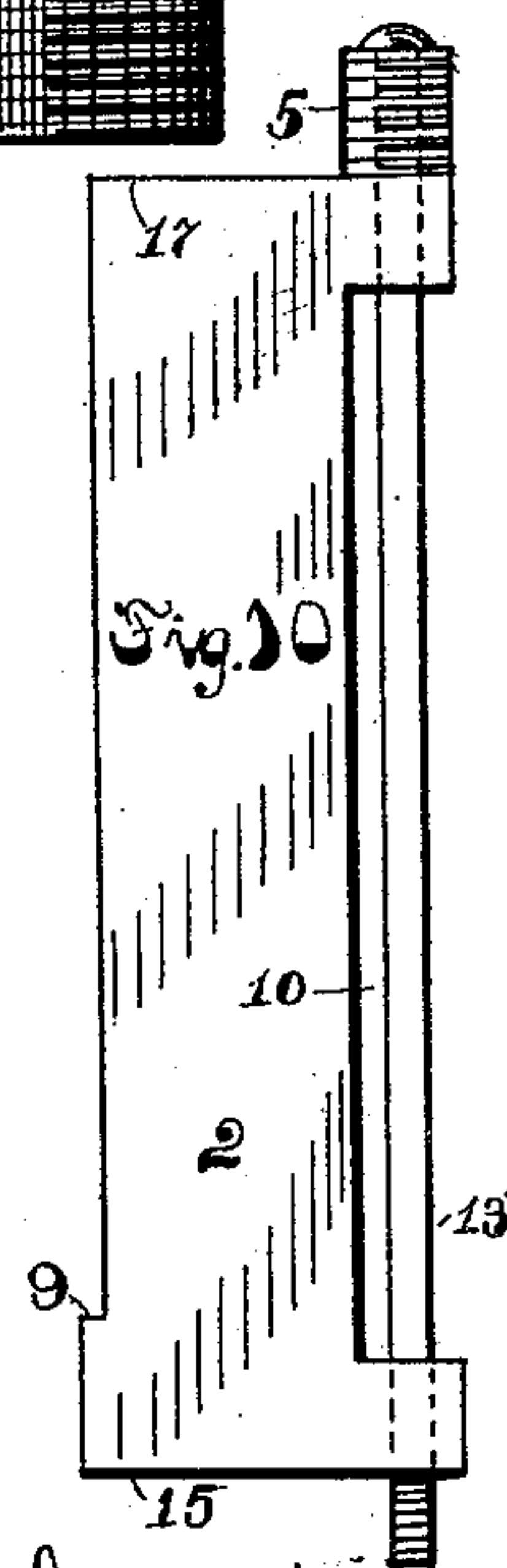
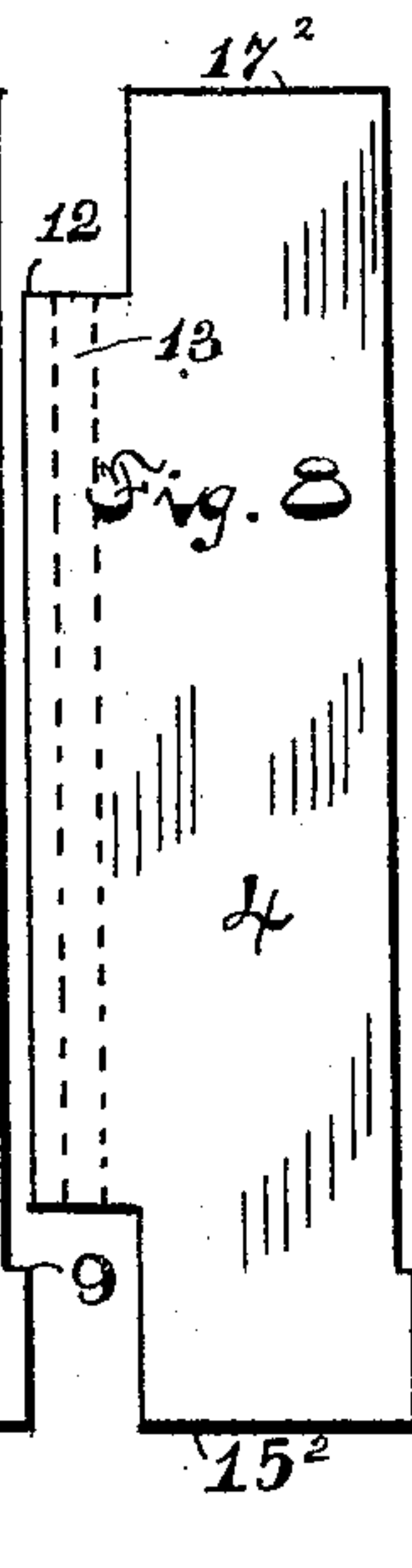
