(No Model.) 2 Sheets—Sheet 1.

G. H. RAMSAY.

COAL AND GRAIN DISTRIBUTING APPARATUS.

No. 386,655. Patented July 24, 1888.

Fig. 1.

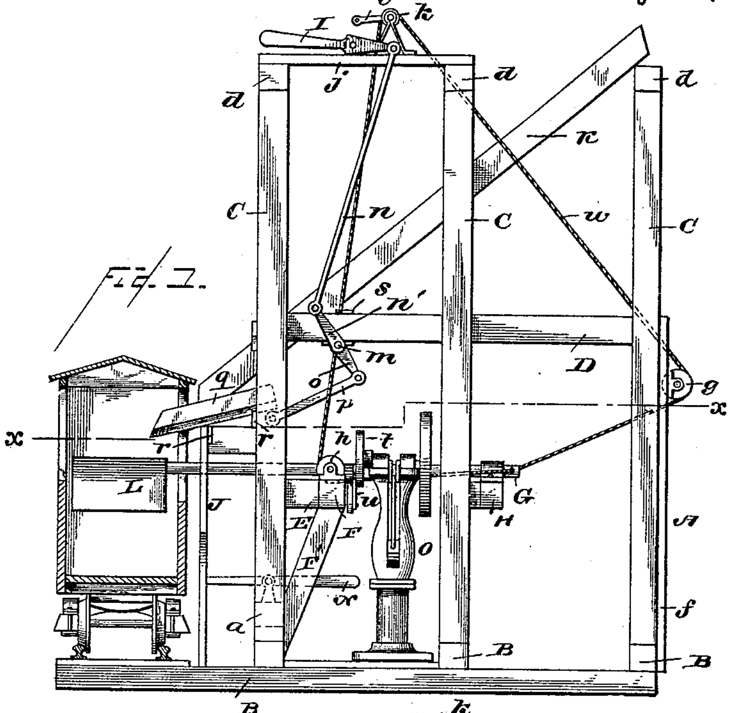
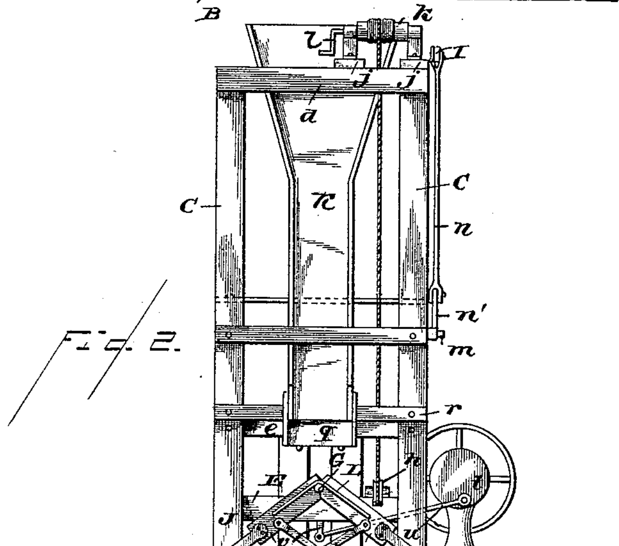


Fig. 2.



WITNESSES:

[signature]

[signature]

INVENTOR.

George H. Ramsay

By *James J. Sheehy*

Attorney.

(No Model.) 2 Sheets—Sheet 2.

G. H. RAMSAY.

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Fig. 3.

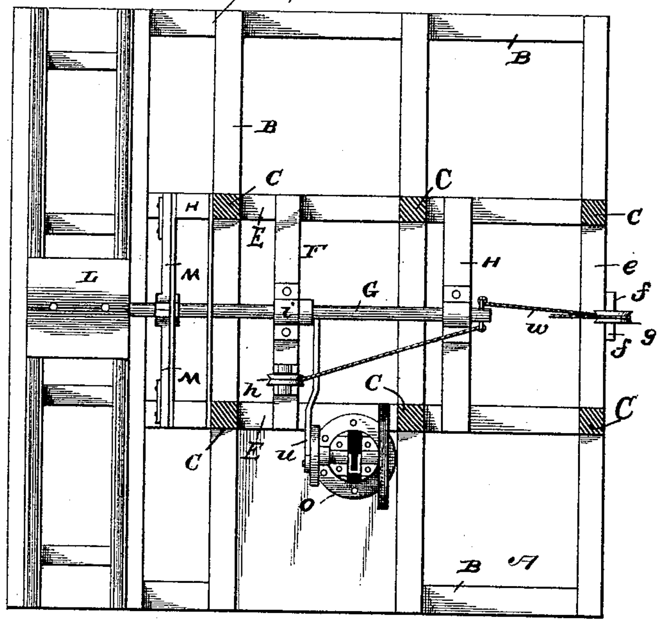


Fig. 4.

