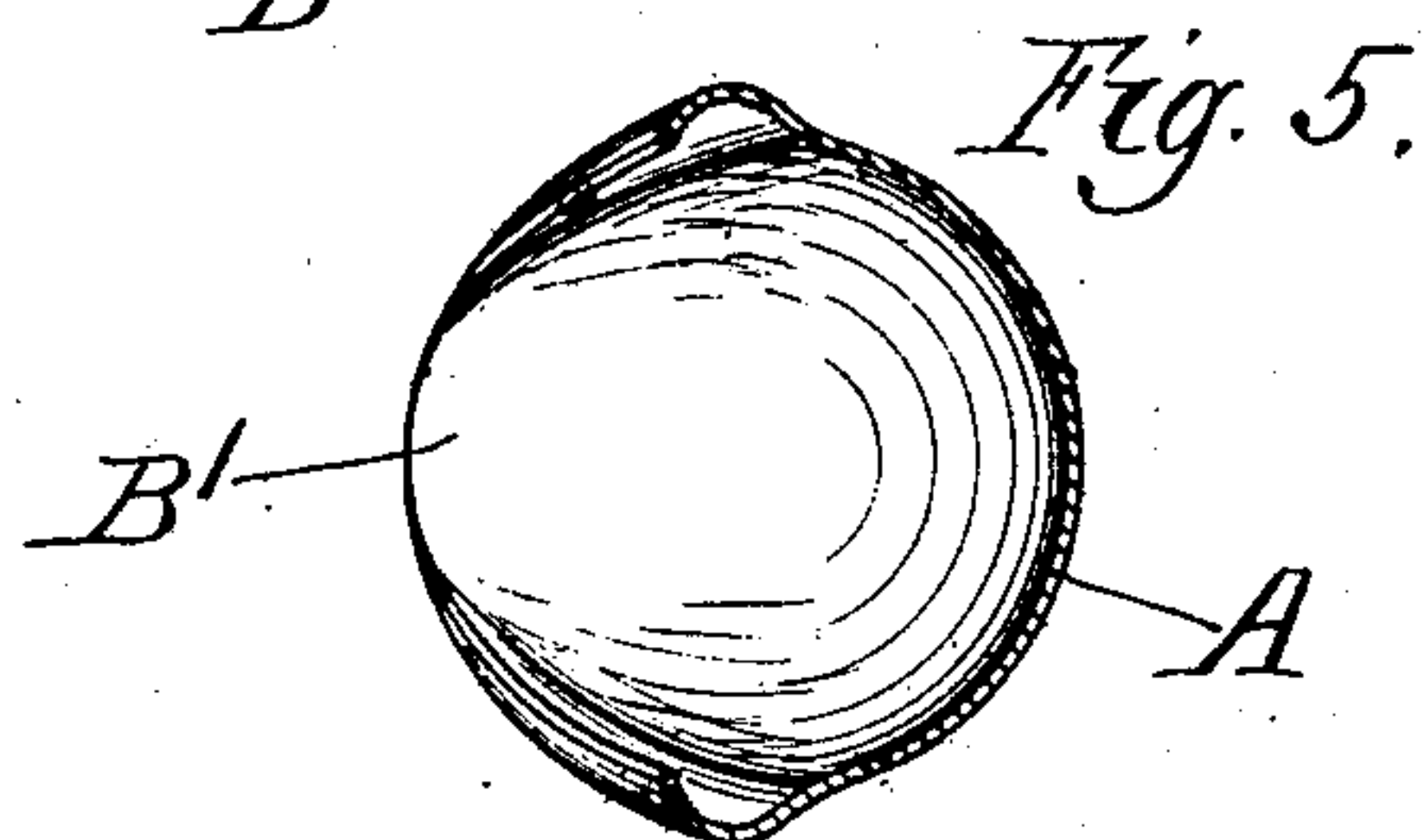
