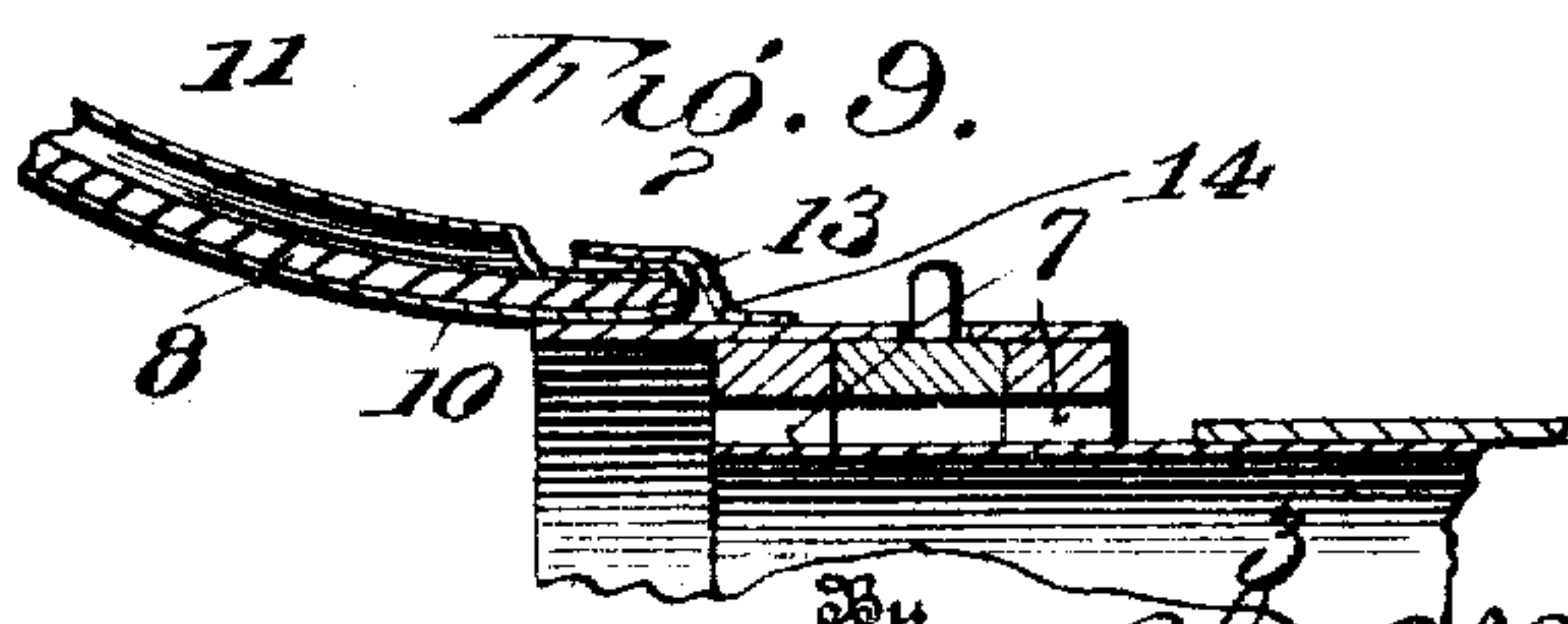
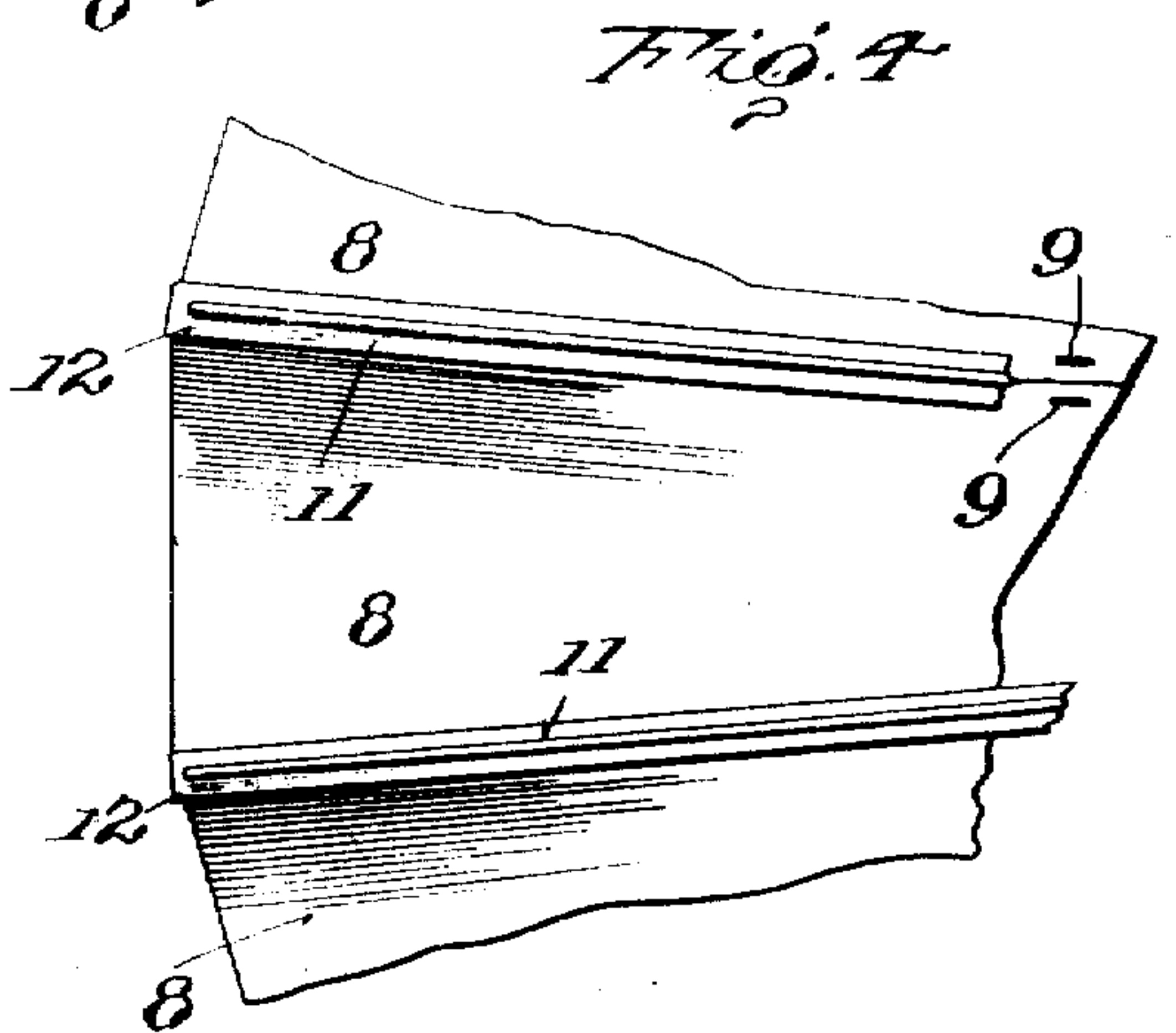
