

G. W. OTTERSON.

APPARATUS FOR REMOVING SEDIMENT FROM SUMPS AND CATCH BASINS.

APPLICATION FILED OCT. 24, 1914.

1,166,712.

Patented Jan. 4, 1916.

2 SHEETS—SHEET 1.

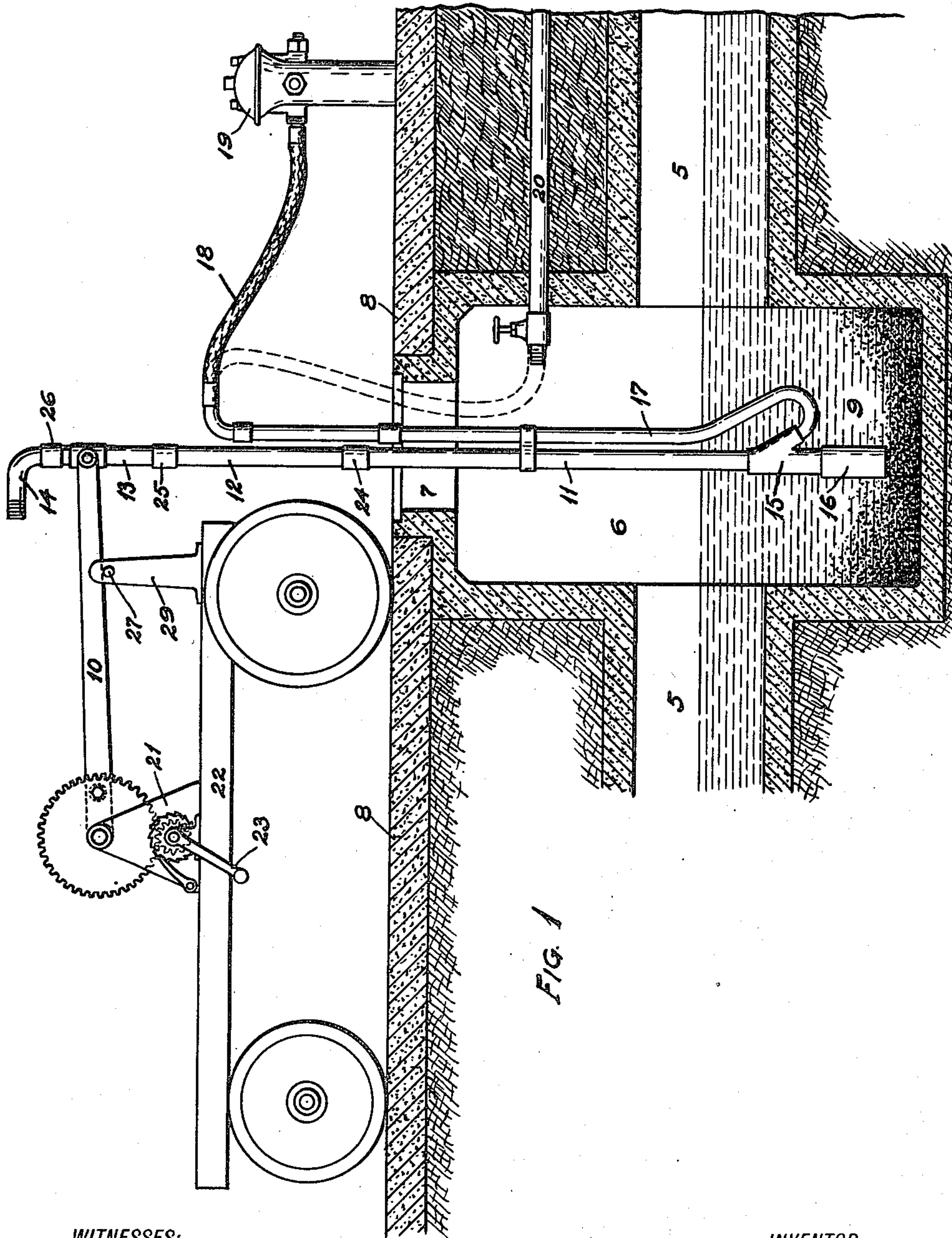


FIG. 1

WITNESSES:

