(No Model.)

W. ROSENSTEEL.

COAL TIPPLE.

No. 299,585. Patented June 3, 1884.

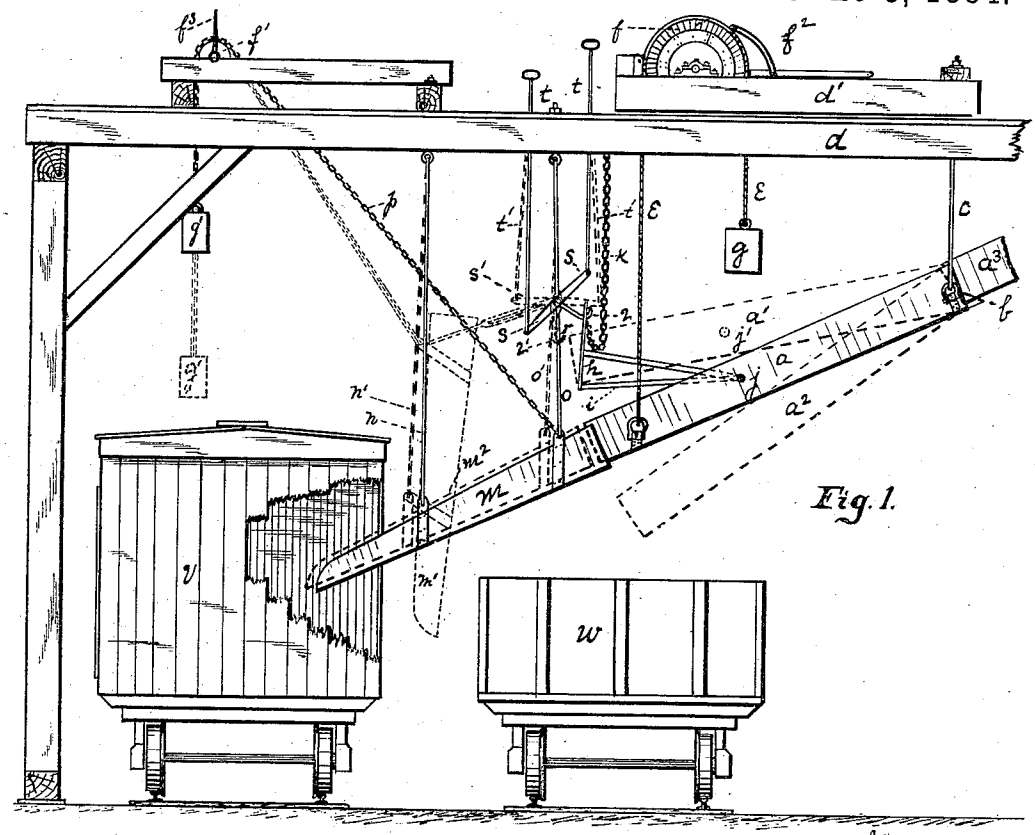


Fig. 1.

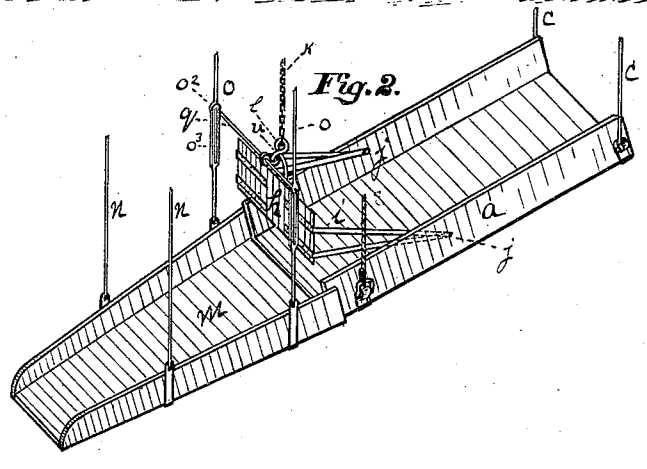


Fig. 2.

