W. KENNEDY.

COVER FOR SOAKING PITS AND MECHANISM FOR SHIFTING SAME.

APPLICATION FILED AUG. 16, 1919.

1,398,900.

Patented Nov. 29, 1921.

2 SHEETS—SHEET 1.

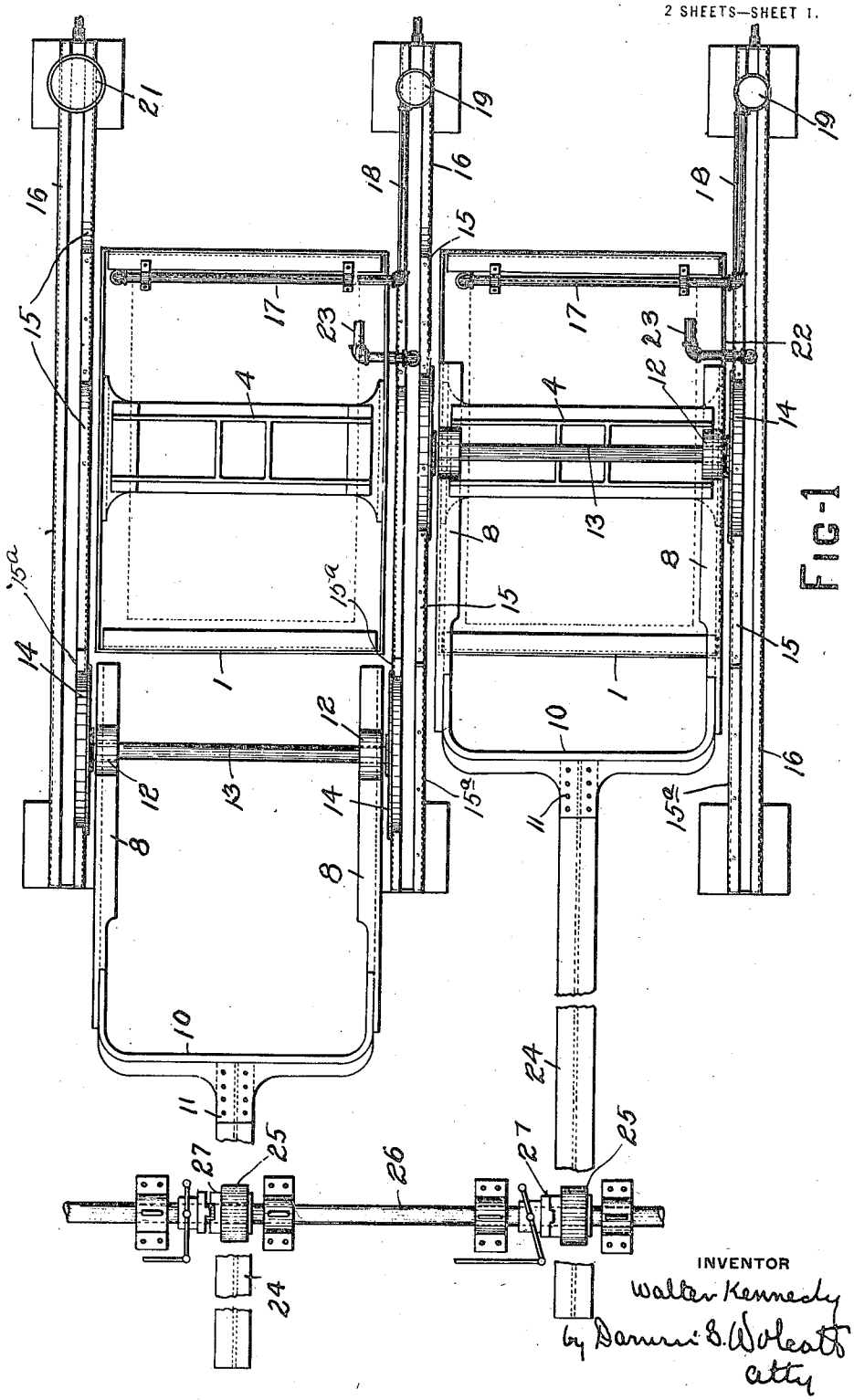


FIG-1

INVENTOR

Walter Kennedy

by Dennis B. Wolcott

atty

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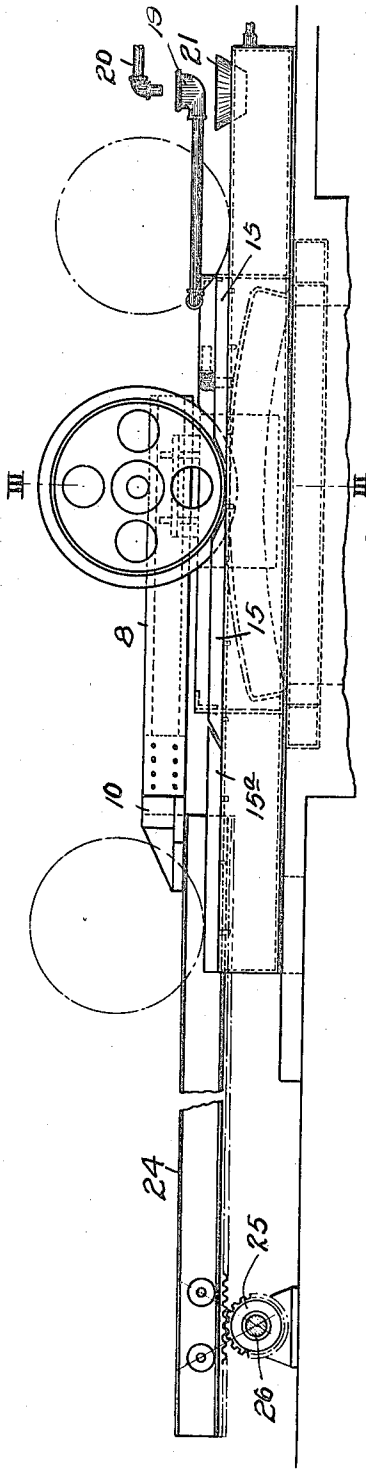


