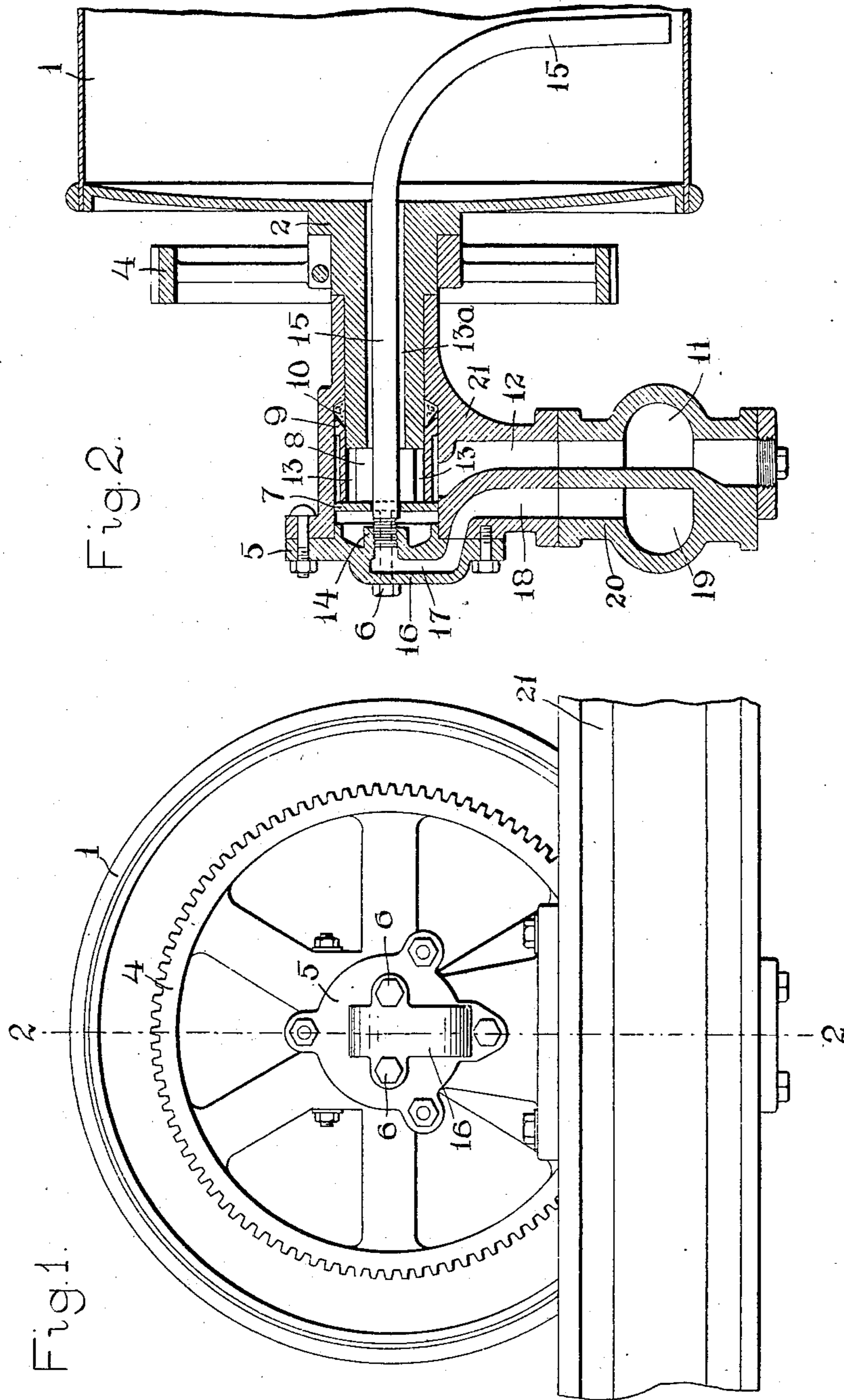


No. 863,686.

PATENTED AUG. 20, 1907.

J. H. WHITTLE.
DRYING CYLINDER.
APPLICATION FILED JAN. 3, 1906.

2 SHEETS—SHEET 1.



Witnesses

Roy D. Tolman.

Penelope Comberbach.

