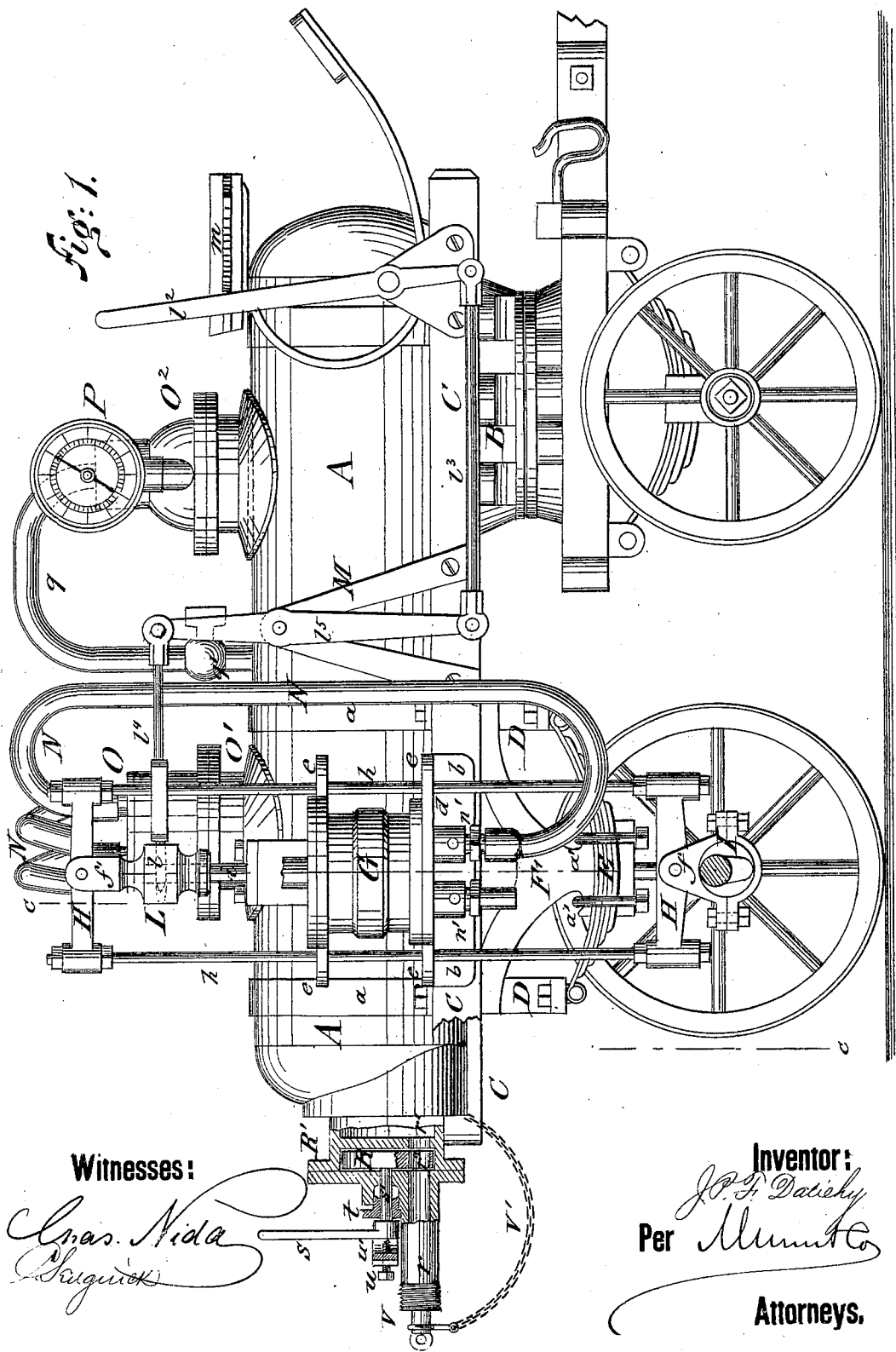


J. P. F. DATICHY.

Apparatus for Cleaning Cess-Pools, Sinks, &c.
No. 142,840.

Patented September 16, 1873.



Witnesses:

Cas. Nida
Quigley

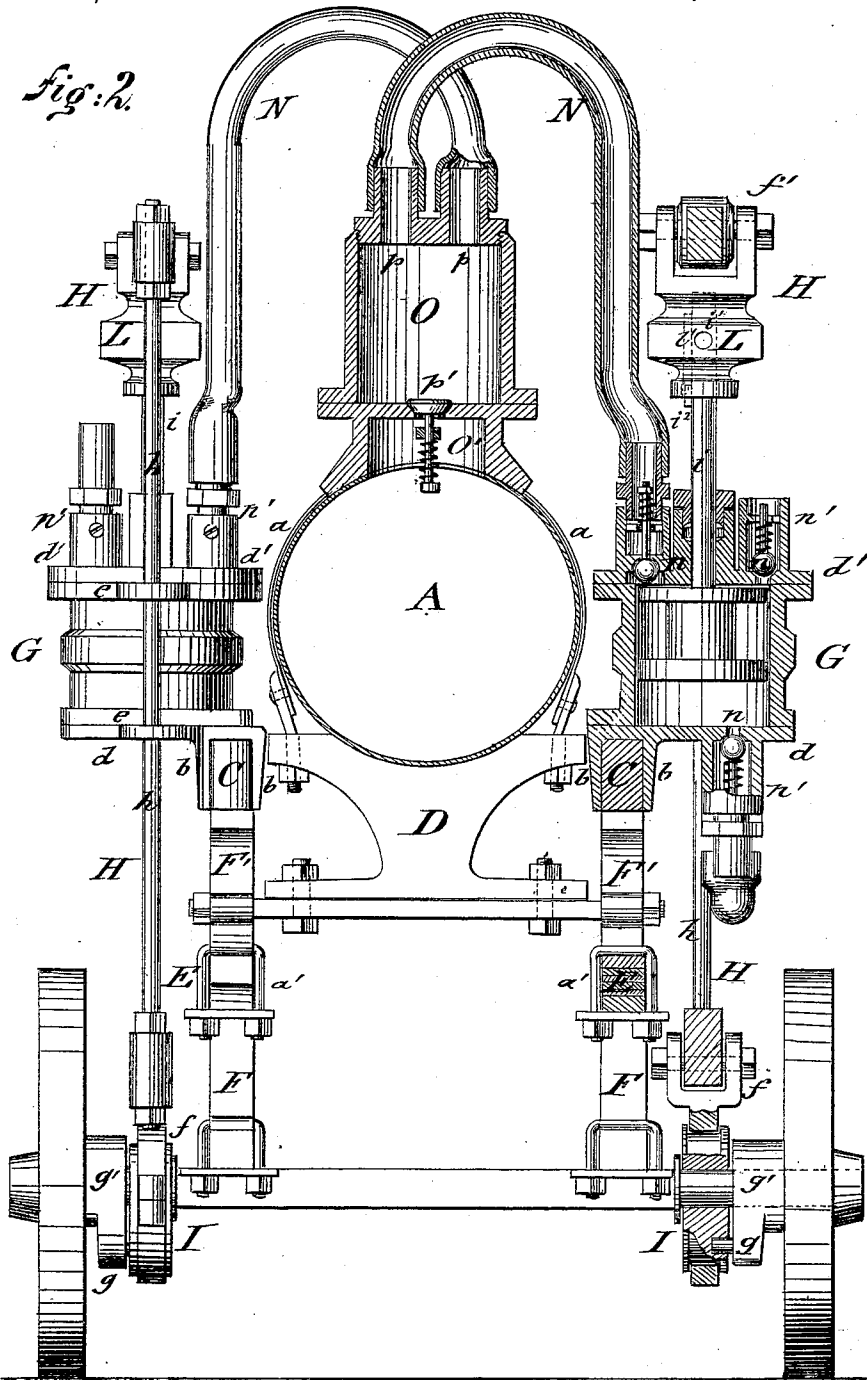
Inventor:

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UNITED STATES PATENT OFFICE.

J. P. FLORIMOND DATICHY, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN APPARATUS FOR CLEANING CESS-POOLS, SINKS, &c.

Specification forming part of Letters Patent No. **142,840**, dated September 16, 1873; application filed August 9, 1873.

To all whom it may concern:

Be it known that I, J. P. FLORIMOND DATICHY, of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Apparatus for Emptying and Cleaning Sinks, Privies, &c., of which the following is a specification:

In the accompanying drawing, Figure 1 represents a side elevation of my improved apparatus for emptying and cleaning sinks, privies, &c., partly in section, to show inlet tank-valve; and Fig. 2 is a vertical transverse section of the same on the line *c c*, Fig. 1, showing arrangement of the air-pumps in connection with tank.

Similar letters of reference indicate corresponding parts.

The object of my invention is to improve the machines for emptying and cleaning sinks, privies, cess-pools, &c., sewers, marshy lands, &c., in a perfectly odorless manner, so that the work can be done in the day-time without the least discomfort and annoyance to the occupants of the dwellings, and without the use of separate machines by which the vacuum in the tank is created. My invention consists of a tank of suitable capacity, which is provided with double-acting pneumatic pumps and all necessary appurtenances to insure the efficient working of all the parts. The tank is carried on a four-wheeled truck of suitable strength, and the vacuum is created by the hind wheels working the air-pumps by eccentrics, said action to be discontinued by the application of a regulating-gear, which frees the piston from its shaft, according to a gage placed on a cupola connected with the tank, which assists, also, the perfect working of the machine.