*O. Johnson*  
*Frank Warren*

INVENTOR

*George W. Otterson*

BY

*C. D. Haskins*  
ATTORNEY

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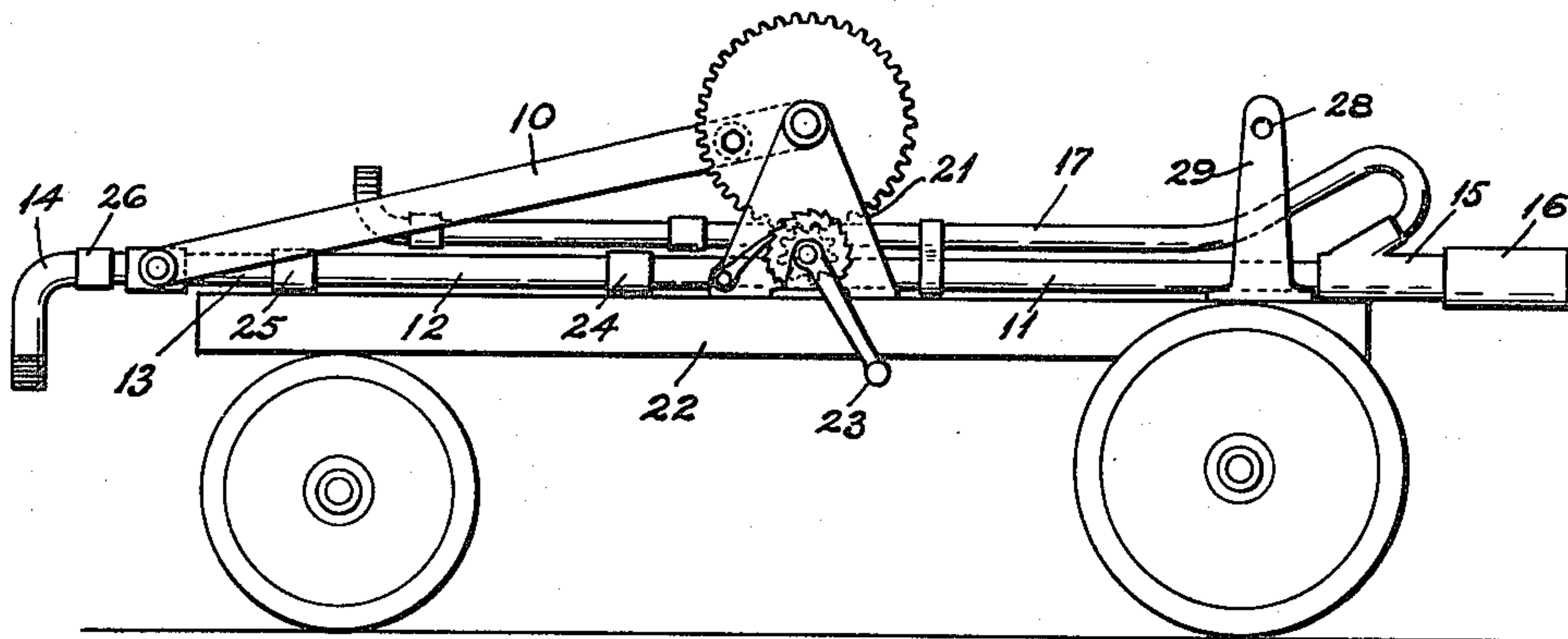