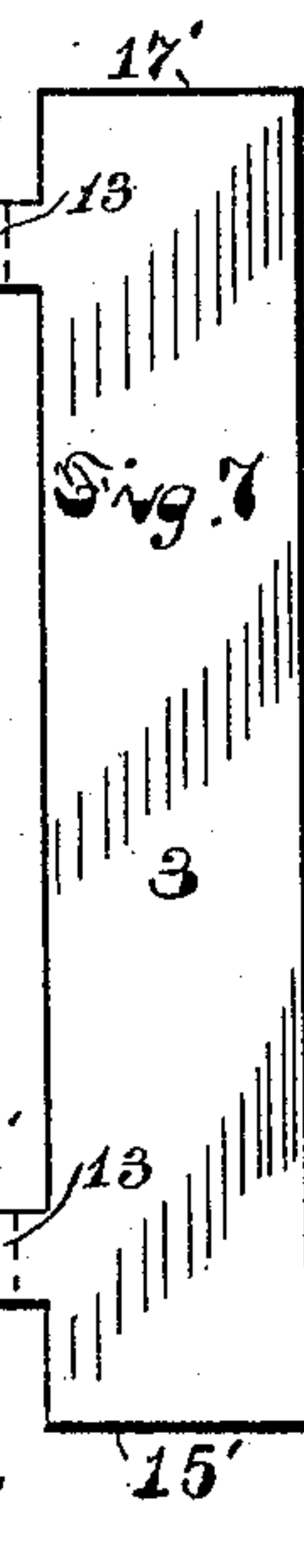
