

No. 856,001.

PATENTED JUNE 4, 1907.

I. E. STUMP, C. HOLLMAN & G. E. NICHOLAS.

AUTOMOBILE HORN.

APPLICATION FILED SEPT. 18, 1906.

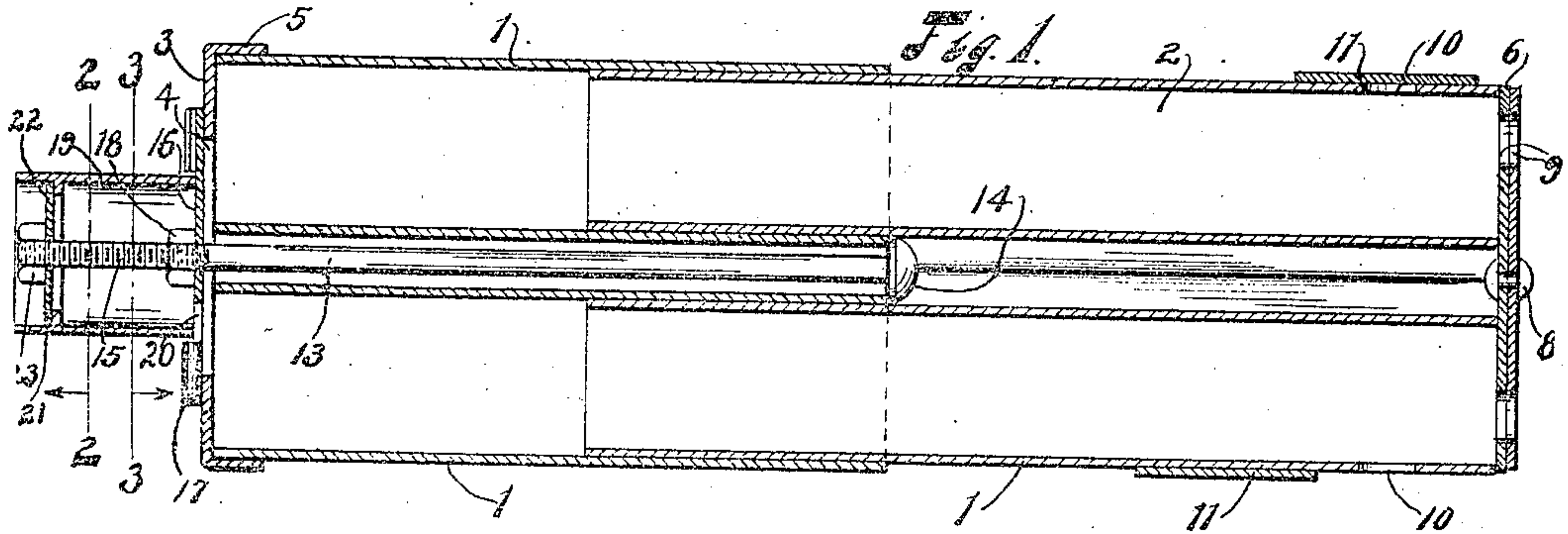


Fig. 2.