Witnesses.
J. A. Burns,
W. B. Corwin

Inventor.
William Rosensteel
by his attorneys
Bakewell & Kerr

N. PETERS. Photo-Lithographer. Washington. D. C.

UNITED STATES PATENT OFFICE.

WILLIAM ROSENSTEEL, OF PITTSBURG, PENNSYLVANIA, ASSIGNOR TO OLIVER BROTHERS & PHILLIPS, OF SAME PLACE.

COAL-TIPPLE.

SPECIFICATION forming part of Letters Patent No. 299,585, dated June 3, 1884.

Application filed March 31, 1884. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM ROSENSTEEL, a resident of the city of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Coal-Tipples; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side view of a coal-tipple, showing the construction and operation of my improvement; and Fig. 2 is a detached perspective view of the coal-chute and weighing-basket.

My invention is designed to afford a means whereby coal may be passed from the weighing-basket of a tipple to several different points alternately by means of automatic action of the chute and basket. The use to which it is especially applicable is in loading several railroad freight-cars situate under or near the coal-tipple. In loading box-cars it is necessary as the coal is discharged from the chute into the side of the car that men be employed in shoveling or moving it from the middle to the ends of the car-body to make room for additional coal. This cannot, however, be done as rapidly as coal can be transferred from the weighing-basket, and much time is lost in the intervals of waiting until the central part of the box-car is cleared of coal last dumped. To prevent this delay I have devised a means, and embodied it in this improvement, whereby coal may be passed alternately from one car to another, the box-car preferably alternating with a gondola or open car, in which coal can be passed repeatedly without the delay I have mentioned.

Referring now to the drawings, *a* represents a weighing-basket chute of ordinary construction, pivotally suspended from points *b*, near its upper end, by means of rods *c*, which extend from the basket to a weighing-platform, *d'*, mounted upon the main frame *d* of the tipple, and near its lower end is suspended by a chain or chains, *e*, which pass over and work upon a revoluble drum, *f*, and are secured at their free extremities to a counter-weight, *g*. This arrangement permits pivotal motion of the oscillating basket-chute *a* upon the points *b* within the limits indicated by the dotted lines a' and a^2. At the lower end of the oscillating basket *a* is a movable swinging gate, *h*, pivoted at the extremities of arms *i* to points *j* in the sides of the basket, so that the gate may be raised and lowered upon these arms, and may thereby open or close the extremity of the basket. Attached to the tipple-frame *d* is a chain, *k*, which is also fastened to a ring, *l*, on the gate *h*, and is of proper length, so that when the basket *a* is in the position shown at a^2 the chain will be taut and will hold the gate *h* open, as shown in Fig. 2.

m represents the chute which conveys coal from the basket *a* into the box-car *v* or other desired place. It is pivotally supported near its lower end by rods *n*, and near its upper end by rods *o*, both also pivotally connected to the frame *d*, so that the chute may be swung backward and forward to assume the position represented by the lines o', n', and m'. A chain, *p*, may be attached to the upper end of the swinging chute *m*, passed over a drum, f', on the frame *a*, and provided with a counter-weight, g', so that when the chute is not in use it may be raised into a vertical position, as shown at m', Fig. 1. In such case it is necessary to joint the rods *o*, as at o^2, and to cause one of the parts so formed to work in a slot, o^3, in the other, as will be readily understood. Journaled between the rods *o*, preferably about four feet above the chute *m*, is a horizontal shaft, *q*, to the middle of which, and attached rigidly thereto, is a radial hooked arm, *r*, and one or more other radial arms, *s s*, also rigidly attached to the shaft *q*, preferably at right angles to the hooked arm, so that when the arm or arms *s* are horizontal the hook *r* may be in a vertical position, as shown by dotted lines at r' s', while if the arms *s* be raised by means of rods *t* or chains the hook *r* also may be raised, as shown by the full lines in Fig. 1. The arms *t t* extend from the extremities of the horizontal arms *s* to the platform of the coal-tipple, where they are operated by hand. They form arms by which the levers *s* may be operated, and if made rigid, so as to be capa-

ble of pushing downward as well as lifting the arm *s*, it is only necessary that one be used, as will be readily understood.

