Oct. 9, 1928. 1,686,658

E. P. HEALEY

CATCH BASIN CLEANER

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Fig. 1.

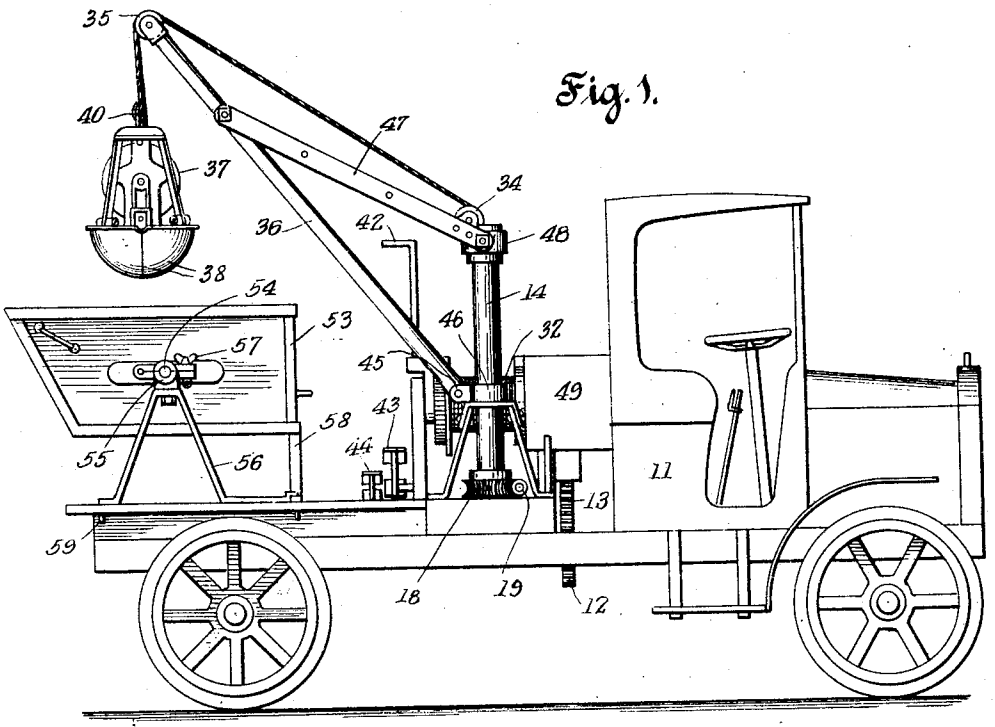
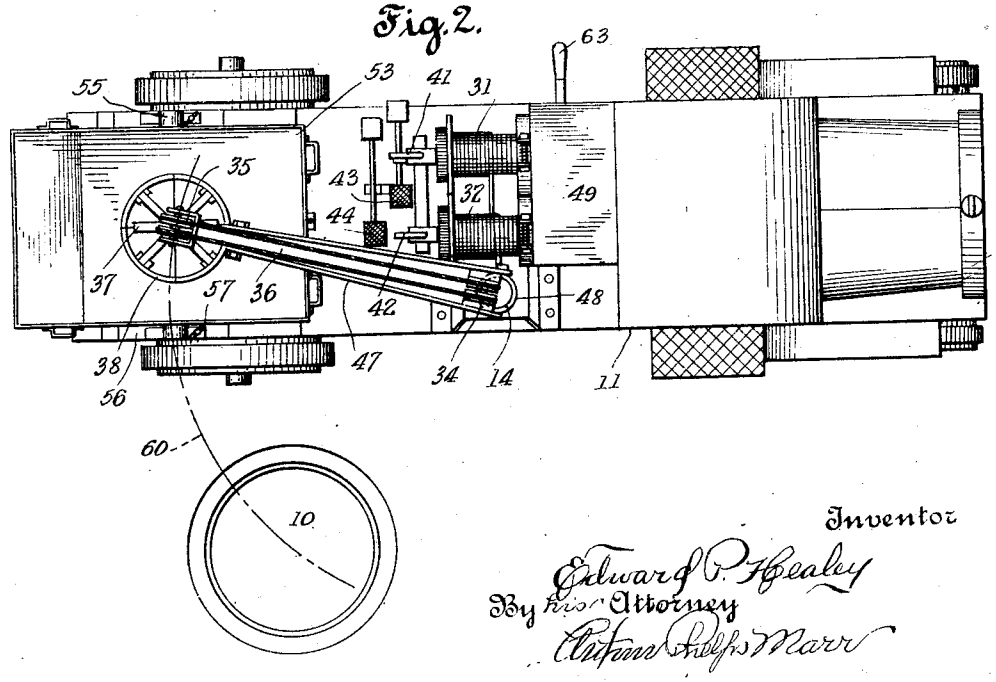


Fig. 2.



