

No. 658,175.

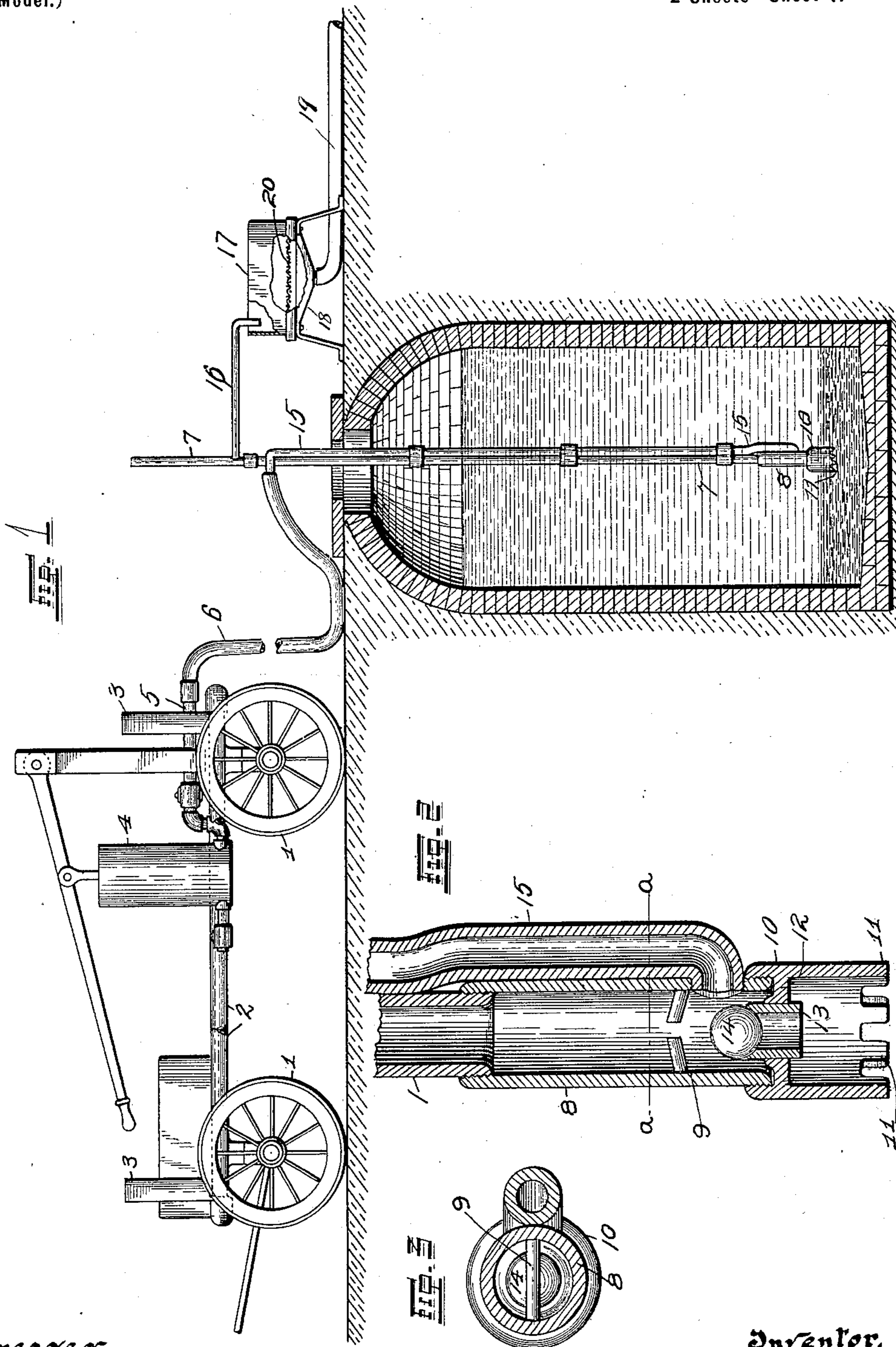
Patented Sept. 18, 1900.

