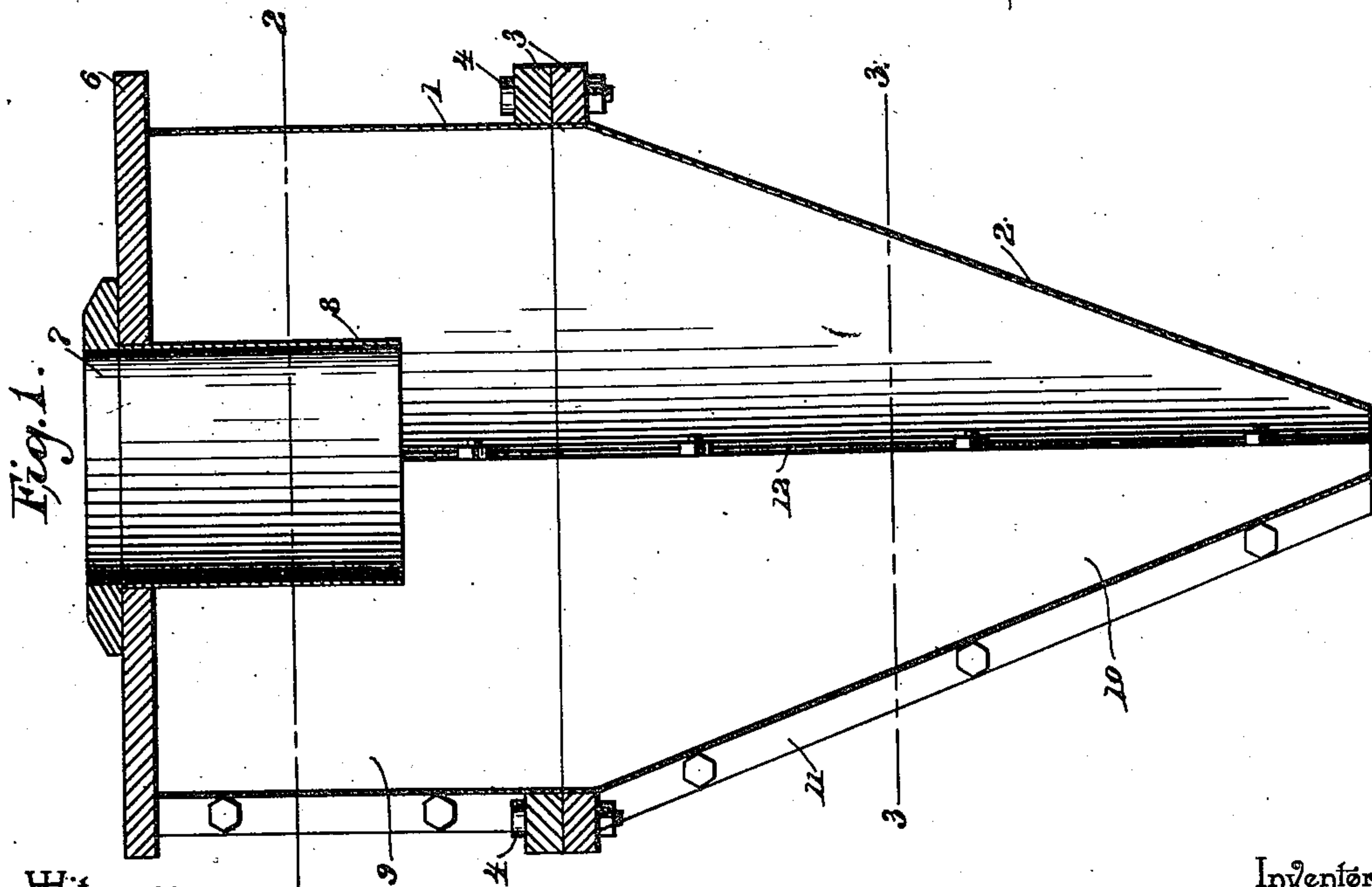