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Fig. 4.

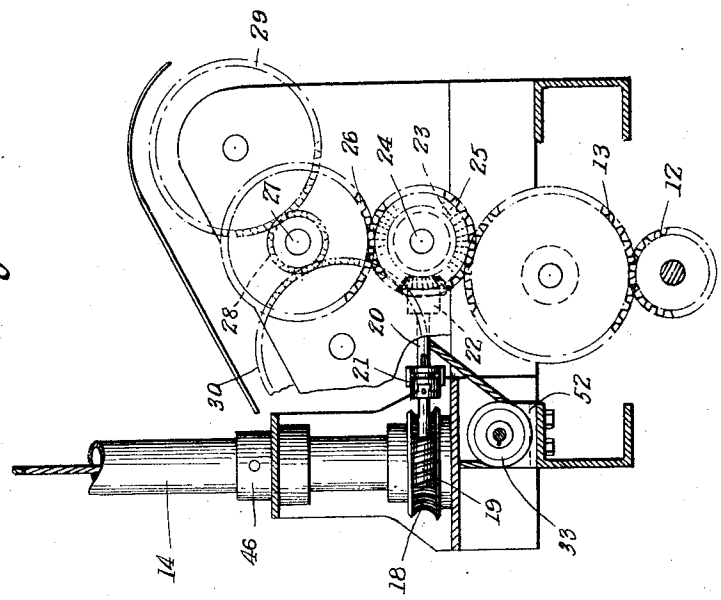
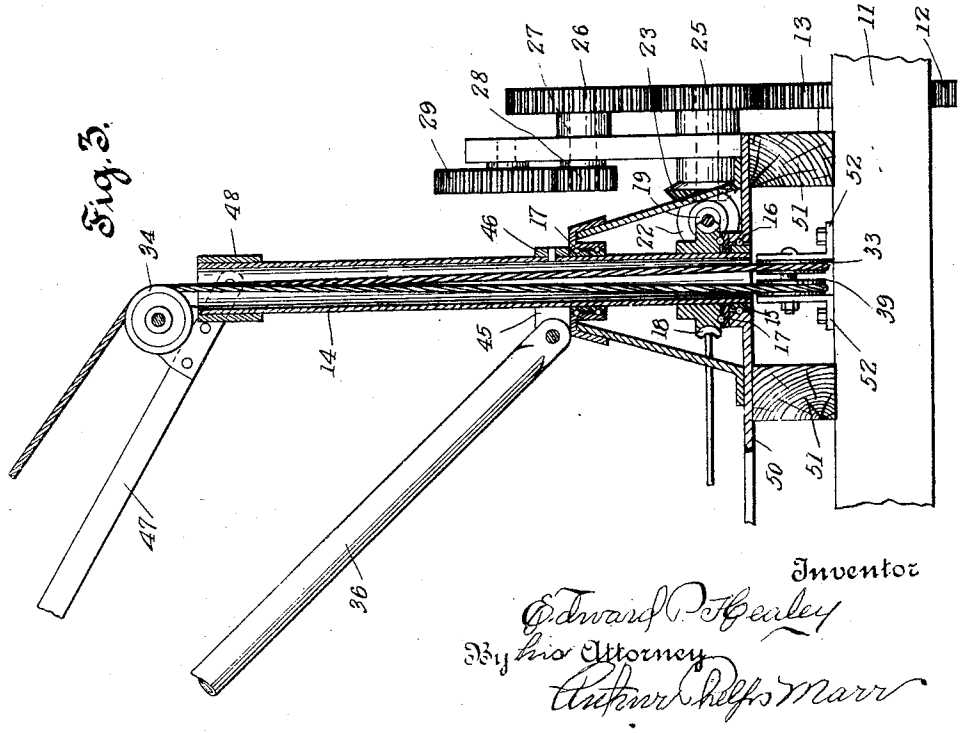


Fig. 3.