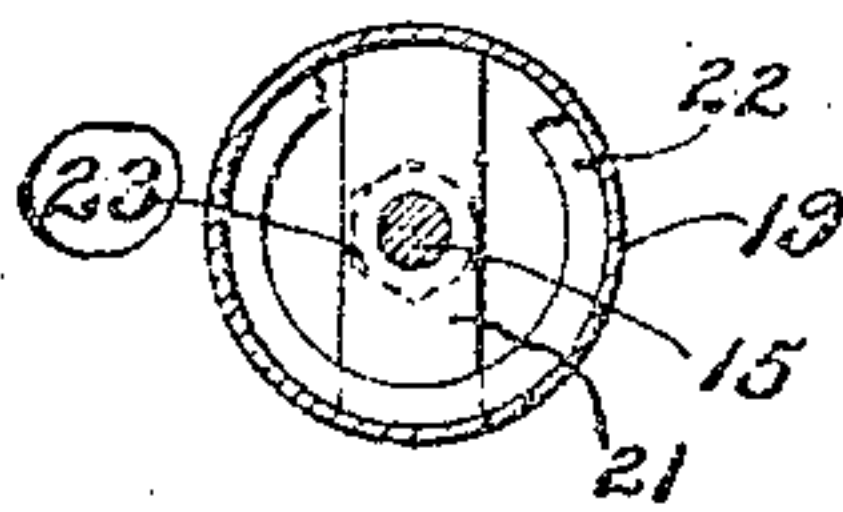


Fig. 3.