Inventor
James H. Whittle.
By *Rufus B. Fowler*
Attorney

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2 SHEETS—SHEET 2

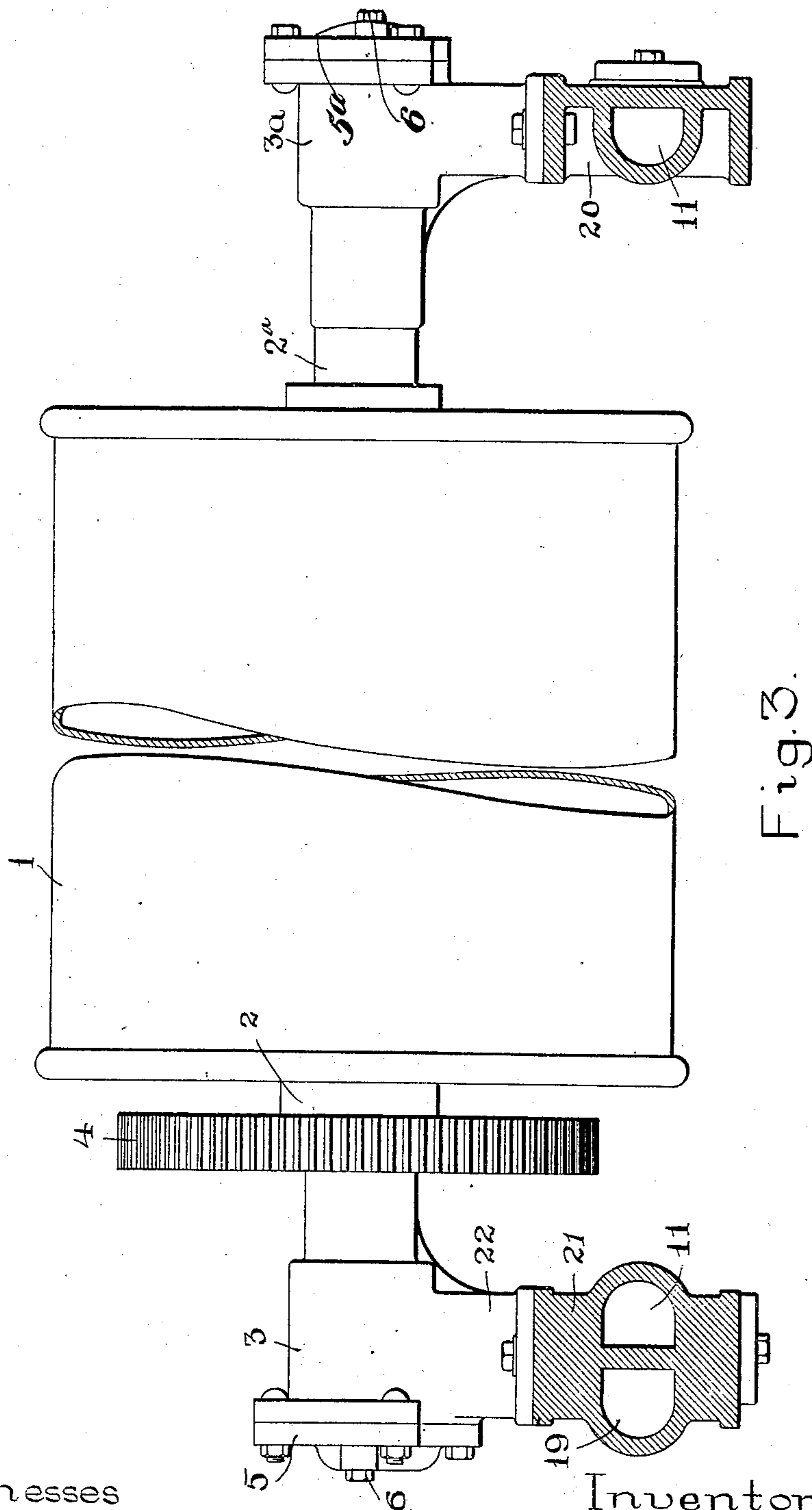


Fig. 3.

Witnesses

Roy D. Tolman.
Envelope Comberbach.

Inventor
James H. Whittle.
By *Rufus B. Bowler*
Attorney

UNITED STATES PATENT OFFICE.

JAMES H. WHITTLE, OF WORCESTER, MASSACHUSETTS.

DRYING-CYLINDER.

No. 863,686.

Specification of Letters Patent.

Patented Aug. 20, 1907.

Application filed January 3, 1906. Serial No. 294,479.

To all whom it may concern:

Be it known that I, JAMES H. WHITTLE, a citizen of the United States, residing at Worcester, in the county of Worcester and Commonwealth of Massachusetts, have invented a new and useful Improvement in Drying-Cylinders, of which the following is a specification, accompanied by drawings forming a part of the same, in which—

Figure 1 is an end view of the drying cylinder. Fig. 2 is a section on line 2—2, Fig. 1, and Fig. 3 is a side view of the cylinder partly in section.

