No. 801,818. PATENTED OCT. 10, 1905.

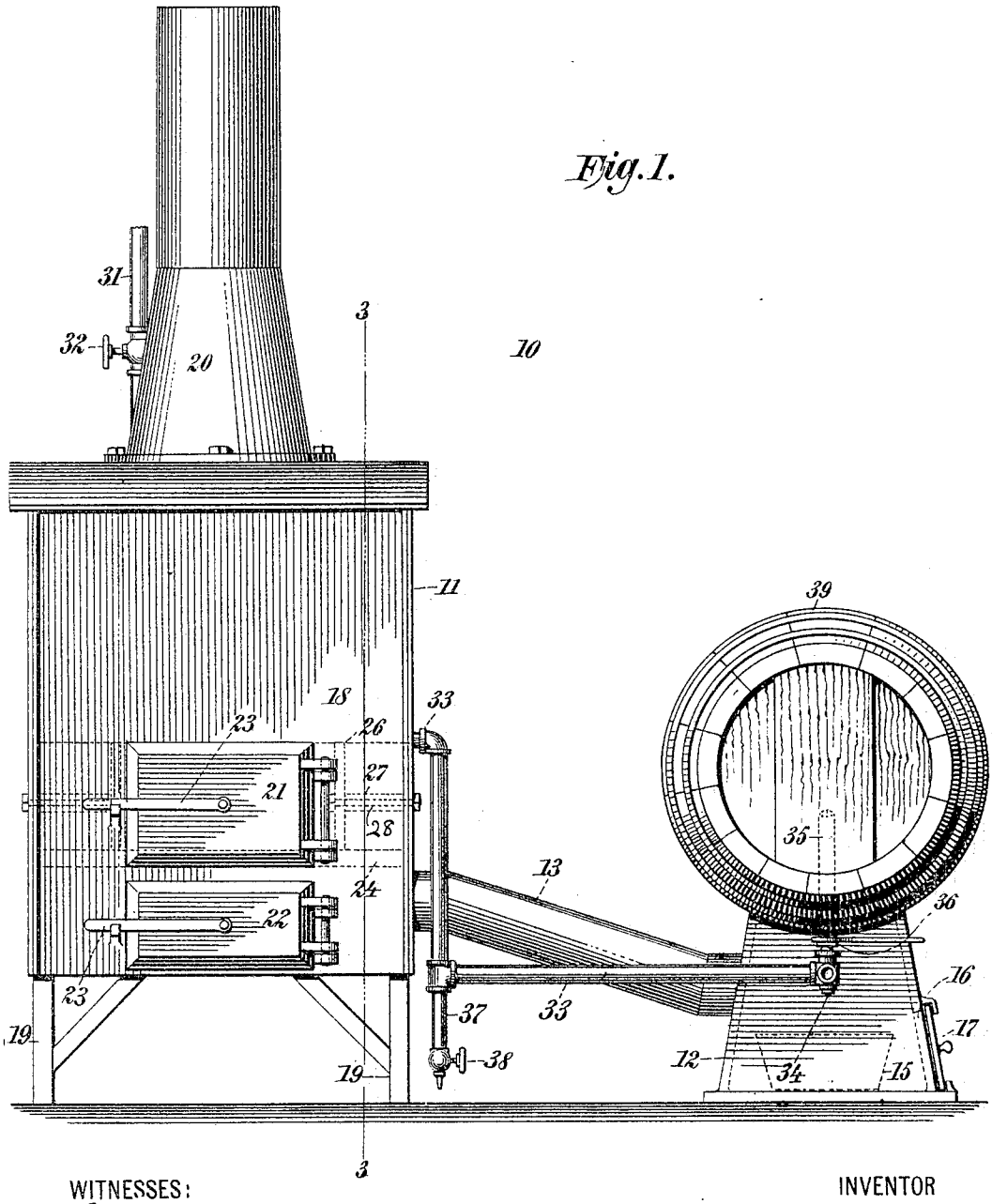
H. TORCHIANI.

PITCHING MACHINE.

APPLICATION FILED JAN. 21, 1905.

3 SHEETS—SHEET 1.

Fig. 1.



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3 SHEETS—SHEET 2.

Fig. 2.