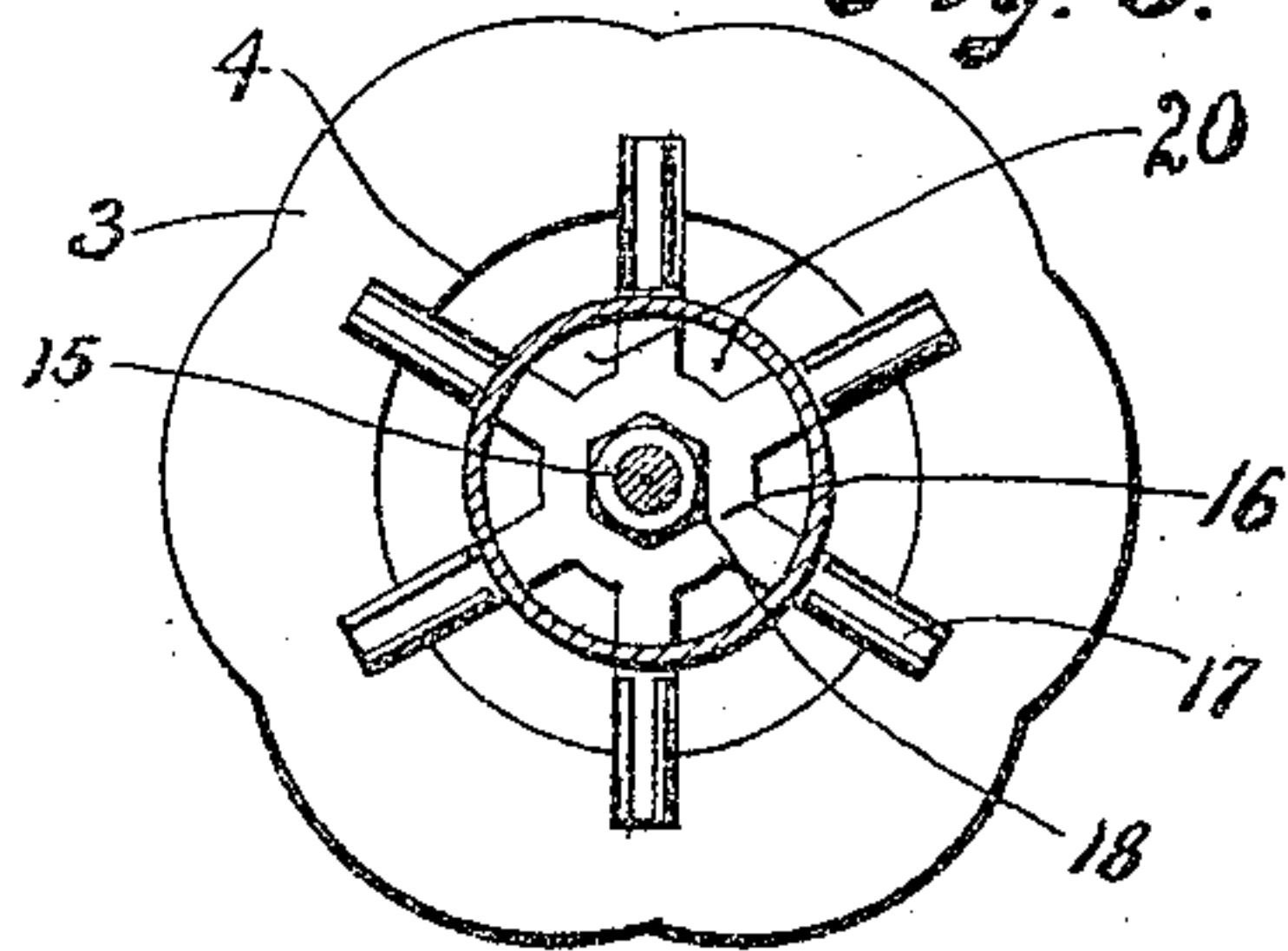


Fig. 4.

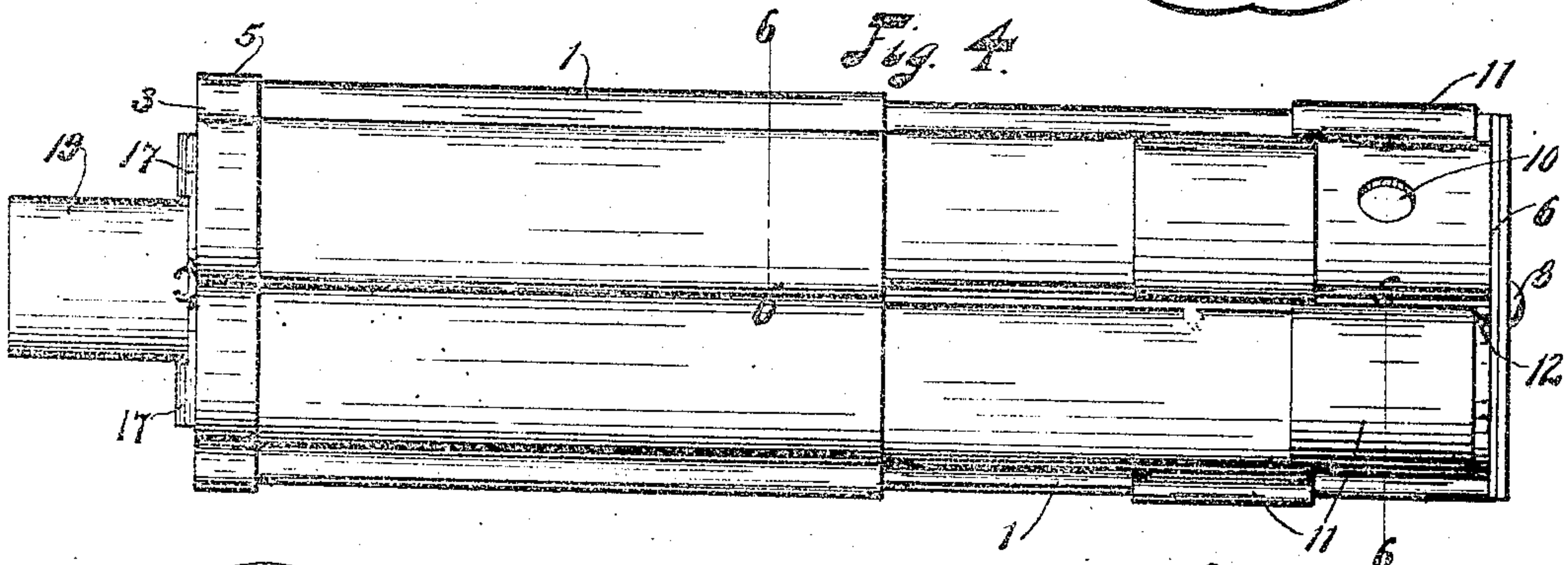


Fig. 5.

