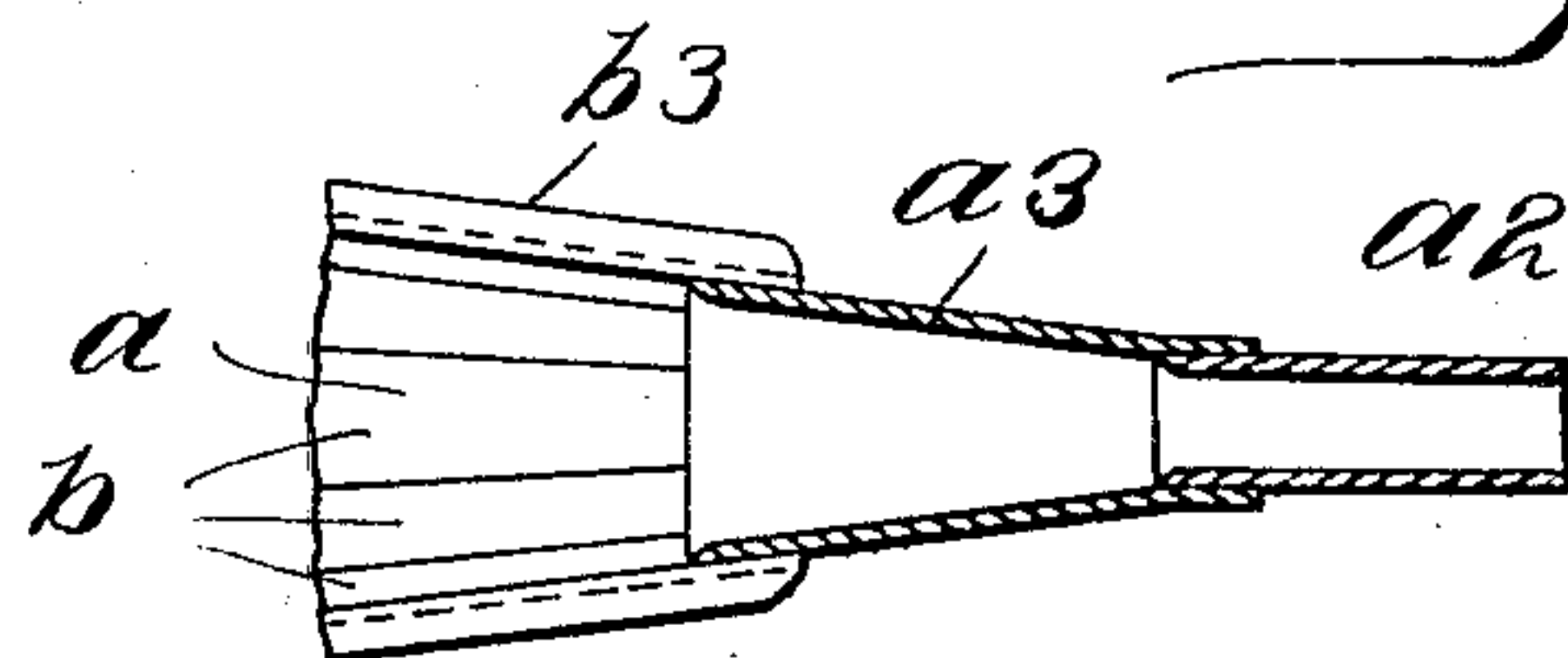
