Oct. 13, 1931. F. J. MARTIN 1,827,157

SPRAYING EQUIPMENT

Filed Feb. 12, 1930

Fig. 1.



Fig. 2.

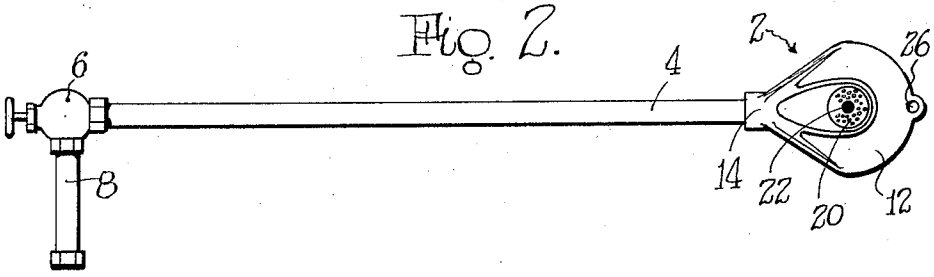
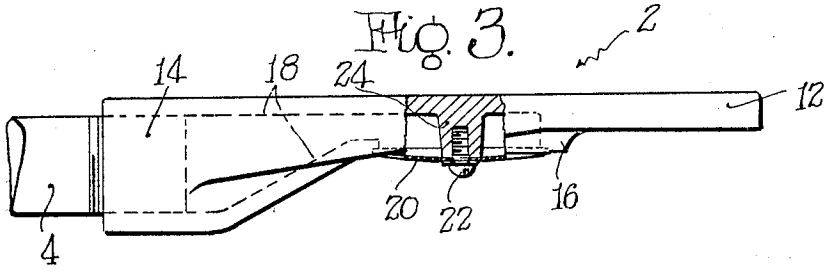


Fig. 3.



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UNITED STATES PATENT OFFICE

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SPRAYING EQUIPMENT

Application filed February 12, 1930. Serial No. 427,926.

This invention relates to improvements in spraying equipment and is directed more particularly to equipment for use with furnaces and the like.

The principal object of the invention is the provision of portable apparatus which is adapted to be inserted in the ash pit of a heating apparatus and is constructed and arranged for spraying water downwardly over the ashes therein for reducing dust.

As distinguished from spraying devices which are secured to the base of a furnace and which extend into the ash pit, the apparatus of this invention is portable and may be moved about within the ash pit. In this way it is possible to direct a spray of water to any desired point to facilitate efficient and economical operation.

According to one novel feature of the invention the apparatus comprises a supporting handle and a spray head which is relatively flat and thin for inserting in an ash pit of a furnace between the grates thereof and a pile of ashes usually located therebelow.

According to another feature of the invention the spray head is in the form of a plate or flange having a spray nozzle in one side thereof so as to direct a spray therefrom in one direction and prevent water being sprayed in the other direction. In this way water is sprayed directly onto the ashes and not onto the hot grates.

Numerous other objects and advantages will be observed from the following description of the invention which is illustrated in the form at present preferred by means of the accompanying drawings, in which:

Fig. 1 is a side elevational view of a sprayed device embodying the novel features of the invention.

Fig. 2 is an inverted plan view of the same, and

Fig. 3 is an enlarged side elevational view of the spray head of the apparatus with parts broken away for clearness.

Referring to the drawings in detail, the invention will now be described.

The device consists generally of a handle 4 and spray head 2. The handle is preferably in the form of a tube or tubes and is bent intermediate its ends to have relatively offset portions as shown. With this form it is possible to readily insert the head 2 directly under the grate of a boiler and move it about to any desired location.

At the end of the handle there is provided a valve 6 and a relatively short pipe 8. This pipe may be connected to a hose so that water may be supplied the apparatus while the valve will control the flow of water to the apparatus.

The spray head 2 is preferably a metal casting having a plate or flange portion 12 and an internally threaded hub portion 14 so that the head may be screwed on to and secured to the handle 4. A central boss portion 16 at the lower side or face of the head is provided which is chambered or hollowed out as shown so as to be in communication with a chamber or hollowed out portion 18 of the hub 14. In this way water may flow from the pipe handle, through chamber 18 and into the chamber of the boss 16.

