

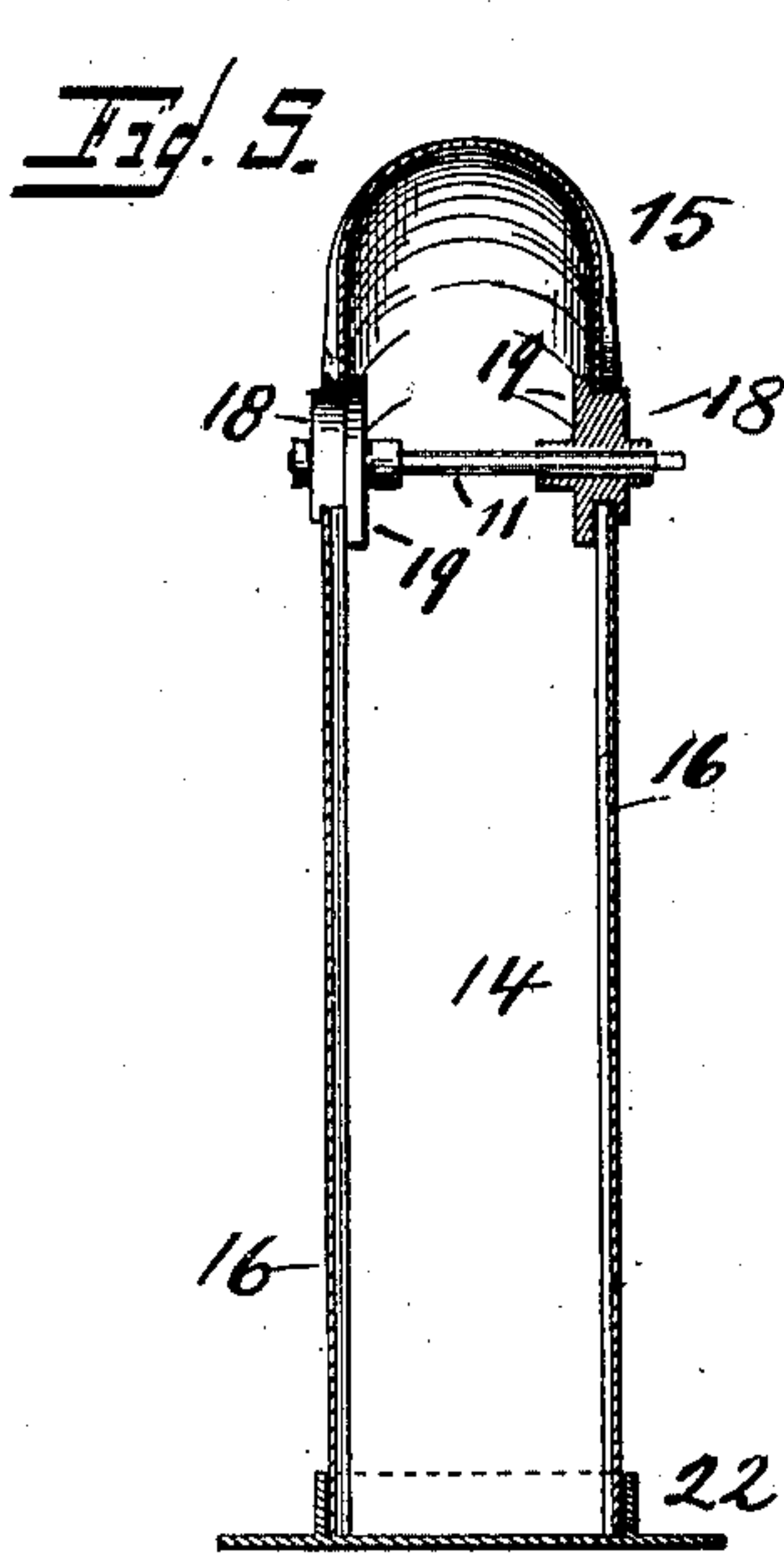
