

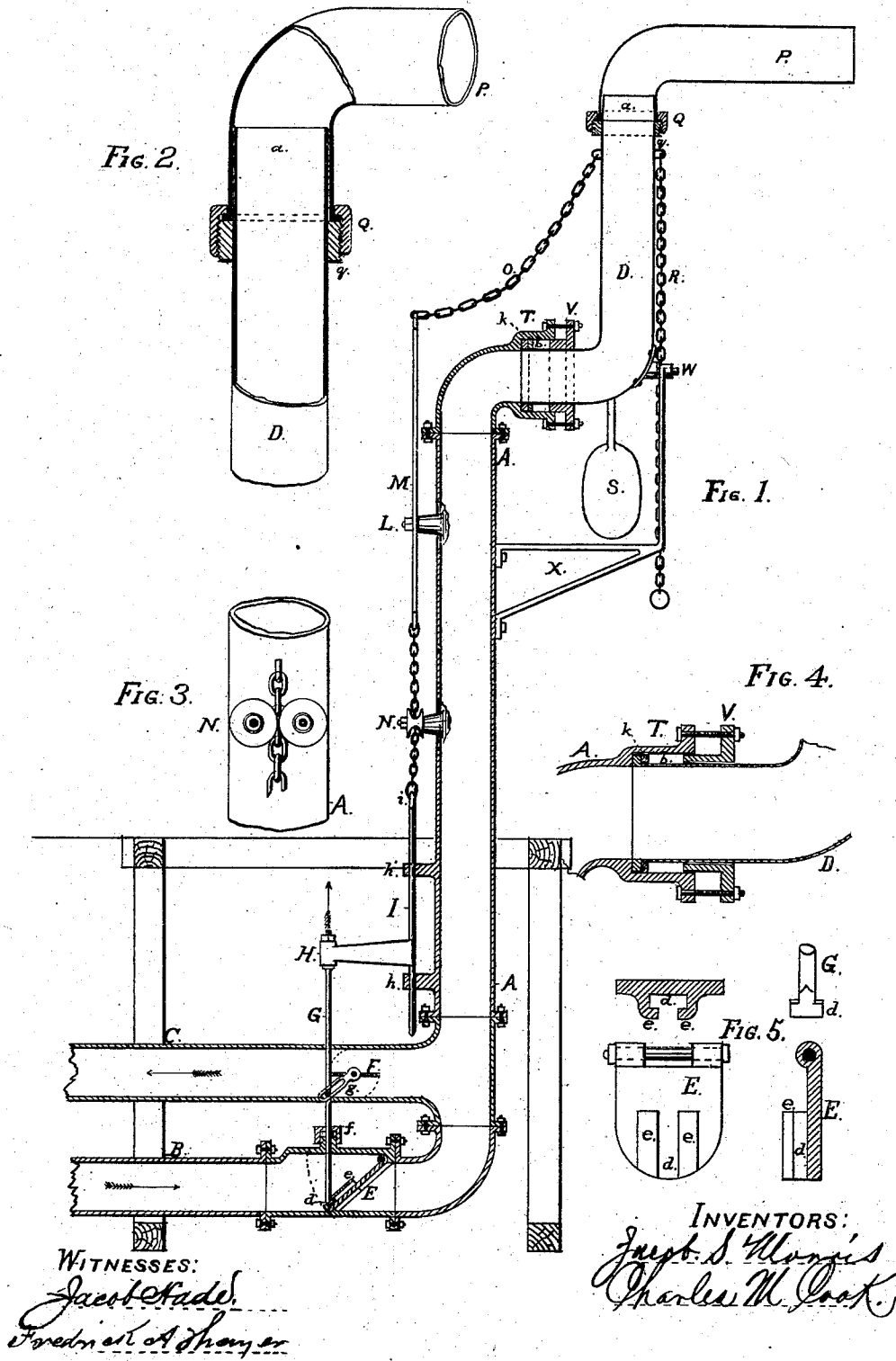
(No Model.)

2 Sheets—Sheet 1.

J. S. MORRIS & C. M. COOK.  
Water Crane.

No. 239,973.

Patented April 12, 1881.



WITNESSES:  
*Jacob Kade*  
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INVENTORS:  
*Jacob S. Morris*  
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(No Model.)