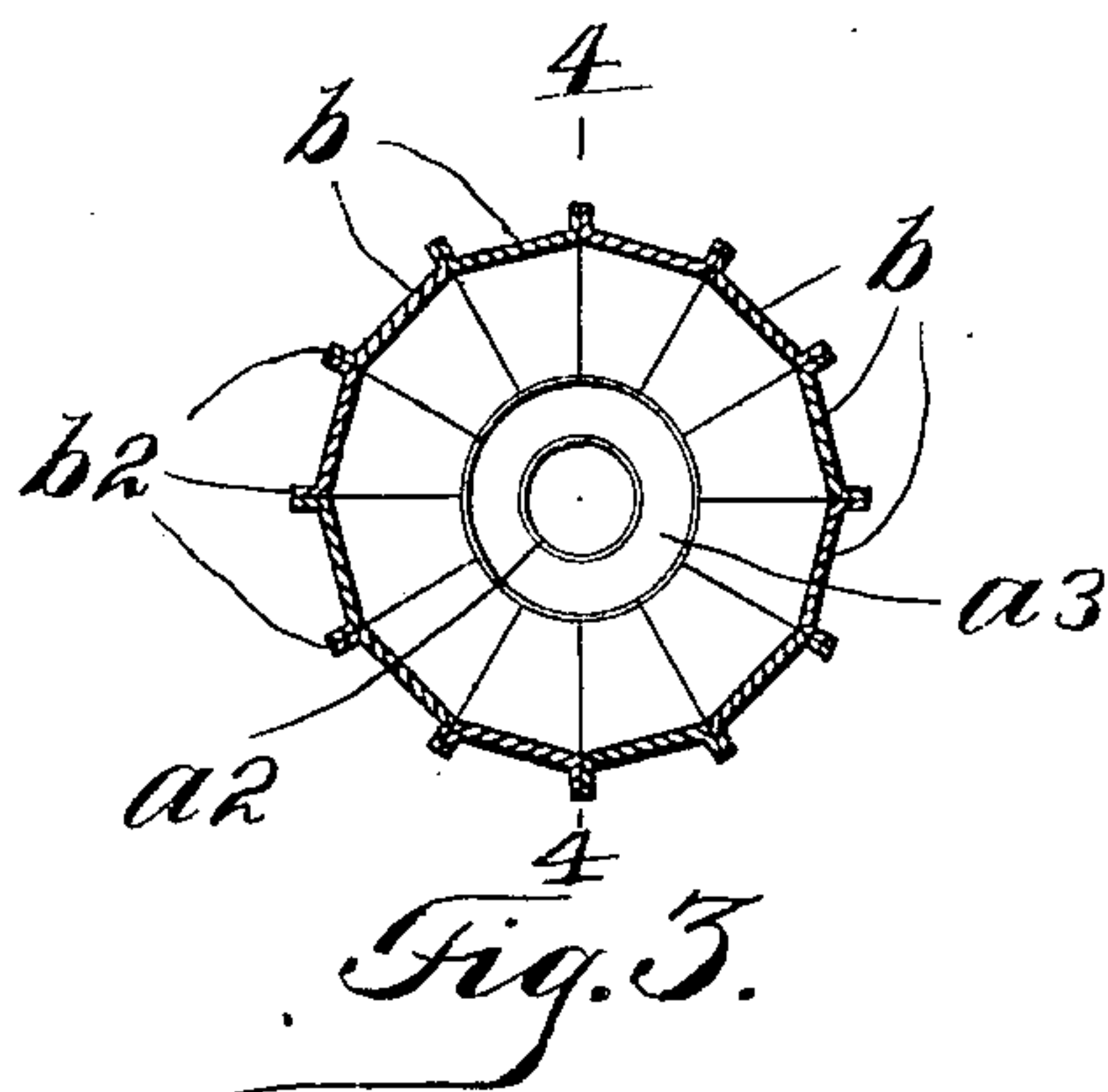
