

W. H. HERRIOTT.

Portable Elevators and Dumpers.

No. 146,002.

Patented Dec. 30, 1873.

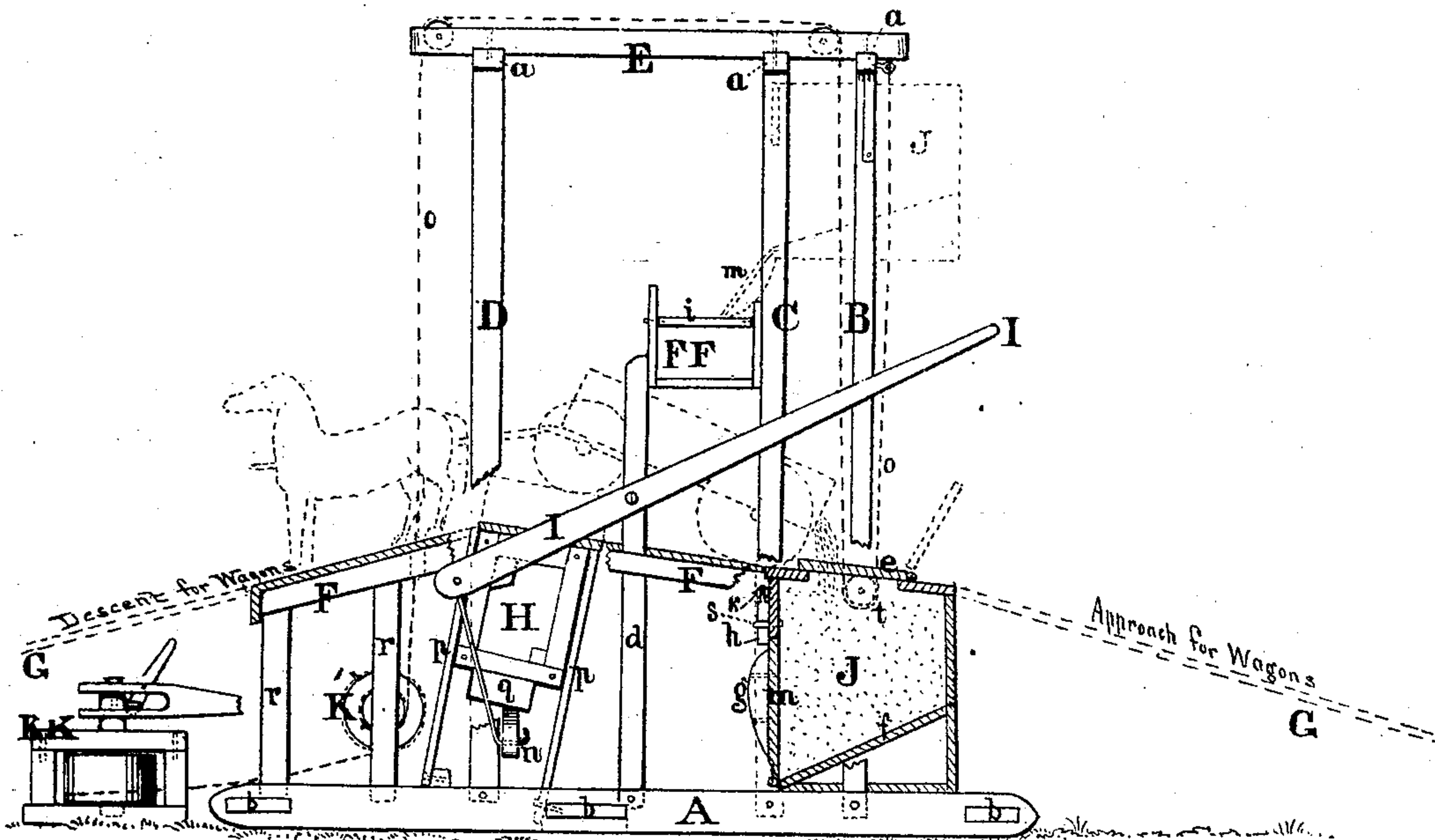


Fig. 1