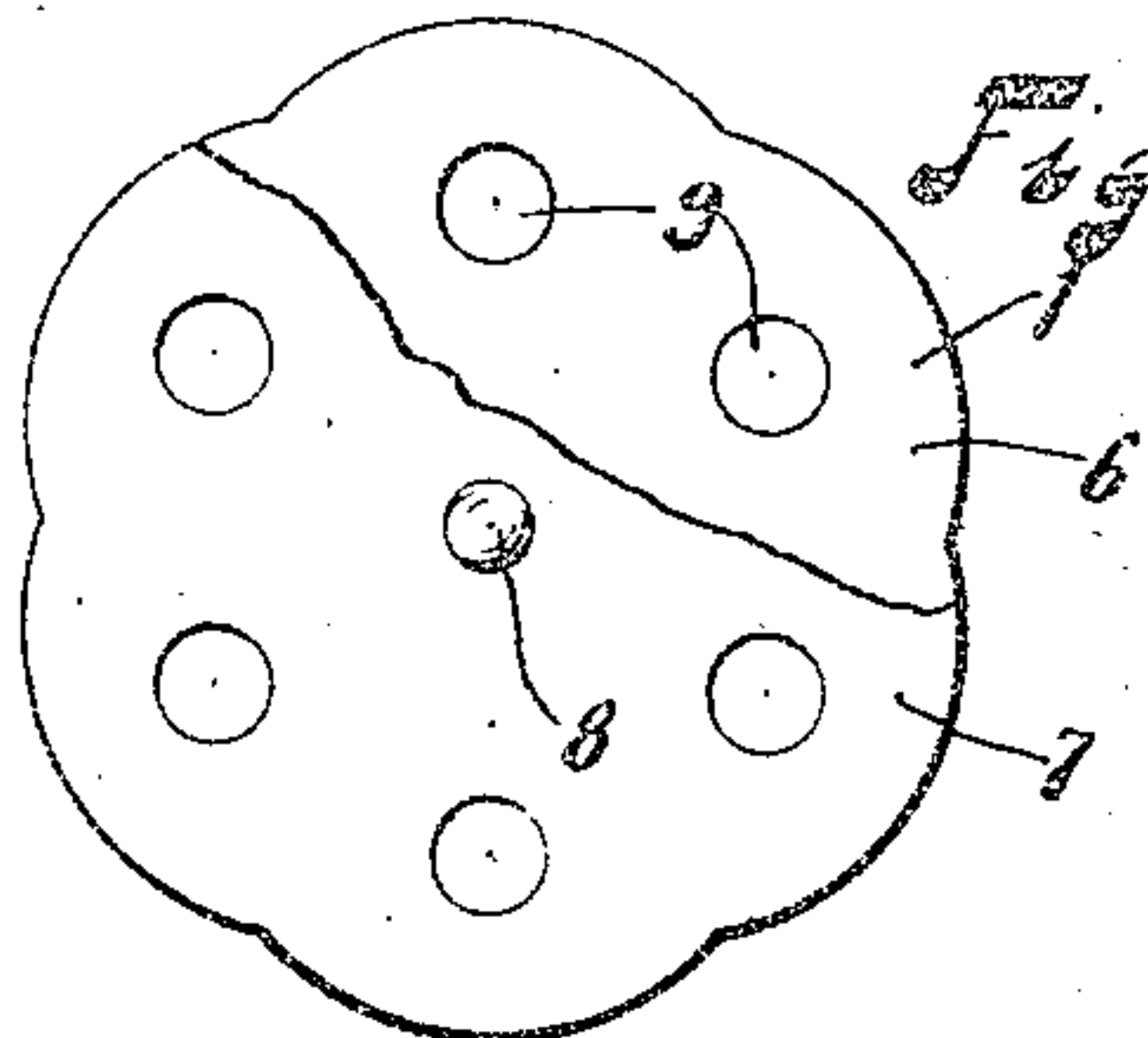