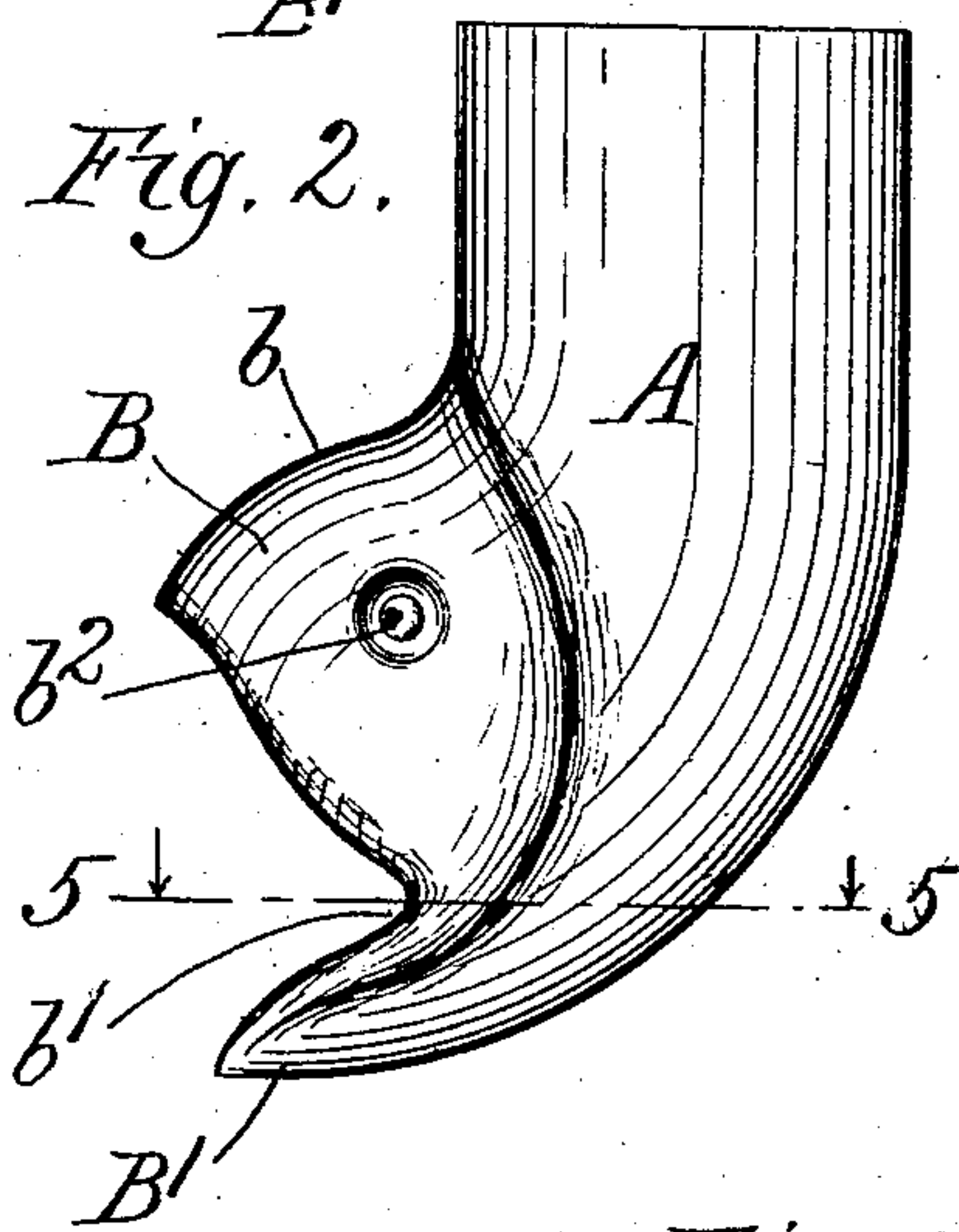
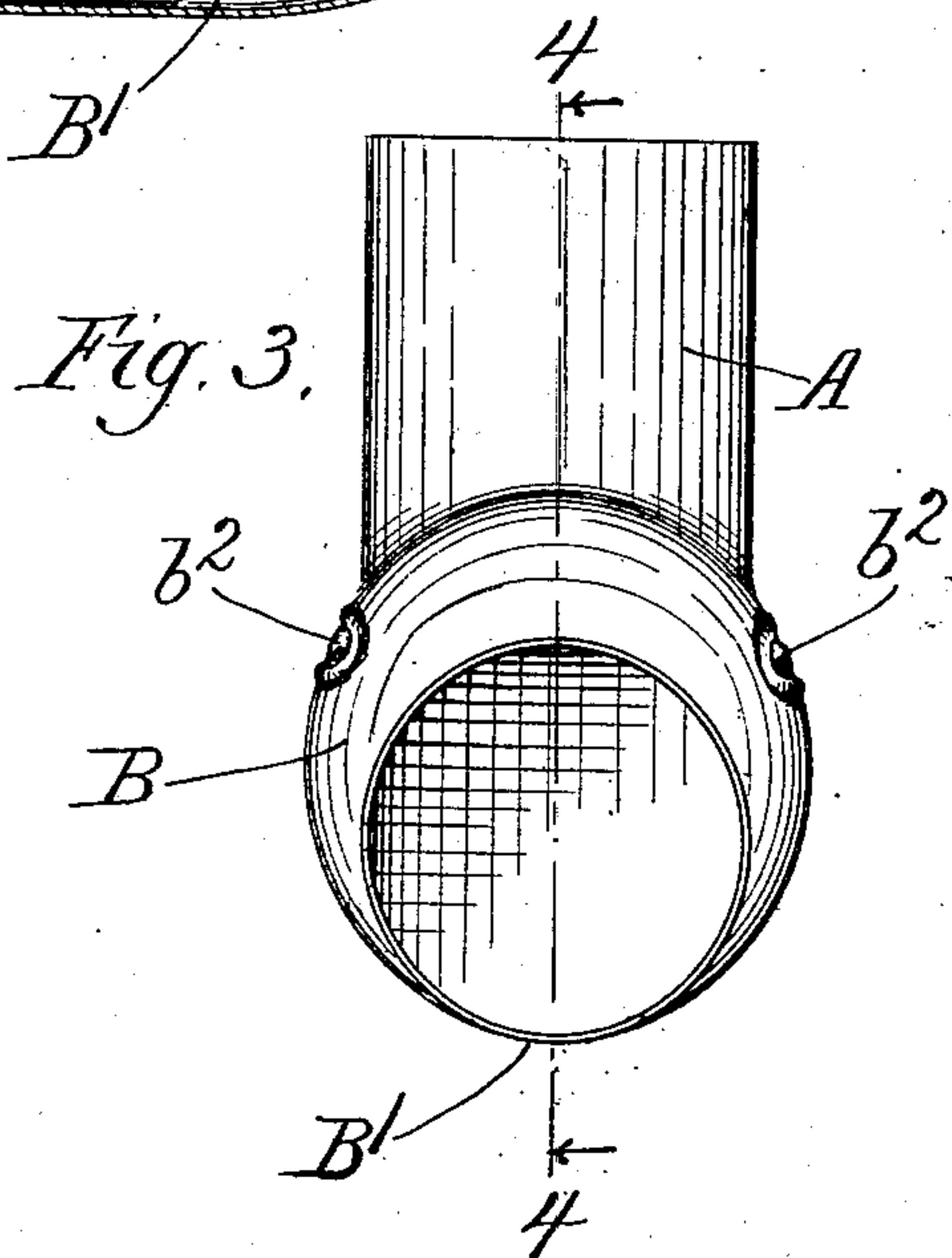