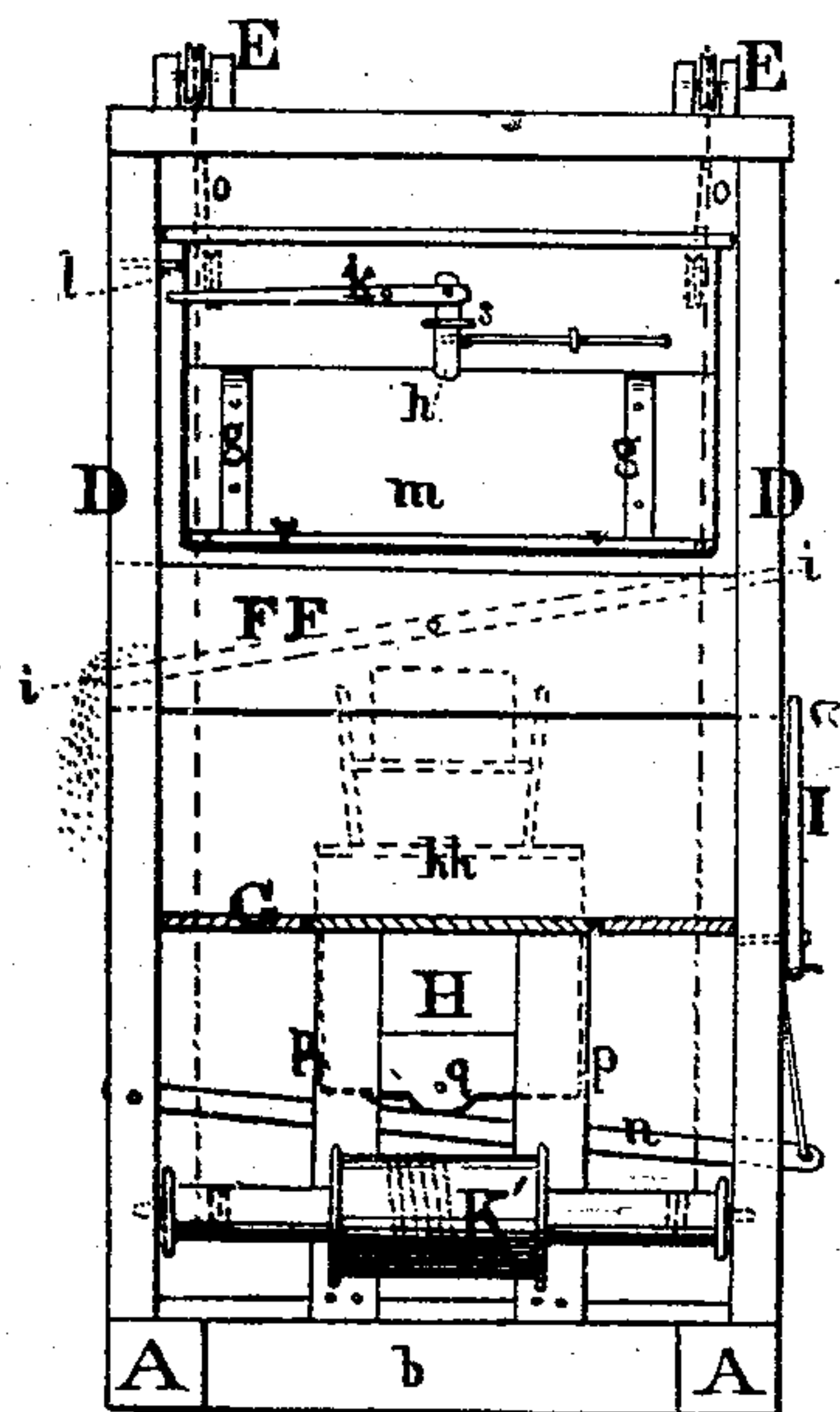


Fig. 2.

Witnesses
James Thurber
Olney Patton
 End elevation, platform removed, up to "Hoist"