In the drawing, A represents the tank, of hollow cylindrical shape, and made of suitable material. It rests on a four-wheeled truck, constructed of corresponding strength and dimensions, to be drawn by horses. The fore part of the tank A rests in a bed-frame, B, which is sidewise applied to the longitudinal main pieces C, and carried by the front part of the truck. The rear part of tank A is applied by strong bands *a*, which pass around its circumference, to the lateral supporting-pieces D, which are carried by strong springs E. The wagon-springs E are placed beneath

the main pieces C, and connected to, and supported by, the vertical pillars F, which are rigidly attached to the axle of the hind wheels of the truck. The suspension of the tank A on these separately-acting springs E secures greater facility of motion, independently of the truck, without interfering with the working of the air-pumps. The pillars F are also, together with springs E, connected, by strong links *a'*, to the strong brackets F', which branch out above the springs, and support the rear part of main beams C. The double-acting air-pumps G are securely connected to the upper side of beams C by vertical sleeves *b*, cast to platforms *d*. The pumps G project sidewise, and guide, in perforated side lugs *e* of their casings, the vertical piston-rod frames H. The lower part of frame H is pivoted to the forked arm *f* of eccentric I, which is placed loosely on the hind axle of the truck, and rotated by a crank, *g*, and sleeve *f* keyed to the inside of the hub of the hind wheel. The guide-rods *h* of frame H move steadily up and down in lugs *e*, and insure the regular working of the pumps G. To the upper part of frame F is pivoted, by its forked end *f'*, the connecting cross-head L, in which the piston-rod *i* slides, to be locked thereto by the end pin *l* of regulating-gear M. The piston-rod *i* is provided with a hole, *i'*, and a guide-lug, *i''*, which moves freely up and down in a side recess of cross-head L without working the pumps; but as soon as pin *l*, passing through the horizontal perforation *l'* of cross-head L and hole *i'*, attaches the piston-rod to the rod-frame H, the pump is thrown into operation. The regulating-gear is applied to the sides of beams C, and operated by the backward or forward motion and locking of hand-lever *p* into a rack, *m*, at each side of the driver's seat. The connecting-rods *p'* *p''* and intermediate lever *p'''* transmit the motion. Each air-pump G is provided with four ball spring-valves, *n*, two of which—one at the top, and one at the bottom—work together.

The valves *n* operate in valve-boxes *n'* of the top and bottom platforms *d d*, closing hermetically on the valve-seats, as indicated in section in Fig. 2. Four pipes, N, of leather, rubber, or other elastic material, lead from those valves *n* which open into pump G to a dome or cupola,

O, above the man-hole O¹ of tank A, and communicate, by orifices *p* and check-valve *p'* of the man-hole, with the interior of the tank A.

As the valves *n* are so arranged that both the up and down strokes of the piston act on the tank, an unobstructed drawing power is obtained, and the creation of a vacuum in the interior of the tank greatly accelerated. Those valves *n* which open to the outside of the pumps allow the air to escape directly, without the intervention of pipes.

In order to form as perfect and therefore as operative, a vacuum as possible, a second cupola, O², is placed on the top of the tank in front of the other, and connected to the interior through a pipe, *q*, and pipe *q'*. This cupola takes up the small quantity of air which cannot be drawn, by means of the air-pump, from the tank proper. It also serves as an outlet for the gases from the tank after the same has been filled.

The stop-cock *q'* is closed when the tank is full, to prevent the action of the compressed gases of the cupola on the contents of the tank, which would otherwise produce a kind of ebullition in the tank. When the tank is to be emptied, the stop-cock is opened, and the pressure of the gas accelerates the emptying.

A vacuum-gage, P, is attached to cupola O² to determine the degree of vacuity created by the pumps, and enable the driver to throw the pumps out of gear when the required vacuum is obtained.

The rear part of tank A connects, by a pipe, *r*, and a hose of suitable length screwed to it, with the sink, privy, or other receptacle which is to be emptied. A flat polished disk-valve, R, which turns in a hollow cylindrical casing, R', of the tank, closes or opens aperture *r*¹, which forms the inlet and outlet of the tank. A hole, *r*², of the disk-valve establishes the communication of pipe *r* and aperture *r*¹ when

the lever S of valve R is turned in a vertical position. The shaft *s'*, which connects lever S and valve R, turns in well-fitting bearings *t*. The lever S is retained in place by a set-screw, *u*, which turns in a U-shaped support, *u'*, screwed to bearings *t*.

After the operation of emptying the sink is completed, and the tank filled, the valve R is closed, the hose detached, and pipe *r* closed by a screw-cap, *v*, which is attached, by a chain, *v'*, to one of the main beams C. The load is then carried and discharged at the place of deposit, and the apparatus returns directly, without loss of time, to renew the work, creating the vacuum in the tank during the time of driving to the appointed place.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination of the hind wheels of the truck, having crank *g*, with the loose eccentric I of the axle and piston-rod frame H, to give steadiness to the perpendicular position and motion of the same, as described.

2. The combination of air-pump G, having bottom platform *d*, with sleeve *b*, and perforated lugs *e*, with piston-rod frame H to guide the same, as specified.

3. The regulating-gear M, consisting of hand-lever *l*², applied to rack *m* of seat, intermediate lever *l*³, and rods *l*³ *l*⁴, with locking-pin *l*, in combination with cross-head L of frame H and piston-rod *i*, to establish or interrupt the working of pump G, as set forth.

4. In combination with tank A, the additional cupola O, with gage P, for communicating with the interior by pipe *q'* and stop-cock *q*, for the purposes described.

J. P. FLORIMOND DATICHY.

Witnesses:

PAUL GOEPEL,
J. DESROSTERS.