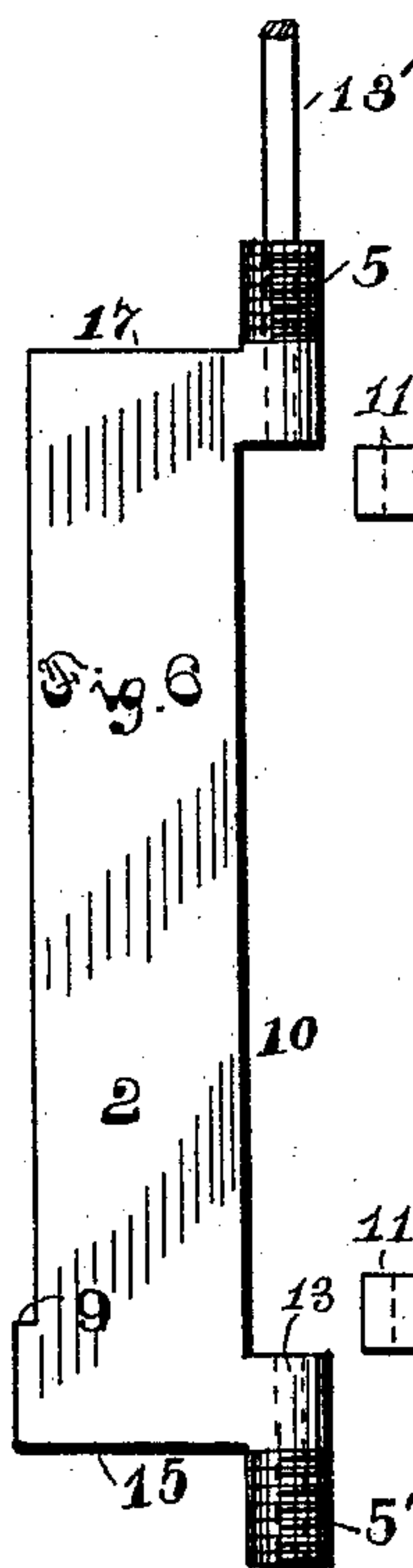
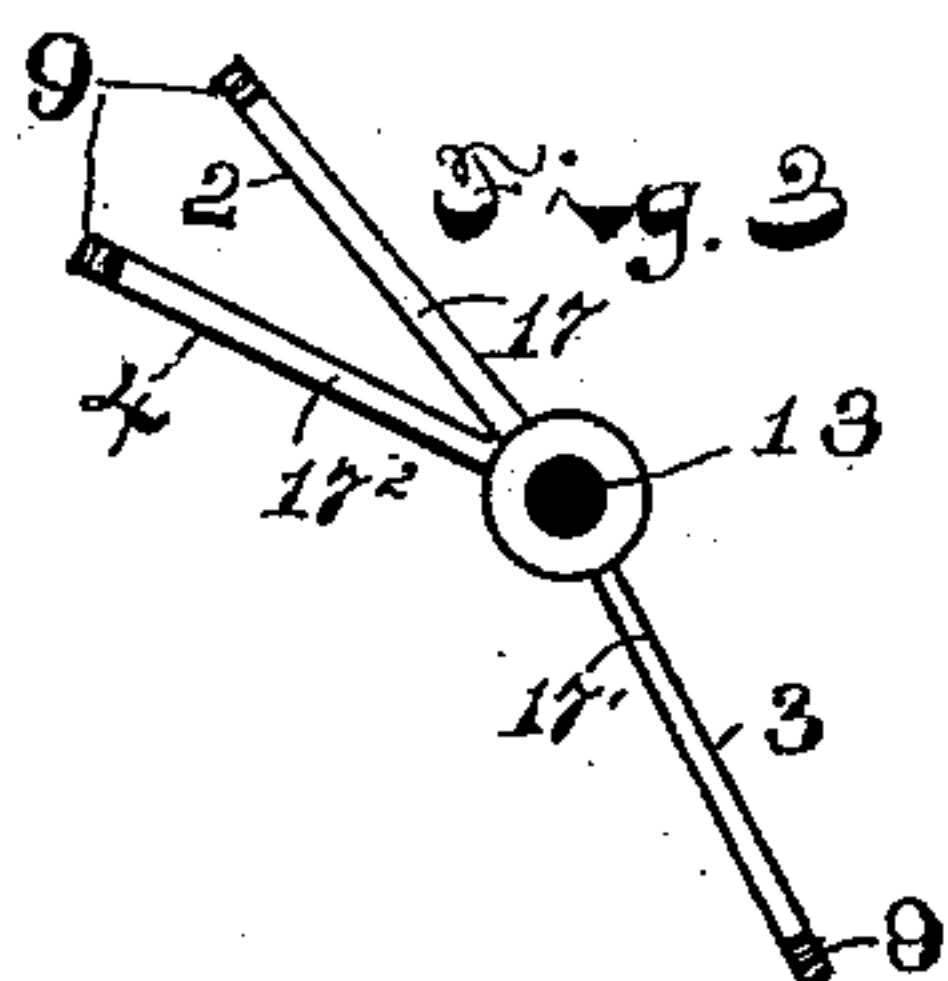