J. T. HINDMAN.
CISTERN CLEANER.

(Application filed June 11, 1900.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses

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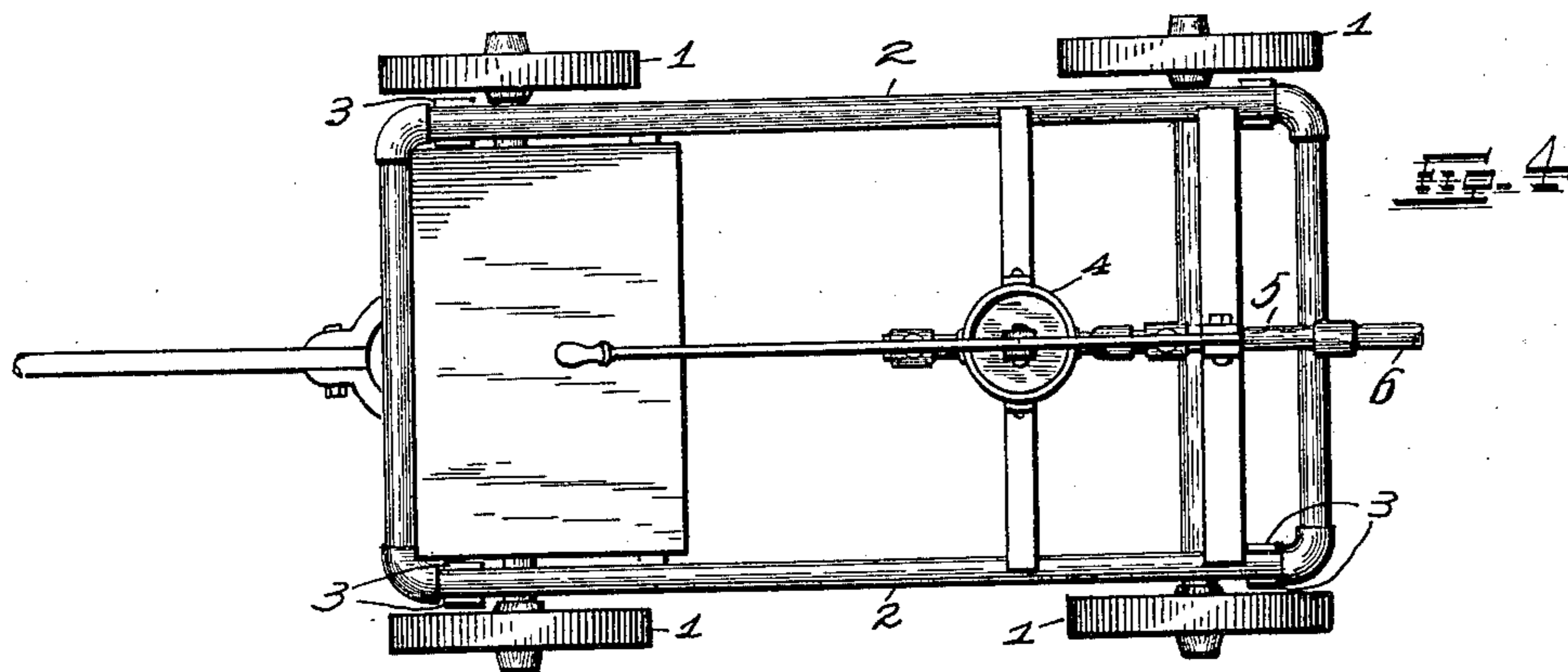