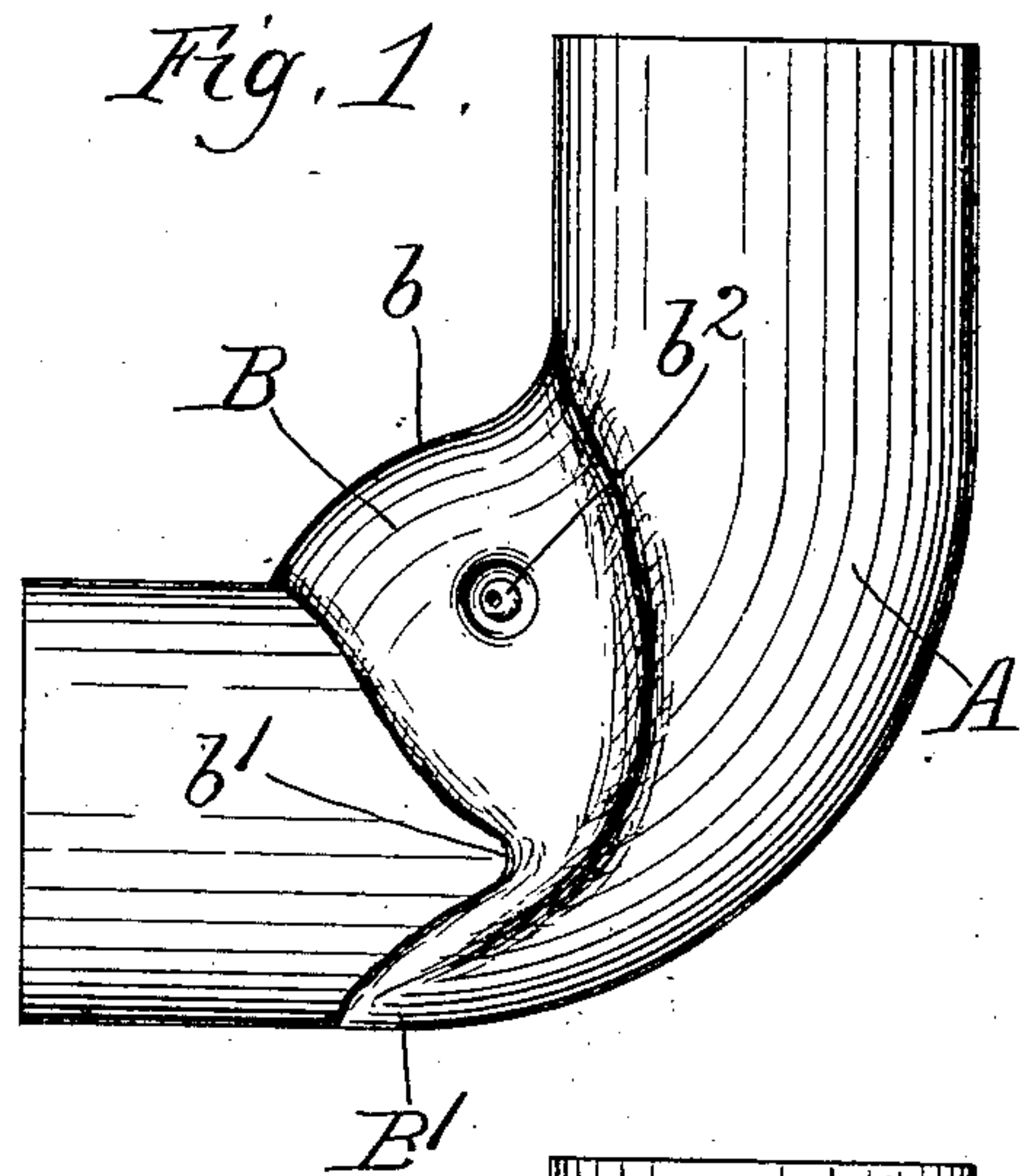