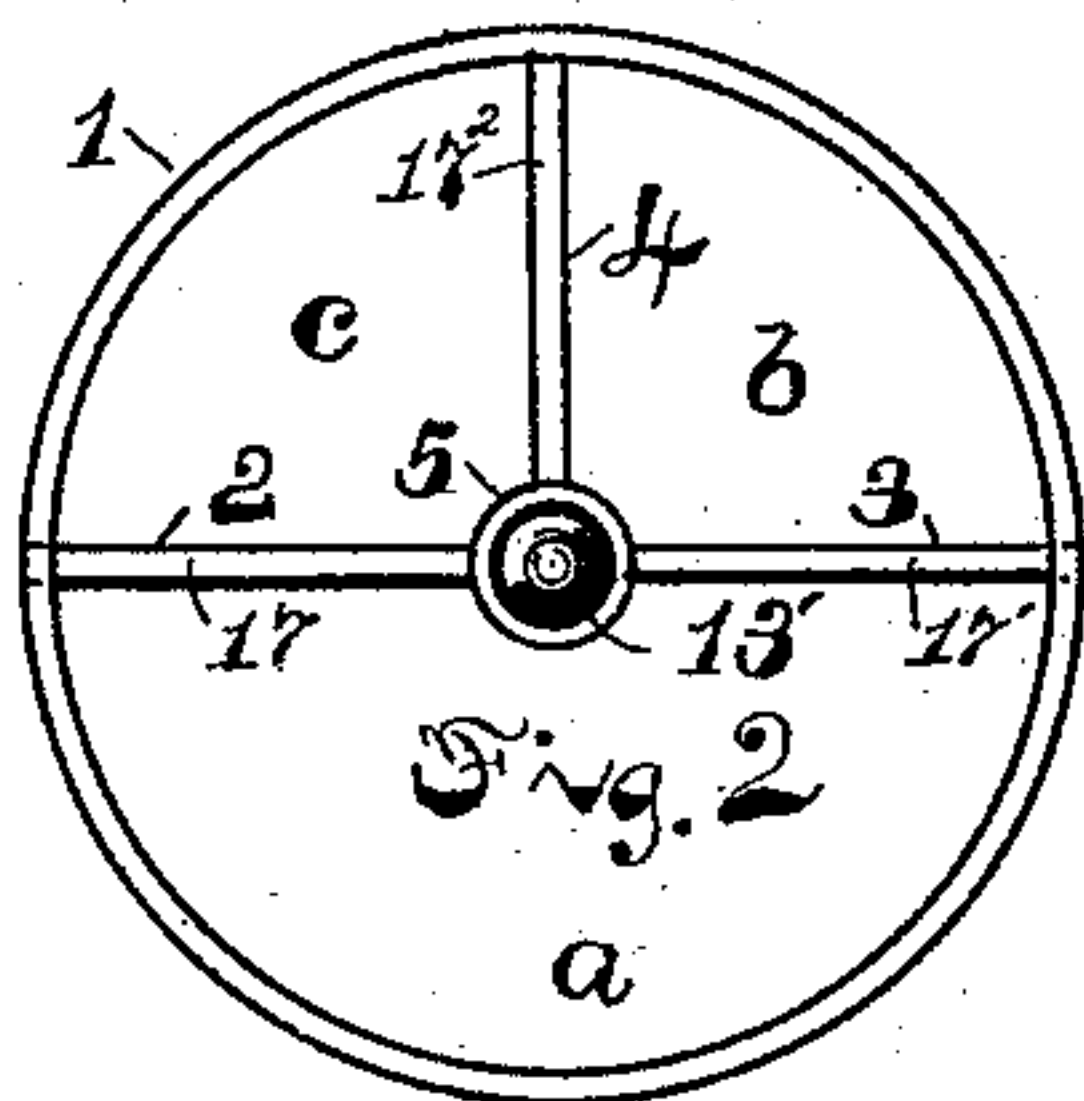
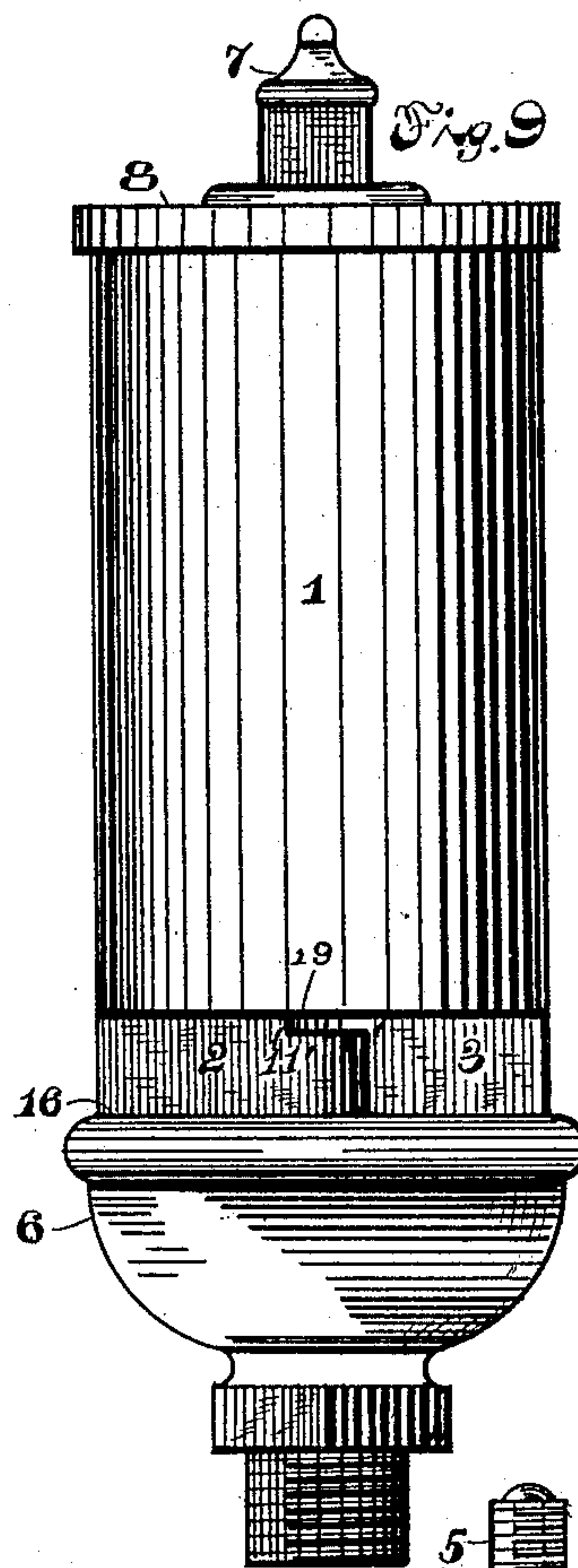
