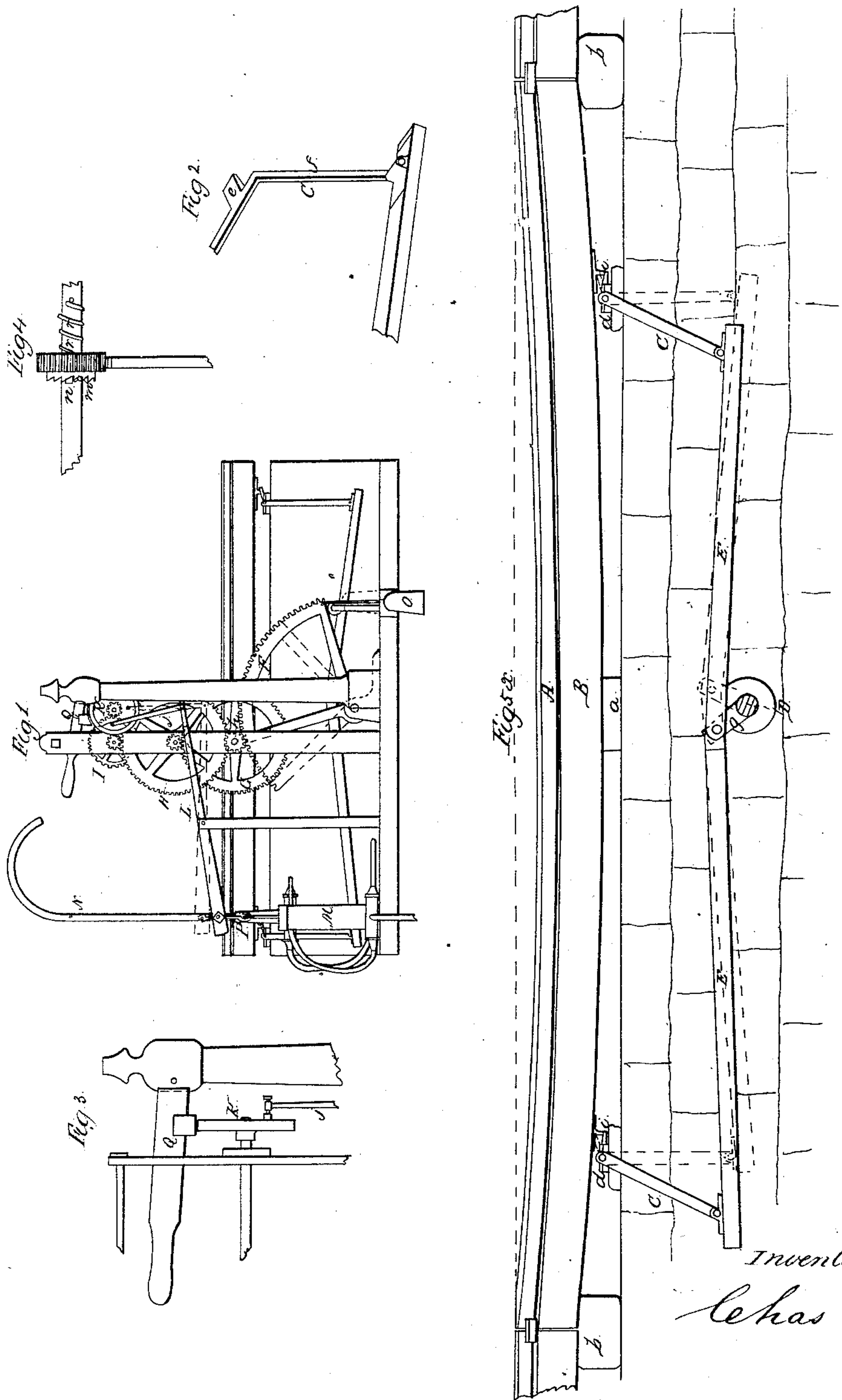


C. Need.

Tank-Feeder.

N^o 21,530.

Patented Sept. 14, 1858.



Inventor
C. Haswell

UNITED STATES PATENT OFFICE.

CHARLES WEED, OF MILLIDGEVILLE, ILLINOIS.

MODE OF FILLING WATER-TANKS AT RAILWAY-STATIONS.

Specification of Letters Patent No. 21,530, dated September 14, 1858.

To all whom it may concern:

Be it known that I, CHARLES WEED, of Millidgeville, in the county of Carroll and State of Illinois, have invented a new and
5 Improved Water-Elevator for Railway-Station; and I do hereby declare that the following is a full and exact description of the construction and operation of the same, reference being had to the accompanying drawings, making part of this specification, and
10 to the letters of reference marked thereon.

