(No Model.)

P. WARD.

TAR BURNER.

No. 302,606. Patented July 29, 1884.

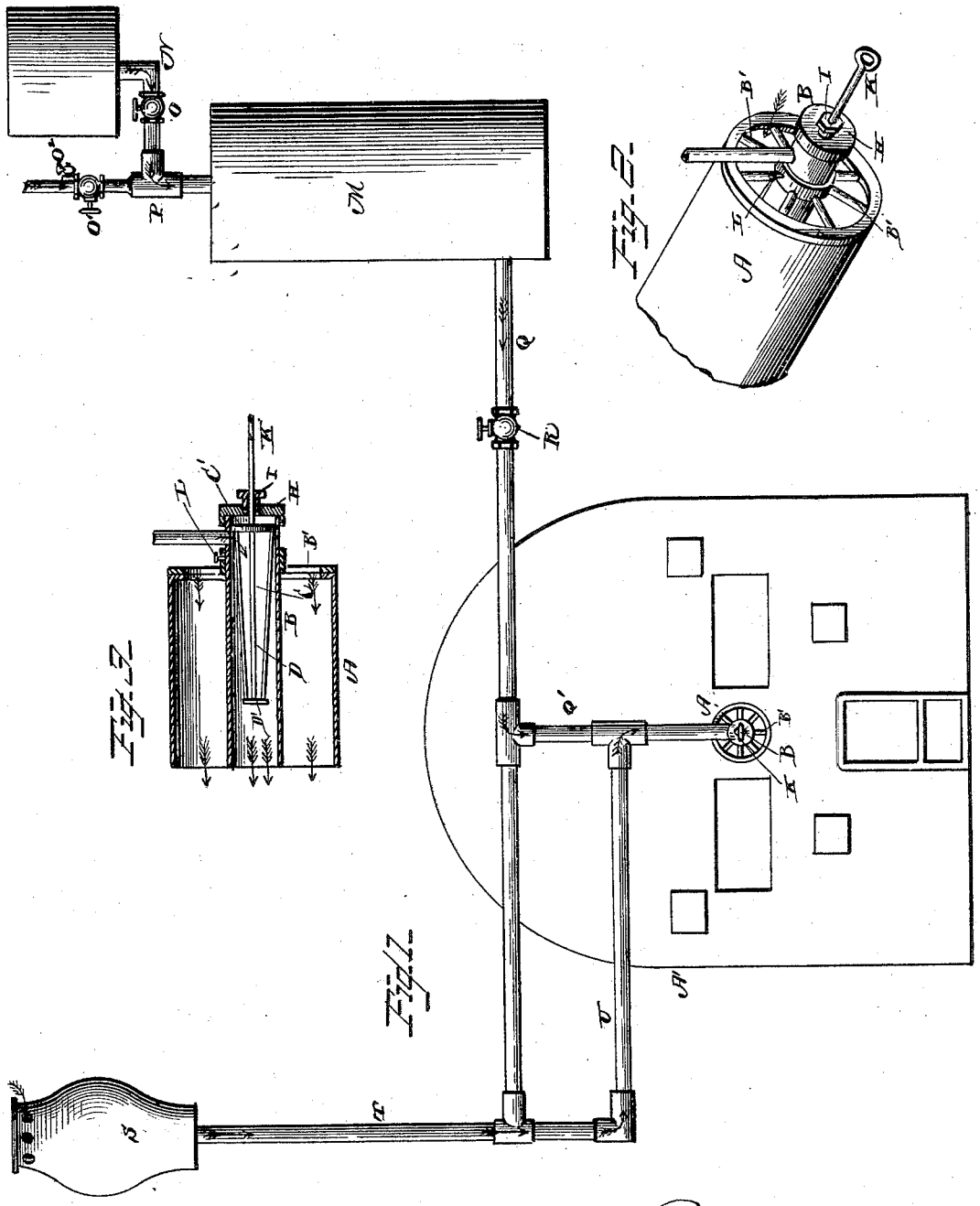

Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.