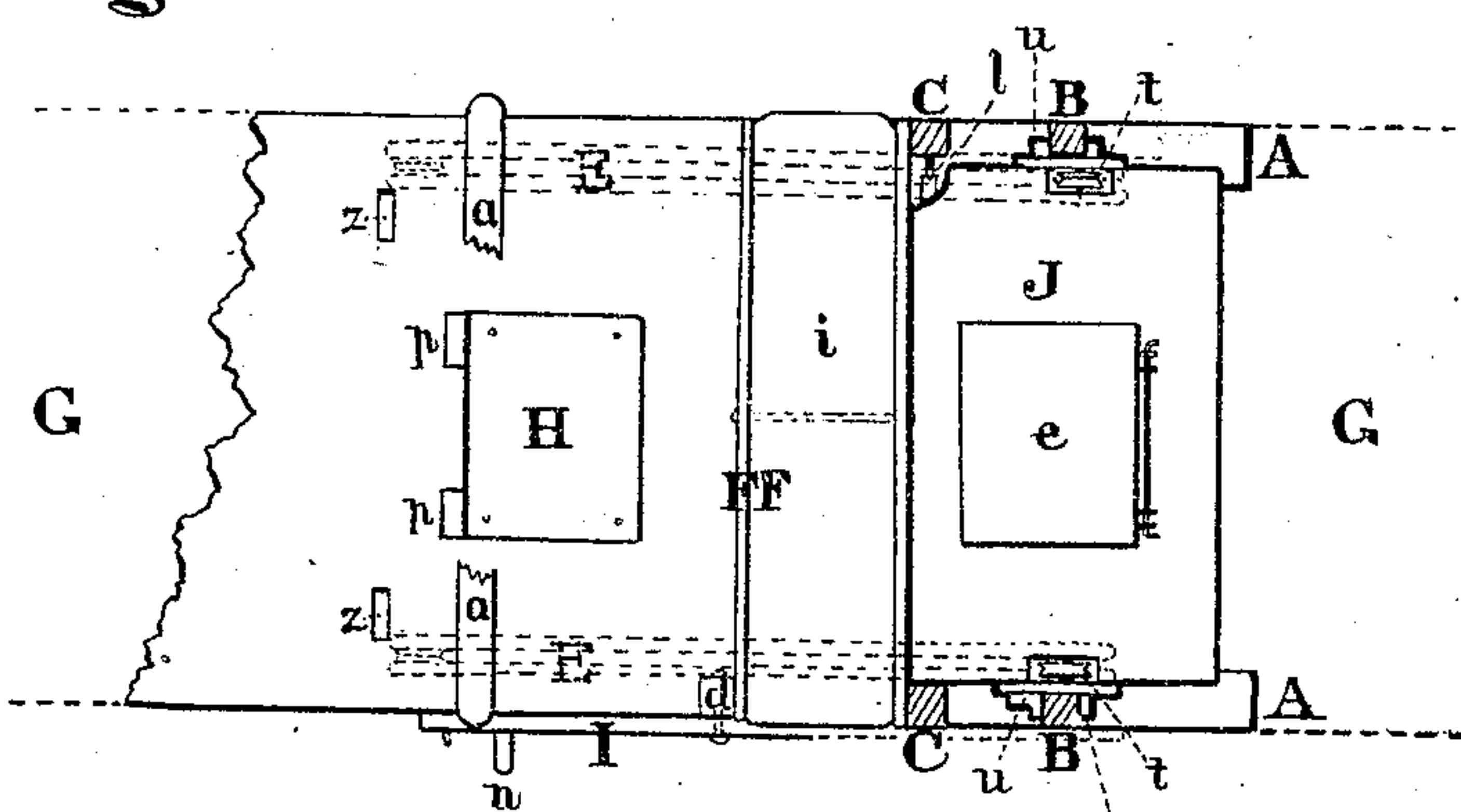


Fig. 3.

William Hankinson Herriott
 by *C. Thurber*, his atty in fact

UNITED STATES PATENT OFFICE.

WILLIAM H. HERRIOTT, OF BRIMFIELD, ILLINOIS.

IMPROVEMENT IN PORTABLE ELEVATORS AND DUMPERS.

Specification forming part of Letters Patent No. 146,002, dated December 30, 1873; application filed December 3, 1873.

To all whom it may concern:

Be it known that I, WILLIAM HANKINSON HERRIOTT, of Brimfield, in the county of Peoria and in the State of Illinois, have invented a Portable Elevator and Dumper for Grain, Corn, Coal, &c.; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the annexed drawings, making a part of this specification, in which like letters of reference refer to like parts, and in which—

Figure 1 represents a side elevation of the apparatus with horse-power, drum, and lever for hoisting the elevating-box; Fig. 2, an end elevation, the platform removed as far as the hoister H to show lower works; Fig. 3, plan, with topmost cross-bars and ties removed.

This apparatus consists of a platform having an inclined approach for wagons at either end, with a "trap"-covered box for shooting a load into from a wagon whose trap is on a level with the platform. The box is hoisted by pulleys and double ropes running through pulleys at the top of the frame, and thence down to a windlass or roller beneath the platform operated by a drum or capstan and rope, and having a lever to which horse or other power is attached. The side of the elevating-box opens, on attaining a sufficient height, by a spring-lever on said side, which strikes a pin in the frame and withdraws the catch of said side or door, and discharges the contents into a "two-way" spout, which dumps the grain on either side of the platform, as desired. The door is closed by the striking of segmental cleats thereon against the edge of the spout during the descent of the box.

