

No. 677,357.

Patented July 2, 1901.

A. S. HYDE.
EXHAUST HEAD.

(Application filed Apr. 17, 1901.)

(No Model.)

Fig. 1

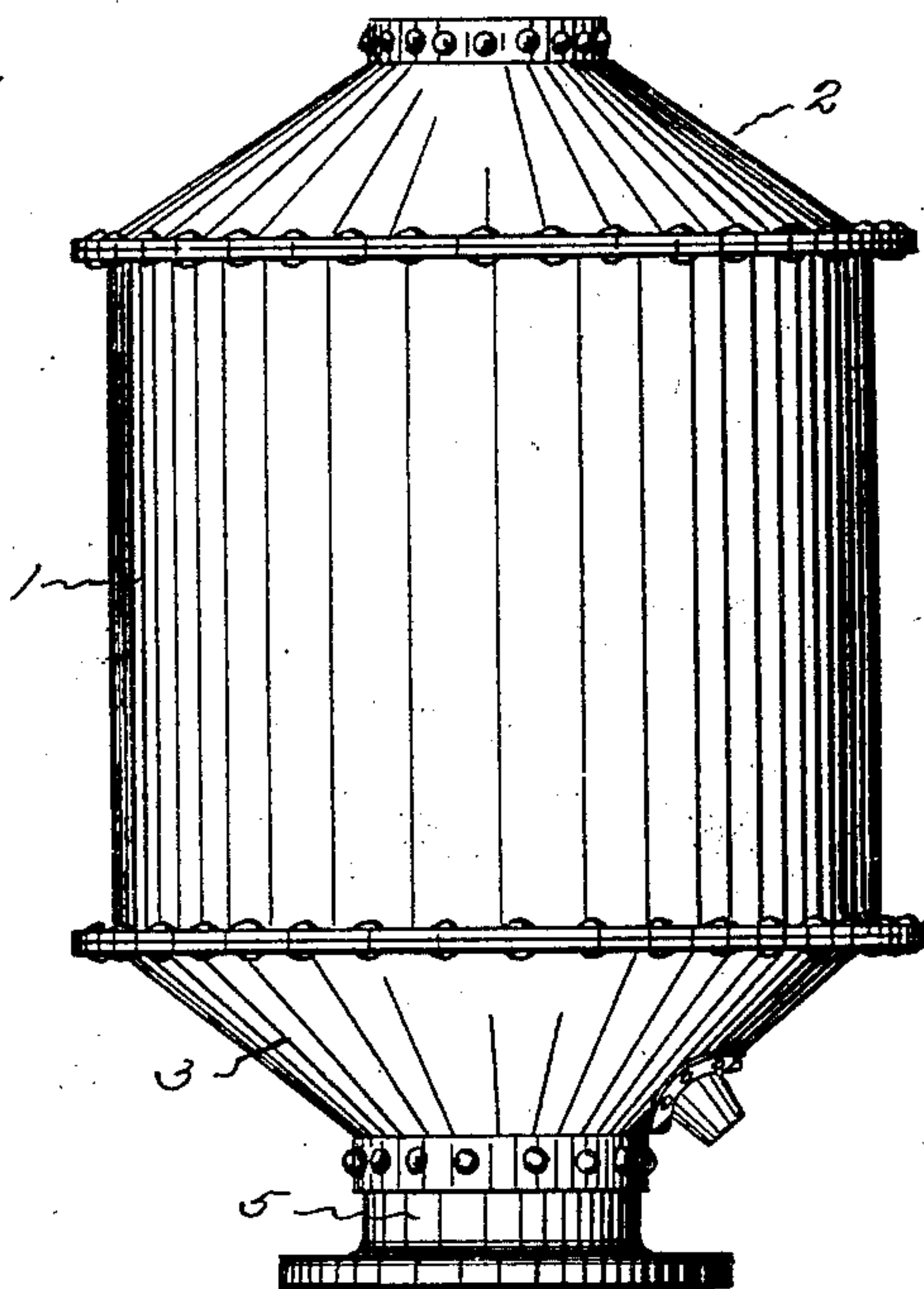


Fig. 2