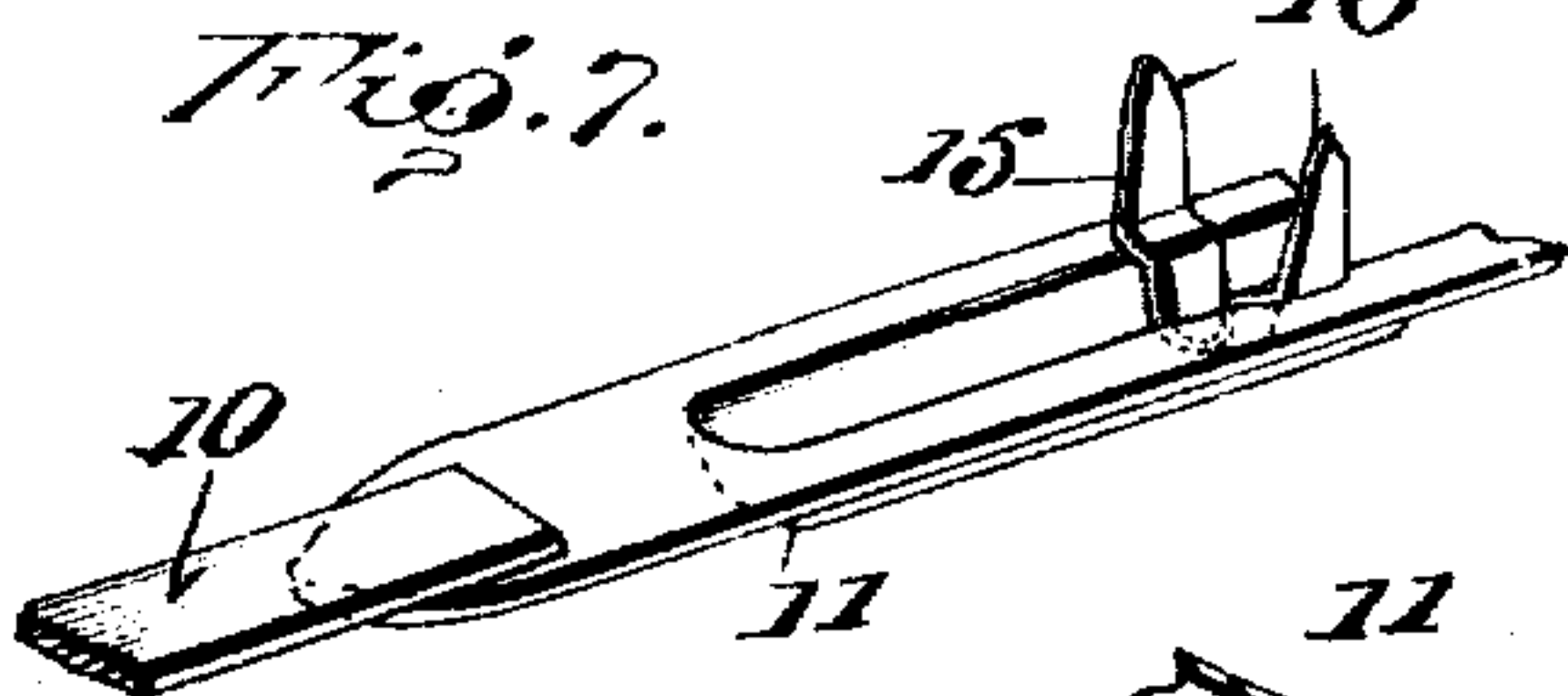