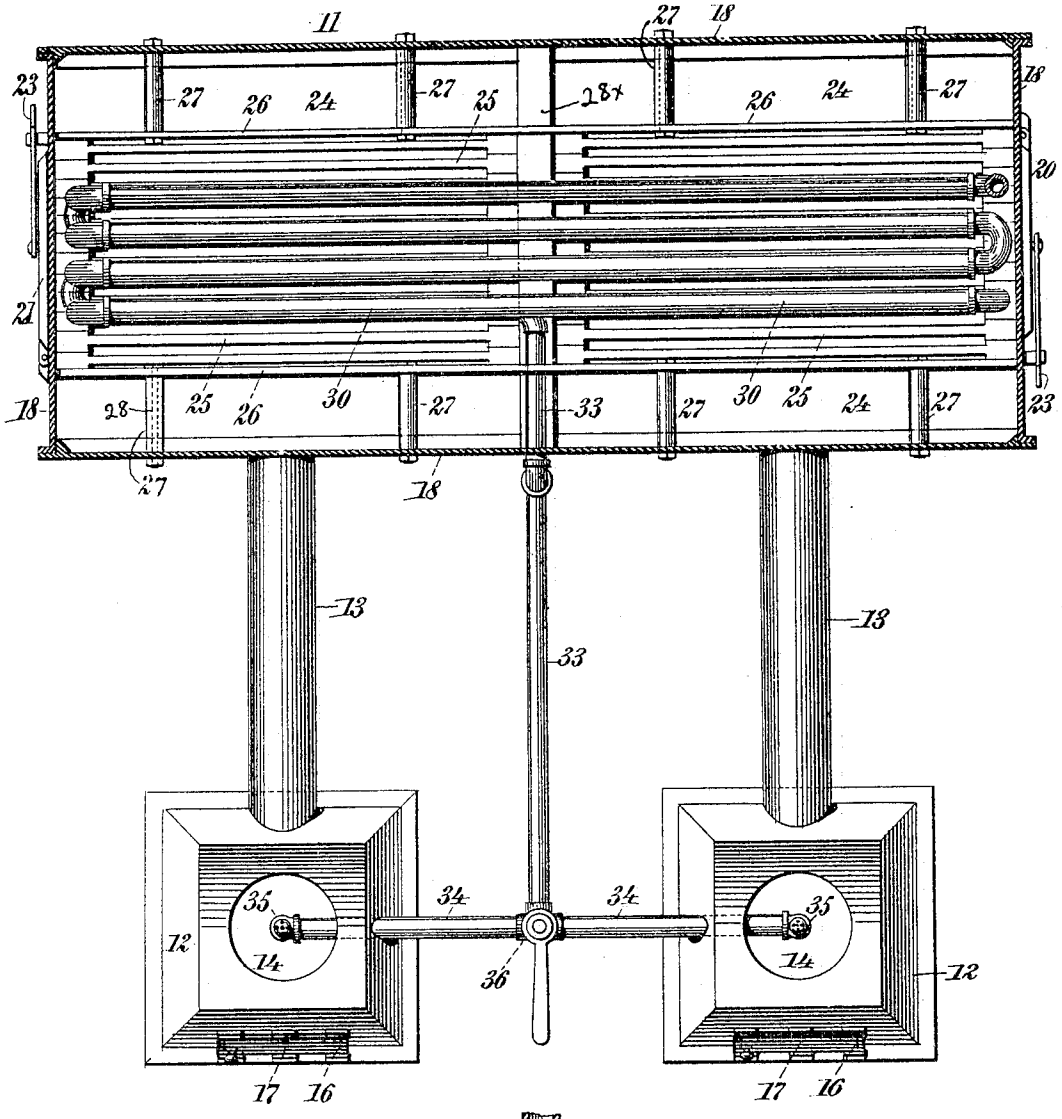
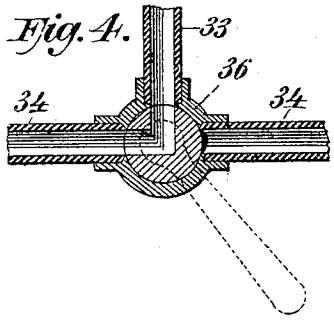


Fig. 4.