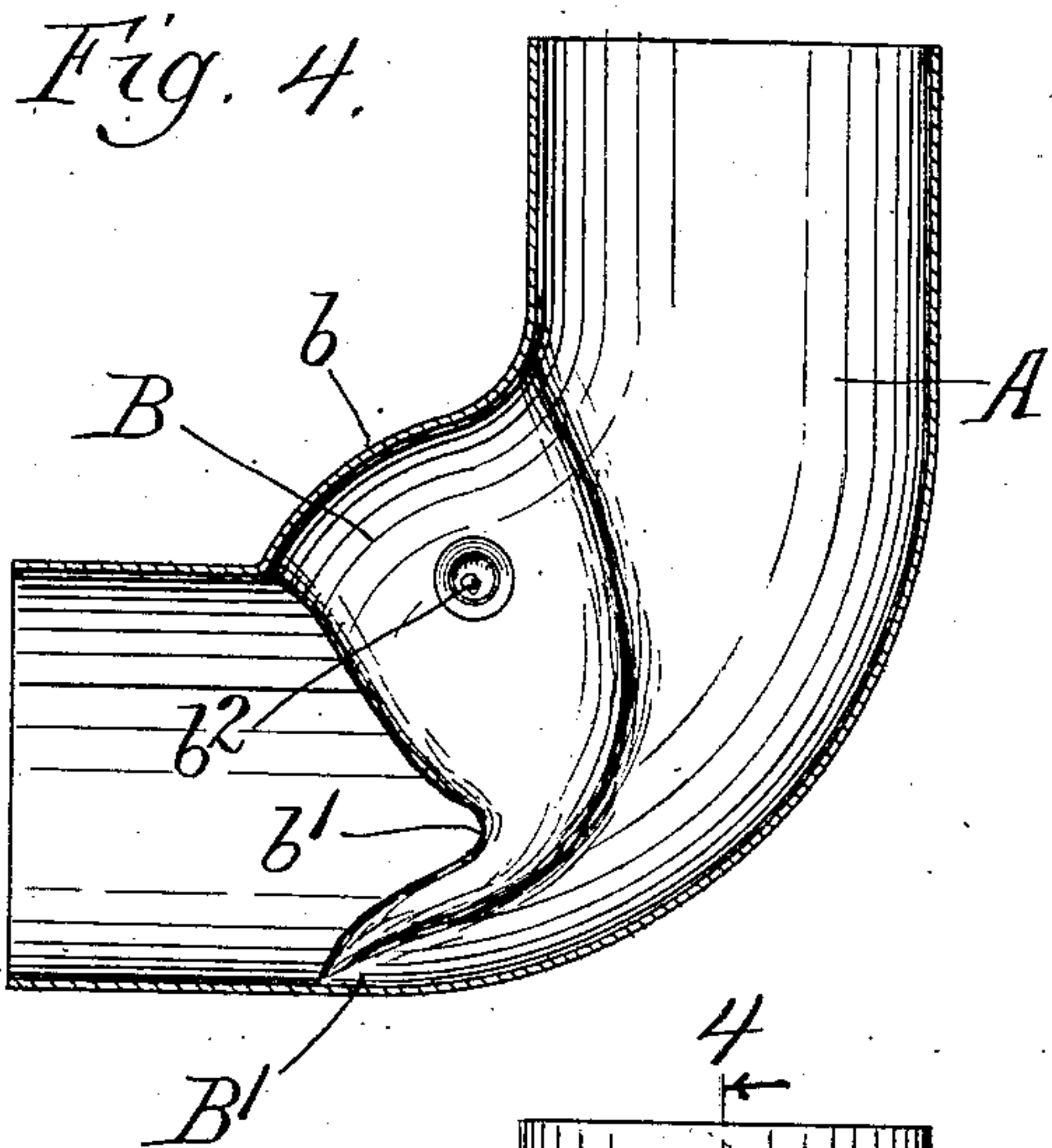