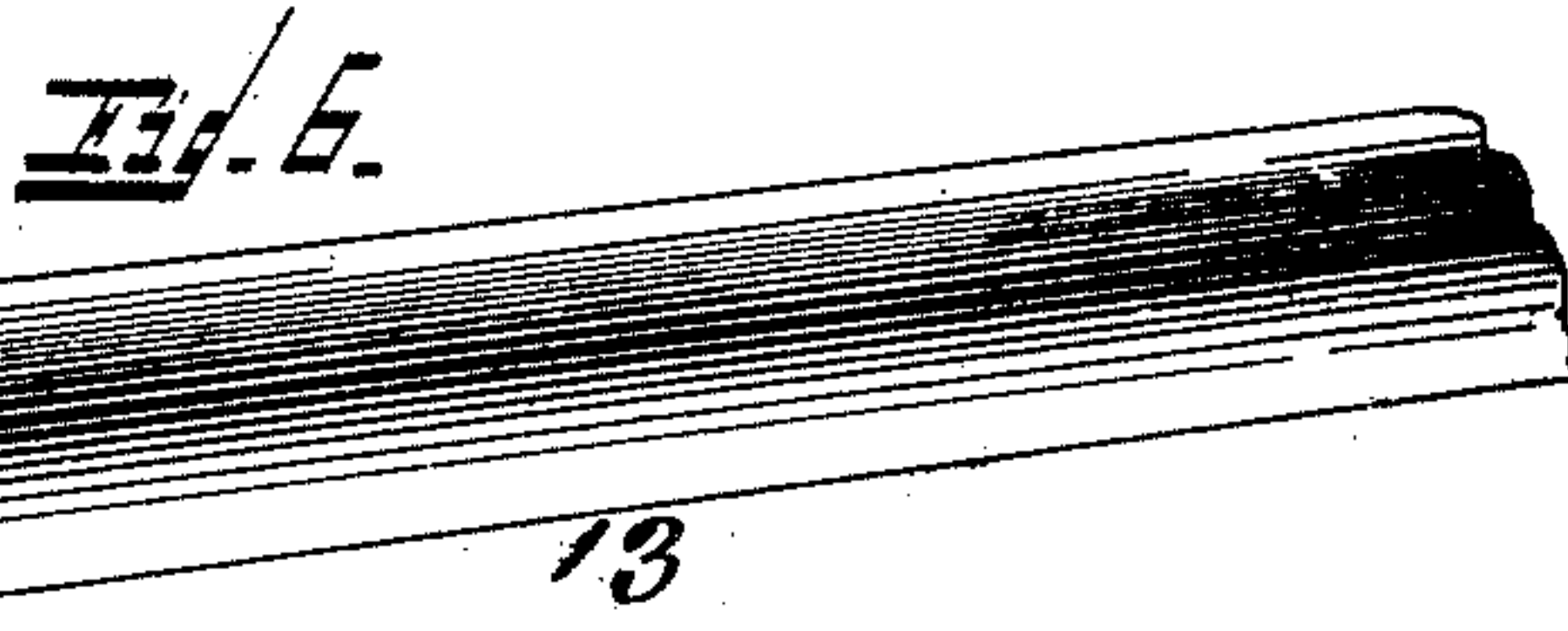