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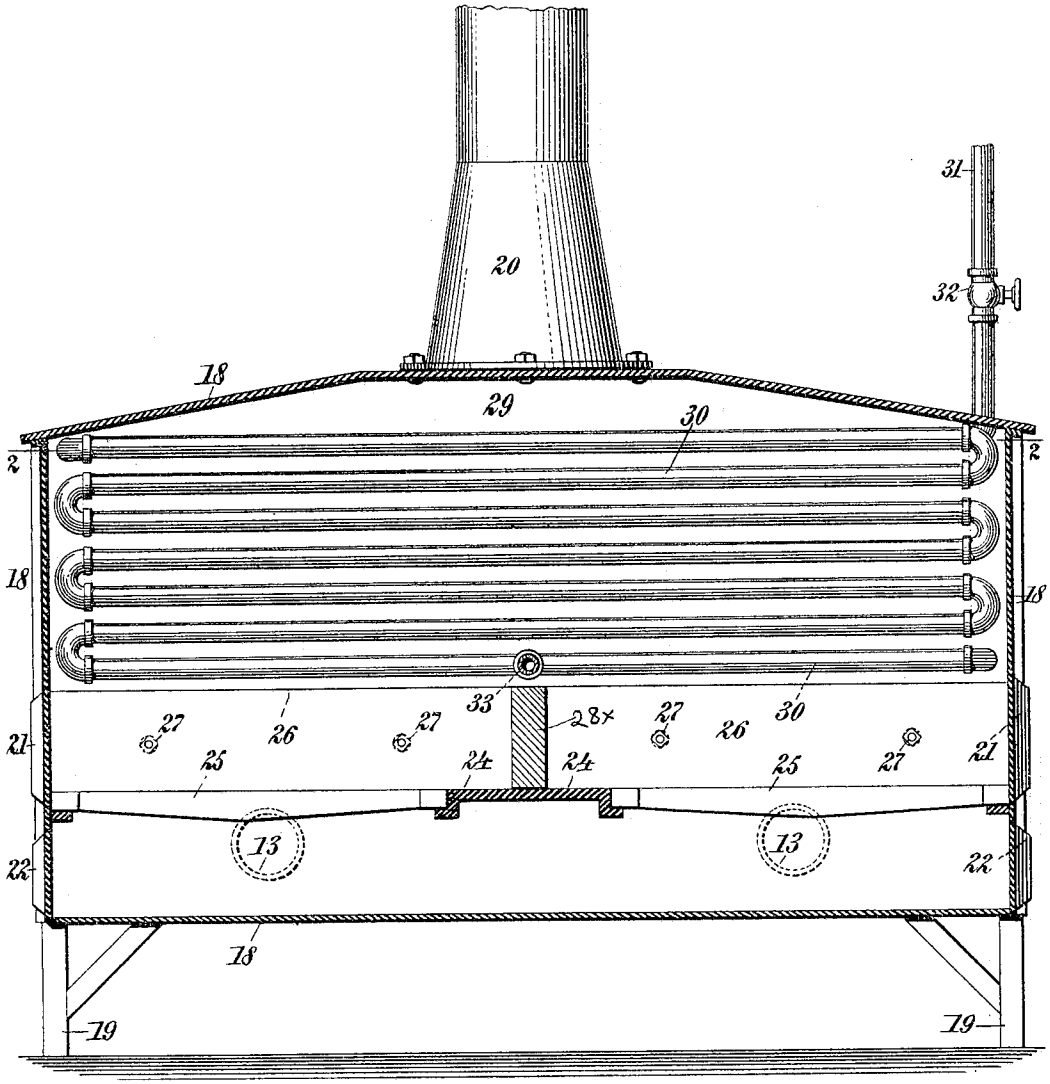
3 SHEETS—SHEET 3.

Fig. 3.



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HARRY TORCHIANI, OF NEW YORK, N. Y.

PITCHING-MACHINE.

No. 801,818. Specification of Letters Patent. Patented Oct. 10, 1905.

Application filed January 21, 1905. Serial No. 242,062.

To all whom it may concern:

Be it known that I, HARRY TORCHIANI, a citizen of the United States, residing at the city of New York, borough of Brooklyn, Kings county, in the State of New York, have invented certain new and useful Improvements in Pitching-Machines, of which the following is a full, clear, and exact specification.