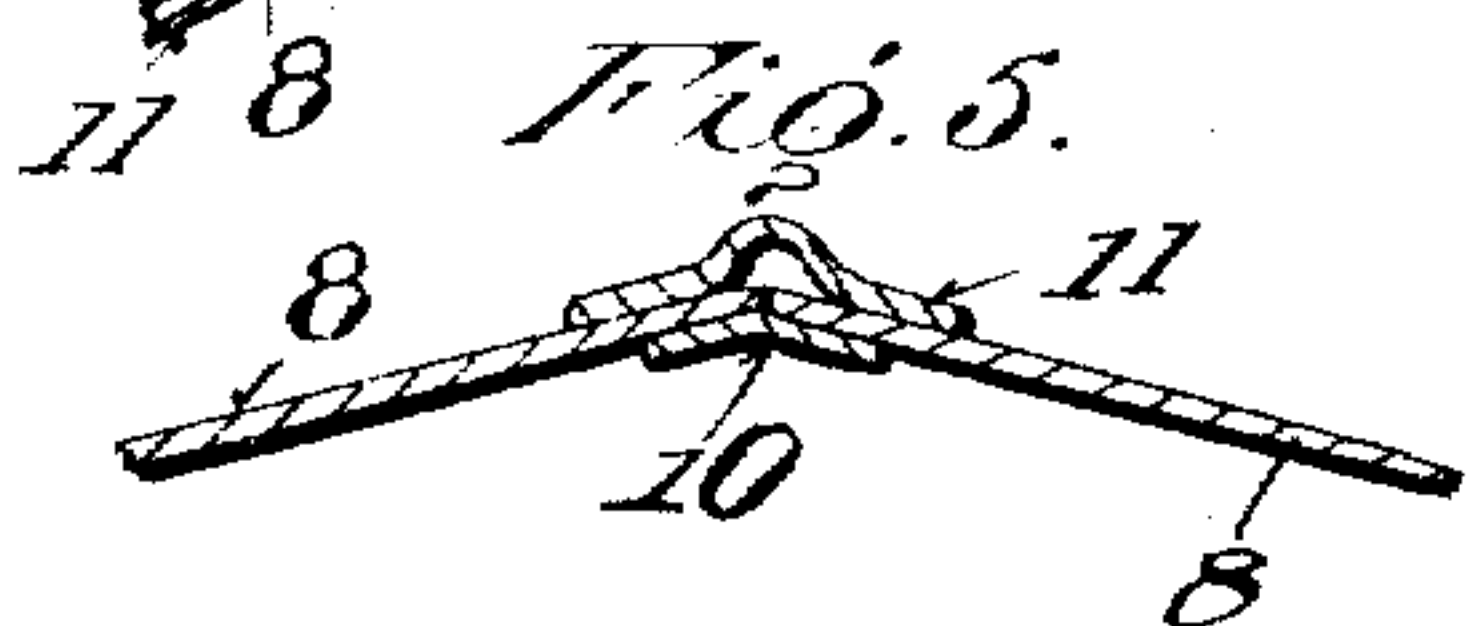
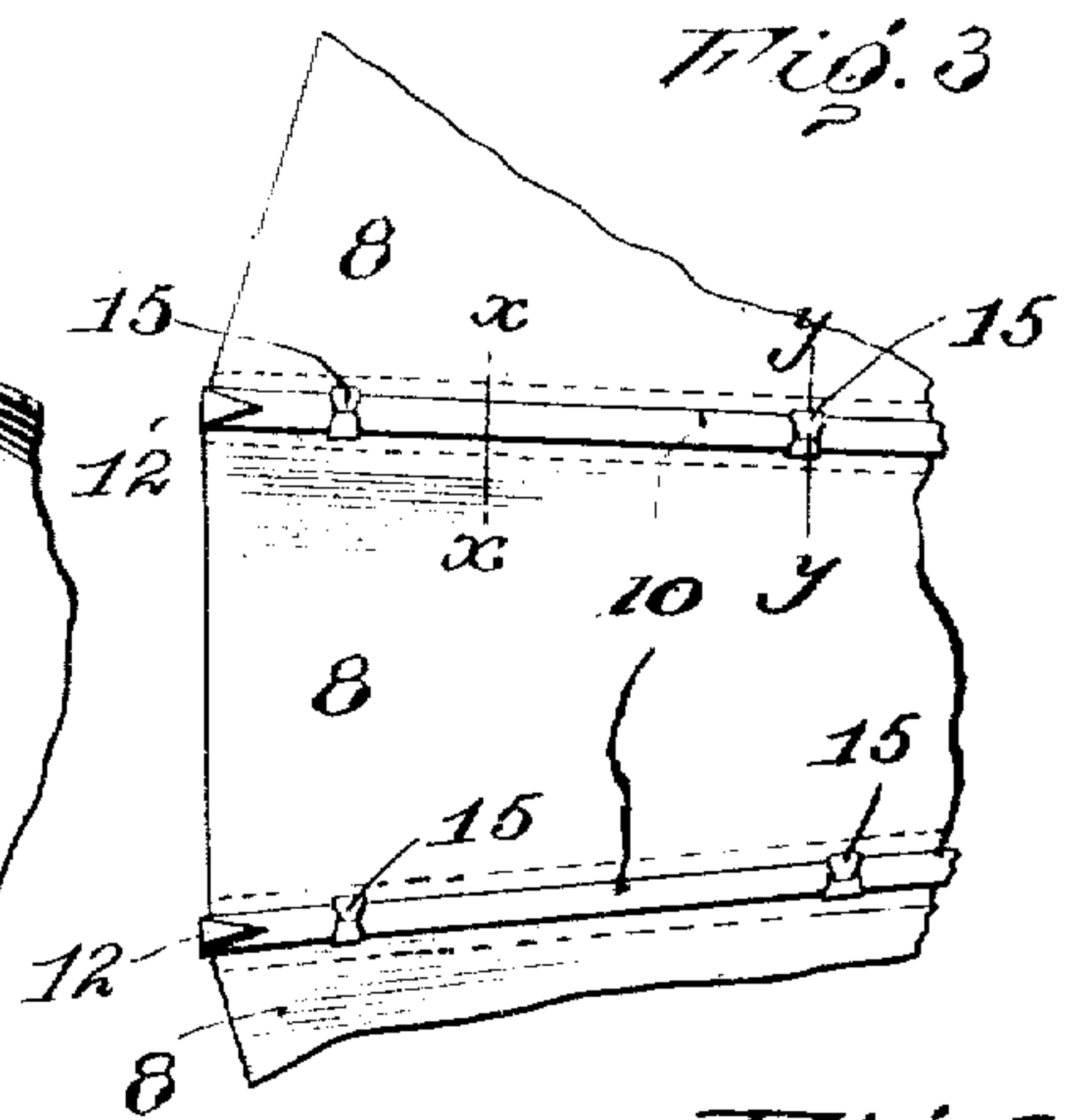