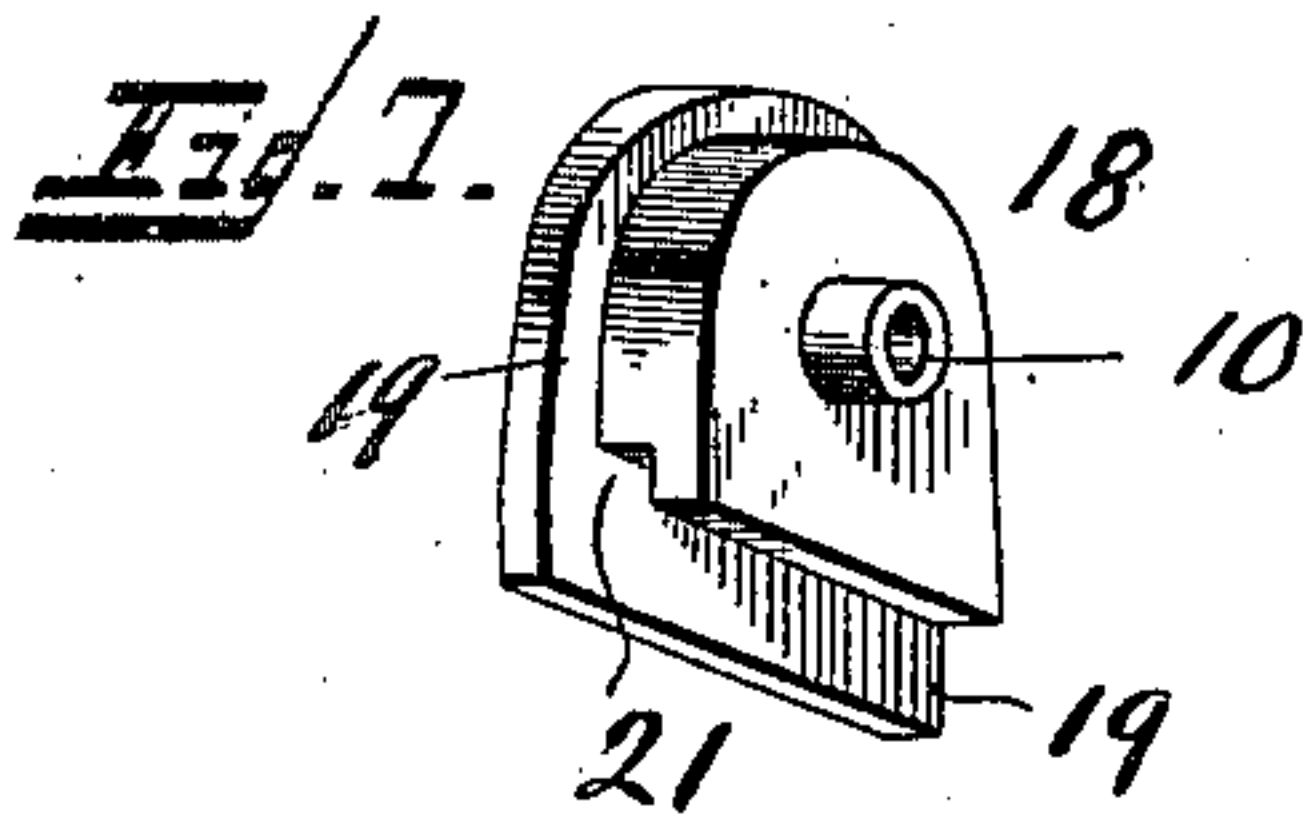
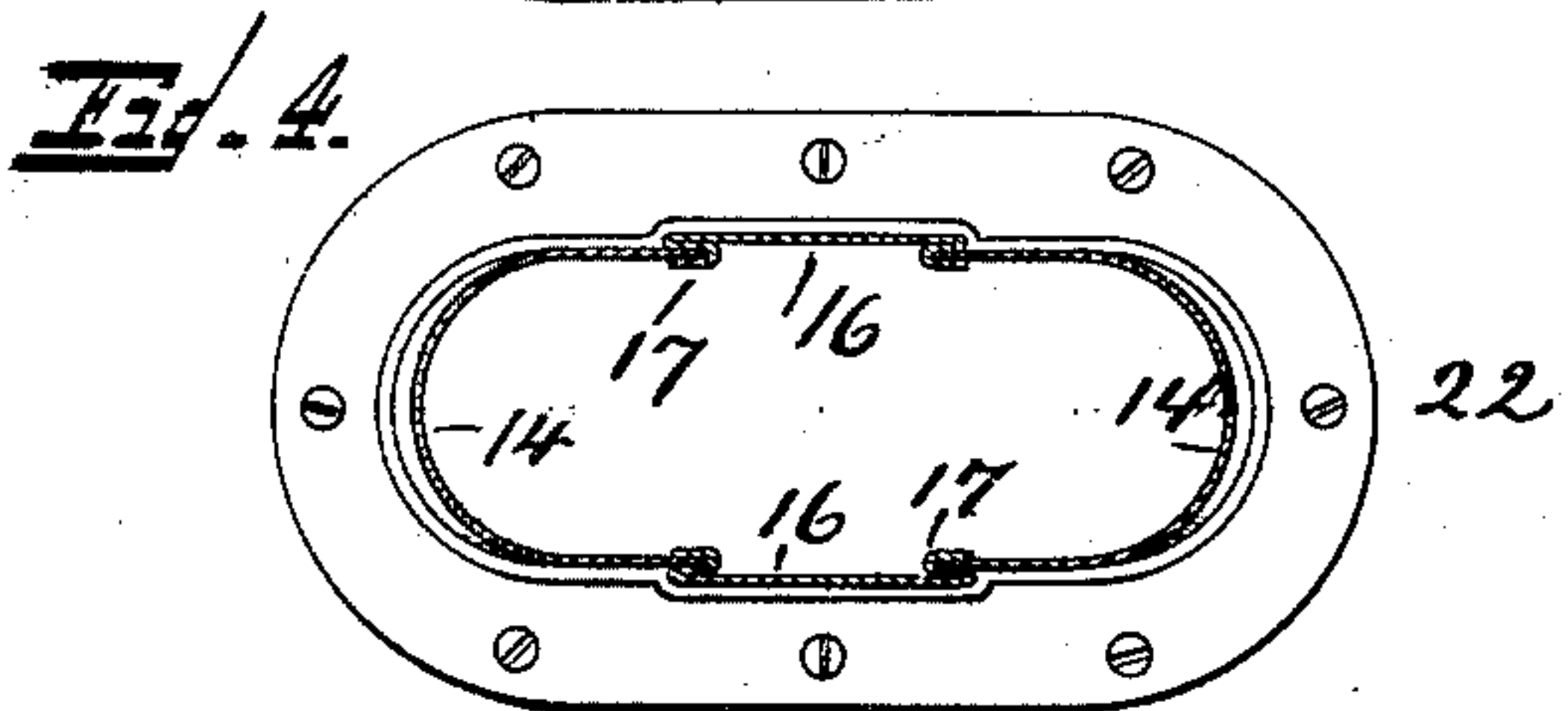