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Fig. 5.

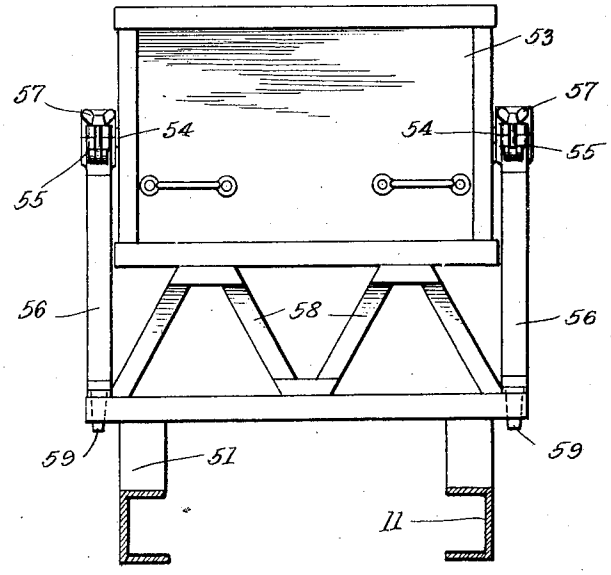
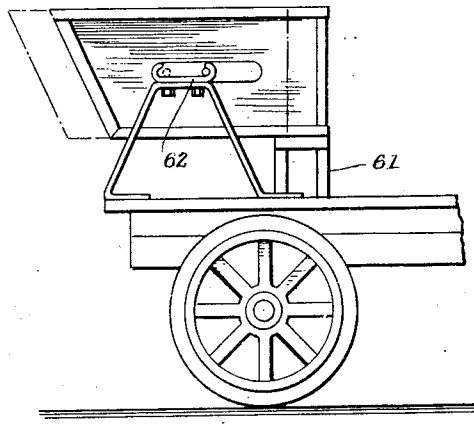


Fig. 6.



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Patented Oct. 9, 1928. 1,686,658

UNITED STATES PATENT OFFICE.

EDWARD P. HEALEY, OF NEW YORK, N. Y.

CATCH-BASIN CLEANER.

Application filed September 13, 1922. Serial No. 587 929.

The principal objects of this invention are to provide a device for cleaning catch basins quickly and economically and with the elimination of man power, so far as that is possible.

In the past it has been customary to scoop out catch basins by hand buckets or scoops on long poles. While this operation was known to be inefficient and expensive, it appeared the best method possible, due to the nature of the refuse and the usual accumulation of water therein, which made it impossible for the operators to go down into the basin to shovel out the refuse.

My device employs a grab bucket and means for operating it rapidly and efficiently and the devices which I employ, their construction and operation will be fully set forth as the specification progresses. The accompanying drawings should be referred to for a complete understanding of the specification which follows.

In the drawings:—

Fig. 1, is a side elevation of my device.

Fig. 2, a top plan view.

Fig. 3, a partial, sectional view, showing the mast and parts associated therewith.

Fig. 4, a fractional view showing the driving mechanism.

Fig. 5, is a front elevation of the container, showing a modified means of supporting that member, and

Fig. 6, is a side elevation, showing a still further modified means for supporting the container.

Similar reference numerals indicate like parts in all the figures where they appear.

At 10 in Fig. 2, I show a man-hole and a catch basin, sump or sewer trap, which it is desired cleaned and which may be located within or without the curb line of a street.

All of my cleaning mechanism is mounted on the chassis of a truck of convenient size and as platform trucks are known and the method and operation of such devices well understood, I will refer to the truck as a whole, in brief detail, referring to it and indicating it by the reference character 11.

The truck is provided with engine, transmission, controlling and steering mechanisms in the usual manner and from the transmission is a power take-off, common to this type of apparatus, a pinion 12 on the take-off meshing with the driving gear 13 of my device.

Upon the body of the truck, I mount a hollow mast 14, supported upon a thrust bearing 15 and free to rotate in the ball bearings 16 and 17, which are spaced apart to support the mast in a vertical position. A gear 18 secured to the mast 14 is rotated to a greater or less extent by the worm 19 upon the shaft 20 and the clutch 21 upon this shaft provides means for disconnecting the worm gear 19 from the shaft 20. Upon the shaft 20 is a bevelled gear 22 in mesh with the bevelled gear 23 upon an intermediate jack-shaft 24 and upon this jack-shaft is an intermediate gear 25 for driving a larger gear 26.