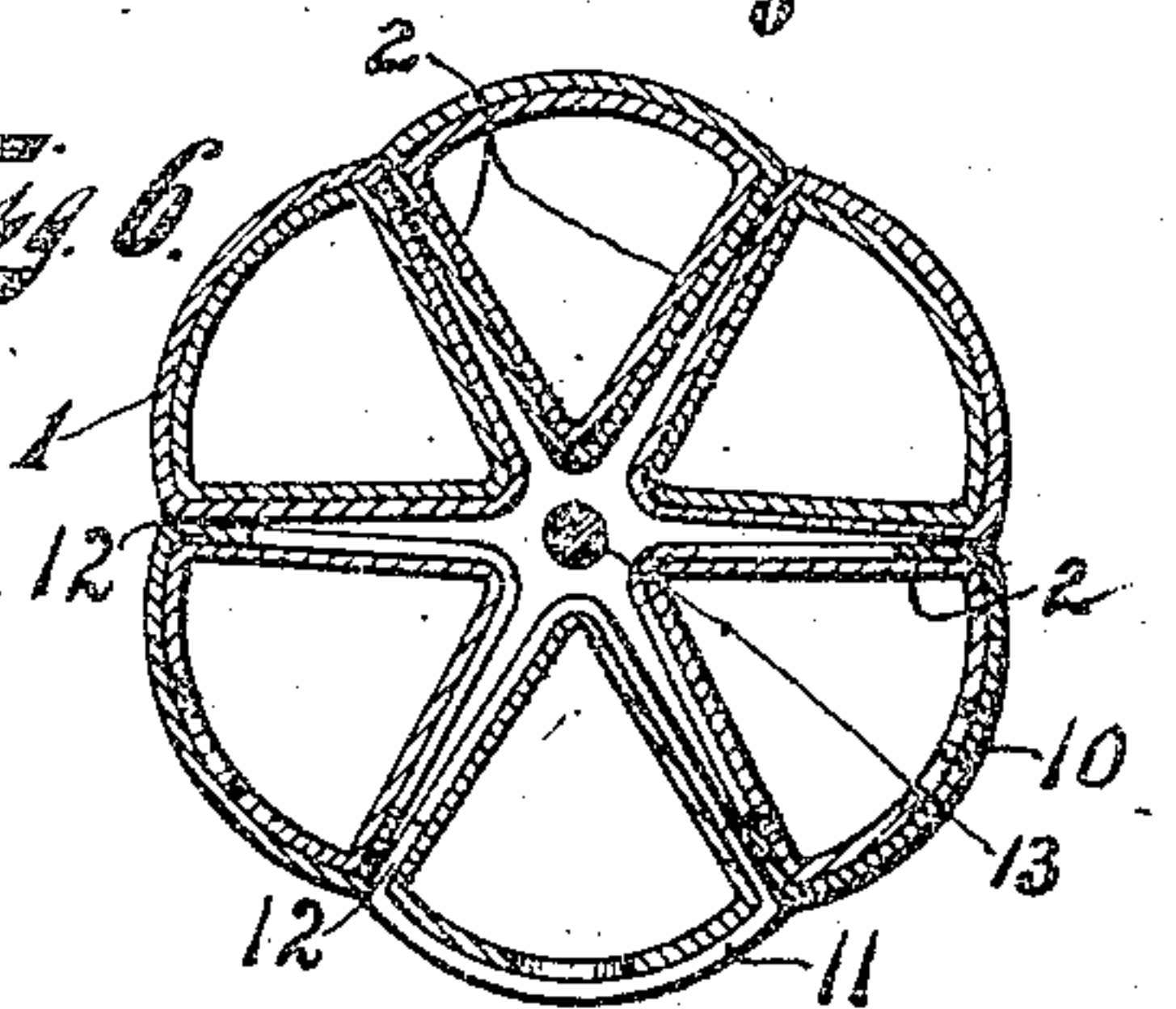