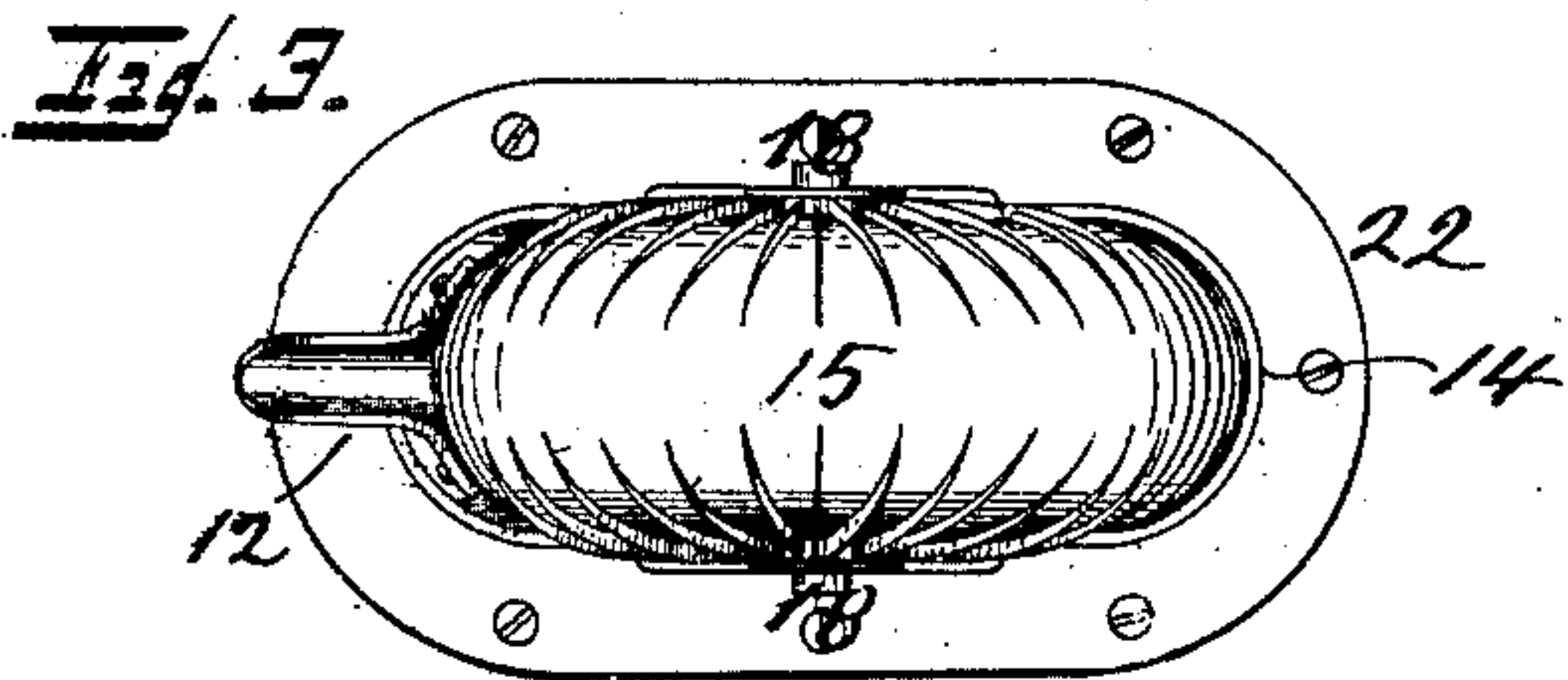