The gear 26 on the shaft 27 rotates a pinion 28, also upon this shaft, which in turn drives gears 29 and 30, operating rope drums 31 and 32 and which will be again referred to and it will be understood that one of the principal reasons for this chain of gears, just described, in addition to the added convenience of location of the parts is to provide a proper speed reduction between the power take-off 12 and the drums 31 and 32.

A rope from the drum 31 passes over the sheaves 33 arranged directly under the hollow mast 14 and extending upward passes over one of the sheaves 34 at the top of the mast, outward over the sheave 35 arranged at the end of the boom or arm 36 to a pulley 37 which operates the jaws 38 of the grab bucket.

The rope from the drum 32 passes over the pulley 39 upward through the vertical mast, over the pulley 34, over the pulley 35 on the boom 36 and is secured at 40 to the grab bucket and serves to raise and lower this bucket.

Each of the drums 31 and 32 is provided with an operating lever as shown at 41 and 42. These levers controlling the movement of the drum and I also provide foot operated brakes 43 and 44 by means of which the rotation of the drums may be checked and the drums retained in any desired position.

The mast 36, previously referred to is supported between the lugs 45 and the collar 46 which is pinned to the mast 14 and the brace or arm 47, secured upon the band 48 at the top of the mast 14 also assists in supporting the boom, as this brace is bolted to the boom.

I arrange a casing 49 over the driving gears and it will be noted that for convenience the mast 14 is supported upon the plate 50 which is in turn mounted upon blocks 51,

which elevates it over the chassis to an extent sufficient to allow the sheaves 33 and 39 to be supported by brackets 52, directly under the mast 14.

Upon the chassis and preferably to the rear of the mast 14, I place a container 53, which I prefer should be formed as a dumping body. This container is provided with extending pins 54 which are received in bearing blocks 55, supported upon brackets 56. The bearing blocks are formed as hinges, the parts of which are secured by a nut and bolt 57, which may be released to allow the container 53 to be removed, if desired.

The inner end of the container 53 is supported upon a suitable bracket 58 and may or may not be secured to this bracket as desired. I call particular attention to the fact that the brackets 56 and 58 are provided with extensions 59 passing through stake holes in the platform of the truck and may be readily removed with the container 53, so that the truck may be used for other purposes of desired.

I call particular attention to the fact that it is not necessary to make the boom 36 adjustable as is common in hoisting apparatus, for the reason that the whole device may be transported to a point so close to its seat of operations that the boom may be made to swing over the center of the man-hole and container upon the dotted line 60 as shown in Fig. 2.

I provide a lever 63 as shown in Fig. 2 by means of which the power take-off may be disconnected from the drum gears when the vehicle is being transported from place to place.

The support for the container may be the bridge type structure as shown in Fig. 5 or it may be a platform 61 shown in Fig. 6 and the bearing members 58 may be omitted and a simple open top bearing 62 substituted therefor and other modifications may be made within the scope of the appended claims without departing from the principle or sacrificing the advantages of the invention.

Having carefully and fully described my invention, what I claim and desire to obtain by Letters Patent is:—

1. A catch basin cleaner comprising a truck, a hoisting device arranged thereon and comprising a hollow mast, a boom in fixed relation with said mast, a bucket supported at the end of said boom, a plurality of cables for hoisting and lowering said bucket and operating said bucket, all extending through said hollow mast, a container removably mounted on said body, and power-driven means for rotating said mast for causing said bucket to pass over said container and to cause said boom to extend outward from said truck body.

2. A catch basin cleaner comprising a truck, a hoisting device arranged thereon, and having a mast, a boom in fixed relation with said mast, a bucket supported at the end of said boom, a plurality of cables for hoisting and lowering said bucket, and operating said bucket, a container removably mounted on said body, and power-driven means for operating said bucket and for rotating said mast for causing said bucket to pass over said container and to cause said boom to extend outward from said truck body.

Signed at the city, county and State of New York, this 12th day of September, 1922.

EDWARD P. HEALEY.