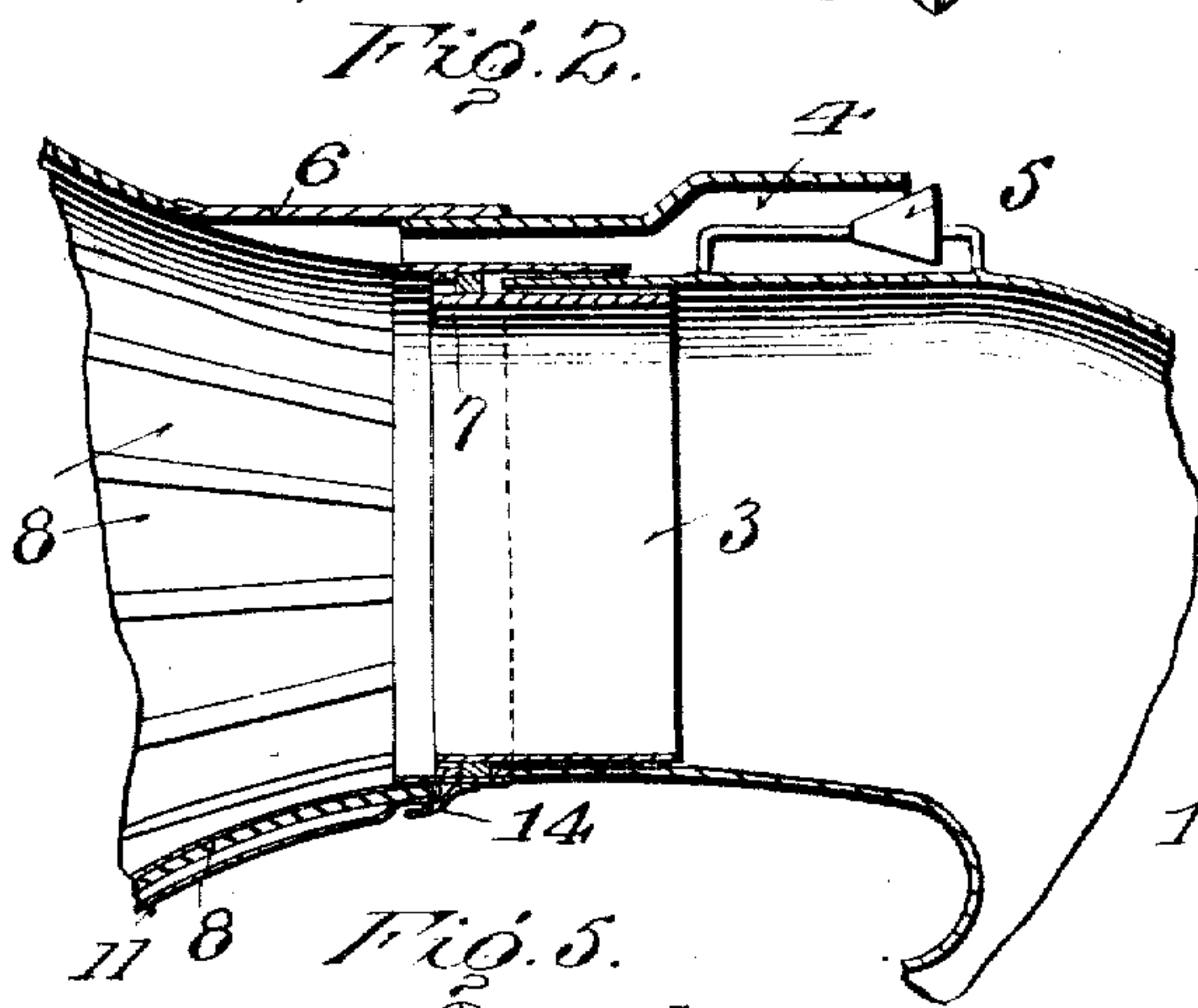
