

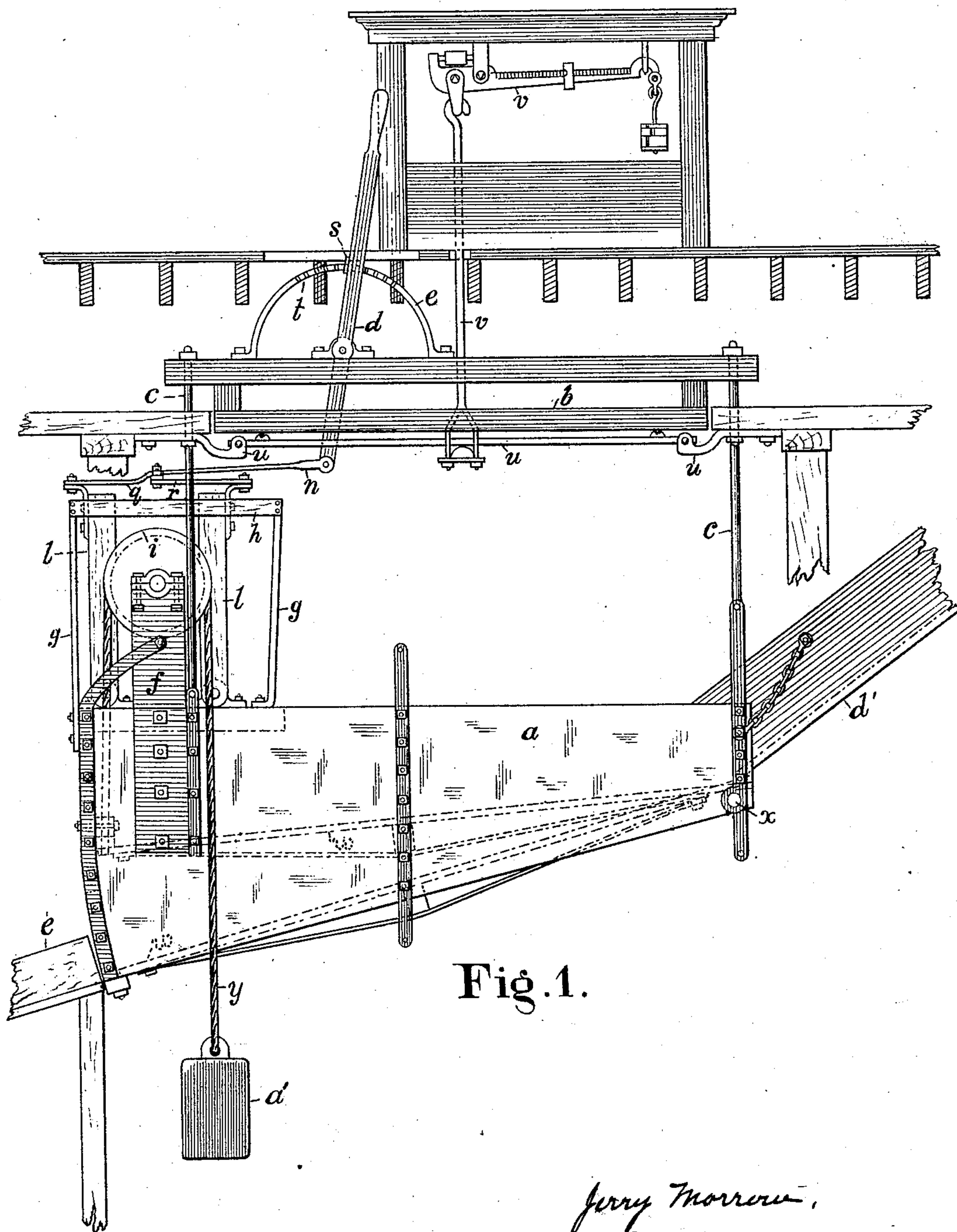
(No Model.)

2 Sheets—Sheet 1.

J. MORROW.  
WEIGHING AND DUMPING MACHINE.

No. 283,641.

Patented Aug. 21, 1883.



**Fig.1.**

**Attest:**

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# UNITED STATES PATENT OFFICE.

JERRY MORROW, OF JACKSON, OHIO.

## WEIGHING AND DUMPING MACHINE.

SPECIFICATION forming part of Letters Patent No. 283,641, dated August 21, 1883.

Application filed June 6, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, JERRY MORROW, of Jackson, county of Jackson, State of Ohio, have invented a new and useful Improvement in a Combined Weighing and Dumping Machines, of which the following is a specification.

In the accompanying drawings, Figure 1 is a longitudinal elevation of a combined weighing and dumping apparatus of my invention. Fig. 2 is a longitudinal section of a portion of the aforesaid apparatus, and Fig. 3 is a plan view of the same.