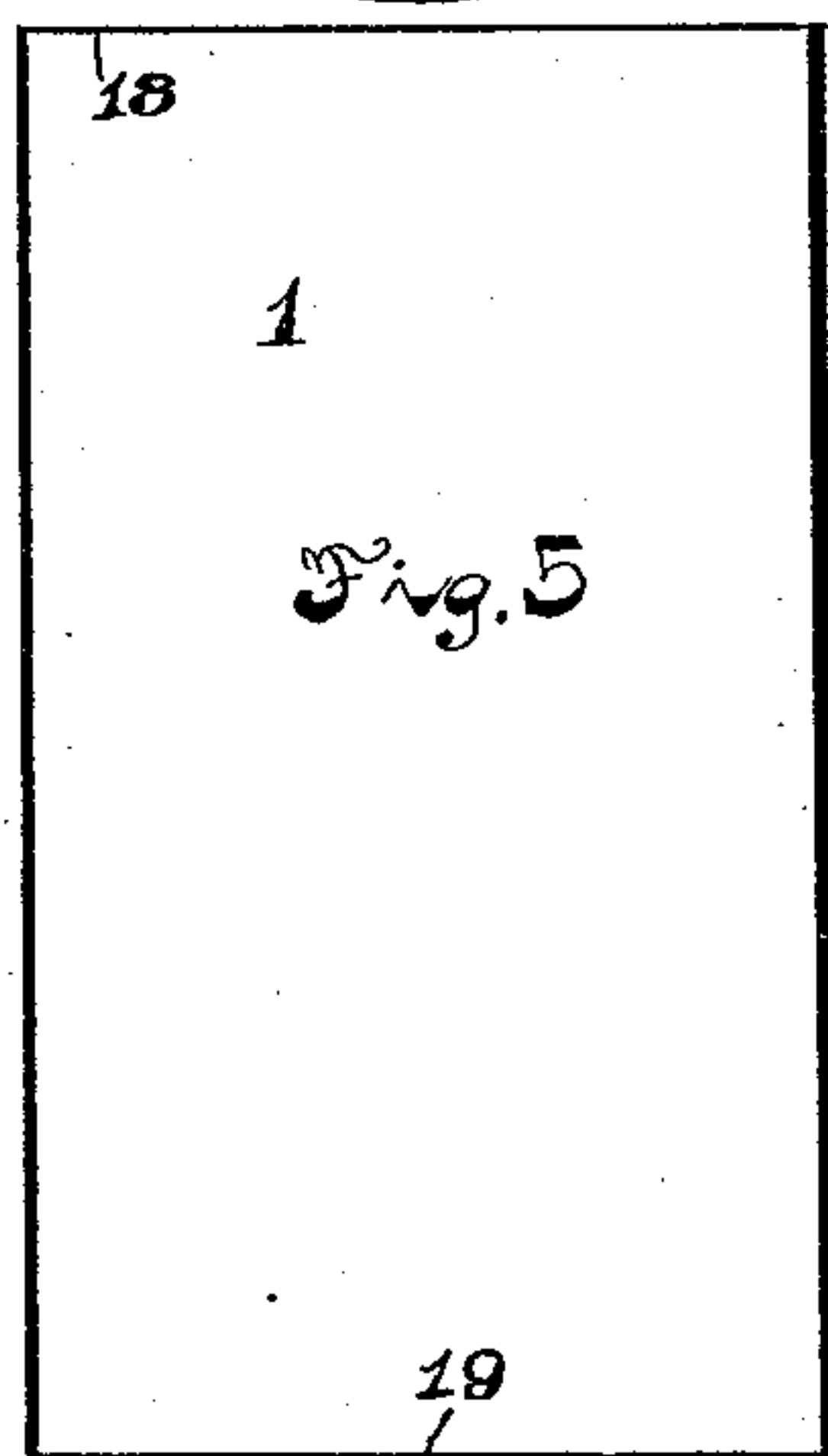