FIG. 2

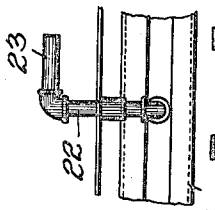


FIG. 5

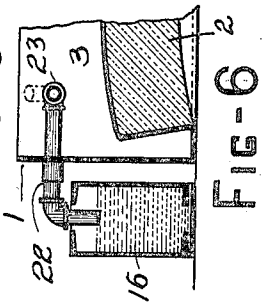


FIG. 6

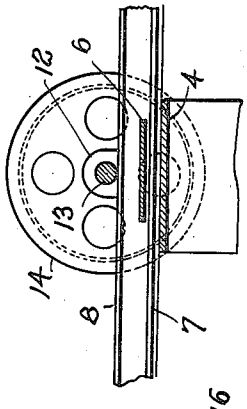


FIG. 4

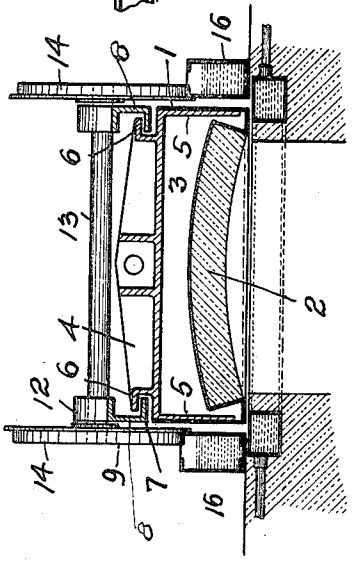


FIG. 3

INVENTOR

Weller Kennedy

by Dennis S. Wolcott

atty

UNITED STATES PATENT OFFICE.