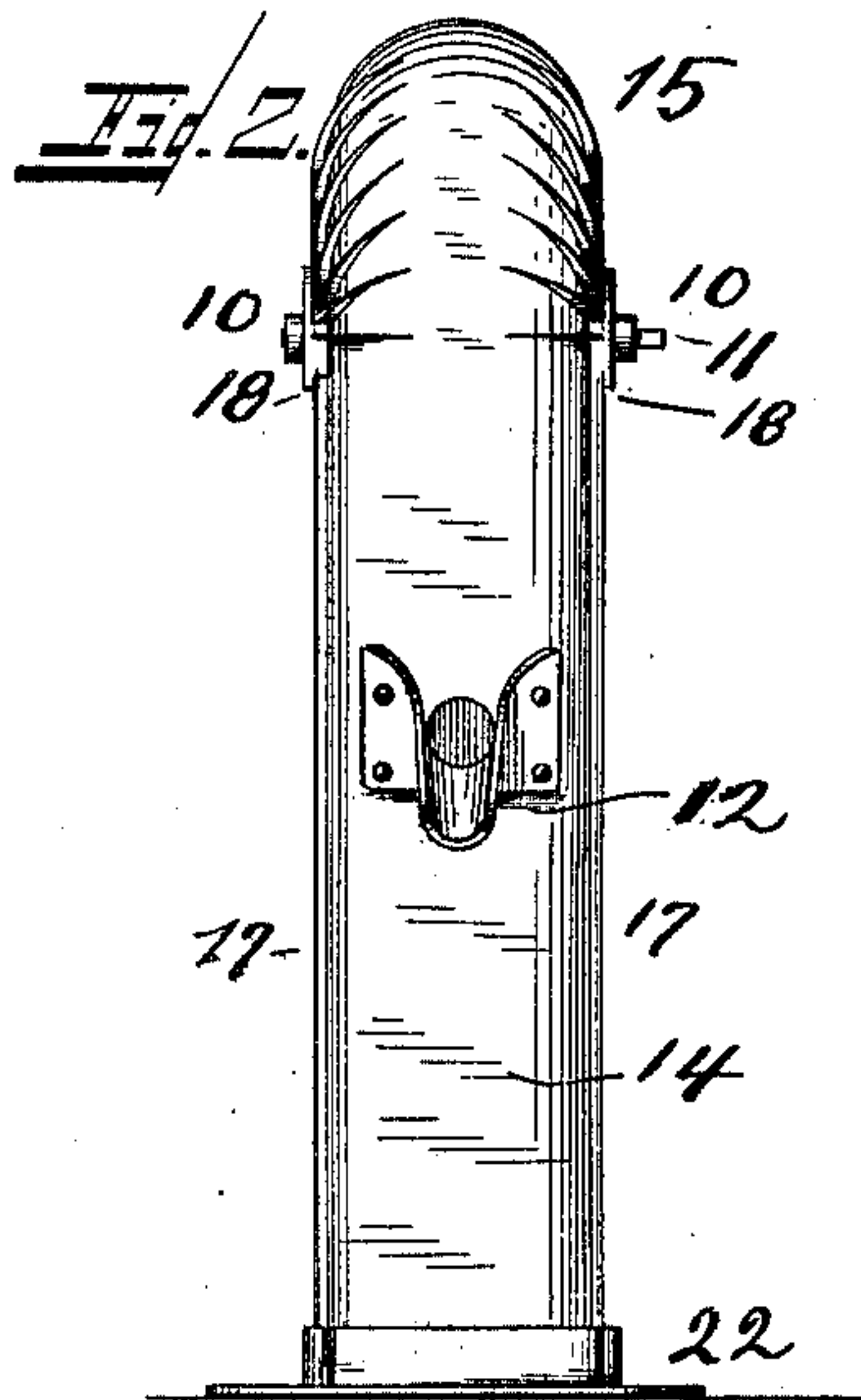
