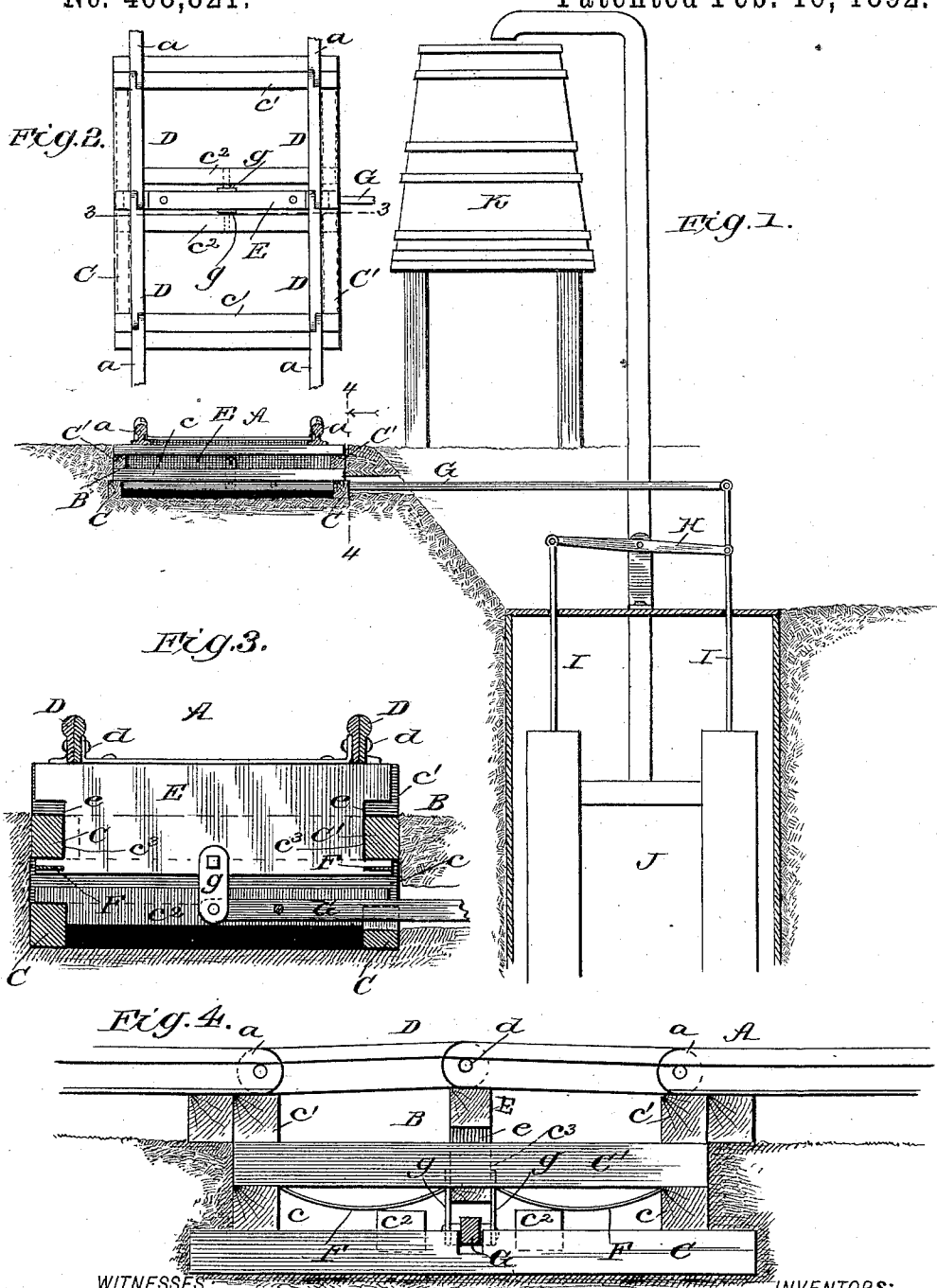


(No Model.)

C. W. McMULLIN & W. C. DE GRAFFENRIED.
MECHANISM FOR OPERATING PUMPS.

No. 468,821.

Patented Feb. 16, 1892.



WITNESSES:
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UNITED STATES PATENT OFFICE.

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MECHANISM FOR OPERATING PUMPS.