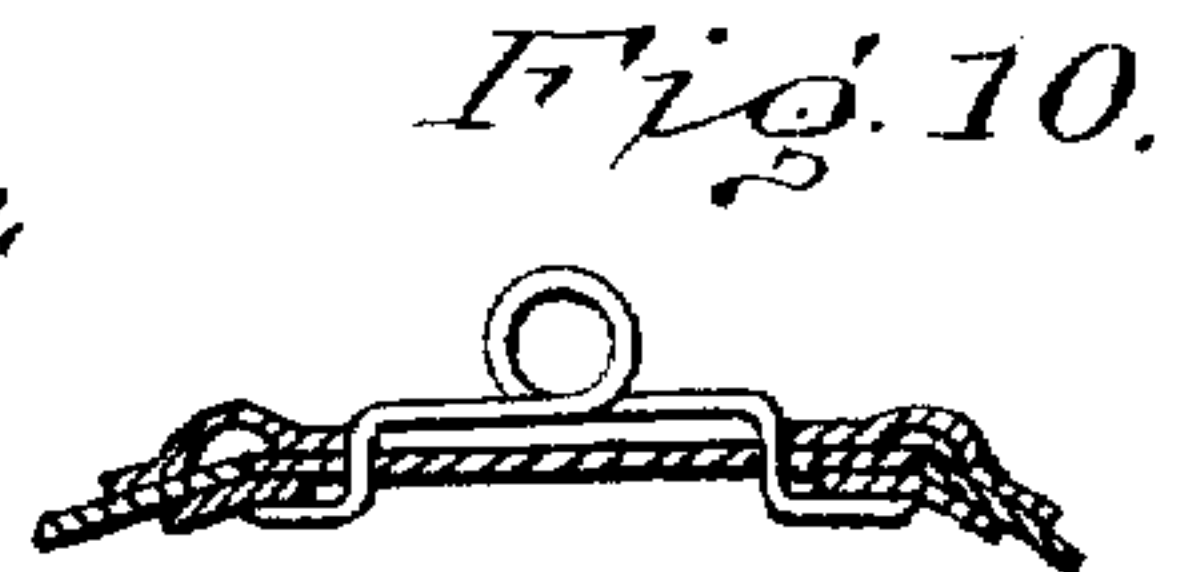
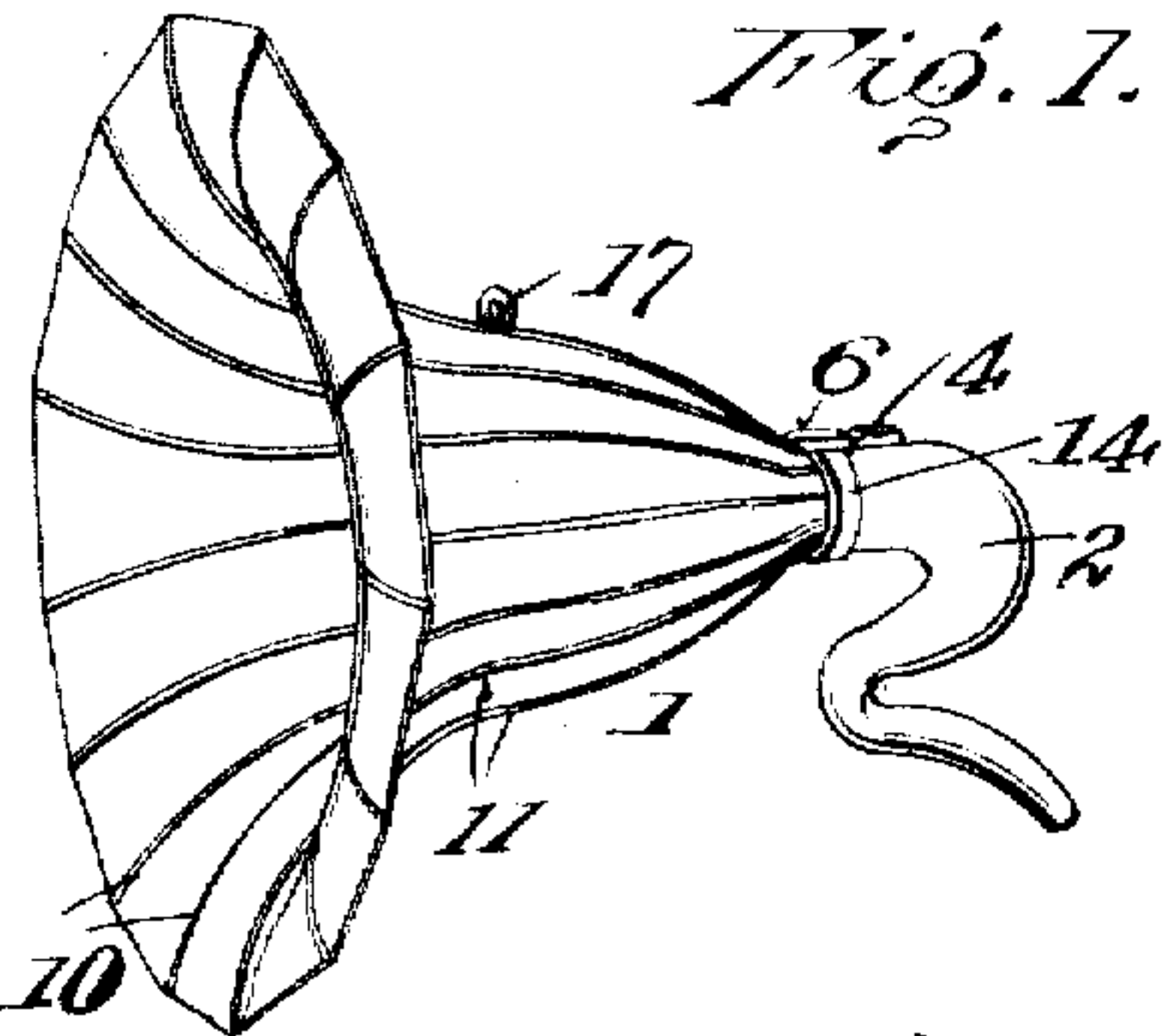