FIG. 2

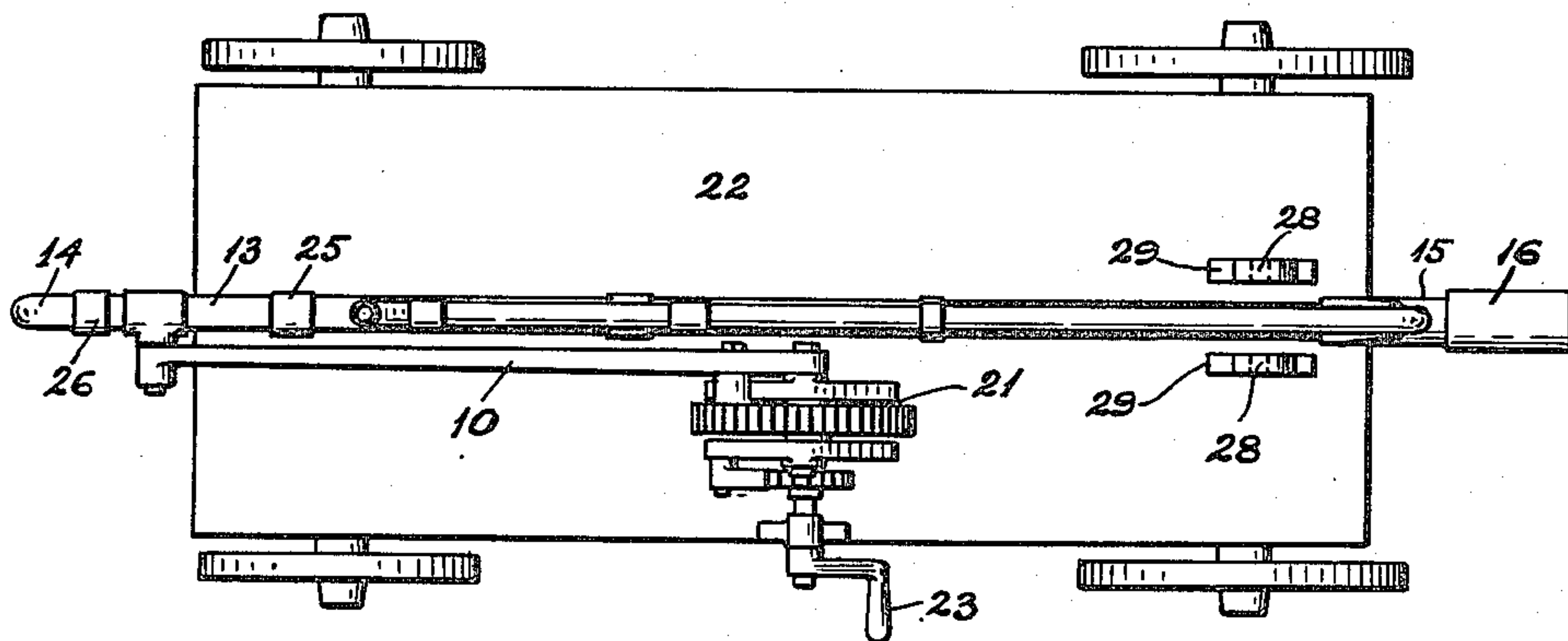


FIG. 3

WITNESSES:

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# UNITED STATES PATENT OFFICE.

GEORGE W. OTTERSON, OF SEATTLE, WASHINGTON.

APPARATUS FOR REMOVING SEDIMENT FROM SUMPS AND CATCH-BASINS.

1,166,712.

Specification of Letters Patent.

Patented Jan. 4, 1916.

Application filed October 24, 1914. Serial No. 868,380.

*To all whom it may concern:*

Be it known that I, GEORGE W. OTTERSON, citizen of the United States, residing at Seattle, in the county of King and State of Washington, have invented a certain new and useful Improvement in Apparatus for Removing Sediment from Sumps and Catch-Basins, of which the following is a specification.

My invention relates to improvements in apparatus for removing sediment, as sand and mud, from the catch-basins or sand-catchers of sewers, and the object of my improvement is to provide a portable hydraulic excavator parts of which may be lowered within a catch-basin and then connected with a source of water under pressure, as with a hydrant or with a pipe of a water distribution system, whereby such water may serve to operate such hydraulic excavator to raise the sediment from such catch-basin to the surface of the street there to be deposited for removal to a desired dumping ground. I accomplish such object by devices illustrated in the accompanying drawings wherein—

Figure 1 illustrates by a view in vertical section a catch-basin within which is operatively disposed portions of the apparatus embodying my invention which apparatus is shown by a view in side elevation; Fig. 2 is a view in side elevation of such apparatus as it appears when disposed in its portable form; and Fig. 3 is a plan view of the same.

Referring to the drawings, throughout which like reference numerals indicate like parts, 5 designates a sewer which leads through a chamber 6 which is provided with an opening 7 that leads to the surface of a street pavement 8, which opening 7 normally may be closed by a suitable cover not shown.

The chamber 6 extends downwardly through and below the sewer 5 for a sufficient distance to form a catch-basin 9 that may serve as a trap for catching sand and mud that may settle into it from the water flowing through the sewer 5.