If desired, the shaft *q* may be rigidly fastened to the upright rods *o*, and the hook *r* and rods or chains *s* made integral and loosely mounted on the shaft. In that case movement of the rod *t* would move the hook *r*, but not the rod *q*. A suitable stop is arranged for the counter-weight *g*, so that it may not raise the basket to a greater height than at *a'*, and when there the gate *h*, when lowered, may be in such a position that an upward movement of arm *s* may cause the hook *r* to engage with a loop or ring, *u*, on the gate *h*, said loop *u* being preferably made integral with the loop *l*.

The operation of my improvement is as follows: The chute *m* and hook *r* being in the position shown by the dotted lines, the chute being inserted into the side of a box-car, *v*, and the oscillating basket *a* being at *a'* and the gate *h* lowered, coal is run into the basket from a chute, a^3, and weighed. During this operation a workman standing on the frame *d* prevents the increased weight from lowering the basket by means of a brake, f^2, attached to the drum *f*. After the coal in the basket has been weighed, the brake f^2 is released, and the weight of the basket causes it to fall into the position shown by the full lines at *a*. In this movement the point *j*, at which the arms *i* of the gate *h* are pivoted, describes the arc of a circle, and thus moves away from the position of the vertical rods *o;* and as the gate *h* is attached to these rods, they, and the swinging chute *m* with them, move toward the basket *a* until the basket and swinging chute meet, and the downward motion of the basket is checked by contact with the interior of the chute. (See Fig. 2.) Meanwhile the gate *h* is upheld by the hook *r*, and an easy means afforded for the escape of the coal, which passes along the chute into the box-car. The counter-weight *g* then automatically raises the basket thus deprived of its weight into the original position at *a'*, the brake f^2 is applied to the drum and the hook *r* released from the loop *u*, and the operation of loading and weighing the basket repeated. The basket is then lowered by loosening the brake without engaging the hook *r* until the basket reaches the position a^2, where its extremity is directly over an open coal-car, and as the gate *h* is upheld by the short chain *k*, as above described, the coal discharges directly from the basket into the car. The operation of discharging into the gondola may be repeated as often as desired, or until the coal in the box-car has been adjusted in readiness for another load.

If desired, any other suitable mechanism may be employed instead of that which I have described for connecting the basket with the swinging chute, so as to cause them to approach and meet with the descent of the basket; but I prefer the latter on account of its simplicity and convenience.

The automatic nature of my improvement renders it easy of operation, and by its use I am enabled to save much time, and to overcome a practical difficulty in the use of box-cars for transporting coal which has been hitherto insuperable.

If desired, my improvement may be adapted to use in loading two box-cars by means of certain modifications which will readily suggest themselves to one skilled in the art.

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

1. The combination, in a coal-tipple, of the oscillating basket-chute *a* and swinging chute *m*, arranged so as to be alternately connected and detached, substantially as and for the purpose specified.

2. In a coal-tipple, the combination of an oscillating basket-chute, *a*, having a swinging gate at the free end thereof, and a swinging chute, *m*, the swinging gate being arranged so as to be alternately connected and detached with and from the oscillating basket-chute *a*, substantially as and for the purpose specified.

3. The combination, in a coal-tipple, of the oscillating basket-chute *a*, having a swinging gate at the free end thereof, with the hook *r*, operated by suitable arms, *t*, and capable of connecting and detaching said oscillating basket-chute *a* with and from the supports of a swinging chute, *m*, substantially as and for the purposes described.

In testimony whereof I have hereunto set my hand this 27th day of March, A. D. 1884.

WILLIAM ROSENSTEEL.

Witnesses:
THOMAS W. BAKEWELL,
W. B. CORWIN.