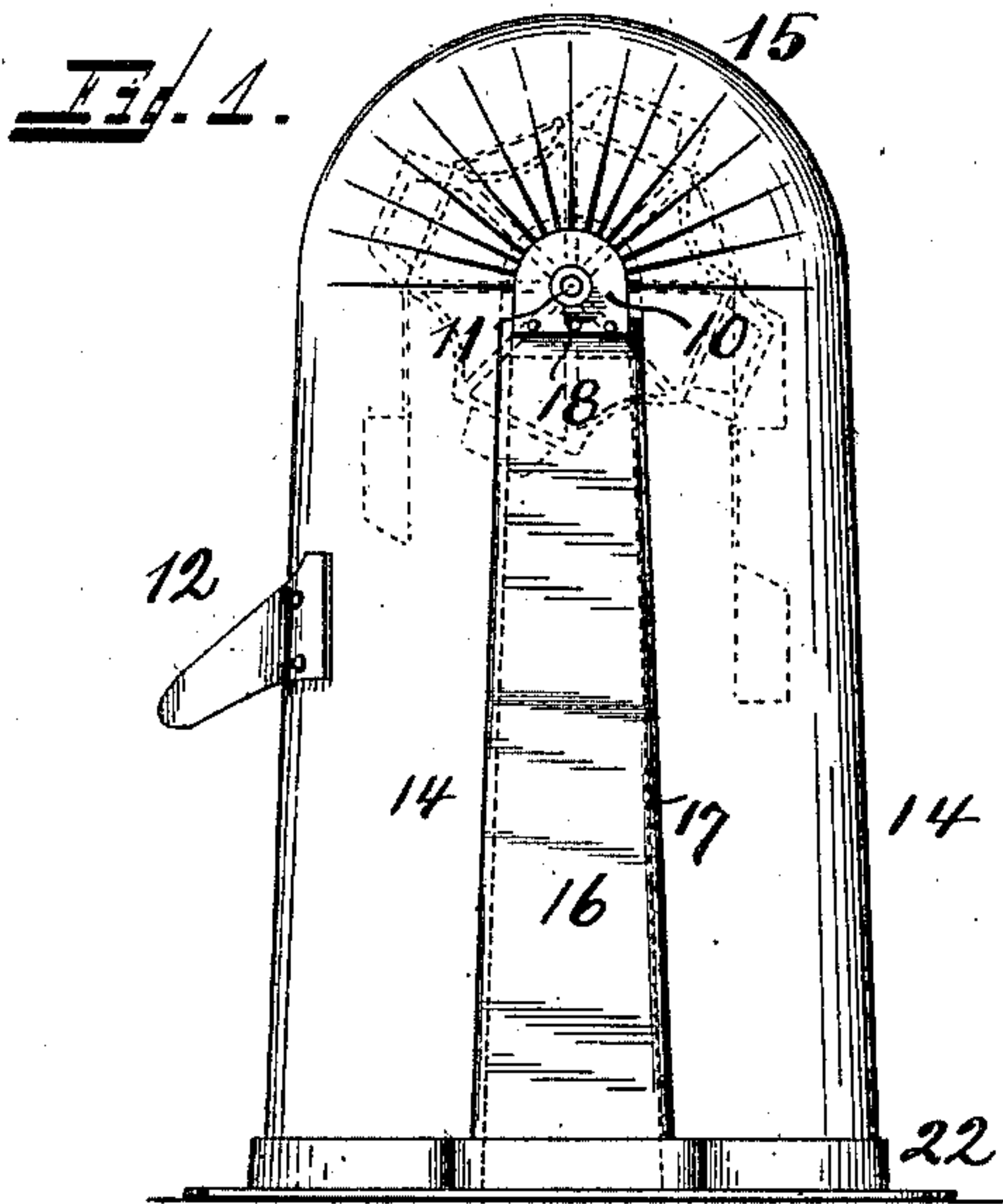
No. 688,247.