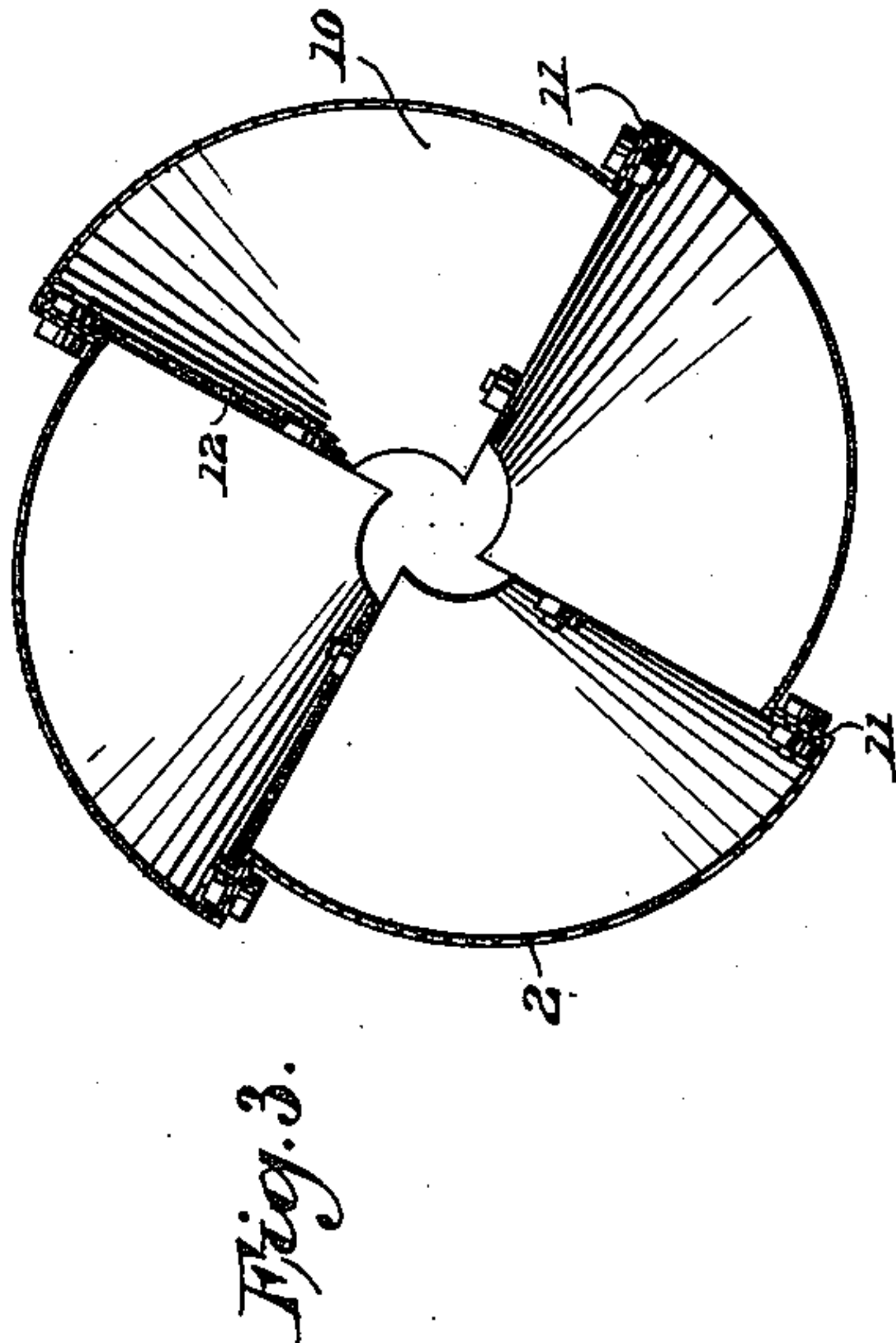