In each of these figures letters of like character indicate corresponding parts.

The object of this invention is to produce a reliable combined weighing and dumping apparatus; and the invention consists, chiefly, in suspending a combined receiving and weighing box from the table of any suitable scales or weighing-machine, said weigh-box being provided with a drop-bottom, whereby the coal may be dumped from the aforesaid weigh-box to any suitable place for transportation. It further consists in the arrangement and combination of parts for the accomplishment of these results.

In order that others skilled in the art to which my invention belongs may be able to make and use the same, I will proceed to describe its construction and operation.

In the first place the weigh-box *a* is suspended to the floor *b* of the weighing-machine by means of rods *c c*. The brake-regulating mechanism *d e* is also attached to the floor of the weighing-machine, in order that the weighing, holding, and braking mechanism shall work in unison. The brake is supported on the weigh-box *a* through the agency of uprights *f f* and framing *g h*. The brake, in this instance, is constructed with a drum, *i*, that is journaled to the aforesaid uprights, and two friction-clamps, *l l*, pivoted at *m m*, and capable of being opened or closed from or against the aforesaid drum by means of a lever, *d*, connecting-rod *n*, and links *p q r*. The lever *d* is provided with a lateral projection, *s*, that may be sprung into or out of the notches *t*, that are formed around the periphery of the part *e*. The weighing-machine *u v* may be of any

desired construction, as my improved apparatus can be applied to any of these machines. The weigh-box is properly braced together in the manner shown by the drawings, and its tilting bottom *w* is pivoted to it at *x*. To hold the bottom *x* to its work I employ two ropes, *y y*, that are wound around the two sheaves, *z z*. Each of these cables or ropes is attached at one end to the free end of the bottom *w*; and at the other to a weight, *a'*. To prevent the bottoms *w* from moving in an upward direction past the desired position, I use a check, *b'*, that is fast to the end of the weigh-box, and it is found preferable to have some elastic material between this check and the contiguous part of the bottom *w*. The exit end of the weigh-box is provided with an opening, *c'*, through which the coal passes on its way to the transporting vehicle, car, or boat.

The operation of my apparatus may be briefly described as follows: When it is to be used at a coal-mine, the coal is dumped upon a stationary inclined screen, *d'*, and while passing down this screen it is freed from slack, the slack falling through it to a place beneath. This screen is placed at a sufficient incline to insure the proper delivery of the coal to the weigh-box, and the drop-bottom *w* is placed nearly level, so as to break the force of the falling coal and prevent its colliding with the end of the weigh-box. When a sufficient amount of coal has been dumped into the weigh-box, its weight is ascertained through the agency of the aforesaid weighing-machine, and the operator removes the projection *s* from the notches *t*, and the lever *d* is moved so as to lessen the friction between the pieces *l l* and drum *i*, and the bottom *w* is lowered by the gravity of the coal that is on it to the position indicated by dotted lines on Fig. 1 of the drawings, and the coal is discharged into a stationary chute, *e'*, from whence it can be discharged as desired. After the load has been thus removed from the bottom *w*, the weights *a' a'* will cause the drum *i* and attached sheaves *z z* to revolve, and thereby return the bottom *w* to its place of rest.

With this apparatus coal can be handled very rapidly and with but little manual labor; besides, there will be a great saving in the break-



age of coal by not allowing it to strike any fixed check-board. In addition to these advantages, not a single lump of coal can escape before being weighed, and none can remain on the drop-bottom after being weighed.

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

1. A combined weighing and dumping apparatus, consisting of a weigh-box, a brake to regulate the descent of a drop-bottom, a chute to direct the inflow of the material to be weighed, and a counter-weight to cause the return of said drop-bottom, the whole suspended from a stationary weighing machine.

2. The combination of the weigh-box suspended from a weighing apparatus and provided with a drop-bottom, with a weight attached to a cable passing over a drum and connected with the free end of the tilting bottom, a brake for acting on the drum to hold and release the same, and a hand-lever for actuating the brake, substantially as described.

3. The combination, with the box *a* for receiving and holding the material, and a drop-bottom, *w*, pivoted at one end to the under side of the box, a brake mechanism for regulating the descent of the free end of the drop-bottom, a hand-lever for actuating the brake mechanism, and a counter-weight for closing the drop-bottom, substantially as described.

4. A weigh-box, *a*, provided with a drop-bottom, *w*, a drum and sheaves, *i z z*, a brake mechanism, ropes or cables *y y*, and counter-weights *a' a'*, for the purpose specified.

5. A weigh-box provided with a drop-bottom and its brake mechanism, any suitable weighing-machine, and a combined chute and screen, for the purpose specified.

In testimony whereof I have hereunto set my hand this 30th day of April, 1883.

JERRY MORROW.

Witnesses:

JAMES K. MCCLUNG,  
N. T. BAKER.