My invention relates to improvements in pitching-machines; and the same has for its object more particularly to provide a simple, efficient, and reliable portable machine by means of which steam from a suitable or convenient primary source of supply may be superheated and thence conducted into a barrel or package and there discharged in order to melt the pitch upon the inner surface or wall thereof, which melted pitch, together with all debris which may have collected or accumulated in the barrel or package, is then permitted to pass out of the same and collect in a suitable receptacle or container disposed within the barrel or package support below the barrel or package disposed thereon.

Further, said invention has for its object to provide an apparatus wherein the steam may be more effectually and economically superheated by utilizing the combustible vapors or gases produced or liberated within the barrel or package by the action of the steam. To this end the produced or liberated gases and vapors are drawn from the barrel or package into the furnace at a point below the grate thereof and thence caused to pass upwardly through the grate and be ignited below the superheater arranged above the grate.

To the attainment of the above-mentioned objects or ends my invention consists in the novel details of construction and in the combination, connection, and arrangement of parts hereinafter more fully described and then pointed out in the claims.

In the accompanying drawings, forming part of this specification, wherein like numerals of reference indicate like parts, Figure 1 shows a side view of an apparatus made according to and embodying my invention; Fig. 2, a top view thereof, partly in section, on the line 2 2 of Fig. 3; Fig. 3, a sectional view of the furnace portion of the apparatus, taken on the line 3 3 of Fig. 1; and Fig. 4 is an enlarged detail horizontal section showing the construction of the valve for controlling the flow of steam to the barrel or package.

In said drawings, 10 designates the apparatus as a whole, comprising the furnace and superheater 11 and the hollow barrel-supports 12, which are connected to the said furnace by pipes or flues 13, which extend from the rear of the supports 12 to the front of the furnace and communicate with the interior thereof at points below the grates therein.

Upon the upper surface of each support 12 is provided a barrel-seat and a circular opening 14, and within each support is disposed a pan or receptacle 15, which may be introduced therein through an opening 16 in the front of the support 12, which is provided with a sliding door 17, by means of which the quantity of air entering the support may be controlled.

The furnace and superheater consists of a rectangular metal casing 18, which is supported in a slightly-elevated position upon legs 19 and is provided at its top with an uptake or stack which is bolted or otherwise secured thereto.

At the opposite ends of the casing 18 are arranged fuel-openings provided with doors 21, and below said fuel-openings are located ash-pit openings provided with doors 22. Both fuel and ash-pit doors are provided with locking devices 23.

Within the casing 18, a short distance above the bottom thereof, is secured a horizontal frame 24, having rectangular recesses therein, in which are supported the grates 25, each consisting of a series of separate grate-bars. At each side of the grates 25 are walls 26, which project upwardly from the frame 24. The said walls are arranged longitudinally of the frame 24 and extend from end to end of the casing 18 and are maintained duly in position by tubular stays 27 and bolts 28, extending through the same.

Between the grates 25 is disposed a transverse brick wall or partition $28^{\times}$, which extends from side to side of the casing 18 and upwardly to the same height as the walls 26 and together form the fuel-receptacles or fire-boxes inclosing the grates 25 25.

Within the casing 18 and above the grates 25 25 is arranged a superheater 29, consisting of a series of connected sinuous pipes 30, one end of which series is connected with a primary source of steam-supply by means of a pipe 31, having a valve 32 therein, while the other end of said series of pipes 30 is connected to an outlet-pipe 33, which extends outwardly through the front of the casing 18, thence downwardly and forwardly, and is provided at its outer end with branch pipes 34 34, which extend into the barrel or package supports 12 and

there connected to the vertical spraying-nozzles 38. At the junction of the outlet-pipe 33 and the branch pipes 34 34 is provided a valve 36, by means of which the passage of the superheated steam to the barrels or packages to be acted upon may be controlled.

37 denotes a condensation-pipe which is connected at its upper end to the outlet-pipe 33 at the junction of its vertical and horizontal portions, and 38 denotes a petcock arranged at the lower end of said condensation-pipe. The said pipe 37 forms a trap in which any condensation may be deposited and drawn off by opening the petcock 38, and thereby prevent any water being sprayed into the package with the steam.