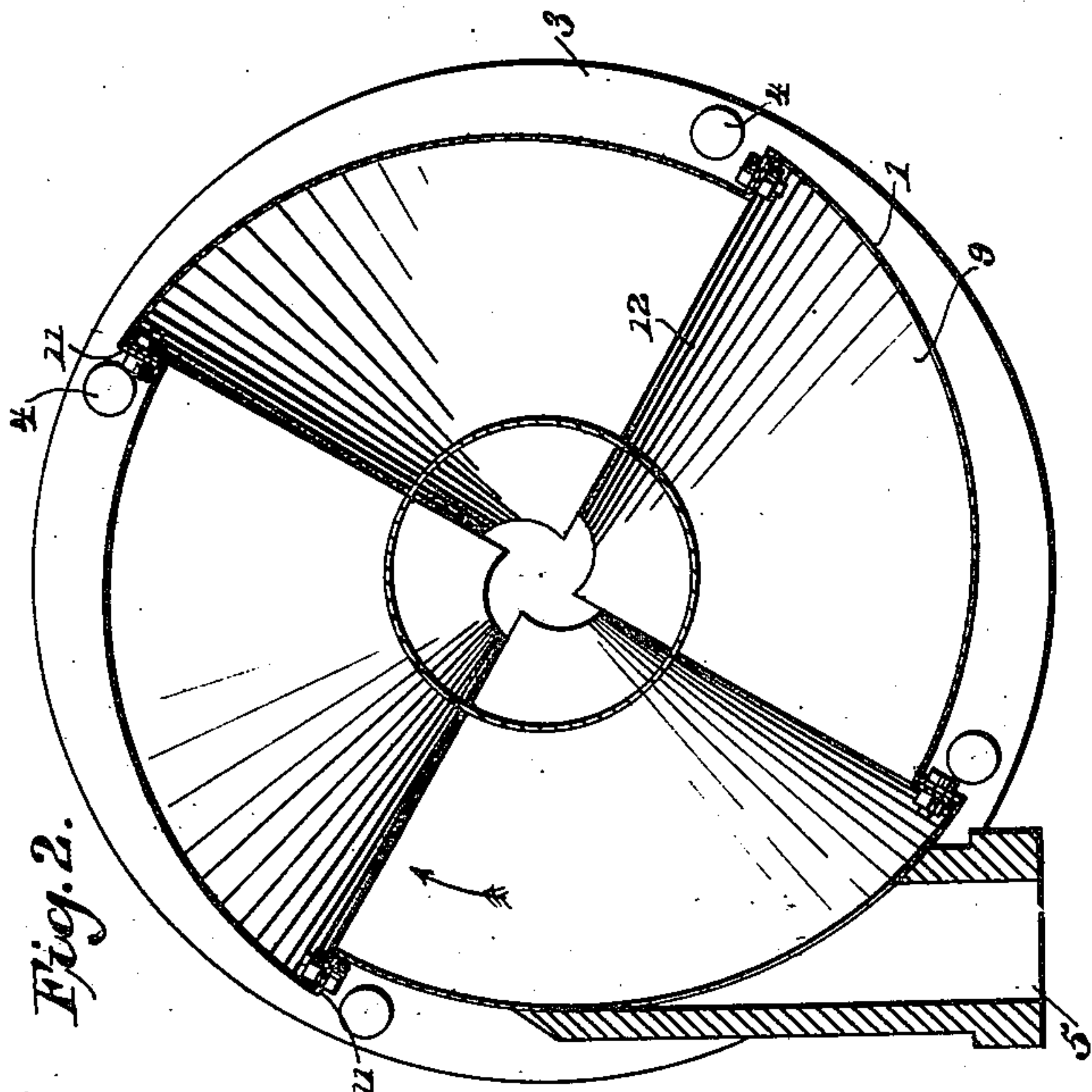