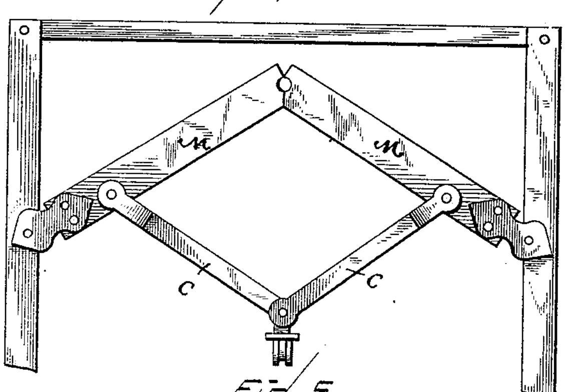
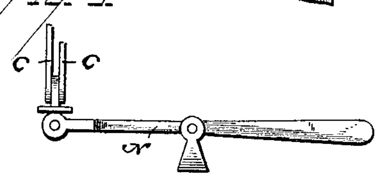


Fig. 5.



WITNESSES.

George H. Ramsay.
INVENTOR,

By James J. Sheehy
Attorney.

UNITED STATES PATENT OFFICE.

GEORGE H. RAMSAY, OF EXCELSIOR, IOWA.

COAL AND GRAIN DISTRIBUTING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 386,655, dated July 24, 1888.

Application filed January 20, 1888. Serial No. 261,386. (No model.)

To all whom it may concern:

Be it known that I, GEORGE H. RAMSAY, a citizen of the United States, residing at Excelsior, in the county of Mahaska, State of Iowa, have invented certain new and useful Improvements in Coal and Grain Distributing Apparatus, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention has relation to improvements in coal and grain loaders and distribution for railroad-cars, vessels, and other conveyances; and the novelty consists in the peculiar combination, arrangement, and adaptation of the various parts for service, as will be hereinafter more fully described, and particularly pointed out in the claims.

The invention and its advantages will be very readily understood from the following description and claims when taken in connection with the accompanying drawings, in which—

Figure 1 is a side elevation of my improved coal-loading machine. Fig. 2 is a front elevation. Fig. 3 is a horizontal sectional view taken on the line *x x*, Fig. 1; and Figs. 4 and 5 are detail views of parts detached.

Referring by letter to the said drawings, A designates the main frame of the loading and distributing apparatus, which is composed of the base or bed timbers B, the vertical standards or beams C, and the intermediate connecting longitudinal bars, D. The upper ends of the vertical standards C are connected by short transverse bars *d*, and the two rear vertical standards C of this series are connected and braced about the middle thereof by a transverse bar, (marked *e*.) This bar is in turn connected to the rear beam of the base by two parallel vertical bars, *f*, between which is suitably journaled an idler or pulley, *g*, as shown in Figs. 1 and 3 of the drawings, for a purpose presently described.

Near the lower ends of the forward vertical standards C, and suitably connected thereto, is a rearwardly-extending frame, (marked E.) This frame extends for only a short distance in the direction named, and is supported in a horizontal position by suitable diagonal brace-bars, F′. The horizontal cross-beam of this frame F is provided on one side thereof with an idler or guide pulley, *h*, similar to the pulley *g*, before described. The said cross-beam is also provided with a suitable support, (marked *i*,) that is designed to serve as a bearing for the rock-shaft G, presently described.

To the rear of the intermediate standards C, and near the lower ends thereof, is suitably connected and braced a frame, H, similar in construction to that of the frame F. This frame H is adapted to lie in the same horizontal plane with the said frame F, and it is also provided with a similar bearing that is designed to support the rear end of the rock-shaft G.

The upper portions of the front and intermediate vertical standards C are connected at or near one side thereof by two parallel strips or bars, *j*, upon which is mounted in suitable brackets a short revolving shaft or drum, *k*, that is provided on one of its ends with an operating-crank, *l*, for a purpose presently described.