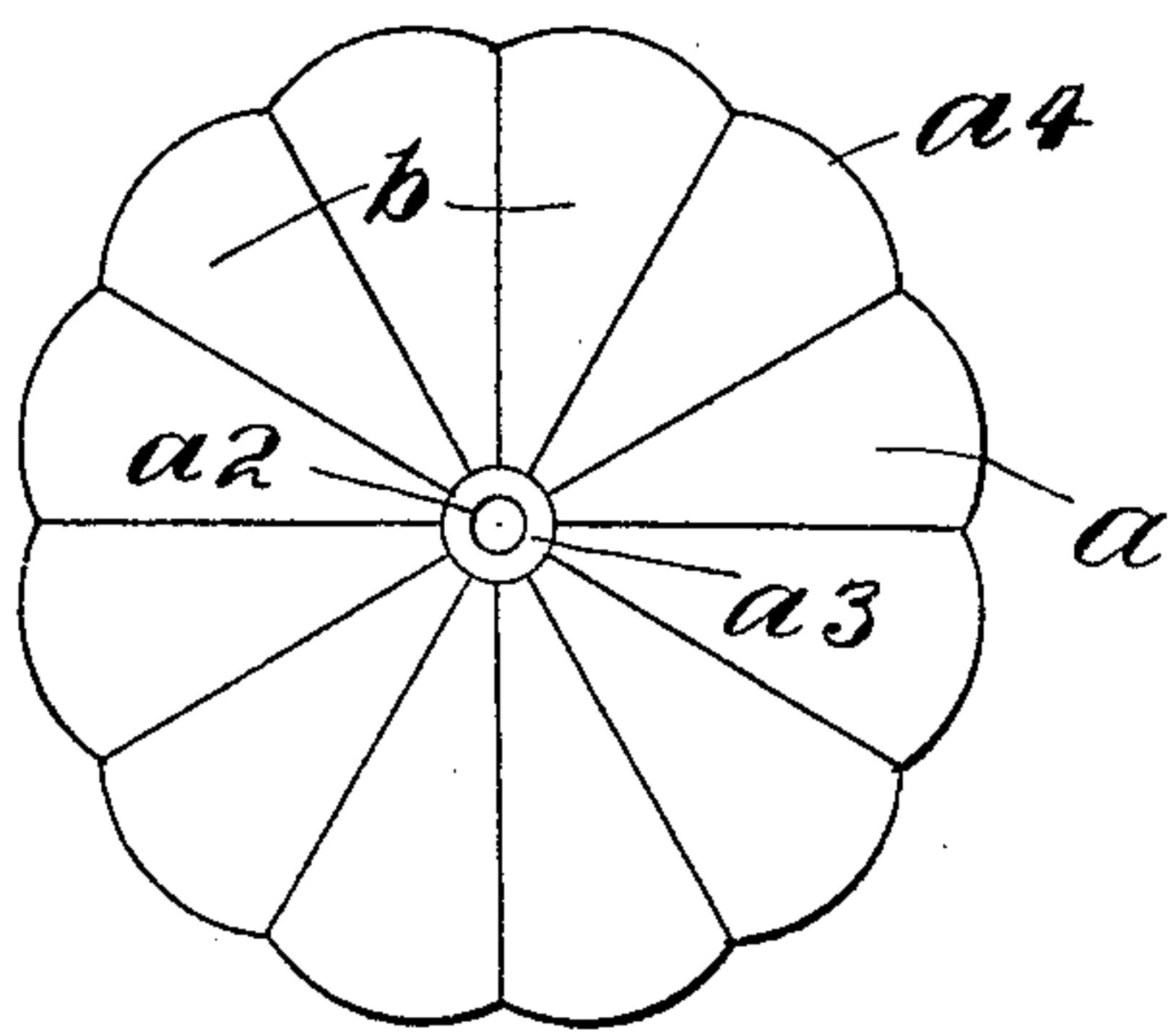