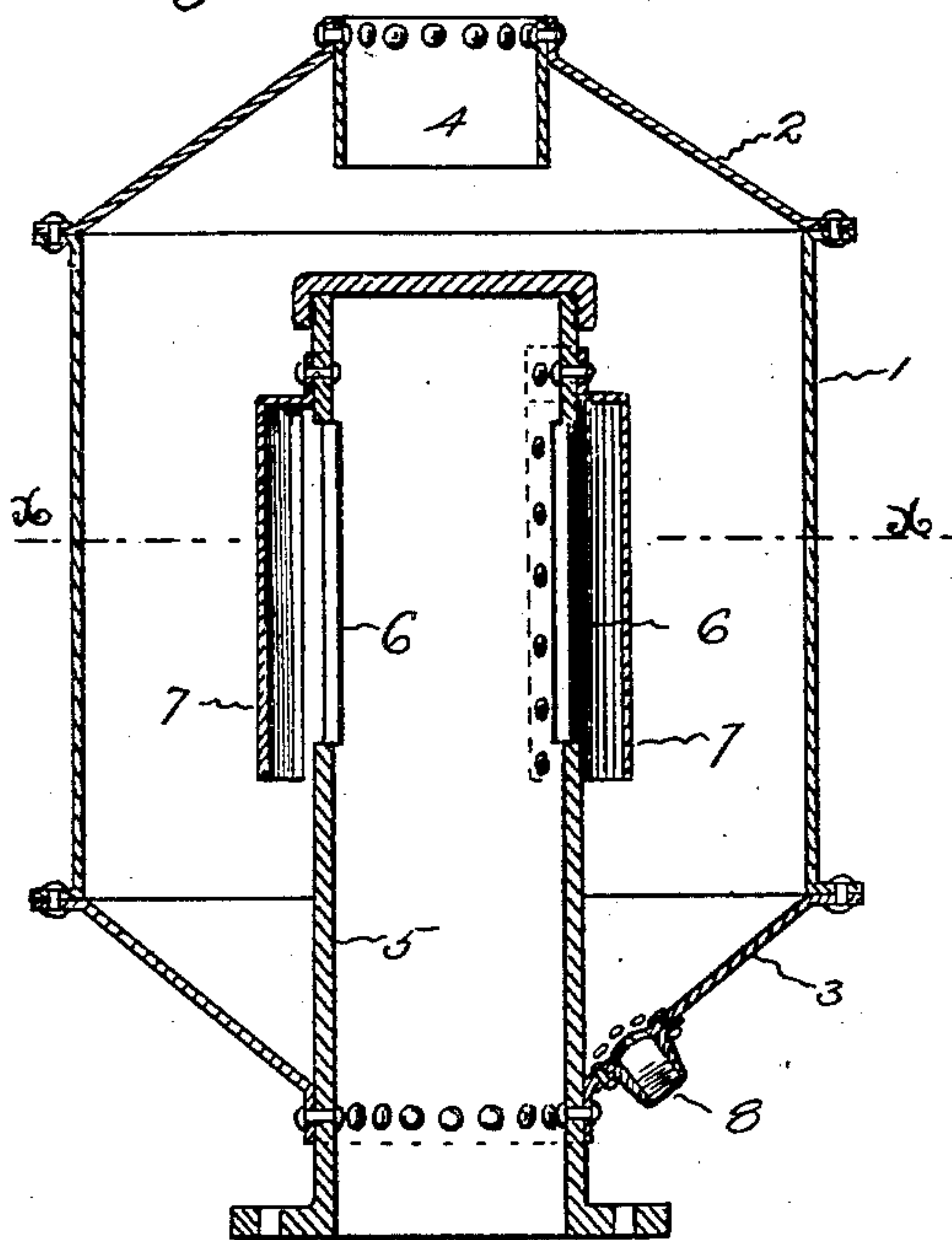
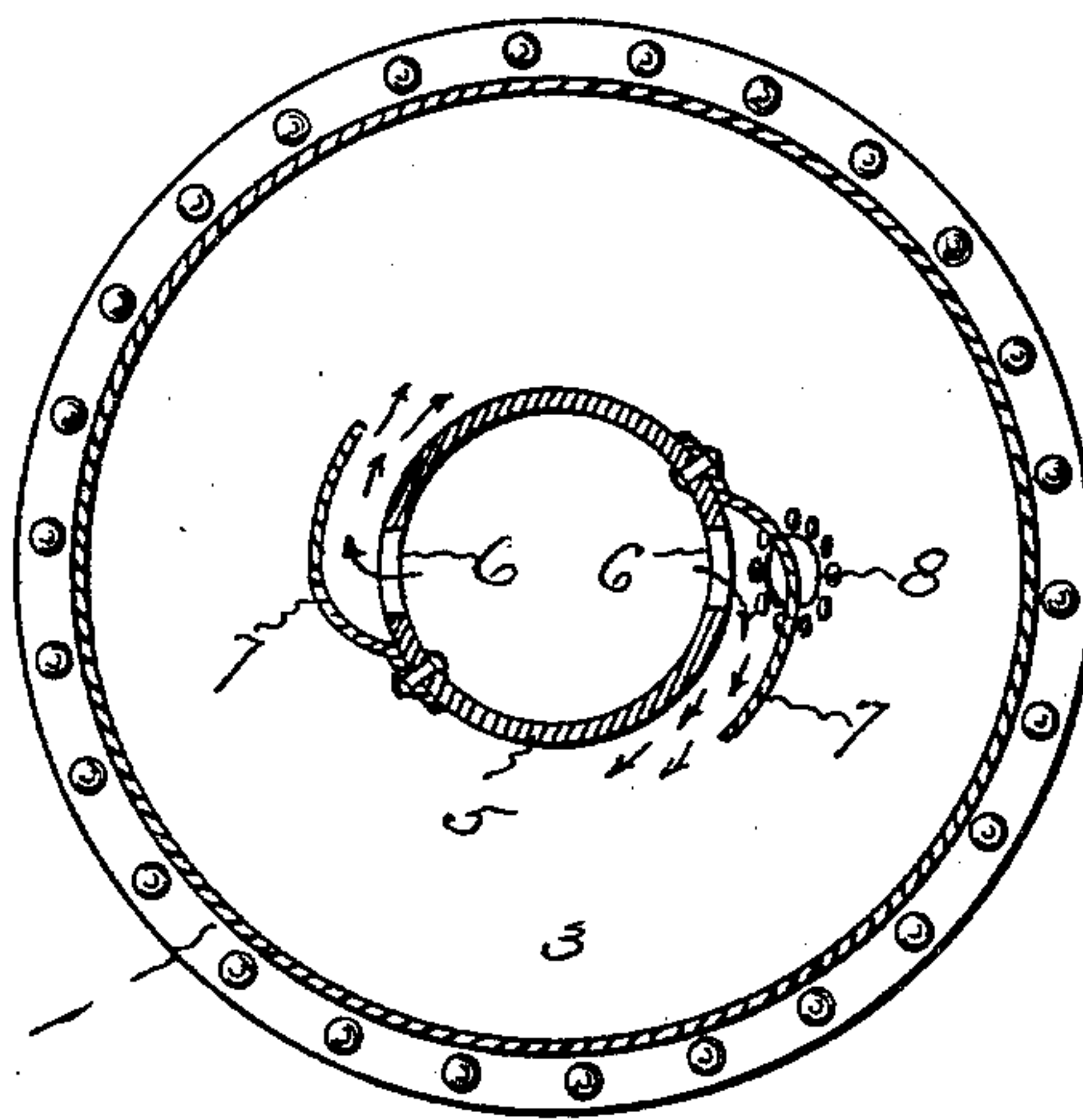