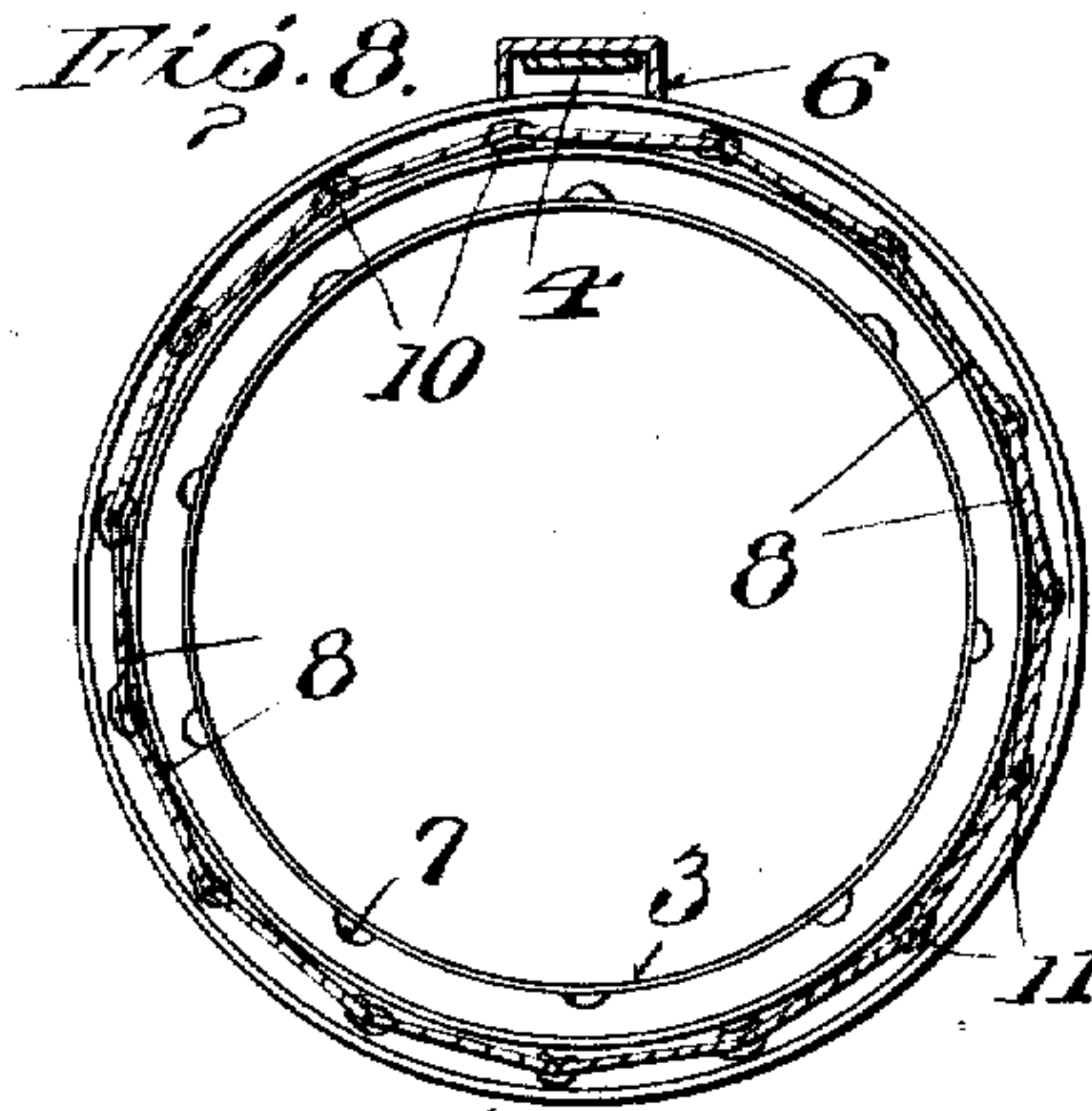


