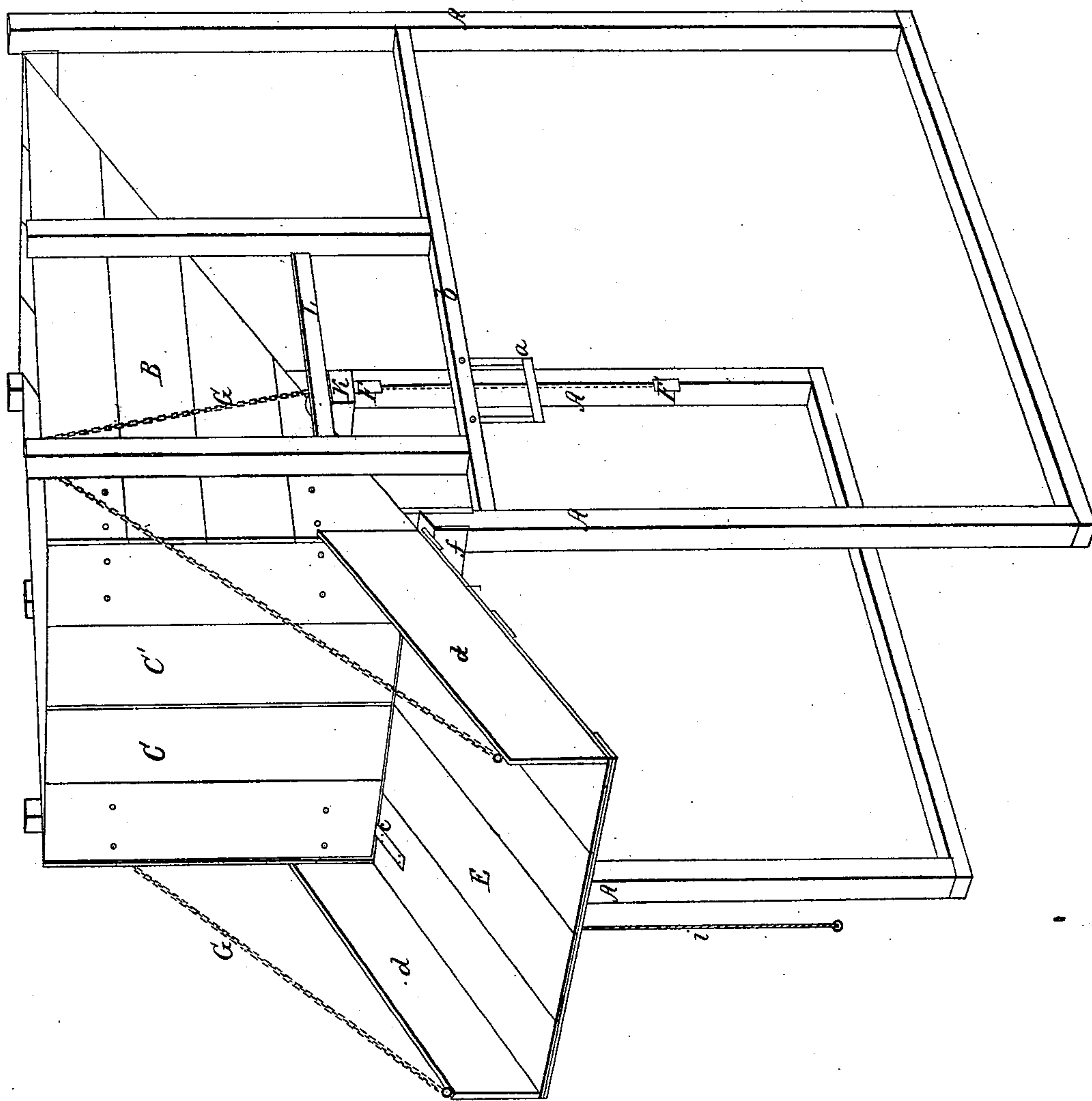


E. R. Kerr.

Coal Chute.

N^o 85,101.

Patented Dec. 22, 1868.



*Witnesses;
E. B. Thurman
L. H. Krelinger*

*Inventor;
E. R. Kerr.
By West & Bond
His Atty*

United States Patent Office.

EDWIN R. KERR, OF KEWANEE, ILLINOIS, ASSIGNOR TO HIMSELF
AND JAMES L. PLATT, OF SAME PLACE.

Letters Patent No. 85,101, dated December 22, 1868.

IMPROVED WOOD AND COAL-DUMPING APPARATUS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern :

Be it known that I, EDWIN R. KERR, of Kewanee, in the State of Illinois, have invented certain new and useful Improvements in Coal and Wood-Dumping Apparatus; and I do declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, making part of this specification, and being a perspective view.