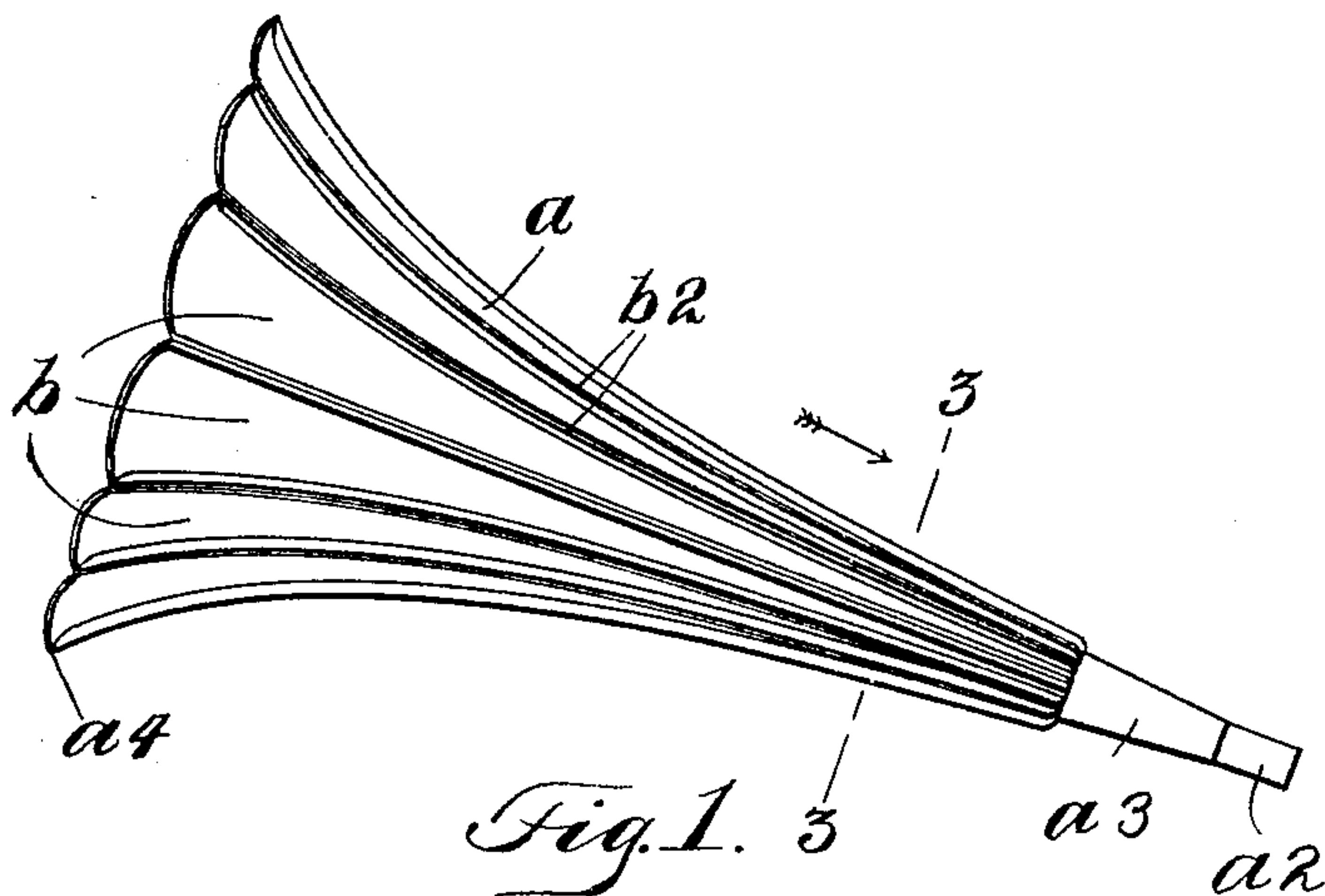