Fig. 6.



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UNITED STATES PATENT OFFICE.

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AUTOMOBILE-HORN.

No. 856,001.

Specification of Letters Patent.

Patented June 4, 1907.

Application filed September 18, 1906. Serial No. 335,107.

To all whom it may concern:

Be it known that we, IRA E. STUMP, CHARLES HOLLMAN, and GEORGE E. NICHOLAS, citizens of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Automobile-Horns, of which the following is a specification.

Our invention relates to improvements in automobile-horns designed to be blown either by the exhaust steam or gases from the motor passing through a suitable tubing connected thereto or by air contained in an ordinary air-compression-bulb similarly connected thereto.

The paramount object of the invention is to produce a generally-improved horn of this class adapted to produce any desired pitch or quality of tone by manipulation of the various parts comprised in the same and adapted to produce a proper speech, blending and character of tone.

With these ends in view, the invention consists in the novel construction, arrangement and combination of parts, hereinafter described, illustrated in the accompanying drawings, and particularly pointed out in the appended claims.

Referring to the drawings, forming a part of this specification, Figure 1, is a longitudinal sectional view of an improved horn constructed in accordance with this invention. Fig. 2, a cross sectional view of the receiving or inlet tube taken on line 2,—2, of Fig. 1. Fig. 3, a similar view taken through line 3,—3. Fig. 4, a plan view of the improved horn. Fig. 5, a front end view of the same a portion of one of the end disks being broken away for the purpose of clearer illustration of the parts. Fig. 6, a cross sectional view taken through line 6,—6, of Fig. 4.

Similar characters of references designate like parts throughout all the figures of the drawings.

The main body portion of the horn comprises a series of tubes 1, the sides 2, thereof being substantially V-shaped, in cross-section, and the faces thereof, which make up or form the perimeter of the body portion, being convex-faced as shown.

The tubes 1, are preferably formed or pressed into the form shown from round tubes, and the open ends of the same take into and over each other forming "telescop-

ing tubes," the rear set of tubes being provided with a head or disk-plate 3, having a central opening 4, and a flange 5, taking over the edges of the tubes, and secured thereto in any suitable and convenient manner but, preferably, by soldering or brazing.

The front set of tubes is provided with a head-plate 6, having the contour of its outer periphery conforming to and flush with the convex-faces of the tubes 1, and is secured to the ends thereof in any suitable manner, but, preferably, by soldering or brazing. A second or companion plate 7, is revolvably-secured to the plate 6, by means of a rivet or pivot-pin 8. The plates 6, and 7, are provided, near their outer peripheries, with a series of vent-openings 9, adapted to register with each other when the plate 7, is revolved, whereby a change in the pitch or tone produced by the horn is effected.

It will also be observed that the front set of tubes 1, are provided with vent-openings 10, near the front ends thereof, and carry a series of slidably-mounted valve-plates 11, adapted to open or close the openings 10, and provided with securing-flanges 12, taking over the sides 2, and into the recesses 3, provided between said sides of the front tubes. The rear set or series of tubes 1 are supported and secured together along their inner or angled edges by means of a central longitudinally-extending rod or bolt 13, the head 14, of which takes over the inner ends of the tubes 1, and said bolt 13, is provided with a rear threaded portion 15, carrying a head or disk-plate 16, abutting against the head-plate 3, and provided with a series of radially-extending deflector-arms 17, registering with the ends of the sides 2, of the rear set of tubes. The disk-plate 16, is held in position by means of a nut 18, and, the arms 17, preferably, extend beyond the inner periphery or lip-edge of the plate 3.

The inlet or receiving-tube or pipe 19, abuts or impinges against the radially-extending arms 17, having inlet-openings 20, at the inner end of the tube or pipe 19, and between the base portions of the arms 17, and said inlet-tube 19, is secured and held in proper position by means of a cross-bar 21, taking over the threaded portion 15, of the bolt 13, and having its ends engaging an annular inwardly-extending flange or beading 22, of the tube 19, and a nut 23, secured to

the end of the bolt 13, and engaging said cross-bar 21. The side edges of the portions of the radially-extending deflector-arms which extend beyond the inlet-tube 19, are, preferably, bent or beaded rearwardly from the plate 3, as a means for more effectively directing the current against the lip of the plate 3.