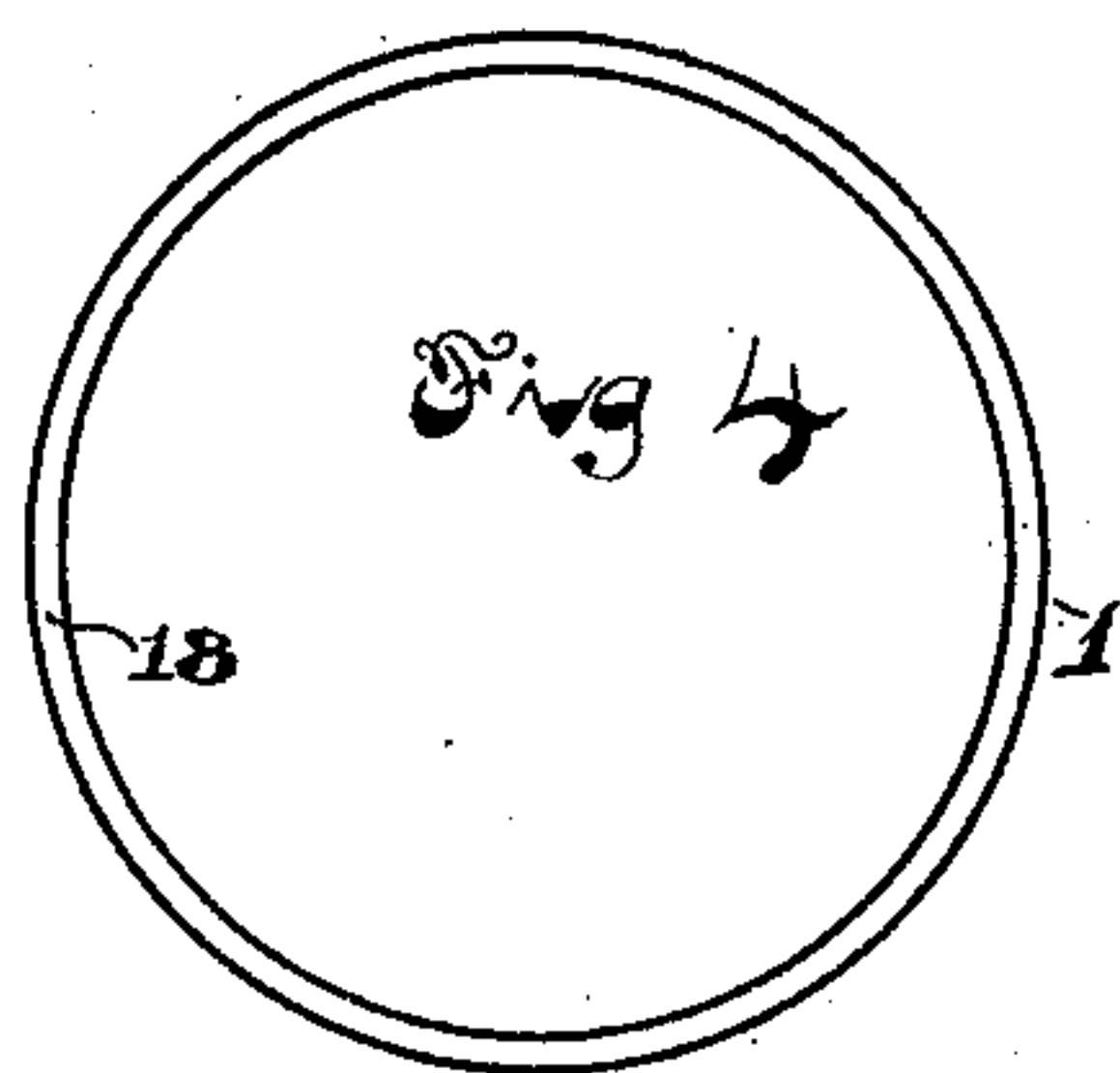
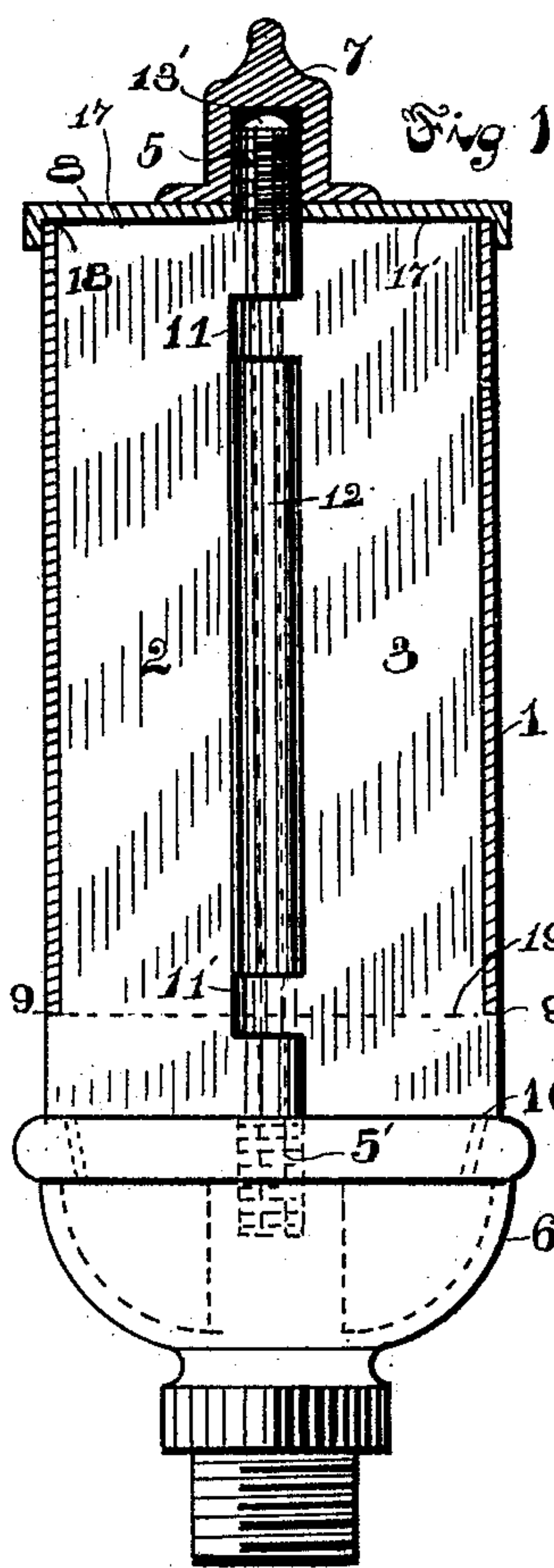