H. F. VOSHARDT.
SHEET METAL CONVERTIBLE PIPE ELBOW.
APPLICATION FILED SEPT. 21, 1908.

912,336.

Patented Feb. 16, 1909.



Witnesses.
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UNITED STATES PATENT OFFICE.

HERMAN F. VOSHARDT, OF CHICAGO, ILLINOIS, ASSIGNOR TO FRIEDLEY-VOSHARDT COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

SHEET-METAL CONVERTIBLE PIPE-ELBOW.

No. 912,336.

Specification of Letters Patent.

Patented Feb. 16, 1909.

Application filed September 21, 1908. Serial No. 453,976.

To all whom it may concern:

Be it known that I, HERMAN F. VOSHARDT, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented new and useful Improvements in Sheet-Metal Convertible Pipe-Elbows, of which the following is a specification, reference being had to the drawings forming a part thereof.

The purpose of this invention is to provide an improved form of sheet-metal pipe elbow which shall be readily convertible into a discharge spout or "shoe", as such spouts are commonly called.

It consists in the structure and features shown and described as indicated in the claims.

In the drawings:—Figure 1 is a side elevation of a sheet-metal pipe elbow embodying this invention. Fig. 2 is a similar view showing the elbow converted into a shoe or discharge spout by severance of a terminal portion. Fig. 3 is an end elevation of the shoe shown in Fig. 1 looking into the discharge mouth. Fig. 4 is a section at the line 4—4 on Fig. 3. Fig. 5 is a section at the line 5—5 on Fig. 2.