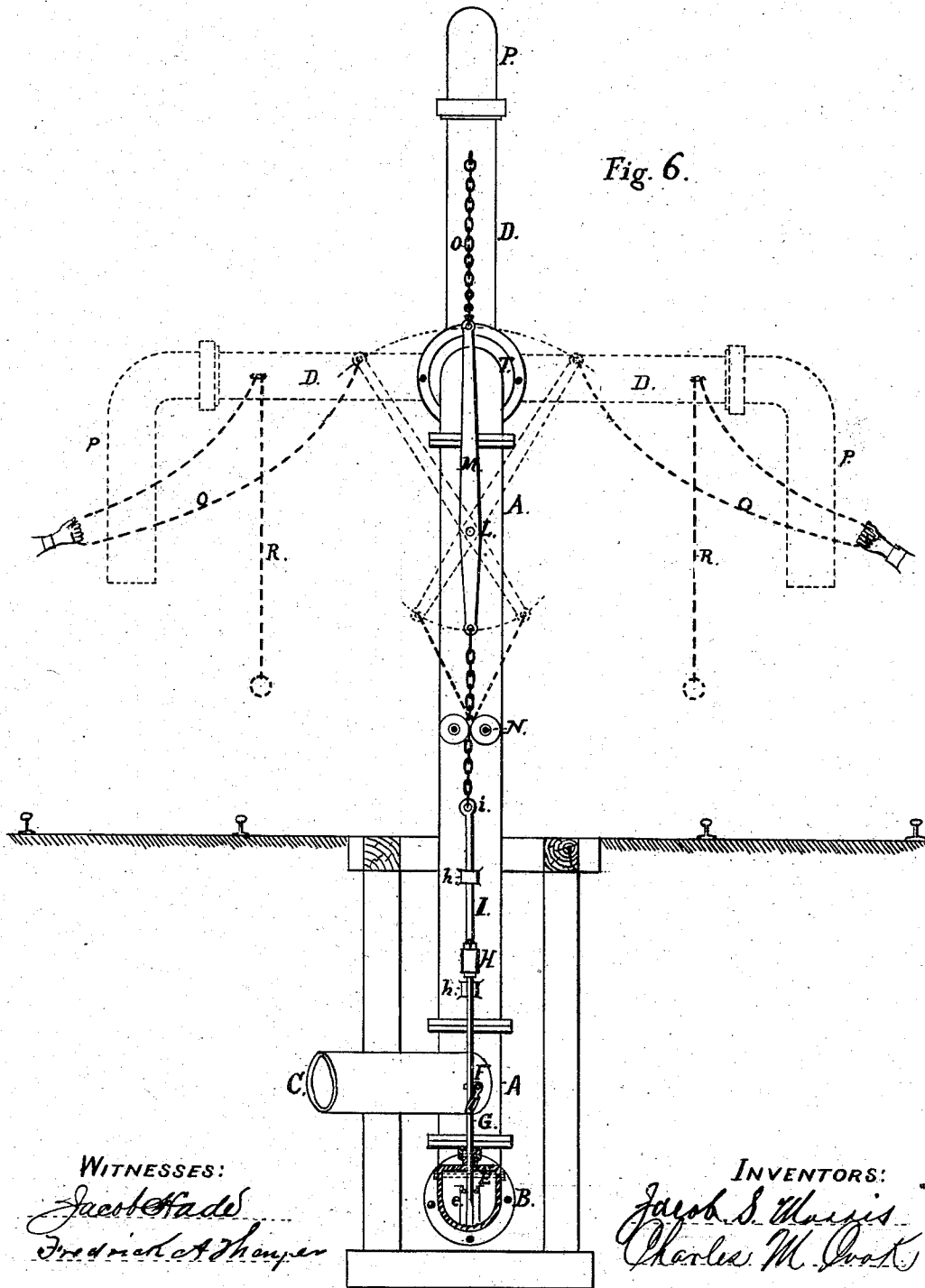
2 Sheets—Sheet 2.

J. S. MORRIS & C. M. COOK.

Water Crane.

No. 239,973.

Patented April 12, 1881.



WITNESSES:  
*Jacob H. Adams*  
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# UNITED STATES PATENT OFFICE.

JACOB S. MORRIS AND CHARLES M. COOK, OF TOLEDO, OHIO.

## WATER-CRANE.

SPECIFICATION forming part of Letters Patent No. 239,973, dated April 12, 1881.

Application filed December 17, 1880. (No model.)