(No Model.)

H. R. FRISBIE.
CHIME WHISTLE.

No. 466,404.

Patented Jan. 5, 1892.



Witnesses:
Wm. D. Perkins
J. T. Tanner

Inventor:
Henry R. Frisbie
By *Attorney, Geo. Phillips*

UNITED STATES PATENT OFFICE.

HENRY R. FRISBIE, OF BRIDGEPORT, CONNECTICUT, ASSIGNOR OF ONE-HALF
TO FRANK KINSLEY, OF SAME PLACE.

CHIME-WHISTLE.

SPECIFICATION forming part of Letters Patent No. 466,404, dated January 5, 1892.

Application filed September 29, 1891. Serial No. 407,139. (No model.)

To all whom it may concern:

Be it known that I, HENRY R. FRISBIE, a citizen of the United States, and a resident of Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Chime-Whistles, of which the following is a specification.

My invention relates to chime-whistles, and of that class wherein the bell is divided into longitudinal compartments, so as to produce a variety of tones from a single bell, its object being to cheapen and otherwise improve the general construction of the whistle.

Prior to my invention the longitudinal divisions or webs and also the bell were cast in one piece; and these divisions were made of different lengths to vary the tone. In my former application, filed September 5, Serial No. 404,904, the webs were all made of the same length; but they were placed at unequal distances apart, so as to make unequal-sized compartments, whose sounding-edges were situated at different heights from the steam-bowl, so as to give the different tones required; but it is found to be very expensive and almost an impossible undertaking to establish the different tones so as to preserve anything like uniformity even in whistles of the same size and cast from the same pattern. This is due in a measure to the unavoidable difference in the quality of the metal and the amount of stock removed in finishing. Besides, the maker, after a long series of expensive experimental tests in order to produce what to him would be the proper chord and tone, finds that the purchaser is not satisfied, but has peculiar ideas of his own as to what the tone should be, and this is by no means a foolish whim, as it is objectionable to have all the whistles of a manufacturing center of one tone.

My improvement consists in making the webs which form the divisions of the different compartments separate from the bell and also to make these divisions adjustable, so that they may be instantaneously placed in any position, and the tone thus varied to suit each individual requirement. Further, instead of a cast bell, I employ seamless drawn-metal tubing, which enables thinner material

to be used, thereby producing a clearer tone, the inside of the bell being already finished from the drawing process, which could not be done with the webs and bell cast in one piece.

Another advantage of the metal tubing lies in the fact that the outer surface of the bell does not require to be turned off, but simply polished to give the required finish.

To enable others to understand and use my said invention reference is had to the accompanying drawings, and to the figures and letters of reference marked thereon, which, together with the following specification, explain my device.

Figure 1 represents a vertical longitudinal section of the bell, its retaining-cap and nut, and elevation of the webs and steam-bowl. Fig. 2 is a plan view of the bell and dividing webs or partitions; Fig. 3, a plan view of the webs; Fig. 4, a plan view of the bell; Fig. 5, front elevation of the bell; Figs. 6, 7, and 8, detail views of the different sections of the web; Fig. 9, an elevation of the completed whistle, showing the same assembled and mounted on the steam-bowl. Fig. 10 is a modified construction of one of the webs or partitions.

Its construction and operation are as follows:

1 represents the bell, 2 3 4 the webs, and 5 5' threaded ends of one of the web-sections, one of which ends is screwed into the bowl 6, the other to receive the nut 7.