Similar reference letters and figures refer to similar parts in the different views.

By my invention I accomplish the more even distribution of heat throughout the cylinder and the removal of the water of condensation therefrom, and it consists in the construction and arrangement of parts as hereinafter described and pointed out in the annexed claims.

Referring to the accompanying drawings 1 denotes the drying cylinder of which the hollow gudgeons 2, 2^a rotate in stuffing boxes 3, 3^a. The cylinder is driven by the gear wheel 4 attached to the gudgeon 2. The outer ends of the stuffing boxes 3, 3^a are closed by caps 5, 5^a which are provided with screws 6, 6, bearing against the gland of the stuffing box, which consists of a disk 7 bearing against a ring 8, as shown in Fig. 2. Integral with the ring 8 is a follower ring 9 which bears against the packing 10 surrounding the gudgeon of the cylinder 1. Steam is admitted through horizontal passages 11 formed in the framework, the vertical steam passages 12, one of which is shown in Fig. 2, and through openings 13, in the annular flange 8 into the hollow gudgeons from which it passes into the cylinder 1.

The above described construction for the admission of steam to a drying cylinder is substantially like that set forth in Letters Patent issued to me September 24, 1901, No. 683,237, and forms no part of my present invention.

Screwed into the hub 14 of the cap 5 is the outer end of a pipe 15 which extends through the gudgeon 2, leaving an annular space 13^a. The inner end of the pipe 15 is bent downward and terminates near the periphery of the cylinder 1. As the pipe 15 is held by the hub 14 it remains stationary while the cylinder 1 rotates and the water of condensation which accumulates in the cylinder is forced out through the pipe 15 by the pressure of steam in the cylinder. This method of removing the water of condensation by means of a bent pipe with one end terminating near the periphery of the cylinder 1, is also shown in the aforesaid patent to me, and the broad idea forms no part of my present invention.

The cap 5 is provided with a raised portion 16 pro-

vided with a water passage 17 into which the pipe 15 empties the water of condensation. The passage 17 communicates with a vertical passage 18 in the framework leading to a horizontal passage 19 also formed in the framework of the machine.

I preferably make, as shown in the drawings, the supporting rails 20 and 21 of the drying cylinders hollow to provide passages 11 and 19, and also the support 22, Fig. 1, of the stuffing boxes 3, 3^a is provided with the vertical passages 12 and 18, but any convenient mode of construction of these passages might be employed.

I preferably provide the horizontal rail 20 of the framework with a longitudinal passage 11 which is connected with a source of steam supply, and the horizontal rail 21 is preferably provided with a similar steam passage 11, and also with a water passage 19 through which the water of condensation is delivered, and the connecting passages between the drying cylinder and the horizontal passages 11 and 19 are also formed in the framework of the machine, the communication with the water passage being established by the passage 17 in the cap 5.

What I claim as my invention and desire to secure by Letters Patent is:—

1. In a metal drying cylinder, the combination with a rotating cylinder, a hollow gudgeon for the admission of steam, and a stuffing box provided with a bearing for said gudgeon, a hollow cap closing the end of said stuffing box with a steam tight joint, and an exhaust pipe leading from the interior of the cylinder through said hollow gudgeon and connected with said hollow cap by a screw threaded joint.

2. In a metal drying cylinder, the combination with a rotating cylinder, a hollow gudgeon for the admission of steam, and a stuffing box provided with a bearing for said gudgeon, of a hollow cap closing the end of said stuffing box with a steam tight joint, and an exhaust pipe leading from the interior of the cylinder through said hollow gudgeon and said stuffing box and entering said hollow cap by a steam tight joint.

3. In a metal drying cylinder, the combination with a rotating cylinder having a hollow gudgeon, a stuffing box forming a bearing for said gudgeon, a hollow cap 5 closing the end of said stuffing box, an exhaust pipe having one end attached to the hub 14 of the cap 5 by a steam tight joint and connecting the interior of said cylinder with the interior of said hollow cap 5.

4. In a metal drying cylinder, the combination of a supporting framework, a rotating cylinder journaled therein and provided with hollow gudgeons, independent water and steam passages formed in the framework, said steam passage communicating with said cylinder, and a bent pipe connecting said water passage with the interior of said cylinder.

JAMES H. WHITTLE.

Witnesses:

RUFUS B. FOWLER,
PENELOPE COMBERBACH.