By moving the front set of tubes inwardly and outwardly and opening or closing the various vent-openings 9, and 10, the pitch and quality of the tone produced of the horn may be varied as desired.

The horn may be attached to the body or other suitable part of the automobile, within ready reach of the chauffeur, in any suitable and convenient manner, as by a metallic strap or band (not shown), surrounding the rear tubes of the body of the horn and secured as desired.

From the foregoing description, taken in connection with the accompanying drawings, the operation and advantages of our invention will be readily understood.

Having thus described our invention, without having attempted to set forth all the forms in which it may be made, or all the modes of its use, we declare that what we claim and desire to secure by Letters Patent, is,—

1. A horn, comprising two sets of telescoping tubes, one set being provided with a head-plate having a central opening, a second head-plate concentrically-mounted and provided with a series of radially-extending deflector-arms abutting against said first mentioned head-plate, and a receiving-tube mounted and abutting against said deflector arms, and the other set being provided with two concentric end plates provided with a series of vent-openings adapted to register with each other.

2. A horn, consisting of a main body portion comprising a series of telescoping tubes forming separate compartment, a head-plate provided with an opening communicating with said compartments, a series of radially-extending deflector-arms mounted against said head-plate and providing a series of inlet-openings, and a receiving-tube mounted against said deflector-arms.

3. A horn, comprising a series of telescoping tubes having substantially V-shaped sides and convex-faces and arranged in sets, a head-plate secured to one of said sets and provided with an opening communicating with all of said tubes, a second plate concentrically-mounted and provided with deflector-arms abutting against said head-plate and extending across said opening, and an inlet-tube mounted against said deflector-arms.

4. In a horn, a main body portion made up of a series of longitudinally-extending telescoping tubes having substantially V-shaped

inwardly-extending side walls and convex-faces.

5. In a horn, the combination with a set of longitudinally-extending tubes forming separate compartments, and a second set of longitudinally-extending tubes telescoping therein and provided with closed outer ends and vent-openings and valves; of a head-plate secured to said first mentioned set of tubes and having a central opening communicating with said compartments, a second plate provided with radially-extending arms mounted against said head-plate, and an inlet-tube concentrically-mounted against said second plate and provided with inlet-openings between said radially-extending arms.

6. A horn, comprising a series of front and rear telescoping tubes forming compartments, a head-plate secured to said rear telescoping tubes and provided with an opening communicating with said compartments, a central bolt secured to said rear tubes along the angled edges thereof and provided with a rear threaded portion carrying a disk-plate abutting against said head-plate and provided with radially-extending deflector-arms registering with the ends of the sides of said rear tubes, and an inlet-pipe impinging against said deflector-arms and secured in position by a cross-arm taking over said threaded portion of said bolt.

7. A horn, comprising front and rear telescoping tubes forming separate compartments, a head-plate secured to said rear telescoping tubes and provided with an opening communicating with said compartments, a central bolt secured to said rear tubes and carrying a disk-plate abutting against said head-plate and provided with deflector-arms extending over the opening of said head-plate, and an inlet-pipe impinging against said deflector-arms and secured in position by said bolt.

8. A horn, comprising a set of tubes normally closed at one end and provided with vent-openings and valves for closing said openings, a second set of tubes taking over the open ends of said first mentioned set of tubes, a head-plate secured to said second set of tubes and provided with an opening communicating with all of said tubes, a second plate provided with deflector-arms abutting against said head-plate, and an inlet-pipe abutting against said deflector-arms and communicating with said opening of said head-plate.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

IRA E. STUMP.

CHARLES HOLLMAN.

GEORGE E. NICHOLAS.

Witnesses:

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