(No Model.)

G. A. & J. P. CULVER.  
DUST COLLECTOR.

No. 441,140.

Patented Nov. 25, 1890.



Witnesses

E. M. Hallahan

Wm. Bagger.

By their Attorneys,

C. A. Snow & Co.

Inventor

Geo. A. Culver.

John P. Culver.



# UNITED STATES PATENT OFFICE.

GEORGE A. CULVER AND JOHN P. CULVER, OF BLUE SPRINGS, NEBRASKA.

## DUST-COLLECTOR.

SPECIFICATION forming part of Letters Patent No. 441,140, dated November 25, 1890.

Application filed August 25, 1890. Serial No. 362,925. (No model.)

*To all whom it may concern:*

Be it known that we, GEORGE A. CULVER and JOHN P. CULVER, citizens of the United States, residing at Blue Springs, in the county of Gage and State of Nebraska, have invented a new and useful Dust-Collector, of which the following is a specification.

This invention relates to dust-collectors for mills, and has for its object to construct a machine of this class which shall be simple, durable, and efficient in operation.

With these objects in view the invention consists in the improved construction, arrangement, and combination of parts, which will be hereinafter described, and particularly pointed out in the claims.

In the drawings hereto annexed, Figure 1 is a vertical section of a dust-collector embodying our improvements. Fig. 2 is a horizontal section taken on the line 2 2 in Fig. 1. Fig. 3 is a horizontal section taken on the line 3 3 in Fig. 1.

Like numerals of reference indicate like parts in all the figures.

The casing of our improved dust-collector is composed of an upper cylindrical section 1 and a lower conical or funnel-shaped section 2, which are provided at their meeting edges with flanges 3, suitably connected by means of bolts 4. The upper cylindrical section is provided with a tangential inlet 5, which is to be connected with a suitable blast-fan, by means of which the dust-laden air is forced into the casing. Said upper section is also provided with a top plate 6, having a central opening 7, which forms the air-outlet and which is provided with a depending cylindrical pipe 8.

The sections 1 and 2 of the casing are each constructed of any desired number of segments or sections 9 and 10, each of which is provided at its opposite edges with flanges 11 bent in opposite directions. The outwardly-bent flange at one edge of each of these segments is connected by means of bolts or rivets with the inwardly-bent flange at the meeting edge of the adjacent section. The individual segments are thus arranged eccentrically to the vertical axis of the device, and in this manner a series of vertical recesses or pockets 12 are formed, which extend through the entire casing, the recesses 12 in the cylin-

drical portion of the latter being continuations of those in the lower conical portion. The said conical or funnel-shaped portion of the casing is open at its lower end for the escape of the dust, which is separated from the air.

The dust-laden air on being forced into the casing through the tangential opening receives a rotary and centrifugal motion, whereby the dust, being heavier than the air, is forced into contact with the walls of the casing and caused to settle in the vertical recesses or pockets, whence it drops through the outlet at the bottom of the casing. The purified air eventually escapes through the pipe 8 and opening 7 at top of the casing.

It will be observed that by the construction herein shown no ribs or projections are found in the casing that can in any way interfere with the whirling or gyrating motion of the dust-laden air within the same. The air will follow the eccentrically-arranged segments, and the dust will immediately settle in the pockets at the meeting edges of the same, where it is at once protected from the blast, so that it will easily and uninterruptedly drop out through the outlet at the bottom of the casing.

We are aware that a dust-collector having pockets or recesses to receive the dust and to guide it downward and out is not new, broadly considered, and such we do not claim; but,

Having thus described our invention, we claim and desire to secure by Letters Patent of the United States—

1. In a dust-collector, the casing composed of the upper cylindrical section having the tangential inlet and the central depending outlet pipe, and the lower funnel-shaped section open at its lower end, said upper and lower sections being provided with vertical recesses or pockets formed at the meeting edges of the eccentrically-arranged segmental sections of said casing, and having walls radial to the axis of the casing, substantially as set forth.

2. In a dust-collector, the casing comprising the upper cylindrical and the lower conical or funnel-shaped section, each of said sections being constructed of eccentrically-arranged segmental plates provided at their edges with flanges bent in opposite directions,



the outwardly-bent flange of each of said segments being connected with the inwardly-bent flange at the meeting edge of the adjacent section to form the vertical recesses or pockets, the upper cylindrical portion of said casing being provided with a tangential inlet for dust-laden air, and with a central air-outlet, and the lower conical portion of said casing being provided with a dust-outlet at its lower end, substantially as and for the purpose set forth.

3. In a dust-collector, the combination of the upper cylindrical and the lower conical section, each of said sections being composed of a series of segments having flanges at their meeting edges to form vertical recesses

or pockets, said upper and lower sections being provided at their meeting edges with connecting-flanges, through which the said pockets extend, the casing thus formed being provided at its upper end with a tangential inlet for dust-laden air and with a central air-outlet, and at its lower end with a dust-outlet, substantially as set forth.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in presence of two witnesses.

GEO. A. CULVER.

JOHN P. CULVER.

Witnesses:

T. W. SMITH,

S. R. KRANBUEL.