(No Model.)

D. A. WOODHOUSE.

WATER TOWER.

No. 513,167. Patented Jan. 23, 1894.

Fig. 1.

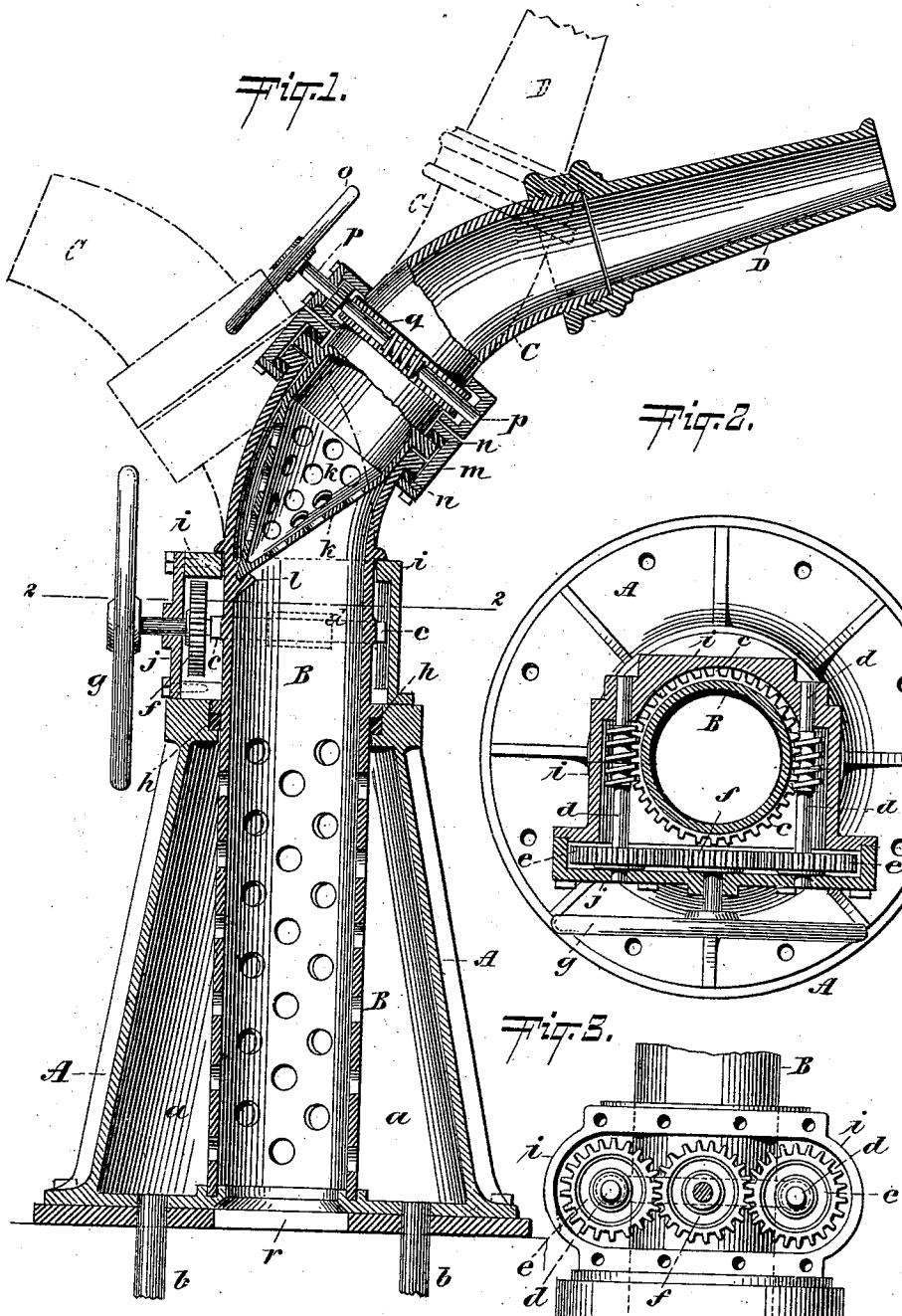


Fig. 2.

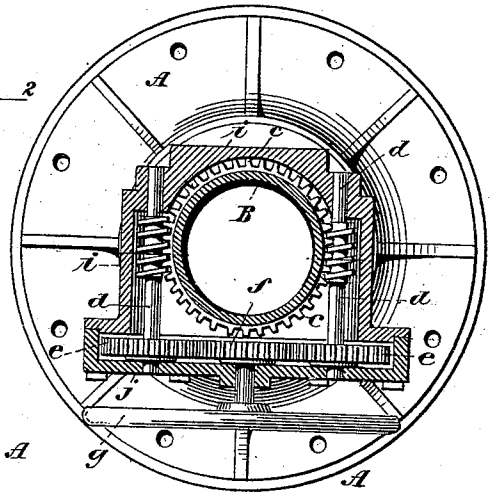
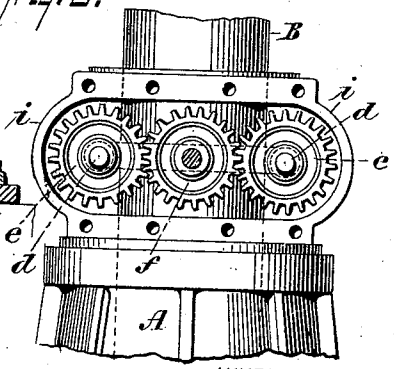


Fig. 3.