Fig. 3



Witnesses
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EXHAUST-HEAD.

SPECIFICATION forming part of Letters Patent No. 677,357, dated July 2, 1901.

Application filed April 17, 1901. Serial No. 56,292. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR S. HYDE, a citizen of the United States, residing at Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Exhaust-Heads, of which the following is a specification.

This invention relates to those heads which are attached to the ends of exhaust-pipes for the purpose of condensing as much steam as possible and after separating the water and oil from the vapor returning the entrained water to the system.

The object of the invention is to provide a centrifugal exhaust-head that is very simple and inexpensive to manufacture and place in position and that is so constructed that a large proportion of the steam will be condensed and the water collected and returned without causing any back pressure on the system.

The head illustrated as embodying the invention has a cylindrical shell with a tapering cap at each end and a vapor-outlet pipe extending through the cap at the upper end and an exhaust-inlet pipe extending through the cap at the lower end, the inlet-pipe being closed at its upper end and provided with longitudinal slots in its sides, opposite to which slots are wings arranged to deflect the steam that escapes through the slots and cause it to move spirally toward the cylindrical shell, the lower cap also being perforated for the attachment of the drip-pipe, which conducts away the water of entrainment.

Figure 1 of the drawings shows a side elevation of an exhaust-head that embodies the invention. Fig. 2 shows a central vertical section of the same head, and Fig. 3 shows a horizontal section of the head.

The cylindrical shell 1 may be made any desired size, of galvanized iron or other sheet metal, painted or treated with material which will prevent corrosion. The cap 2 at the upper end and the cap 3 at the lower end of the shell are preferably made of sheet metal, but of course they may be made of cast metal. The caps are fastened to the ends of the shell by riveting together the flanges that extend from the ends of the shell and the edges of the caps. In the center of the upper cap is a

short pipe 4, which affords an outlet for the escape of vapor from the head. Extending through the lower cap from the outside nearly to the upper cap is a pipe 5. This pipe is adapted to be fastened to the upper end of the exhaust-pipe of a steam system. The upper end of this pipe is closed. Through the sides of this exhaust-inlet pipe are longitudinally-extending slots 6. Fastened to the outside of this pipe, so as to extend in front of the slots, are wings 7. These wings are preferably riveted to the sides of the pipe, and they extend from a little above the upper ends of the slots to a little below the lower ends of the slots. The spaces between the wings and the pipe at the upper ends are closed, while the spaces at the lower ends of the wings are open. These wings are shown as extending outwardly in a spiral direction. They may, however, if desired, be so secured as to extend tangentially from the pipe. An opening 8 is made through the bottom cap for the attachment of a drip-pipe.

When this head is attached to the end of an exhaust-pipe, the exhaust-steam flows from the inlet-pipe, through the slots, against the wings, and by them is deflected, so as to travel around the shell in a spiral direction, the heavier particles of water and oil being thrown to the outside and dripping to the bottom of the shell.

There is a large amount of space in the interior of this head, so that no back pressure is generated, and the steam is whirled around near the outside of the shell in contact with an extended surface, so that a large amount will be condensed and precipitated, leaving but a small amount of vapor to float out through the opening in the top cap.

The shell and caps of this head are simple to make and fasten together, and it is easy to slot the inlet-pipe and attach the deflecting-wings in front of the slots. All of the parts of this head are light in weight, and the head is well balanced, so that there is no undue strain upon the fastenings of the exhaust-pipe, and if any of the parts become damaged by accident or worn by the elements they may be quickly renewed.

I claim as my invention—

1. An exhaust-head having a shell with a

vapor-outlet through the upper end and an exhaust-inlet through the lower end with longitudinally-extending slots through the exhaust-inlet pipe and deflecting-wings fastened
5 to the inlet-pipe and extending in front of the slots, and a drip-outlet through the bottom of the shell, substantially as specified.

2. An exhaust-head having a cylindrical shell with tapering caps at the ends, a vapor-
10 outlet pipe extending through the upper cap,

an exhaust-inlet pipe extending through the lower cap, said inlet-pipe being provided with longitudinally-extending slots and with deflecting-wings projecting from the pipe in front of the slots, and a drip-outlet through
15 the lower cap, substantially as specified.

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