The operation of the apparatus is as follows: After fire has been made upon the grates 25 25 the valve 36 at the junction of the outlet-pipe 33 and branch pipes 34 34 should be closed and the valve 32 in the steam-pipe 31 opened and steam permitted to circulate through the superheater 29. As soon as the steam has been raised to the desired temperature the barrel 39 is placed in position upon the support 12, as shown at Fig. 1, and the valve 36 so adjusted that the steam will pass from the outlet-pipe 33 into the branch pipe 34 and issue from the nozzle 35, projecting into the barrel 39 through the bung-hole therein. The discharged steam will quickly melt the pitch or other coating therein, which will drop to the bottom of the barrel and there pass out of the same through the bung-hole and drip into the receptacle or pan 15. All smoke, vapor, and gas produced or liberated in the barrel by the discharge of the superheated steam therein will be drawn from the barrel into the hollow support 12, through the flue 13, and into the furnace 11 below the grates thereof, and thence pass upwardly through the fire, and upon emerging above the bed of fuel all combustible or inflammable vapors and gases will become ignited and after circulating around and in contact with the pipes 30 of the superheater 29 pass off through the stack 20.

By opening or closing the sliding door in the front of the support 12 more or less, as required, I am enabled to easily and properly regulate the draft or suction, by means of which all vapor, gas, smoke, and odor are abstracted from the barrel.

By means of my machine I am thus enabled to quickly and effectually remove the inner coatings of the barrels without any material escape of smoke or odor and at the same time utilize the combustible gases generated or produced to increase the efficiency of the apparatus and save fuel in so doing.

Without limiting myself to the details of construction, which may be varied within the scope of the invention, what I claim, and desire to secure by Letters Patent, is—

1. An apparatus for the purposes specified comprising a primary furnace and generator, a secondary furnace, a fluid-heater therein connected to and communicating with said primary generator, a package-support, a nozzle arranged upon said package-support connected with the fluid-heater arranged in said secondary furnace, and a flue extending from said package-support to said secondary furnace and communicating with the interior thereof below the grate therein, substantially as specified.

2. An apparatus for the purposes specified comprising a primary furnace and generator, a secondary furnace, a fluid-heater therein connected to and communicating with said primary generator, a hollow package-support apart from said secondary furnace, a nozzle arranged upon said hollow package-support connected with the fluid-heater in the secondary furnace, valve mechanism for controlling the passage of heated fluid from said fluid-heater to said nozzle, and a flue extending from said hollow package-support to said secondary furnace, and communicating with the interior thereof below the grate therein, substantially as specified.

3. An apparatus for the purposes specified comprising a furnace, a fluid-heater therein, a separate hollow package-support arranged at a distance therefrom, an opening in the top of said hollow package-support, a nozzle projecting above the top of said support, and connected to and communicating with the fluid-heater, a valve intermediate said nozzle and heater for controlling the passage of superheated fluid thereto and a flue connected at one end to said separate package-support at a point below its top and at its other end to the furnace below the grate therein, substantially as specified.

4. An apparatus for the purposes specified comprising a furnace, a series of sinuous pipes arranged therein, a pipe connected to said series of sinuous pipes at one end and at its other end with a source of steam-supply, a valve in said pipe, a hollow package-support having openings in its top and side, means for closing the opening in the side of said support, a nozzle projecting above the top of said package-support and through the opening in the top thereof, a pipe connecting said nozzle with the series of sinuous pipes in the furnace, a valve in said pipe, and a flue connected at one end to said package-support, and at its other end to the furnace, and communicating with the same below the grate therein, substantially as specified.

5. An apparatus for the purposes specified comprising a furnace having a plurality of grates therein, a series of sinuous pipes arranged therein above said grates, a pipe connected at one end to said series of sinuous pipes and at its other end with a source of steam-supply, a valve in said pipe, a plurality of hollow package-supports having each an opening in the top and in one of the sides there-

of, a door for closing the opening in the sides of said support, nozzles projecting upwardly through the openings in the tops of said package-supports, an outlet-pipe extending from the series of sinuous pipes in the furnace, branch pipes connecting said outlet-pipe with the nozzles aforesaid, a valve at the junction of the outlet and branch pipes for controlling the flow of heated fluid to said nozzles, and flues extending from said package-support to the furnace and communicating therewith below the grates therein, substantially as specified.

Signed at the city of New York, in the county and State of New York, this 20th day of January, 1905.

HARRY TORCHIANI.

Witnesses:
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