FIG. 5

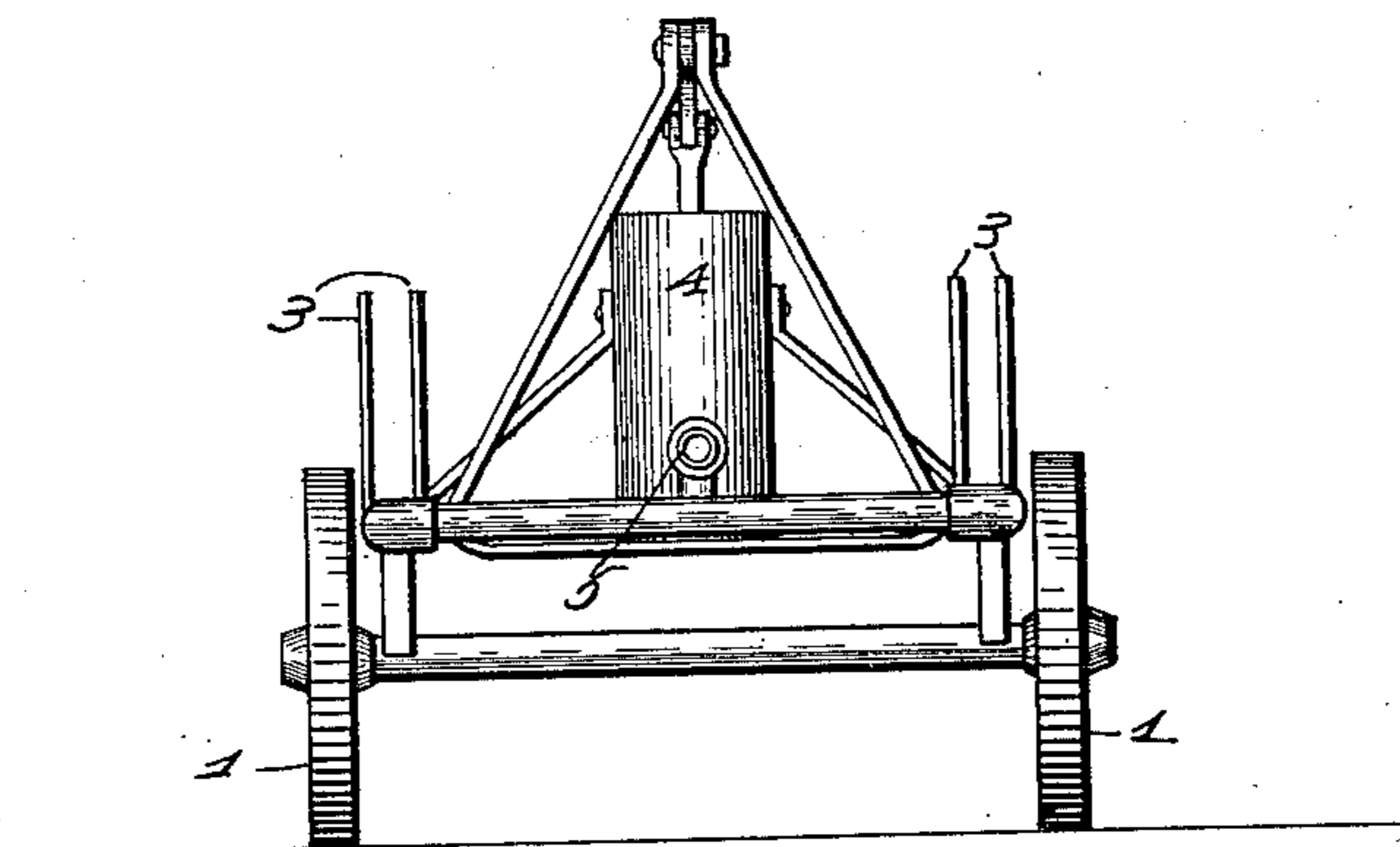
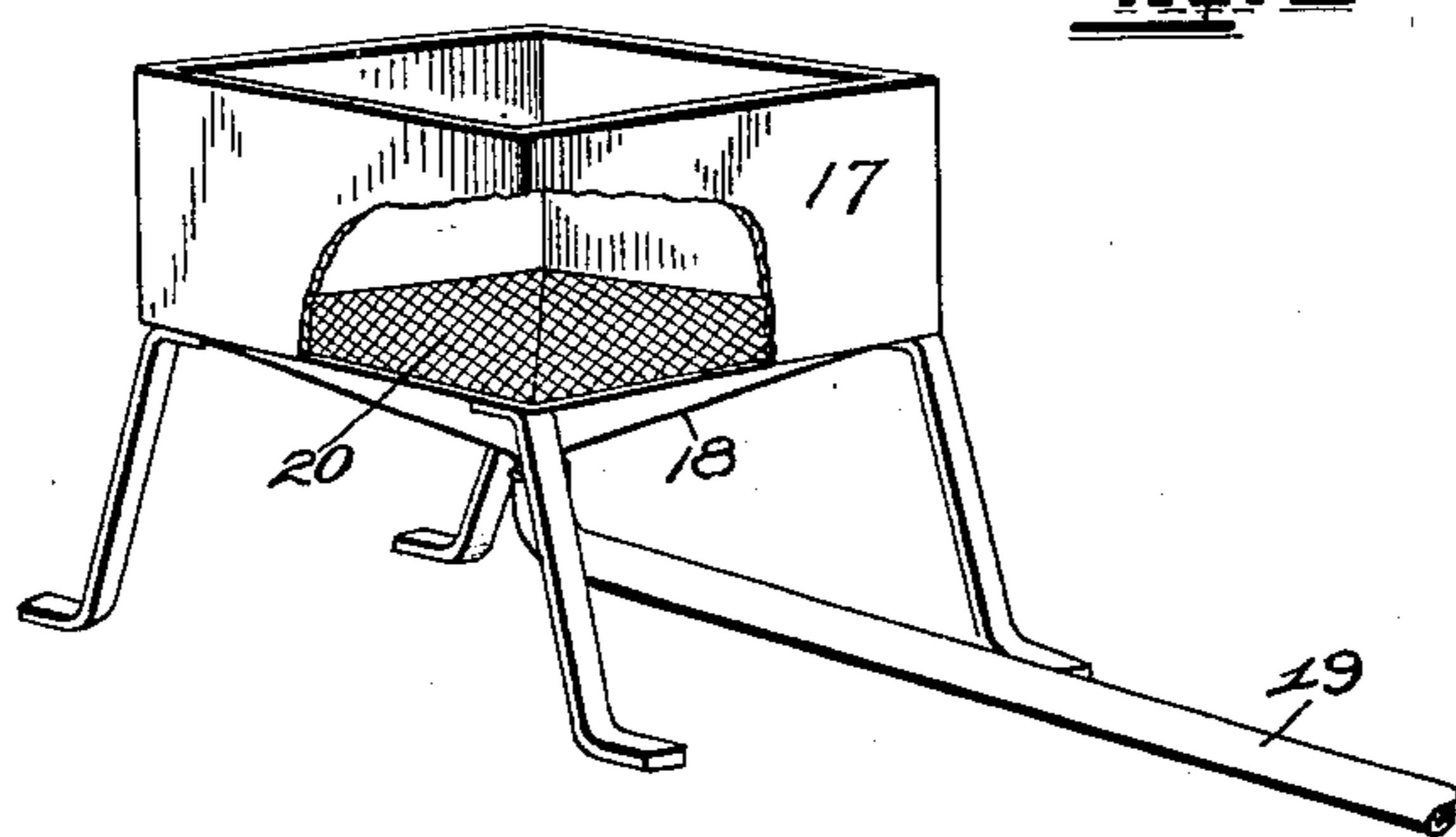