F. M. MURPHY.  
 PHONOGRAPH HORN.  
 APPLICATION FILED OCT. 2, 1908.

915,874.

Patented Mar. 23, 1909.



Witnesses  
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# UNITED STATES PATENT OFFICE.

FRANCIS M. MURPHY, OF JERSEY CITY, NEW JERSEY.

## PHONOGRAPH-HORN.

No. 915,874.

Specification of Letters Patent.

Patented March 23, 1909.

Application filed October 2, 1908. Serial No. 455,899.

*To all whom it may concern:*

Be it known that I, FRANCIS M. MURPHY, citizen of the United States, residing at Jersey City, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Phonograph-Horns, of which the following is a specification.

The present invention has for its object to provide an improved form of horn of the sectional type, designed most especially for sound reproducing machines, such as phonographs, although adapted for use where sound is to be amplified.

The invention relates to the means for connecting the sections of the horn, whereby close, firm, substantial and neat joints result, and which joints strengthen, brace and stiffen the horn in the direction of its length, while at the same time admitting of the structure being light and cheap.

For a full understanding of the invention and the merits thereof and also to acquire a knowledge of the details of construction and the means for effecting the result, reference is to be had to the following description and accompanying drawings.

While the invention may be adapted to different forms and conditions by changes in the structure and minor details without departing from the spirit or essential features thereof, still the preferred embodiment is shown in the accompanying drawings, in which:

Figure 1 is a perspective view of a horn embodying the invention and comprising a body portion and a base; Fig. 2 is a longitudinal section of the upper portions of the coupling end portions of the body and base, showing the parts on a larger scale. Fig. 3 is a view of the inner side of the joint formed between adjacent sections; Fig. 4 is a view of the parts illustrated in Fig. 3, as seen from the outer side; Fig. 5 is a section on the line  $x-x$  of Fig. 3; Fig. 6 is a section on the line  $y-y$  of Fig. 3; Fig. 7 is a perspective view of the outer end of an outer rib; and Fig. 8 is a transverse section of a part of the inner end of the body, showing the same on a larger scale. Fig. 9 is a sectional view of a portion of the horn and base showing more clearly the connection between the two and the ring provided with the valve controlled openings. Fig. 10 is a sectional view of a portion of the horn showing more clearly the manner of connecting the suspending loop thereto.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

As indicated most clearly in Fig. 1, the horn comprises a body portion 1 and a base 2, said parts being separable. The body of the horn is provided at its smaller end with a collar 3 to which the base 2 is fitted by a slip joint. The base is provided with an air chamber 4 controlled by means of a valve 5 for moderating the sound, the construction being substantially the same as set forth in Patent No. 880,388, granted to me February 25, 1908. The contracted end of the air chamber 4 communicates with the smaller end of the body 1, the latter having an opening in its upper side and said opening being covered by a hood 6 into which the end of the air chamber 4 extends. The collar 3 is provided with a series of valve controlled openings 7 which admit of softening harsh and unnatural tones.