Suspended from an arm 10 is a hydraulic elevator, of well known form, which extends vertically downward through the opening 7 to such distance that its lower end is near the bottom of the catch-basin 9; such hydraulic elevator comprising a main pipe of three joined sections 11, 12 and 13 to the upper end of which is connected a screw-

threaded elbow 14 and to the lower end of which is connected a vacuum jet 15 to which is attached a suction member 16 and a water supply pipe 17, which water supply pipe 17 is bent to lead upwardly parallel with the main pipe and adjacent thereto to extend through the opening 7, and to its upper end is connected a hose 18 which extends to and connects with a hydrant 19 located at any convenient distance from the opening 7; but in cases where no hydrant is located at a suitable distance from such opening 7, then in such cases, a hose like the hose 18 may be extended from the upper end of the pipe 17 downwardly through the opening 7 to connect with a valve-controlled pipe 20 that may communicate with one of the mains, not shown, of a system of water distribution as indicated by dotted lines in Fig. 1.

The main pipe of the hydraulic elevator is pivotally suspended to the outer end of the arm 10 and the inner end of such arm 10 is associated with a winch 21 which is disposed on the body 22 of a vehicle and which is adapted to swing such arm 10 from its rearwardly projecting position, shown in Fig. 1, upwardly and over to its position as shown in Fig. 2, whereby the hydraulic elevator will be raised out of the chamber 6 through the opening 7 to be disposed on the body 22 of the vehicle, as shown in Fig. 2, and when thus disposed the hydraulic elevator may be transported by the vehicle to another point of use.

When the hydraulic elevator is disposed for operation, as shown in Fig. 1, water is admitted from the hydrant 19 into the hose 18 to flow downwardly through pipe 17, thence upwardly through the vacuum jet 15, thence to flow upwardly through the sections 11, 12 and 13 out of the elbow 14 to which may be connected a suitable conducting pipe, not shown, that may lead to any desired point where the sand and mud from the catch-basin 9 are to be disposed.

The flow of water from the pipe 17 upwardly through vacuum jet 15 creates such suction within the suction member 16 that the sand and mud contained in the catch-basin 9 will be drawn into the lower open end of the suction member 16 and there-through into and through into the vacuum jet 15, and thence forced upwardly through the sections 11, 12 and 13 of the main pipe



with the water from the pipe 17 in a well known manner.

When the sediment is thus removed from the catch-basin 9 the flow of water from the hydrant 19 may be stopped and the hose 18 disconnected whereupon the winch 21 may be operated by turning the crank 23 to actuate the arm 10 to raise the hydraulic elevator out of the chamber 6 through the opening 7, thence on to the body 22 of the truck to lay thereon in the position indicated in Figs. 2 and 3, and thereupon the opening 7 may be closed with a suitable cover.

The arm 10, while suspending the hydraulic elevator in its operative position, has its outer end portion supported by a round bar 27 which extends through holes 28 in the top portions of two vertical standards 29 whose lower ends are fixed to the top surface of the rear end of the body 22 of the vehicle, which round bar 27 may be removed when the arm 10 is raised to lift the hydraulic elevator from the chamber 6 thus permitting the hydraulic elevator to fall between the two standards 28 to its position on the body 22 shown in Figs. 2 and 3.

The sections 12 and 13 are joined together and associated with the section 11 and with the elbow 14 by couplings 24, 25 and 26 and if it be desired to lengthen or shorten the main pipe of the hydraulic elevator in order to operate on catch-basins of different depths from the surface of the street, then in such cases, the sections 12 and 13 may be

replaced by longer or shorter sections as may be required.

Manifestly other hydraulic elevators having different forms of vacuum jets may be substituted for the form shown in Fig. 1 and different forms of mechanism may be employed in connection with the vehicle for lowering and raising a hydraulic elevator in the operation of cleaning catch-basins without departing from the spirit of my invention.

I claim—

In a device of the kind described, a vehicle including a platform, a horizontal shaft supported from and spaced transversely above the platform, means to rotate the shaft, releasable means arranged to stop movement of the shaft in one direction, combined guides and supports mounted at one end of the platform, a removable pin connecting the guides, a rigid arm fixed to the shaft and movable to rest on the pin when the device is in operative position, and a carrier member pivoted to the free end of the arm and arranged to lie in transport position flat on the platform with its free end between the guides and beneath the pin.

In witness whereof, I, hereunto subscribe my name this seventh day of October, A. D. 1914.

GEORGE W. OTTERSON.

Witnesses:

FRANK WARREN,  
A. HASKINS.