8 is the cap for holding the bell and webs in place, and 9 projections on the outer edge of each of the webs to support the bell thereon.

The web 2 is provided with the long recess 10 (see Fig. 6) to receive the short projections 11 11' of the web 3, and between which projections is also inserted the long projection 12 of the web 4, holes 13 (see Fig. 3) having previously been formed through these projections and the threaded ends 5 5' of web 2, when the whole are assembled and held together by means of the pin 13', as shown in Fig. 1. The webs 3 and 4 will turn freely on said pin, while web 2 is held stationary by means of its threaded end connections 5 5' with bowl 6 and nut 7.

The lower ends 15 15' 15² (see Figs. 6, 7, and

8) of the several webs will rest on the upper surface 16 of bowl 6, while the cap 8 is supported on the top ends 17 17' 17² of said webs, and also the top edge 18 of bell 1. The lower edge 19 of said bell will be supported on the projections 9 of the several webs, and the whole held firmly in place by means of the cap 8 and nut 7.

The different parts of the whistle are each constructed with the proper tools and assembled together, as shown in Figs. 1 and 9, and placed upon the proper apparatus for testing and setting the webs for the required tones, which can be done by moving either of the webs 3 or 4 on their central hinge, making the compartments *a*, *b*, or *c* (as seen at Figs. 2 and 3) of any desired size to give the proper tone required.

Any purchaser of a whistle may, if he so desires, alter its tone by simply loosening the nut 7 and turning either of the two movable webs on their axis, and by so doing produce any desired tone.

The bell is simply a section of a drawn-metal tube, and is thereby stronger and more durable and not so liable to fracture as one made of cast metal. Besides, if accidentally bruised or dented, either in transportation or otherwise, the old bell can, at a trifling cost, be replaced by a new one. The webs I prefer to make of cast metal, although sheet metal can be used.

It will be seen from the foregoing description the many advantages that must be derived from my improved construction. First, it is constructed at a comparative small cost. In the old construction, wherein the webs were made a part of the bell, expensive patterns were necessary in order to core out the different compartments, while in my construction nothing of that description is needed. Besides, the expensive tests necessary to establish the exact size of the chambers is also avoided; also, the use of drawn-metal tubing for the bell, whose interior is finished, which adds greatly to the tone, which the rough interior of a cast bell would impair.

Three compartments only are shown; but it is understood that any number can be used.

I do not wish to be confined to the exact method employed for joining the several webs together, nor to the exact means for supporting the bell of the exterior of the several webs or partitions. As shown, one of the webs remain stationary, while the other two are adjustable about the axis of the bell. If necessary, all of them could be made adjustable, as shown in Fig. 10, where the threaded end 5 of the web 2 is dispensed with and the lower end of the pin 13' is threaded. This

construction will enable all of the webs to be turned about a common axis.

The gist of my invention consists in the adjustable feature of the webs or partitions and the facility with which the size of any one of the compartments is reduced or enlarged; also, the use of a piece of drawn-metal tubing for the bell.

It is new, so far as known, in a single-bell chime-whistle, to make the dividing partitions and bell separate. The advantage of this feature both in cheapness of construction and improved tone is very apparent, as hereinbefore fully set forth. Therefore I do not wish in employing this feature of construction to be confined in its use to a series of movable or adjustable webs, but if necessary to employ it on stationary partitions or webs as well.

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

1. In a chime-whistle, the combination, with a bell, of two or more adjustable webs or partitions extending longitudinally within the same, so that by means of this adjustable feature of the webs or partitions the interior of the bell can readily be divided into different-sized compartments, as set forth.

2. The combination, in a chime-whistle, of a steam-bowl or other suitable support, a series of webs or wings supported thereon and radiating outward from a common center, a metal shell to form the bell, placed over said webs or wings inclosing the same, so that the interior of the shell is thereby divided into longitudinal compartments and such compartments enlarged or reduced in size by means of the radially-adjustable feature of the webs or wings, and means, substantially as shown, to secure them in any position required, as set forth.

3. The combination, in a chime-whistle, of the bowl 6, the webs or wings supported thereon, substantially as shown, and radiating from a common center, about which they may be rotated, and the metal tube 1, forming the bell portion, mounted and supported on said webs, cap, and nut 7 for securing the whole in place and the webs or wings in any position required within the bell, all arranged and combined substantially as shown and described.

Signed at Bridgeport, in the county of Fairfield and State of Connecticut, this 22d day of September, A. D. 1891.

HENRY R. FRISBIE.

Witnesses:

GEO. D. PHILLIPS,
SIGMUND DORMITZER.