The body of the horn is composed of sections 8 of pressboard, metal or other suitable sheet material, said sections being of a width, length and outline according to the size, design and finish of the horn when completed. The several sections are arranged with their longitudinal edges abutting and are connected by means which result in a substantial, neat and durable joint. Slits or openings 9 are provided at intervals along the edge portions of the sections 8 to receive the fastening means. Ribs or binding strips are placed upon opposite sides of the joints formed between the several sections, and these ribs are deflected between their longitudinal edges to stiffen the same and to enable the edge portions to fit close against the parts of the sections clamped between them. The ribs or binding strips conform longitudinally to a longitudinal element or section of the horn. The inner rib or strip 10 is approximately of V-form in transverse section to correspond with the obtuse angle formed between adjacent sections. The outer rib or section 11 in addition to having its edge portions deflected to conform to the angle formed between the outer faces of adjacent sections has its middle portion pressed outward in a substantially U-form in cross section, thereby providing a neat finish, as also supplying a rib having staying and stiffening qualities. The outer end of the rib 11 is flat and is bent around the edge of



the horn and over the outer end of the rib 10, as indicated at 12, and is soldered thereto. The inner end of the rib 10 is bent over the inner end of the rib 11, as indicated at 13. 5 The inner end of the rib 11 is flat to enable the confining ring or band 14 fitting close against the contracted end of the horn. Prongs 15 project from the rib 11 and pass 10 around the rib or strip 10, thereby securing the inner and the outer ribs or strips to the end portions of adjacent sections clamped between them. The prongs 15 may be provided in any manner and consist of legs or 15 members of clips or staples 16 soldered or otherwise attached to the rib 11, preferably to the inner side of said rib so as not to interfere with or obstruct the appearance of the rib 11. After the several sections have been 20 connected to complete the horn, the ring or band 14 is fitted to the contracted end of the horn and soldered or otherwise attached to the inner ends of the ribs. A portion of the ring or band 14 projects beyond the con- 25 tracted end of the horn so as to fit about the collar 3, to which it is soldered or otherwise firmly attached. The ring 14 simply provides a finish between the collar 3 and the inner end of the sections 8 and the ribs at the 30 small end of the horn.

The suspending loop 17 generally provided in connection with phonograph horns has its end portions passed through a section of the horn adjacent to contiguous ribs and the 35 inner end portions of the loop are soldered or otherwise attached to the inner ribs, thereby providing a substantial connection between said loop and the body of the horn. The hood 6 closing the opening by means of 40 which the air chamber 4 has connection with the inner end of the horn, is substantially of U-form in transverse section and its edge portions are soldered or otherwise secured to the inner ends of adjacent ribs.

45 In the event of the sections of the horn consisting of light pressboard or similar thin sheet material, the ribs in addition to connecting the sections, provide substantial staying means for stiffening and bracing the 50 horn and maintaining the shape thereof. The rib sections 10 and 11 are formed of strips of metal cut into the required length and deflected between their longitudinal edges into the required shape substantially 55 as herein specified.

Having thus described the invention, what is claimed as new is:

60 1. A horn of the character specified, comprising a body and a base, the two being separable and adapted to make connection by means of a slip joint, the body of the horn having a hooded opening near its inner end and the base having a valve controlled air

chamber to make connection with the hood applied to the horn body. 65

2. A horn of the character specified, provided at its contracted end with a series of valve controlled openings encircling the same.

3. A horn composed of sections, means for connecting said sections, consisting of 70 strips arranged upon opposite sides of the joint formed between adjacent sections, one of said strips having prongs extended therefrom and passed through the sections and bent about the opposite strip. 75

4. A horn, comprising sections, strips placed upon opposite sides of the joints formed between the sections, and clips attached to the outer strips and passed through the sections of the horn and bent about the 80 opposing inner strips.

5. A horn of the character described, composed of sections, inner and outer strips arranged opposite the joints formed between the several sections, said strips being de- 85 flected between their longitudinal edges to conform to the angle formed between adjacent sections, and prongs extended from one of the strips and passed through the sections and bent about the opposite strips. 90

6. A horn of the character specified, composed of sections, inner and outer strips arranged opposite the joints formed between the several sections, the outer strips being 95 deflected between their longitudinal edges and having their middle portions pressed outward into an approximately U-form in cross section, and prongs extended from the outer strips and passed through the sections and bent about the inner strips to secure 100 the several strips and sections together.

7. A horn of the character described, comprising a series of sections, strips placed upon opposite sides of the joints formed between the several sections and having the opposite 105 end extended and bent over the ends of the sections and strips, and prongs projected from one of the strips and passed through the sections of the horn and bent about the other strip. 110

8. A horn of the character specified comprising sections, strips connecting the several sections and forming stiffening ribs, a collar at the small end of the horn having said 115 strips attached thereto, and a band fitted to the small end of the horn and the collar and over-lapping the joint formed between the inner ends of the sections and strips and the collar and secured to the inner ends of the said strips and to the collar. 120

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

FRANCIS M. MURPHY [L. s.]

Witnesses:

WILLIAM J. HOHAKI,  
CHARLES H. HARDING.