Fig. 5.

WITNESSES

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PATRICK WARD, OF SENECA FALLS, NEW YORK.

TAR-BURNER.

SPECIFICATION forming part of Letters Patent No. 302,606, dated July 29, 1884.

Application filed January 25, 1884. (No model.)

To all whom it may concern:

Be it known that I, PATRICK WARD, a citizen of the United States, residing at Seneca Falls, in the county of Seneca and State of New York, have invented a new and useful Tar-Burner, of which the following is a specification, reference being had to the accompanying drawings.

Figure 1 is a front elevation of the apparatus applied to a furnace. Fig. 2 is a detail view of the casting which surrounds the tar-burner, and Fig. 3 is a vertical longitudinal section through burner and its surrounding casting.

This invention has relation to tar-burners for gas-houses; and it consists in the construction and novel arrangement of parts, as will be hereinafter fully described, and particularly pointed out in the claims appended.

Referring by letter to the accompanying drawings, A′ designates the brick-work that supports the casting A, which surrounds the tar-burner B, which consists of a two-inch pipe supported within the casting A by spokes or radial arms B′, connected to the pipe B and the casting A at their ends, to form an air-passage all around the tar-burner, which keeps it cool. The tar-burner is provided with a plunger, C, consisting of a disk, C′, supported by three inclined rods, D, connected at their rear ends to a small disk or other connection, D′. The front end of the burner B is closed by a screw-cap, H, provided with a stuffing-box, I, through which the handle K of the plunger passes. A set-screw, L, in the casting prevents the burner from leaving its place in the casting. The tank which supplies the steam and tar receiver M holds three barrels of tar, and is connected by a pipe, N, provided with a stop-cock, O, to the vertical steam-pipe P, having a stop-cock, O′, and a condensed-water outlet, O^2, immediately above it, both the stop-cock O′ and the water-outlet cock O^2 being above the connecting points of the pipes N and P. The pipe P leads into the steam and tar receiver M. A horizontal tar-pipe, Q, is connected by a T-joint with a vertical tar-pipe, Q′, and is provided with a stop-cock, R, between this joint and the steam and tar receiver. The vertical pipe Q′ connects with the tar-burner B, and is also connected with the air-chamber S by a vertical pipe, T, and a horizontal pipe, U. A horizontal brace-rod connects the vertical pipe Q′ to the vertical portion T of the air-pipe which supplies the air to the tar-burner. The steam that is admitted to the steam and tar receiver warms and thins the tar, so that it will run to the tar-burner under a light pressure of steam, which comes upon it from the steam-generator. The burning tar creates a suction from the air-chamber, that causes the air and tar, under the steam-pressure, to be forced into the fire together and be thrown the entire length of the fire-place. By this construction I save all the coke that is necessary for heating the retorts, and at the same time preserve the fire-arch and retorts by preventing the steam from entering the fire with the tar. If the tar were permitted to enter the fire without mingling with the air, it would bake in a hard lump at the end of the burner, whereas by introducing the tar and air together under a light steam-pressure it will be thrown the whole length of the fire-place.

To clean the tar-burner the plunger should be pushed in. The draft around the burner keeps it cool and furnishes the draft for the fire.

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

1. The herein-described method of introducing tar and air to a tar-burning furnace, consisting in forcing the tar to the burner from a steam and tar receiver by light pressure of steam upon the tar, and admitting air to the tar-pipe before it reaches the tar-burner, so that the tar and air will both enter the fire together, substantially as specified.

2. In a tar-burner, the combination, with the burner B, of the plunger consisting of the disk C, supported by three inclined rods connected to the smaller disk D′, and the handle K, passed through the stuffing-box I, substantially as specified.

3. The combination of the steam and tar receiver, the tar-burner within the open casting, the air-chamber, and the tar and air pipes, constructed and operating substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

his
PATRICK × WARD.
mark.

Witnesses:
SYDNEY SMITH,
FRANTZ MAXSON.