To all whom it may concern:

Be it known that we, JACOB S. MORRIS and CHARLES M. COOK, of Toledo, in the county of Lucas and State of Ohio, have jointly invented a new and useful Device for Supplying Locomotives with Water, and for other similar uses, which improvement is fully set forth in the following specification, reference being had to the accompanying drawings, of which—

Figure 1 is a sectional elevation, showing revolving pipe and nozzle P, revolving joint *a*, fall-pipe D, collar Q, annular ring *g*, fastened to pipe D, fall or hand chain R, valve-chain O, packed joint T, packing-ring *k*, packing *b*, gland V, pivot-pin W, counter-balance S, sustaining-braces X, stand-pipe A, valve lever and chain M, pivot-pin L, guide-wheels N, sliding rod I, with eye-hole *i*, guide-boxes *h h*, arm H, valve-rod G, shoulder *d*, butterfly-valve F, slotted crank *g*, main valve E, guides *e e*, stuffing-box *f*, inlet-pipe B, and drain-pipe C.

Fig. 2 is a large detail, showing construction of revolving joint *a*.

Fig. 3 is an enlarged view of guide-rollers N.

Fig. 4 is an enlarged sectional view of fall-pipe D, with flange on inner end, showing joint T, packing-ring *k*, packing *b*, and gland V for compressing and holding packing in place.

Fig. 5 is enlarged detailed view, showing valve E, valve-rod guides *e e*, shoulder *d* on lower end of valve-rod G, adjusted to slide back and forth between guides *e e* when opening and closing valve E.

Fig. 6 is a general elevation, showing fall-pipe D both in vertical and horizontal positions and otherwise, as described and shown in Fig. 1.

The object of our invention is to facilitate the supplying of water from water-tanks, stand-pipes, goose-necks, or other similar devices from which water is supplied to locomotives under pressure, and for returning or removing the surplus water into drain, sewer, well, or otherwise, thus avoiding the wasting of surplus water on or about the track or water-station; also, to more easily and cheaply facilitate the supplying of water to locomotives on either side of water-tanks or stand-pipes. When not in service the movable supply-pipe D is held in a vertical position by counter-balance S, check-valve E being closed and pipe A empty.

To operate the device, pull fall-chain R, which is connected with fall-pipe D, to which is also connected valve-chain O. After having placed nozzle P over man-hole of tender, pull valve-chain O, which is attached to lever M, and thereby raise valve E, which at the same time closes butterfly-valve F, in the meantime keeping fall-pipe D in a horizontal position. When tank is filled or sufficient water has been taken, let go valve-chain O, which allows valve E to close by its own weight, aided by the pressure of water entering from pipe B, which also simultaneously and automatically opens waste-valve F, after which fall-pipe D will resume a vertical position by action of counter-balance-weight S. The nozzle-pipe P is intended to work automatically, and should be in position with nozzle P down by the time fall-pipe D is in a horizontal position.

We claim—

1. In a water-crane, a vertical stand-pipe the lower end of which is connected with horizontal influent-pipe B and drain-pipe C, and constructed with revolving water-tight joints *a* and T, arranged to revolve, substantially as and for the purpose described and set forth.

2. The combination of inlet and waste valves attached to the same valve-rod with sliding rods, valve-chains for opening and closing valves, lowering and holding fall-pipe in a horizontal position, and counterbalance-weight for raising fall-pipe, substantially as and for the purpose described.

3. In a water-crane, the flanged revolving nozzle P, in combination with the collar Q and pipe D, provided with annular ring *g*, whereby a water-tight joint is effected, substantially as and for the purpose described.

4. In a water-crane, a movable fall-pipe, D, with a revolving joint, *a*, as above described, and a further revolving joint, T, having packing-ring *k*, with packing *b* and gland V, for the purpose of securing a water-tight joint by forcing packing *b* against packing-ring *k*, which impinges against flange on inner end of pipe D, substantially as and for the purpose described.

5. In a water-crane, a fall-chain, R, for lowering pipe D, valve-chain O, attached to valve-lever M, revolving on pivot-pin L, for opening valve E and simultaneously closing valve F by raising slide-rod I, arm H, and valve-rod

G, having shoulder *d* working in guides *e e*, substantially as and for the purpose described.

6. In a water-crane, the braces X, combined with pivot-pin W, whereby pipe D is supported and revolved without straining joint T, substantially as and for the purpose described.

7. In a water-crane, a valve-chain, O, valve lever and chain M, guide-wheels N, valve F, with slotted crank *g*, stuffing-box *f*, valve E, having guides *e e*, substantially as and for the purpose described.

8. In a water-crane, the movable pipes P and D, with water-tight revolving joints *a* and T, fall-chain R, counter-balance S, pivot-pins L

and W, sustaining-braces X, valve lever and chain M, connected, as shown, with guide-wheels N, slide-rod I, working through boxes *h h*, arm H, valve-rod G, having shoulder *d*, waste-valve F, slotted crank *g*, stuffing-box *f*, main valve E, having guides *e e*, stand-pipe A, influent-pipe B, drain-pipe C, all substantially as and for the purpose described.

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