Patented Dec. 3, 1901.

C. HOFF.  
PUMP HOUSING.

(Application filed Feb. 4, 1901.)

(No Model.)



Witnesses  
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# UNITED STATES PATENT OFFICE.

CHARLES HOFF, OF CINCINNATI, OHIO.

## PUMP-HOUSING.

SPECIFICATION forming part of Letters Patent No. 688,247, dated December 3, 1901.

Application filed February 4, 1901. Serial No. 45,843. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES HOFF, a citizen of the United States, and a resident of Cincinnati, Hamilton county, State of Ohio, have invented certain new and useful Improvements in Pump-Housings; and I do hereby declare the following to be a clear, full, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, attention being called to the accompanying drawings, with the reference-numerals marked thereon, which form also a part of this specification.

The subject of this invention is a pump-housing as used in connection with so-called "bucket-pumps." In such pumps there is usually an endless chain carrying buckets, whereby the water is raised, and such housings are used to support and partly inclose the operating parts.

The invention consists of constructing such a pump-housing out of sheet metal, the construction being of a certain character, the leading feature of which is simplicity, resulting from a reduction of the parts required to a minimum. This reduction in parts reduces the number of joints, whereby the device is greatly strengthened, and its liability to wear and damage requiring repairs is also lessened. The shape of the housing is such as to permit nesting in shipping, rendering transportation convenient, all of which, together with the reduced manufacturing expenses, lessens the cost of the article.

In the following specification, and particularly pointed out in the claims at the end thereof, is found a full description of the invention, together with its parts and manner of construction, which latter is also illustrated in the accompanying drawings, in which—

Figures 1 and 2 are respectively side and front elevations of the housing. Fig. 3 is a top view thereof. Fig. 4 is a horizontal and Fig. 5 a vertical section. Fig. 6 shows the main part of the housing in an intermediate condition during its formation. Fig. 7 is a perspective detail view of one of the bearings for the wheel-shaft.

Housings for such bucket or chain pumps are substantially a box provided in its upper

part with bearings 10 to receive the pump-shaft 11, which is usually operated for rotation by a crank-handle. Inside there is a chain-wheel mounted upon this shaft, supporting an endless chain which carries, suitably spaced apart, the buckets, whereby the water is raised upon rotation of the pump-shaft. The water discharges through a spout 12. The chain-wheel, chain, and buckets are indicated in dotted lines in Fig. 1, but omitted in the other figures, since these parts form no feature of my invention.