No. 771,441.

PATENTED OCT. 4, 1904.

P. C. NIELSEN.  
HORN FOR PHONOGRAPHS OR SIMILAR MACHINES.  
APPLICATION FILED APR. 14, 1904.

NO MODEL.



WITNESSES  
*W. B. Mattingly*  
*F. A. Steward*

Fig. 4. BY *Peter C. Nielsen,*  
*Edgar & Pater Co*  
ATTORNEYS

# UNITED STATES PATENT OFFICE.

PETER C. NIELSEN, OF GREENPOINT, NEW YORK.

## HORN FOR PHONOGRAPHS OR SIMILAR MACHINES.

SPECIFICATION forming part of Letters Patent No. 771,441, dated October 4, 1904.

Application filed April 14, 1904. Serial No. 203,080. (No model.)

*To all whom it may concern:*

Be it known that I, PETER C. NIELSEN, a citizen of the United States, residing at Greenpoint, in the county of Kings and State of New York, have invented certain new and useful Improvements in Horns for Phonographs or Similar Machines, of which the following is a specification, such as will enable those skilled in the art to which it appertains to make and use the same.

This invention relates to the horn of a phonograph or other machine of this class; and the object thereof is to provide a horn for machines of this class which will do away with the mechanical, vibratory, and metallic sound usually produced in the operation of such machines, and also produce a full, even, and continuous volume of sound in which the articulation is clear, full, and distinct.

The invention is fully disclosed in the following specification, of which the accompanying drawings form a part, in which the separate parts of my improvement are designated by suitable reference characters in each of the views, and in which—

Figure 1 is a side view of my improved phonograph-horn; Fig. 2, an end view thereof; Fig. 3, an enlarged section on the line 3 3 of Fig. 1, and Fig. 4 a longitudinal section on the line 4 4 of Fig. 3.

In the practice of my invention I provide a horn  $a$ , provided at its smaller end with the usual nozzle-piece  $a^2$ , by means of which connection is made with the machine, and in the form of construction shown a supplemental piece  $a^3$  is employed between the larger or body portion of the horn and the nozzle-piece  $a^2$ ; but the parts  $a^3$  and  $a^2$  may be formed integrally, if desired, and may be constructed in any desired manner. The main part  $a$  of the horn is bell-shaped in form and tapers outwardly gradually from the part  $a^3$  to the larger or mouth end  $a^4$ , and this curve or taper is greater or more abrupt adjacent to said larger or mouth end. The body portion of the horn is also composed of a plurality of longitudinal strips  $b$ , which are gradually tapered from one end to the other, and which are connected longitudinally, so as to form longitudinal ribs  $b^2$ , each of the strips  $b$  being provided at

its opposite edges with a flange  $b^3$ , and these flanges of the separate strips  $b$  are connected to form the ribs  $b^2$ . The body portion of the horn or the strips  $b$  are composed of sheet metal, and it will be observed that the inner wall of the body portion of said horn in cross-section is made up of a plurality of short lines forming substantially a circle, and it is the construction of the body portion of the horn as hereinbefore described that gives thereto the qualities which it is the objects of this invention to produce, which objects are the result of the formation of the horn or the body portion thereof of longitudinal strips  $b$  and providing the outer surface thereof with the longitudinal ribs  $b^2$  and curving the body portion of the horn in the manner described. If desired, the part  $a^3$  may be formed integrally with the body portion of the horn, in which event the ribs  $b^2$  would extend to the nozzle or connecting portion  $a^2$ , and it is the longitudinal ribs  $b^2$  which contribute mostly to the successful operation of the horn, said ribs serving to do away with the vibratory character of horns of this class as usually made and doing away with the metallic sound produced in the operation thereof.

My improved horn may be used in connection with phonographs or other machines of this class, and changes in and modifications of the construction described may be made without departing from the spirit of my invention or sacrificing its advantages.

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

1. A horn for phonographs and similar machines, the body portion of which is composed of longitudinally-arranged strips of metal provided at their edges with longitudinal outwardly-directed flanges whereby said strips are connected and whereby the body portion of the horn is provided on the outside thereof with longitudinally-arranged ribs, substantially as shown and described.

2. A horn for phonographs and similar machines, the body portion of which is composed of longitudinally-arranged strips of metal provided at their edges with longitudinal outwardly-directed flanges whereby said strips



are connected and whereby, the body portion of the horn is provided on the outside thereof with longitudinally-arranged ribs, said strips being tapered from one end of said horn to the other, substantially as shown and described.

3. A horn for phonographs and similar instruments, said horn being larger at one end than at the other and tapered in the usual manner, said horn being composed of longitudinally-arranged strips secured together at their edges and the outer side thereof at the

points where said strips are secured together being provided with longitudinal ribs, substantially as shown and described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of the subscribing witnesses, this 13th day of April, 1904.

PETER C. NIELSEN.

Witnesses:

F. A. STEWART,  
C. J. KLEIN.