WALTER KENNEDY, OF PITTSBURGH, PENNSYLVANIA.

COVER FOR SOAKING-PITS AND MECHANISM FOR SHIFTING SAME.

1,398,900. Specification of Letters Patent. Patented Nov. 29, 1921.

Application filed August 16, 1919. Serial No. 318,053.

To all whom it may concern:

Be it known that I, WALTER KENNEDY, residing at Pittsburgh, in the county of Allegheny and State of Pennsylvania, a citizen of the United States, have invented or discovered certain new and useful Improvements in Covers for Soaking-Pits and Mechanism for Shifting Same, of which improvements the following is a specification.

It has heretofore been the practice to connect the cover or top of a soaking pit to a truck adapted to move along rails having recesses or depressions so located with reference to the opening of the pit that the truck and cover will drop down as they approach vertical alinement with the opening. In such an arrangement there is both when moved to and from position over the pit, a small movement of the cover while in contact with the supporting surface around the pit opening, and this dragging movement will so wear away the bearing surfaces as to permit flames to issue and come into contact with the truck, rapidly destroying the same.

The invention described herein has for its object the construction and combination of truck, cover and supporting rails, whereby the cover may be lifted entirely away from supporting surfaces prior to any horizontal movement thereof. It is a further object of the invention to provide for cooling the cover in all positions. The invention is hereinafter more fully described and claimed.

In the accompanying drawing forming a part of this specification, Figure 1 is a top plan view of the improvement as applied to adjoining furnaces; Fig. 2 is a side elevation of the improvement; Fig. 3 is a transverse section on a plane indicated by the line III—III, Fig. 2; Figs. 4, 5 and 6 are sectional detail views.

In the practice of the invention the cover for the pit consists of a metal frame 1 constructed with a recess on its underside having its side walls so shaped as to retain the refractory material 2 and is also provided with an open topped basin or receptacle 3. Across this receptacle is arranged a transverse beam 4 provided with downwardly turned ends 5 secured to the sides of the receptacle. This beam is provided with laterally extending wings 6 so arranged as to form between the wings and the top of the beam longitudinal grooves for the reception of flanges 7 carried by or forming a part of the frame of the truck. As shown in Fig. 1 the flanges 7 form parts of the channel-shape beams 8 having their ends secured to a yoke 10, said yoke being provided with an extension 11 whereby the frame may be shifted longitudinally as hereinafter described. The frame is provided with bearings 12 for the shaft 13 on the ends of which are secured the flanged wheels 14 adapted to move along rails arranged on opposite sides of the opening into the pit. The rails are formed of such a height that when the wheels are passing along the top of the rails the flanges 7 of the truck will be in line with the grooves formed in part by the wings 6 so that the flanges 7 will pass under these wings when the cover is down in position over the opening to the furnace as shown in Fig. 3. These rails are provided, except at points lying in a vertical plane passing through the axes of the truck wheels, when the truck is in position to engage the cover and the latter is in position over the top of the furnace, with lifting pieces 15 detachably secured to the rails, the lifting pieces being of such a height that as the truck is moved and the wheels pass up onto the lifting pieces, the flanges 7 will engage the wings 6 and lift the cover clear of the supporting surface. The ends of the lifting pieces are made abrupt so that the first movement imparted to the cover by the truck will be vertical, lifting the cover clear from its supports. As the wheels pass along on these lifting pieces, the cover will be carried from over the opening into the furnace, being entirely supported by the truck through the engagement of the flanges with the wings. In the construction shown, these lifting pieces are made of a length proportional to the amount of opening desired into the furnace. When one side of the furnace, as for example, the right hand in Fig. 2, is to be opened, the truck will be moved to the left and hold the cover away from the furnace top until the wheels pass down and over the end of this lifting piece. If it is desired to remove the cover entirely from above the pit, an auxiliary lifting piece 15^a is placed on each of the rails so as to carry the cover entirely clear over the left as shown in the upper portion of Fig. 1.