The main and larger part of the housing embodying substantially the top and most all of the sides is formed out of one piece of sheet metal 13, which in its first step of manufacture is a blank of oblong shape. This blank is next curved lengthwise, so as to assume a shape substantially like a gutter and as shown in Fig. 6. This gutter is next bent midway and nearly doubled up, with the ends downwardly and its open part inside, thus forming the upright sides 14, each substantially semitubular. In order to be able to accomplish this, it is necessary to take up the surplus metal at the bend, which is done by suitably corrugating, doubling up, or otherwise disposing of the surplus metal, as shown at 15, which part forms the top of the housing. The particular manner in which the metal is folded is not material, and the ensuing folds or ribs may be left standing out, so as to project, as shown, or they may be flattened down against the body of the housing. The open spaces remaining between the upright parts 14 of the housing as so formed are closed by two flat strips 16, one on each side and connected to the main part of the housing by suitable seams 17. These pieces terminate below the upper ends of these spaces, the remaining space being taken up by the bearings 10, which receive the ends of the operating-shaft 11. The whole then forms the inclosing shell of a hollow chamber entirely closed with the exception of its lower end, which is open and upon which this shell rests. These bearings are cast metal and are contained within a block 18, semicircular on top and fitting against the inner ends of the corrugations at 15. It is of such thickness as to fully receive these corrugations at their inner ends, where they project out farthest, so that they



do not project beyond the body of the pump. On its inside each block has a flange 19, resting against the inside of the pump-housing and holding the blocks in position against outward displacement. These bearing-blocks are placed in position before side pieces 16 are connected, so that when these latter are afterward put in place and with their upper edges take into a groove 21 on the under side of block 18 this latter is also held against displacement inwardly and downwardly. In addition to this the connection may be made more substantial by screws or rivets passing through flange 19 and the parts overlapping it. Below the housing may be finished off by securing an angle-iron 22 around the lower edge, which may also serve to attach the lower open end of the housing in place.

In addition to the quick and convenient way of construction resulting in a housing having the advantages mentioned in the specification, its shape, being slightly tapering, permits also of nesting, which is a great advantage in shipping. In such case, the spouts are left off and attached when the pump is set up.

Having described my invention, I claim as new—

1. A pump-housing, the top and larger part of the sides of which are formed of one piece of semitubular or gutter-shaped sheet metal, bent in shape of an inverted U, with the open side of the tube turned inwardly, the surplus material at the bend being taken up by folding and overlapping the metal thereat, the whole structure adapted to rest upon its open ends and forming the shell of a hollow chamber which receives the operating parts of the pump.

2. A pump-housing consisting of a semicircular top extending downwardly to form semitubular sides 14 all in one piece of sheet metal, flat pieces 16 closing the space between

the semitubular sides 14, the whole forming the inclosing shell of a closed hollow chamber resting upon its open end and adapted to receive the working parts of a pump and bearings for the pump-shaft formed at the upper ends of flat pieces 16.

3. A pump-housing consisting of a semitubular top corrugated so as to project its ends downwardly, thereby producing semitubular sides 14, flat pieces of sheet metal closing the space between these latter, the whole forming the inclosing shell of a closed hollow chamber resting upon its open end and bearings for the pump-shaft formed at the upper ends of these flat pieces.

4. A pump-housing consisting of a substantially semitubular piece of sheet metal bent to semitubular shape and substantially semitubular side pieces integrally connected to the ends of the aforesaid semitubular part and forming continuations thereof the whole forming a hollow shell adapted to rest upon its open end.

5. A pump-housing consisting of a semicircular top, side pieces 14 substantially semitubular, flat side pieces closing the larger part of the space between them, bearing-blocks 18 closing the rest of this space and each provided with a flange for connection to the adjacent parts of the pump-housing.

6. In combination with a sheet-metal pump-housing, a bearing-block 18 on each side thereof to receive the ends of the operating-shaft, each provided with a groove and flange to receive and connect to adjacent parts of the pump-housing.

In testimony whereof I hereunto set my hand in the presence of two witnesses.

CHARLES HOFF.

Witnesses:

C. SPENGEL,  
ARTHUR KLINE.