FIG. 6



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UNITED STATES PATENT OFFICE.

JAMES T. HINDMAN, OF ANNA, ILLINOIS.

CISTERN-CLEANER.

SPECIFICATION forming part of Letters Patent No. 658,175, dated September 18, 1900.

Application filed June 11, 1900. Serial No. 19,932. (No model.)

To all whom it may concern:

Be it known that I, JAMES T. HINDMAN, of the city of Anna, Union county, State of Illinois, have invented certain new and useful
5 Improvements in Cistern-Cleaners and Water-Purifiers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

10 This invention relates to cistern-cleaners and water-purifiers; and it consists of the novel construction, combination, and arrangement of parts hereinafter shown, described, and claimed.

15 Figure 1 is a view showing the invention as applied when in use. Fig. 2 is a detail sectional view of a portion of the air and conducting pipes and shows the valve carried within the lower end of the conducting-pipe.

20 Fig. 3 is a cross-sectional view taken on the line *a a* of Fig. 2. Fig. 4 is a plan view showing the device which I employ to carry the mechanism when not in use. Fig. 5 is a rear end elevation of the same. Fig. 6 is a view
25 in perspective with parts broken away, showing the receiving-hopper into which the settlings are conveyed after being removed from the cistern.

In the drawings, 1 denotes the traction-wheels, upon which is mounted a rectangular frame constructed of tubular members, the arrangement of which is best shown in Fig. 4. The specific purpose of this construction is to avoid unnecessary weight, while at the
30 same time the strength is great enough to support the device when not in use. To each side of the side members 2 of the frame are secured standards 3, between which the air-conducting pipes are carried during transportation from one place to another. Carried
40 near the rear end of the tubular framework is an air-pump 4, leading from the rear side of which is a pipe 5, the same being connected to the air-conducting pipe by means of a hose 6.