According to the commonly prevailing usage in the manufacture of discharge spouts or "shoes", as they are called, the number being quite small as compared with the number of elbows required, and special work being required to finish the discharge end over and above what would be required to finish an elbow, these devices are more expensive than elbows, although containing less metal. By the present invention an elbow made without greater cost than is now required to make elbows of equal size and finish, can be converted into a shoe by merely severing a portion at one end beyond a feature which is impressed upon the elbow for the purpose of indicating the line of severance and forming a suitable finish to the shoe after the severance has been made. For this purpose the elbow, A, is shaped at the bend for giving it the desired curvature or turn, by taking up the excess, or some portion of the excess of the metal at the inner side of the bend in an embossed feature, B, located beyond the middle point of the bend toward one end, and which may be formed so as to protrude at the inner side of the bend, as shown at b , and will be somewhat deeply deflected back from the nearer end of the elbow intermedi-

ate the inner and outer sides of the bend, as seen at b^1 . This embossment, B, preferably merges in the surface of the elbow toward the outer side of the bend so as to leave that side, which will be the lower side when the device is converted into a discharge spout or shoe, substantially smooth for the free discharge of the water without tendency to spray, spread or splatter it in the discharge. This embossment is also sharply defined at the side toward the nearer end of the elbow from the inner side of the bend past the point of deepest deflection,—that is, approximately to the point at which the embossment merges in the surface as stated. This sharp definition of the embossment is designed to indicate a line of severance,—that is, so that the artisan finding need for a shoe or discharge spout can readily cut the elbow at the line thus accurately defined by the embossment, and thereby obtain a shoe with an edge finished by the inward curvature of the embossed feature ending at said sharply defined line for cutting, as may be understood from Figs. 4 and 5.

Preferably the deepest point of the deflection, b^1 , is nearer the outer or convex than the inner or concave side of the elbow, so that the embossment, which preferably does not extend greatly beyond that deepest point before merging in the surface, may form a finish and define the line of severance throughout as great a portion of the distance to be cut as possible.

It is preferable, but not essential, to make the embossment, B, protruding, as shown at the inner or concave side of the elbow, not only because the excess of metal is thus best accommodated, but chiefly because thereby an inwardly concave surface is presented at the upper side of the shoe which results from severing the terminal portion of the elbow, as described, by which the water descending the spout is deflected down toward the lower side so that the discharge stream is gathered for compact discharge from the lower lip, B^1 , of the shoe.

The particular form of the embossed feature, B, except as to its location,—beyond the middle of the bend,—and as to its deflection backward from the discharge end, as shown at b^1 , are not material, being merely a matter of the designer's taste, but the feature readily lends itself to ornamentation as well as to the mechanical finish of the edge of the

shoe, which is its primary purpose. The conventional representation at b^2 of an eye will serve to illustrate the utilization of the feature to ornamentation.

5 I claim:—

1. A sheet-metal elbow having beyond the middle toward one end a transversely extending embossment which is deflected back from the nearer end of the elbow between
10 the inner and outer sides of the bend of the latter, and has a sharply defined line extending from said inner side past the deepest point of such deflection.

2. A sheet-metal elbow having beyond the
15 middle toward one end a transversely extending embossment which is deeply deflected backward from the nearer end of the elbow at a point nearer the outer or convex than the inner or concave side of the elbow
20 bend.

3. A sheet-metal elbow having beyond the middle toward one end a transversely extending embossment which is deeply deflected backward from the nearer end of the
25 elbow at a point nearer the outer or convex than the inner or concave side of the elbow bend, said embossment having a sharply defined line from said inner or concave side past the deepest point of such deflection.

4. A sheet-metal elbow having beyond the
30 middle of the bend toward one end a transversely extending embossment which protrudes at the inner side of the bend, and between that point and the outer or convex side of the bend is deflected backward from
35 the nearer end and sharply defined on the side toward said end along said protruding portion and thence past the deepest point of the deflection.

5. A sheet-metal elbow having beyond the
40 middle of the bend of the elbow toward one end a transversely extending embossment which is maximum at the inner side of the bend, and which between such maximum point and the opposite side is deflected back-
45 ward from the nearer end of the elbow and has a sharply defined line from its said maximum point past the deepest point of said deflection, and therebeyond merges in the surface.
50

In testimony whereof, I have hereunto set my hand at Chicago, Illinois, this 16th day of September, 1908.

HERMAN F. VOSHARDT.

Witnesses:

M. GERTRUDE ADY,
J. S. ABBOTT.