While any suitable form or construction of rails may be employed it is preferred to employ a box-like structure 16, as clearly

shown in Fig, 3, so that water may flow through the rails from the receptacle 3 in the top of the furnace cover thereby maintaining the rails cool and also having a cooling effect on the wheels and other portions of the truck. Cooling medium, as water, is supplied to the receptacle through a pipe 17 having its discharge end within the receptacle 3 and having a branch 18 extending parallel with the rails and provided at its end with a funnel 19. These parts are so constructed and arranged that when the cover is in position over the pit, the funnel will be under the supply pipe 20. As it is preferred that the water through the supply pipe should be running constantly, a catch basin 21 is arranged on the rails immediately below the nozzle of the supply pipe so that the water from the latter will, when the cover is shifted. flow down into the rails. The discharge from the receptacle 3 of the cover is effected through a pipe 22 extending from a point inside the receptacle to the slot in the top of the rails and having its end projecting down into the rails. The portion within the receptacle is provided with an adjustable end 23 which can be moved up or down and thereby determine the depth of water within the receptacle.

Any suitable means may be employed for shifting the truck and cover such for example as that shown consisting of a rack bar 24 connected to the extension 11 and adapted to be engaged by gear wheels 25 on the reversible shaft 26. These gear wheels are loosely mounted on the shaft but are adapted to be connected thereto by clutch mechanisms 27 when it is desired to shift the cover.

It will be understood that in case it is desired to shift the truck after the cover has been placed in position, the lifting pieces can be removed and the truck shifted independent of the cover.

I claim herein as my invention:

1. The combination of a cover, a truck movable independent of the cover, means for raising the truck when shifted horizontally and means whereby the truck will engage and lift the cover, when the truck is raised.

2. The combination of a cover, rails arranged on opposite sides of the opening to the soaking pit and having raised portions, a truck having wheels movable along the rails, the cover and truck having parts adapted to be engaged when the wheels pass onto the raised portions of the rails, whereby the cover will be raised and moved along by the truck.

3. The combination of a cover provided with laterally projecting wings, rails arranged along opposite sides of the opening into the pit and having raised portions, a truck having wheels movable along the rails and provided with flanges adapted to engage the wings and lift the cover as the wheels pass onto the raised portions of the rails.

4. The combination of a cover for soaking pits provided with a receptacle for a cooling medium, a truck for shifting said cover, rails for said truck, said rails having passages therein, an outlet from the receptacle in the cover arranged to discharge the cooling medium into the passages in the rails, and means for supplying a cooling medium to the receptacle.

5. The combination of a cover for soaking pits, a truck for shifting the cover, rails for said truck and means for cooling the cover and rails.

6. The combination of a cover for a soaking pit provided with a basin or receptacle for water, a truck for shifting the cover, rails for said truck, one of the rails having a longitudinal passage, a supply pipe, a catch basin arranged below the outlet of the supply pipe and connected to the passage in the rail, and a pipe provided with a receiving funnel for conducting water to the receptacle in the cover and so supported by the cover that the funnel will be in position to receive water from the supply pipe when the cover is in position over the mouth of the pit.

7. The combination of a cover for a soaking pit having a water receptacle, a truck for shifting said cover, rails for said truck, one of said rails having an open topped passage extending longitudinally of the rail, a supply pipe, a catch basin arranged below the outlet of the supply pipe and connected to the passage in the rail, a pipe provided with a receiving funnel for conducting the water to the receptacle in the cover and so supported by the cover that the funnel will be in position to receive the water from the supply pipe when the cover is in position over the pit and an outlet pipe connected to the receptacle in the cover and having the discharge end arranged to direct water into the rail.

In testimony whereof, I have hereunto set my hand.

WALTER KENNEDY.