45 7 indicates the conducting-pipe, which is made use of to conduct the settlings from the bottom of the cistern. Secured to the lower end of the conducting-pipe is a tubular section 8, carrying near the lower end thereof
50 retaining-pins 9, the purpose of which is to prevent the valve, which prevents the back-flow, from being drawn out of the pipe dur-

ing the operation of the machine. Threaded over the lower end of the section 8 is a nipple 10, the lower edge of which, as shown, 55 is provided with a plurality of teeth 11, the purpose of which is to allow the nipple to better engage within the settlings at the bottom of the cistern. Integral with the upper end of the nipple 10 is a bottom 12, carried within an aperture, in the center of which is a small nipple 13, in the upper end of which normally rests a ball 14, which is the valve that prevents the backflow of the stream of settlings when the device is in 65 use. Carried alongside the conducting-pipe 7 is an air-pipe 15, the upper end of which is connected to the hose 6 and the lower end of which leads into the tubular section 8, between the upper end of the nipple 10 and the pin 9. When the air is forced by means of the air-pump 4 through the air-pipe 15, the ball 14 is forced from the nipple 13 and assumes a position diametrically opposite from the lower end of the pipe 15. This 75 creates a current of air upwardly through the conducting-pipe 7, the force of which draws the settlings from the bottom of the cistern into which the nipple 10 has been forced. The upper end of the conducting- 80 pipe 7 is closed by any well-known means, as by a valve or a plug, and the material is led from the said conducting-pipe by means of a horizontal pipe 16. The outer end of the horizontal pipe 16 projects over a receiving-hopper 17 in the manner shown in Fig. 1. The receiving-hopper 17 is provided with a bottom 18 in the form of an inverted pyramid, and leading from the lowest point thereof is a conducting-pipe 19, the purpose of 85 which is to conduct the settlings to any point desired. Within the hopper 17 is a secondary bottom 20, of reticulated material, which is for the purpose of holding back all particles which are too large to pass through the 95 pipe 19.

The operation is as follows: When it is desired to use the machine, the conducting-pipes 7 and the air-pipe 15 are placed within the cistern in the manner shown in Fig. 1, 100 the nipple 10 being forced into the settlings at the bottom of the cistern. The air-pipe 15 is then connected to the pipe 5 by means of the hose 6, and the horizontal pipe 16 is

arranged, as shown, above the receiving-hopper 17. The device is then in position ready for use, and the air-pump 4 is operated, which forces a current of air through the pipe 5 into the hose 6 and downwardly through the air-pipe 15. This forces the ball 14 from its position in the upper end of the nipple 13 and creates an upward current of air, which draws the settlings from the bottom of the cistern upwardly through the pipe 7 and outwardly through the pipe 16. Between the operations of the air-pump 4, when no current of air is passing upwardly through the pipe 7, the ball 14 settles back by gravity into the upper end of the nipple 13, thereby preventing any back-flow of the material which is contained within the pipe 7. At each succeeding operation the ball 14 is forced from its position, as above described. On some occasions it may be desired to purify or aerate the water of the cistern after it has been cleaned. This may be done by moving the nipple 10 from the tubular section 8 and operating the air-pump 4, as above described. This will force a current of air through the pipe 15, which will pass out at the lower end thereof and will thoroughly aerate the water.

I claim—

1. A cistern-cleaner and water-purifier, comprising a conducting-pipe, an air-pipe leading into said conducting-pipe, a valve carried in said conducting-pipe adjacent to the lower end of the said air-pipe, and means for retaining the said valve within said pipe, substantially as specified.

2. A cistern-cleaner and water-purifier,

comprising a conducting-pipe, an air-pipe leading into said conducting-pipe, a valve carried within said conducting-pipe adjacent to the end of said air-pipe, which valve is opened when the current of air is forced into the conducting-pipe, and is closed when the current is not in motion, substantially as specified.

3. A device of the class described, comprising a conducting-pipe, an air-pipe carried alongside and leading into said conducting-pipe, means for drawing the settlings from the bottom of the cistern through said conducting-pipe, a valve carried within said conducting-pipe, pins for retaining said valve therein, and a detachable nipple for upholding said valve, substantially as specified.

4. A device of the class described, comprising a conducting-pipe, an air-pipe carried by and leading into said conducting-pipe near its lower end, means for forcing a current of air through said air-pipe and through said conducting-pipe, a nipple carried by the lower end of said conducting-pipe, a valve supported by said nipple for preventing a back-flow of the settlings when the current is not in operation, and means for retaining said valve within the said conducting-pipe, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES T. HINDMAN.

Witnesses:

ALFRED A. EICKS,
JOHN D. RIPPEY.