This invention is an improvement upon a coal-dumping apparatus heretofore invented by me, and secured to myself and James L. Platt by Letters Patent of the United States, dated October 2, 1866, and reissued February 19, 1867, which was designed to furnish an improved means for supplying locomotive engines with coal, loading cars, transferring, &c.

The nature and object of my present improvements consist in applying variable weights for counterpoising the outer doors of the chutes, as and for the purposes hereinafter described, and in adapting my former invention to be used for supplying locomotive-engines with wood.

To enable others skilled in the art to make and use my improvements, I proceed to describe the construction and operation of the same.

A represents the posts which support the chute B. These posts may extend upwards so as to form portions of the frame of a shed or building in which the chutes are placed, and are constructed mainly as described in said former patent. They are provided with double doors, so arranged that the outer doors, when lowered, form a continuation of the chutes, while the inner doors readily open to allow the wood to be discharged.

The inner doors described in the former patent are hinged at the top. I adhere to this manner of hanging the inner doors when the chutes are to be used for coal or similar substances; but have found that in supplying locomotive-engines with wood, by the use of my chute, the inner doors, when hinged at the top, prevent the discharge of the wood, which does not flow as freely as coal. Wood moving down the chute, goes in a body, and (the inner doors being raised out of the way) is liable to fall over the sides *d* of the door E, when lowered and forming a continuation of the chute.

To obviate these objections, I make the inner doors of my chutes, when designed for wood, in two parts, C C', and hang these two parts, one on each side of the body of the chute, instead of at the top. When so constructed and hung, the pressure of the wood in the chute is sufficient to open them; but such pressure is not sufficient to open such door, when hinged at the top, without placing the chute at too great an angle for convenience.

These doors C C', when open, form a continuation of the sides of the main chute, sufficient to prevent the wood, in its downward passage, from falling over the

sides *d* of the extension E, and it would be inconvenient to increase the width of the sides *d*.

It takes several men several minutes to supply a locomotive-engine with wood in the usual manner, but by using my chute, the chute having been first filled, one man, or a boy, can wood an engine in less than one minute. This saving of time alone is a material advantage.

I have not found it necessary to use any fastening to secure the inner doors C C', when closed, the pressure of the wood not being sufficient to open the outer door when closed; but if desired, any convenient fastening may be used for said inner doors. A rope may be attached to them, and passed over a pulley, to be used in closing them, or they can be closed in any other convenient manner.

The outer doors E are hinged to the bottoms of the chutes at *c*, and are provided with side pieces *d*, which lap over the sides of the main chutes when closed, and enable said outer doors when open to serve as continuations of the chutes.

These doors E, when down, rest upon a plate, *f*. They are counterpoised by weights F attached to chains G, which are connected to the upper ends of the doors, and pass over pulleys properly located.

So far the weight is arranged as described in said former patent. I find, however, that when the door E is open, as shown in the drawing, it requires a heavy weight to raise it, but when partly raised or closed, such heavy weight closes the door with too much force, and after it has been partially closed, a lighter weight is far better. In opening this door, I also find it desirable to have the weight increased, before the door reaches its lowest point, to prevent the door from coming down with too much force, while, if a heavy weight be used when this door is closed, it requires considerable effort to open it.

To obviate the difficulties suggested, I have provided an additional weight, K, making F lighter than I otherwise would. This weight, as shown, is a piece of wood or timber extending beneath and from one side of the chute to the other, and having a hole in each end, through which the chains G pass. When the door E is closed, the weight F is in the position shown at F', and K rests on stirrups *a*. These may be of iron, one on each side, and so formed that F can pass down between the cross-beams *b* and the lower part of the stirrup. When the door is opened, the weights F rise till they come in contact with the weight K' then resting on the stirrups *a*, and as the door is further opened this weight K is carried up with and on the weights F. When the door is being closed, the two weights go down together until K comes to and rests upon the stirrups K. By the use of this double or variable weight, the door E can be easily opened and closed, and without slamming, or danger of injuring any of the apparatus.

Instead of using a beam of wood for this weight K, a separate weight may be used with each of the weights F. This double weight I use with all my chutes, whether designed for wood or coal. I make the chutes designed for wood a little wider than those used for coal, and also give the former a little more inclination than the latter.

When the chute-door E is down, it is supported by the chains G, the weight F K resting against the beams L, and forming a stop.

Having thus fully described my invention,

What I claim as new, and desire to secure by Letters Patent, is as follows:

1. The inner doors C C', forming, when open, a continuation of the sides of the chute, in combination with the chute B and the counterpoised outer door E, substantially as and for the purposes specified.

2. The compound weight F K, in combination with the chute B, chute-door E, chain G, and stop L, when constructed and operating substantially as and for the purposes specified.

EDWIN R. KERR.

Witnesses:

C. A. SHILTON,

M. D. FEZLIR.