J. C. WHITE & R. HAY.

APPARATUS FOR HOISTING COAL OR OTHER MATERIAL.

No. 16,133. Patented Nov. 25, 1856.

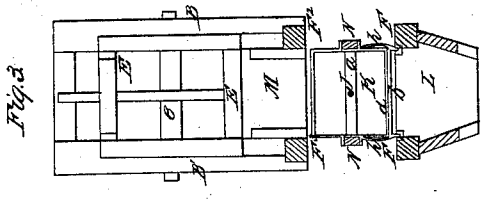


Fig. 3

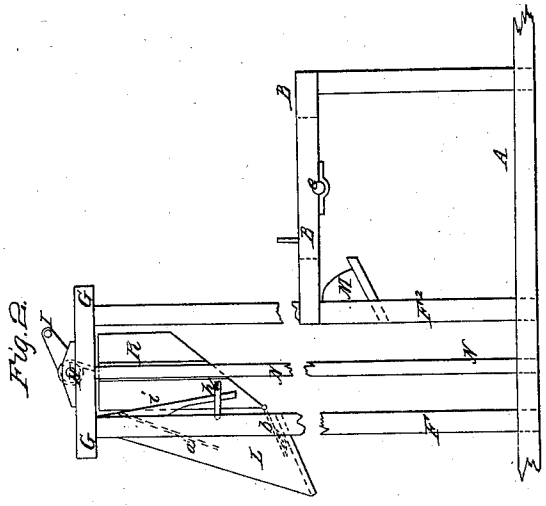


Fig. 2.

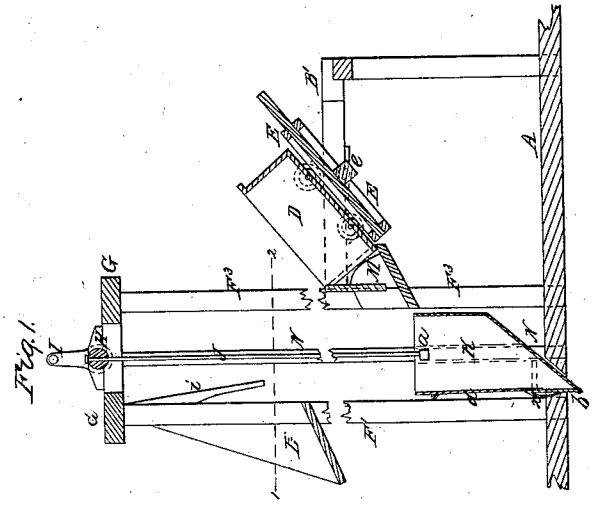


Fig. 1.

UNITED STATES PATENT OFFICE.

J. CLAUDE WHITE AND ROBERT HAY, OF TUCKERVILLE, PENNSYLVANIA.

APPARATUS FOR HOISTING COAL.

Specification of Letters Patent No. 16,133, dated November 25, 1856.

To all whom it may concern:

Be it known that we, J. CLAUDE WHITE and ROBERT HAY, of Tuckerville, Schuylkill county, Pennsylvania, have invented certain new and useful Improvements in Apparatus for Hoisting Coal and other Material; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing and to the letters of reference marked thereon.

Our invention relates to improvements in machinery for hoisting and discharging minerals and other substances, and consists in the employment of a bucket of peculiar form and supplied with doors and latches fully described hereafter. This bucket is raised and lowered by any suitable driving apparatus, when raised the latches by coming in contact with inclined planes are released from the doors, and one of the latter drops, and together with the bottom of the bucket forms part of the chute through which the material is discharged. When lowered the doors become again closed and retained by the catches, and the bucket receives a fresh supply of material to be hoisted. The whole is arranged and constructed for the purpose of affording a rapid, cheap and effective means of raising and discharging coal and other substances.

In order to enable others skilled in the art to make and use our invention we will now proceed to describe its construction and operation.

On reference to the drawing which forms a part of this specification, Figure 1 is a sectional view of our apparatus for hoisting coal and other substances. Fig. 2, an external elevation with the bucket raised. Fig. 3 a sectional plan on the line 1—2 Fig. 1.

The same letters of reference allude to similar parts throughout the several views.

A is the base of the apparatus, B and B′ the beams on which are secured the rails for the truck D the latter containing the material to be hoisted. To suitable boxes attached to the beams B and B′ are hung the ends of the beam *e* to which is secured the vibrating platform E. To the base A are secured the four upright beams F, F′, F² and F³ the length of which is regulated by the height to which the material has to be hoisted. The tops of the upright beams are connected together by the platform G, in the middle of which is an opening, and across this opening is hung to suitable boxes a barrel H to the end of which is secured a handle I or other suitable driving apparatus. To this barrel is connected a chain or cord J the lower end of which is attached to the cross bar *a* of the bucket K; the front of the latter is furnished with two doors *b* and *d*, the door *d* being hinged to the top, and opening upward, and the lower door *b* hinged to the bottom of the bucket and opening downward, but when closed bearing against the edge of the upper door so that both may be retained in their closed position by spring catches *h h* when the latter are not acted upon by the inclined planes *i*, *i* on the upright beams F and F′, hereafter alluded to. To the beams F and F′ is secured the inclined chute L and between the beams F² and F³ another inclined chute M. From the base A to the platform G extend the bars M, which serve as guides for the bucket K.

The apparatus being in the position shown in Fig. 1, that is with the bucket K in its lowest position, and with the doors *d* and *b* closed, and retained by the spring catches *h*, *h′*, the vibrating platform E with its truck D and its contents is tilted, and the coal or other material is allowed to escape through a door at the end onto the chute M, and thence into the bucket K. The latter is now hoisted by turning the barrel H until it reaches the position shown in Fig. 2, at which point the incline planes *i*, *i*, have so acted on the spring catches *h* and *h* as to withdraw them from contact with the door *b*. The pressure of the material inside the bucket now forces the door *b* down until it coincides with, and together with the bottom of the bucket forms a part of the inclined chute L the upper door *b* also opens, and allows the material to pass down the chute into the receptacle desired. The empty bucket with the upper door closed is now lowered and during its descent, the lower door becomes also closed by the projection *x* bearing against the bottom of the chute L allowing the spring catches to retain it until they are again released by the action of the inclined planes *h*, *h*. The bucket having arrived at a position to re-

ceive the contents of another truck a repetition of the above described operations takes place.

The base A may be supposed to represent the bottom of the shaft of a coal or other mine, and the top of the beams B and B′ a line of rails along which the trucks, containing the mineral are brought, and the chute L being above the mouth of the shaft may be supposed to lead to a position above a line of railway, so that the trucks on the same may be loaded with the material; or otherwise to lead to a boat or other vessel.

The apparatus is equally well adapted for hoisting grain, for quarries, and for other purposes.

What we claim and desire to secure by Letters Patent is—

The bucket K with its inclined base, its doors *b* and *d*, and spring latches *h* and *h′* in combination with the chute L and inclined planes *i*, and *i′*, the whole being arranged substantially in the manner herein set forth and for the purpose specified.

In testimony whereof we have signed our names to this specification before two subscribing witnesses.

J. CLAUDE WHITE
ROBERT HAY.

Witnesses:
JOSEPH ANTHONY,
MORGAN REED.