A spray disc 20 is located over the chamber in the boss and is preferably of thin metal and has its periphery seated in a suitable seat in the boss. It is removably secured in place by a centrally located screw 22 which passes therethrough and is screwed into a tapped hole in a lug 24 as shown.

The disc is perforated to function as a spray nozzle and is preferably more or less flat so as to direct a spray of water downwardly from the head.

The boss 16 is located centrally of the flange or plate 12 which is preferably considerably larger than the nozzle so as to act as a shield therearound and prevent water being sprayed upwardly or being splashed upwardly. This is an important feature because when the head is underneath a grate and over a pile of ashes the grate if hot would likely be injured in case water should strike it.

An aperture 26 is provided in the end of the flange by the means of which the device may be hung on a suitable support.

In operation the end of the handle is connected to a suitable supply of water such as a hose. By grasping the handle the spray

head with the nozzle directed downwardly is easily inserted in the ash pit of a heating plant, such as a boiler or furnace. The head will of course be located over the ashes beneath the grates. The valve 6 may be opened so that water is sprayed downwardly over the ashes. Due to the construction of the head and nozzle water is sprayed downwardly over the ashes and is not directed upwardly. The flange 12 around the nozzle prevents water from striking the grate.

Not only may the head be moved around and over the ashes in all directions, but it may be tilted as well. This is a decided advantage over a device secured to the furnace, because it is possible to concentrate the spray at any point desired and therefore the minimum of water is used to obtain the best results.

It will be noted that since the spray nozzle is removable, it is possible to keep the same in a clean condition.

Various changes may be made in the detail construction of the apparatus without departing from the spirit and scope of the invention. Therefore I prefer to be limited, if at all, by the appended claims rather than the foregoing description.

What I claim is:

1. A portable spraying apparatus for inserting in an ash pit comprising in combination, a spray head including a substantially thin plate having a flat upper face, a boss extending downwardly from the central portion of said plate on its lower face and a hub on the lower face of said plate adjacent the marginal edge thereof, the said boss and hub being hollowed out and in communication with one another, a lug extending downwardly from the plate within said hollowed-out portion of said boss having its outer end disposed concentrically relative to the marginal edges of said boss, a perforated spray disc on said lug and the lower side of said boss which is secured thereto by a screw in threaded engagement with said lug, a handle having relatively offset portions one end of which is receivable in said hub, the said plate extending outwardly on all sides of said boss and disc to provide a shield therearound.

2. A portable spraying apparatus for inserting in an ash pit comprising in combination, a head and a pipe handle connected thereto, the said head including a relatively thin plate having a substantially flat upper surface, a boss extending downwardly from the lower side of said plate in the central portion thereof and a hub at the lower side of said plate at a side thereof, the said boss and hub being provided with communicating hollowed out portions, a lug extending downwardly from said plate axially of the boss in the hollowed out portion thereof and a perforated disc on the lower end of said lug and the upper side of said boss which is secured thereto by a screw in threaded engagement with said lug, the said plate being of greater area than said boss to provide a shield around said boss, said handle including a pipe having portions which are offset relative to one another one end of which is inserted in said hub and extends away from the head in a plane disposed below the said flat upper surface.

3. A portable spraying apparatus for inserting in an ash pit comprising in combination, a spray head including a hub on one face of a plate at the marginal edge thereof, the said plate being relatively thin and having side marginal edges extending forwardly in a diverging relation above said hub and then inwardly towards one another in a curving relation, a boss on said one face of said plate extending downwardly therefrom which is hollowed out to provide a downwardly directed opening, the said hub being hollowed out and in communication with the hollowed out portion of said boss, a lug extending downwardly from the said plate axially of the hollowed out portion of said boss, a perforated disc on the lower side of said lug and boss which is secured thereto by a screw in threaded engagement with said lug, the said plate being relatively larger than the said boss to provide a shelf on all sides of said boss, a tubular handle having relatively offset portions an extremity of which is inserted in the hollowed-out portion of said hub.

In testimony whereof I affix my signature.

FRANK J. MARTIN.