SPECIFICATION forming part of Letters Patent No. 468,821, dated February 16, 1892.

Application filed March 12, 1891. Serial No. 384,835. (No model.)

To all whom it may concern:

Be it known that we, CHARNICK W. McMULLIN and WILLIAM C. DE GRAFFENRIED, residing at Jasper, Hamilton county, Florida, have invented certain new and useful Improvements in Mechanism for Operating Pumps, of which the following is a full and complete specification, reference being had to the accompanying drawings, forming part thereof, in which—

Figure 1 is a sectional elevation of the apparatus in position for use. Fig. 2 is a plan view of the pump-operating mechanism apart from the pump. Fig. 3 is a transverse section taken on line 3 3, Fig. 2. Fig. 4 is a vertical longitudinal section on line 4 4, Fig. 1.

The object of the invention is to provide a mechanism actuated by the passage of a train of cars and in turn operating a pump which will deliver as much or a greater quantity of water to a water-tank alongside the track as may have been delivered by the said tank into the tank of the locomotive.

The invention consists in the several combinations of parts hereinafter described and claimed.

A is a railroad-track, and *a a a a* the ends of the rails between which the pump-operating mechanism is placed.

B represents the frame mounted in an excavation between the rail ends and consisting in longitudinal beams *C C C' C'*, transverse end beams *c c c' c'*, and central transverse beams *c² c²*.

D are four bars or rail-sections, the inner ends of each pair of which are pivoted together and the outer ends of which are pivoted to the rail ends *a*, so that the said bars form continuations of the rails.

E is a cross-head mounted in the frame B directly under the pivotal points *d* of the bars or rail-sections D. Four plate-springs F press this cross-head up, so that the inner adjacent ends of the bars or rail-sections D will be normally elevated. The ends of the cross-head E are notched or mortised, as at *e*, to receive the upper beams *C C'* and limit the vertical movement of the cross-head, and the inner faces of the said upper beams are notched, as at *c³ c³*, to prevent any undue lateral move-

ment of the ends of the cross-head. The ends of the cross-head will rest on the upper beams *C C'* when the bars or rail-sections are depressed to a horizontal position.

Between the two central cross-beams *c² c²*, below and in vertical alignment with the cross-head E, is pivoted the vertically-rocking lever G, the inner short arm of which is pivotally connected by means of straps *g g* with the center of the cross-head, so that as the pivoted rail-sections or bars are depressed by the train or elevated by the springs the said lever will be correspondingly operated. The outer end of the lever G is pivotally connected with a centrally-pivoted lever H, mounted over the well or other body of water. To the ends of this lever H the upper ends of the plunger-rods I are pivoted, one rod being extended upward to form the connection between the levers G H, as shown. These rods I connect at their lower ends with any suitable form of pump J, discharging into the water-tank K, located alongside of the track in the usual manner. The rail-sections or bars D are each about three feet long, so that the rear truck of one car will clear them before the front truck of the next car runs thereon. The parts will be so proportioned that a movement of two inches at the inner ends of bars D will give a two-foot stroke or more in the pump, the two cylinders of which throw forty gallons each at a stroke, or, say, one hundred and sixty gallons for each car passing over the bars D. The form of springs may of course be changed, if desired, for suitably-arranged spiral springs.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The combination, with the frame and the rail-sections D D, overlapping at their inner ends, of the vertically-reciprocating cross-head E, having bearings on its upper edge, to which the said overlapping ends are pivoted, and having notches or recesses in its ends to receive parallel bars of said frame and limit the upward and downward movement of the cross-head, springs mounted on the frame and holding the cross-head normally raised, the pump-operating lever pivoted near its inner

end beneath the cross-head, and a link *g*, connecting its inner end with the cross-head, substantially as set forth.

2. The combination, with the frame, the
5 rail-sections *D D*, and the vertically-reciprocating cross-head *E*, mounted on the frame and to the upper side of which the inner ends of the rail-sections are pivoted, of the lever
10 *G*, pivoted near its inner end beneath the cross-head and pivotally connected at its inner end with the center thereof, a rocking lever *H*, carrying a pump-rod at each end and

pivotally connected with the outer end of lever *G*, and the springs mounted on the frame and raising the cross-head after each depression, whereby the weight of the train will
15 operate one pump-rod and the springs the other one, substantially as set forth.

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Witnesses:

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B. S. STREET.