I designates a lever that is suitably pivoted to a bracket or otherwise secured to the outer portion of one of the parallel connecting-bars *j j*. This lever I is connected at its lower end to a short transverse shaft, *m*, by means of a rod or arm, *n*, and a crank-arm, *n′*, the latter being secured to the outer end of the said shaft *m*. This shaft *m* is supported and adapted to rotate in suitable bearings secured to the lower faces of the middle longitudinal cross-beams, D, of the main frame A. The shaft is provided about its middle with a crank-arm, *o*, which is connected by a short link, *p*, to a short movable chute, *q*, by which means the said chute is adapted to move back and forth, as shown.

J designates a frame that projects a short distance in front of the main frame A, and it is extended up a sufficient distance and connected at its upper ends by metal cross bars or rods *r*, which also serve as supports for the short movable chute *q*.

K designates the main chute of the apparatus, the upper rear end of which is adapted to rest and be supported upon the adjacent top cross-beam *d* of the vertical rear uprights or standards C, while the lower end is designed to bear upon a metal cross-bar (marked *s*) that connects the middle longitudinal cross-beams, D, near the forward ends thereof, as shown.

The forward end of the rock-shaft G is pro-

vided with a distributer, L, rigidly attached thereto. This distributer is preferably constructed of sheet metal and of an angular form to provide broad engaging faces for the purpose of presenting great surfaces to the coal or grain, as the case may be, to thereby expeditiously shift or distribute the same from one portion of the car or vessel to the other, as shown in Fig. 1 of the drawings.

M designates jaws that are arranged in diagonal positions, and pivotally secured to the uprights of the frame J by suitable links or otherwise, and these pivoted jaws are provided with semicircular openings in their upper ends to form bearings for the rock-shaft at that point, and which, when opened, prevent said shaft from being drawn rearwardly and away from the car or other vehicle after the load has been delivered therefrom. These jaws M are designed to be opened by a downward pressure exerted upon a lever, N, that is pivoted between the vertical arms of a short standard mounted upon a transverse bar, *a*, which connects the front vertical uprights C of the main frame A near the lower ends thereof. This lever is connected at its front end with pivoted links *c c*, that are respectively secured at suitable points to the jaws M, as more clearly shown in Figs. 2 and 5 of the drawings.

O designates an engine or other suitable motor, and to the disk *t* of this motor I attach a connecting-rod or pitman, *u*, as shown, and pivot its opposite end to a pendent arm, *v*, that is rigidly attached to the rock-shaft G.

It is obvious that by the rotation of the disk *t* a reciprocating movement is given to the pitman *u* and the rock-shaft G, and the distributer will be oscillated.

The drum *k* at the top of the main frame is adapted to wind up or unwind a chain or wire rope, *w*, that extends over and passes around the pulleys *g h*, and the ends of this chain or rope are connected to the rear end of the rock-shaft G in any suitable manner.

It is obvious that by turning the crank *l* of the winding-drum *k* to the right or left the said rock-shaft G will be moved longitudinally outward or inward, as may be desired.

This being the construction of my invention, the operation thereof is as follows: The distributer carried by the rock-shaft G is thrust into or above the vehicle to be loaded and the short chute *q* thrown forward over the distributer, the jaws M being closed and serving as a support for the said rock-shaft. The coal is then passed into the main chute, and as the distributer is being rocked it throws the coal alternately to the right or left when desired.

I have shown in the drawings a car as the vehicle to be loaded. After the loading of the car has been completed the jaws M are opened and the distributer withdrawn.

Having described my invention, what I claim is—

1. A coal-loading apparatus having a fixed inclined chute, in combination with a reciprocating chute arranged at the lower end of the main chute and adapted to extend the discharge of the latter, and a rock-shaft having at one end an angular distributer which is adapted to receive material from said chutes and conduct it in opposite directions, substantially as specified.

2. The combination, in an apparatus such as described, of a main frame, an inclined chute fixed thereon, a movable chute at base of the fixed chute, a rock-shaft carrying at its outer end an angular distributer, and pivoted jaws M, for clutching the said rock-shaft, substantially as specified.

3. The herein-described loading and distributing apparatus, consisting of the main frame provided with the main chute and the movable chute *q*, the latter being connected by the crank *n'* and rods *n p* to an operating-lever, I, the rope passing around the pulleys *g h* and having its ends connected to the rear portion of the said rock-shaft, and the said rope connected to the winding-drum *k*, by which means the rock-shaft and distributer are adjusted into and out of operative position, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE H. RAMSAY.

Witnesses:
J. CRUIKSHANKS,
LISTON MCMILLEN.