

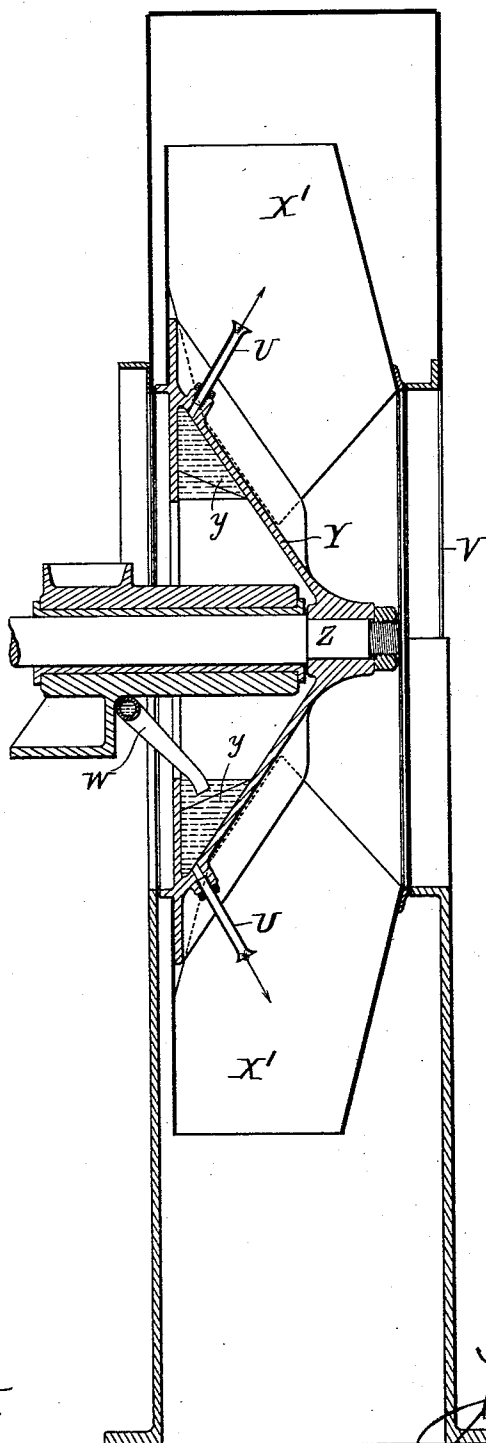
(No Model.)

J. PATTERSON.

BLOWER FOR TREATING GASES EVOLVED IN FURNACES.

No. 572,178.

Patented Dec. 1, 1896.



Witnesses:
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UNITED STATES PATENT OFFICE.

JAMES PATTERSON, OF GOUROCK, SCOTLAND, ASSIGNOR OF ONE-HALF TO
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BLOWER FOR TREATING GASES EVOLVED IN FURNACES.

SPECIFICATION forming part of Letters Patent No. 572,178, dated December 1, 1896.

Application filed September 26, 1895. Serial No. 563,747. (No model.)

To all whom it may concern:

Be it known that I, JAMES PATTERSON, a subject of the Queen of Great Britain, residing at Gourock, in the county of Renfrew, Scotland, have invented certain new and useful Improvements in Apparatus for Treating the Fire-Gases Evolved in Steam-Boiler and other Furnaces, of which the following is a specification.

This invention relates to an improved fan for increasing the draft and for separating the smoke, dust, or solid particles from the fire-gases evolved in steam-boiler and other furnaces.

The accompanying drawing represents a longitudinal vertical section of the fan.

The fan-blades X' are secured to a casting Y in the form of a hollow hub, preferably of the conical form shown, such hub being fixed to the spindle Z, which is driven by any suitable means.

The outer side of the casting or hub Y is open to the atmosphere in the center, and a pipe W projects through such opening and supplies water to the space at the periphery of such hub. The rotation of the fan causes the water to be thrown outward and be retained in the space at the periphery of the hub, whence it escapes through openings or tubes U and coming in contact with the blades X' becomes intimately mixed with the

gases admitted to the fan-casing through the inlet V, communicating with the uptake or passage through which such gases are drawn by the fan.

The space at the periphery of the hub Y is preferably provided at intervals with blades y, which grip the water in such space and prevent any slip of the hub in relation to such water, but compel the latter to travel around with the hub.

As the water escapes from the hub Y through the openings or tubes U same is replaced by water entering through the water-pipe W. Before stopping the fan for any reason the water supply through pipe W should be first turned off.

I claim as my invention—

A rotary fan for treating gases from furnaces and other sources, comprising a spindle, a hollow hub fixed thereto and open on one side to the atmosphere, blades secured to said hollow hub, a water-pipe projecting through the atmospheric opening in the hub, for supplying water to the interior of the hub at its periphery, and channels or tubes leading from the hub to the interior of the fan-casing.

JAMES PATTERSON.

Witnesses:

JOHN MACFAY,
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