Figure 1, is a side elevation of my machine, Fig. 2, is a detached view of a portion of one of the compound levers. Fig. 3, is a
15 detached view showing the application of the brake to the crank wheel, Fig. 4, is a detached view of the ratchet pinion and segment lever. Fig. 5, is an elevation showing the crank shaft in section, and the arrangement of compound levers, with the mode of
20 operating them by the weight upon the track.

The same letters refer to like parts in all the figures.

25 The nature of my invention consists in a method of applying the weight of a locomotive engine to working a pump for raising water for supply the tender, by means of compound leverage connected with the track,
30 and a train of cog-wheels by which sufficient motion is obtained from the sinking of the track slightly to operate the pump to the required extent.

35 In Fig. 5, A, designates the rail of a railway track and B a flexible sleeper on which it rests.

The dotted line *x* indicates the ordinary level of the track, but it is shown in the drawing as bent under the weight of a locomotive engine, its flexibility being such as
40 to cause it to yield under that weight until its center rests on the bearing tie, *a*. Each end of the spring-rail is held in a chair in the usual manner, and rests on a solid tie *b*.
45 Upon blocks underneath the sleepers B, boxes *d d* are provided which form bearings for the elbow-levers C. These levers, shown separately in Fig. 2, have horizontal journals resting in the boxes *d*, from which starts the
50 short arm *e*, in a direction forming an obtuse angle with the long arm *f*, so that when it is perpendicular *e* is a little above the horizontal. Four of these levers are disposed on bearings arranged two on each
55 side of the track, or more may be employed

if thought necessary. Upon the under side of the sleeper B, and bearing directly upon the short arm *e* of the lever, cams, or projecting bearings, *i*, are provided by which the weight of the track and whatever burden
60 it may bear is caused to rest on the short arm of the lever. Underneath the tract and across its line is placed a shaft D, having a short lever, *g*, upon its upper side. This lever is connected with the long arm of the
65 lever C, by the bars E. The same arrangement of levers is connected with the shaft D, on each side of the track. On the end of this shaft a weighted segment lever F, is provided having cogs on the segment portion
70 which gear with the pinion *h* Fig. 4. This pinion drives the shaft of wheel G, which drives a pinion on the shaft of H, which again drives a pinion on the shaft of wheel I, from which the crank wheel K, is
75 driven. A pitman *j* on this crank wheel connects it motion with the lever L, which operates the piston of the pump M, by the intermediate connecting rod *p*.

The operation is as follows: The locomotive engine being stopped on the track with
80 the flexible sleepers, its weight causes them to yield slightly, by doing which they bear down the short arms of the lever C, which causes a lateral movement of the long arms,
85 which movement is communicated to the short lever *g*, on shaft D, causing it to pass through part of a revolution. This shaft carries the segment lever F, the movement of which sets in motion the pinion *h* and
90 whole train of wheels and pinions, giving rapid action to the pump lever, L. This lever works the pump which raises the water through the elevating pipe, N, to a point
95 where it discharges into the tender of the engine.

A weight O, is attached to the segment lever, and the pinion *h* is loose on its shaft, being held by a ratchet and pin, *m, n*, Fig.
100 4, so as to freely turn on reversing the driving motion. As the locomotive is removed from the yielding portion of the track the weight O, draws the segment lever, F, back to its former position, and restores the track to its level, through the action of the various
105 connected levers. The levers, by this action, assume the positions indicated by the dotted lines of Fig. 5, and are ready for renewed operation again.

The cams, *i*, are hardened steel to obviate
110

wear and friction. Balls or knuckle joints may be employed to overcome friction and with the same effect. The track may be jointed so as to settle directly without bending, with perhaps as good, or nearly as good, an effect, the variation from the level being so slight that the joints would not materially impede the progress of the train, though I prefer to employ flexible sleepers. The levers on each side of the track may be duplicated if thought necessary to relieve the strain upon them, by merely connecting them all together by bars E.

A lever and brake, Q, Fig. 3, are provided to stop the action of the pump when sufficient water is elevated, or at the will of the engineer, by pressing it down upon the top of the crank wheel K.

A coiled spring, r, presses the ratchet against the pin, n, causing it to catch at the first forward motion of the segment lever, but yields to allow the pinion to revolve on the shaft with the backward motion, so that

the levers are reversed without setting in motion the wheelwork and pump.

The same means are applicable to the raising of water in other situations where sufficient weight is at hand and can be conveniently applied, and for railroad purposes its employment will be found valuable as saving great expense in elevating water to tanks to be drawn from as needed.

What I claim as my invention and desire to secure by Letters Patent is;

The combination and arrangement of the yielding track B, with the compound levers C, g, connecting bars E, or their equivalents, weighted segment lever F, ratchet pinion h, and gear wheels as required for giving motion to pump lever L, substantially in the manner and for the purpose herein set forth.

CHARLES WEED.

Witnesses:

J. FRASER,
O. H. FRASER.