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WATER-TOWER.

SPECIFICATION forming part of Letters Patent No. 513,167, dated January 23, 1894.

Application filed January 24, 1893. Serial No. 459,561. (No model.)

To all whom it may concern:

Be it known that I, DANIEL A. WOODHOUSE, a citizen of the United States, residing in the city of New York, in the county and State of New York, have invented a new and useful Improvement in Water-Towers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, in which—

Figure 1 is a central sectional view of my improved water-tower. Fig. 2 is a transverse section of the same on the line 2—2 of Fig. 1. Fig. 3 is a detail face view showing the operating pinions.

My invention relates to a new and useful improvement in water towers, and consists in the novel arrangement and combination of parts hereinafter described and specifically pointed out in the claims.

The object of my invention is to produce a water-tower through which a large amount of water can be forced and in which the nozzle can be readily turned in any direction and at any angle by one man, thus enabling one man to readily play a stream in any direction desired without loss of time or danger of accident.

My invention is adapted to a vast variety of purposes, but is found of particularly great utility when used on board of boats and the like.

In the drawings A represents the tower-base, which may or may not be secured to the deck of the tug or other suitable structure. This tower-base A is hollow forming a water chamber *a* therein. Communicating with the chamber *a* are a suitable number of supply pipes *b*.

Within the tower base A and adapted to fit and rotate therein, is a pipe section B which may be straight, or curved at the upper end as shown, and is provided with a suitable stuffing box *h* interposed between it and the top of the tower base A to prevent the escape of water at the joint. This pipe section B in the portion thereof inclosed in the tower base A is perforated and is supported by a suitable flange formed on the bottom of the tower base A or otherwise. The lower end of pipe section B communicates with the main source of supply as shown at *r*. To the upper portion of the pipe section B, which extends above the tower-base A, is secured a worm rack *c* which entirely encircles said pipe section, as shown in Fig. 2. Located on opposite sides of the pipe section, are shafts *d* provided with worms adapted to engage the rack *c* mounted on said pipe-section, and to one end of these shafts *d* are secured pinions *e* which mesh with and are operated by a central pinion *f*, to which is attached a hand wheel *g* all of which parts except the hand wheel *g* are inclosed within a housing *i* which forms bearings for the various shafts contained therein, and may be provided with a suitable removable covering or cap *j*. By turning the hand wheel *g* motion is communicated to the central pinion *f*, side pinions *e* and worm shafts *d* attached thereto, the worms on said shafts *d* being adapted to mesh with the circular rack *c* mounted on the pipe section B and rotate said pipe section in the direction and to the extent desired. Instead of two worms, only one may be used.

C represents a nozzle section which preferably terminates at its lower end or where said nozzle section is inclosed in the pipe section B, in a conical perforated portion *k* the pointed end of which rests in and is supported by a suitable bearing *l* carried by the pipe section B. It will be observed that the axis of rotation of that portion of section C which is inclosed within the pipe section B is at an angle to the axis of rotation of said pipe section, for reasons which will be hereinafter described. The upper end of the nozzle section C is provided with suitable means for attaching the nozzle proper D.

The pipe section B and nozzle section are connected by coupling *m*, provided with suitable packing *n* therein, to prevent water from escaping at the joint, and so constructed as to allow of the rotation of the nozzle section C within the pipe section B.

The nozzle section C which is curved or inclined as shown in Fig. 1, is operated in a like manner to that of the pipe section B, that is, by a hand wheel *o* attached to a central pinion similar to *f* and which gears with two side pinions attached to worm shafts *p* on each side of the nozzle section, the worm on said shafts *p* meshing with the circular rack

q attached to said nozzle section, all of which may be inclosed in a suitable housing. Thus it will be seen that when motion is communicated through the hand-wheel o the nozzle section C can be rotated in either direction and the angle of the nozzle varied, since as before stated the nozzle section is inclined and its axis of rotation is at an angle to that of the pipe section B. Other means for rotating the nozzle section and the pipe B may be employed in lieu of those stated.

When it is desired to put my water tower into operation it is merely necessary to turn on the supply valves, (not shown,) when water will flow through the supply pipes b into the chamber a through the perforations into the pipe section B and also, if desired, through the main supply at r. From B it flows through the perforations contained in the nozzle section C and finally through the nozzle D.

By my invention I am enabled to play the stream at any suitable angle in any desired direction by one man with but little delay and liability of accident.

It is obvious that many changes in detail might be made without departing from the spirit of my invention, such as using other suitable means for turning the pipe section B and nozzle section C the means shown being preferred, however for the simplicity of their construction.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination of the tower base A provided with water inlet chamber a revoluble perforated curved pipe section B communicating with said water inlet chamber a and with the main supply pipe, revoluble perforated curved nozzle section C communicating with said pipe section B, and means substantially as described for rotating said pipe section B and nozzle section C, substantially as and for the purposes set forth.

2. The combination of the tower base A, pipe section B inclined at the upper end thereof, means for rotating said pipe section, nozzle section C provided with conical perforated end k supported by the bearing l carried on said pipe section B, swiveled connection for uniting said sections B and C and means for rotating the nozzle section C, substantially as and for the purpose set forth.

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Witnesses:
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