In the drawings, A A represent two parallel sills of the platform, braced by cross-ties *b b*, upon which are erected vertical posts D D C C B B, cross-tied above by bars *a a a*, &c., which support the lateral pulley-bars E E, &c., which are placed in pairs on either side of the frame, and carry vertical pulleys at either end. From the sills A also rise several posts, *r r*, &c., which support the wagon-platform F G G, &c., and the inclined approaches at either end. H represents a frame, covered by a floor level with the platform, for hoisting the front end of a wagon for dumping a load into the elevating-box J. This frame is square, and

has a rounded bottom block, *q*, which rests upon a hoisting-lever, *n*. The frame slides upward between four guides, *p p*, &c., attached above to the platform and below to cross-ties. The lever *n* is pivoted to one of the frame-posts D, and extends under said "hoist" H and block *q* to the other side of platform beneath the operating-lever I, with which it is connected by a rod or chain. Said lever I is pivoted to a post, *d*, in the side of the frame A B C D. K is the hoisting-windlass, pivoted in bearings in the posts *r r*, and having a central drum larger than that at each end. The ropes *o o* are wound about the ends of this windlass, and the rope from the hoisting-power K K about the central drum of windlass. The ropes *o o* pass thence through holes in the platform G, over the pulleys at the end of the pulley-bars E E, one rope at either side of the apparatus; thence over the pulleys at the other end of said bars, down to and around their respective pulleys, *t t*, in either end of the elevator-box J; thence upward to staples in the top of the frame under bars E E. The box J is square, occupies the whole width of the platform, (or less, if desired,) has guides *u* at either end to confine it in ascent and descent to the contiguous posts B B at each end of it, and has a trap-door, *e*, hinged to its surface, which is continuous with the wagon-platform G when at rest. It has also a bottom, *f*, sloping from the back to the hinge of its flapped side *m* or door. The latter is hinged to the bottom of said box, and is kept closed by a bolt, *h*, and spring, to which bolt is attached one end of a withdrawing-lever, *k*, pivoted to the box above the door, the other end of which reaches along the box as far as a dog or pin, *l*, in the top of the adjacent post C, against which this end of the lever strikes when the box J has attained its necessary height, and withdraws the catch, so that the door *m* falls outward into the spout F F and discharges the contents of the box onto the pivoted board *i* of the spout F F, to be shot either way, as the board *i* may be inclined. The door or trap *m* of said box J is provided on its surface, next to the spout F F, with one or more segmental cleats or curved bars or cams *g*, which, when said box descends, presses against the side of the spout F F, and closes the door within the bolt *h*. K

K represent a horse-power drum for rotating the windlass K'. It has a vertical axle and double bearing upon the end of the operating-lever, to which the horse or horses are attached, and between the bearings a pin projects from said axle, by which the lever is engaged or disengaged with same by means of a small lever or detent; but its principal use is to let the drum retrograde to loosen the rope and windlass, and let the box J descend, when unloaded, from top of frame, after which the detent is re-engaged with the pin ready for again elevating the box J.

The operation of this apparatus is as follows: The drum K K winds up the rope, running hence around the windlass K', and winding round the latter the ropes *o o*, running over the upper pulleys and under the pulleys in the side of the box J. The latter, thus drawn up, empties itself by the striking of the lever *k* against the pin *l*, which opens the flap *m* into the spout F F. The flap *m* is closed by its curved cleats *g* striking the edge of said spout F in its descent. The box J is filled from the tail of a wagon by hoisting the front end of the wagon upon the hoister H by means of lever I, as seen in dotted lines, Fig. 1.

What I claim as my invention is—

1. A portable elevator and dumper, composed of platform F, wagon-approaches G G, an elevating-box, J, hoisting-ropes *o o* passing over pulleys in the frame B C D E above, windlass K, and spout F F, substantially as and for the purposes described.

2. In combination with platform G, the hoister H, with its guides *p p*, lever *n*, and connected lever I, substantially as described.

3. The box J, constructed with side guides *u u*, pulleys *t t*, inclined bottom *f*, falling flap *m* with curved cleats or ribs *g*, spring detent *h s k*, the lever *k* for contact with the pin *l* of post D to loose the detent, as described.

4. The construction and arrangement of the frame A A B B C C D D E E, &c., platform G G, hoisting-frame H, lever *n*, and its auxiliary lever I, box J, with flap *m*, detent *h s k*, pin *l* on post C, ropes *o o*, windlass K, and spout F F, as described.

In testimony that I claim the foregoing portable elevator and dumper I have hereunto set my hand this 17th day of November, 1873.

WILLIAM HANKINSON HERRIOTT.

Witnesses:

JAMES M. MORSE,
JOHN HAYMON.