(No Model.)

E. A. KAUFMAN.

DUMPING CAR.

No. 492,904. Patented Mar. 7, 1893.

Fig. 1.

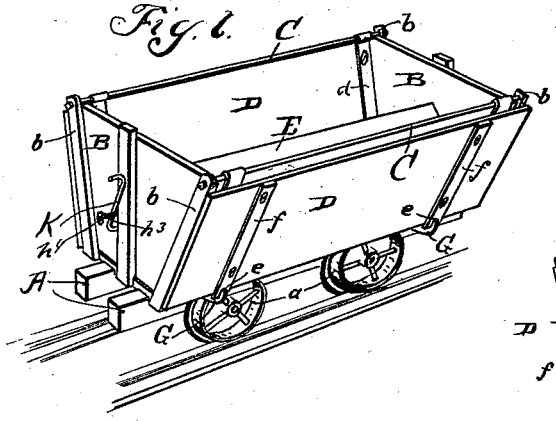


Fig. 2.

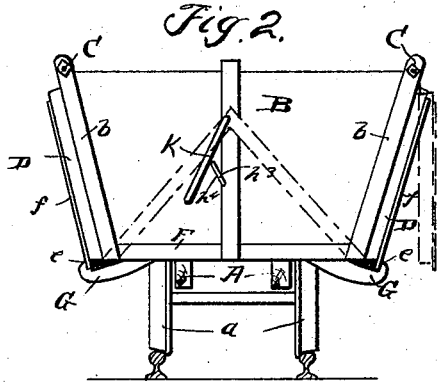


Fig. 3.

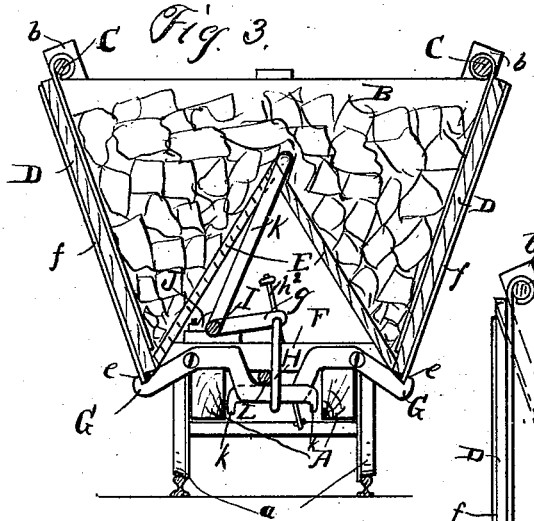


Fig. 4.

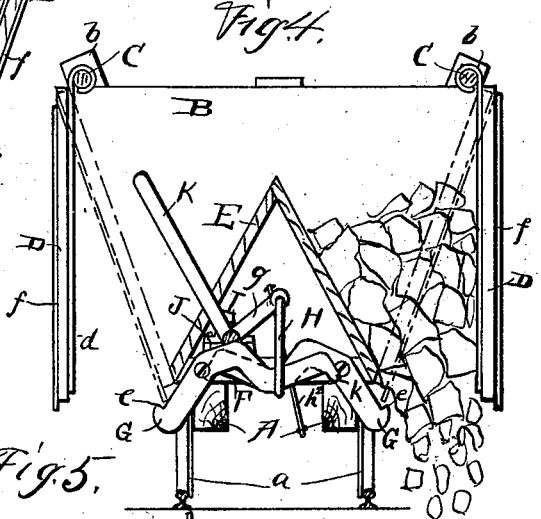
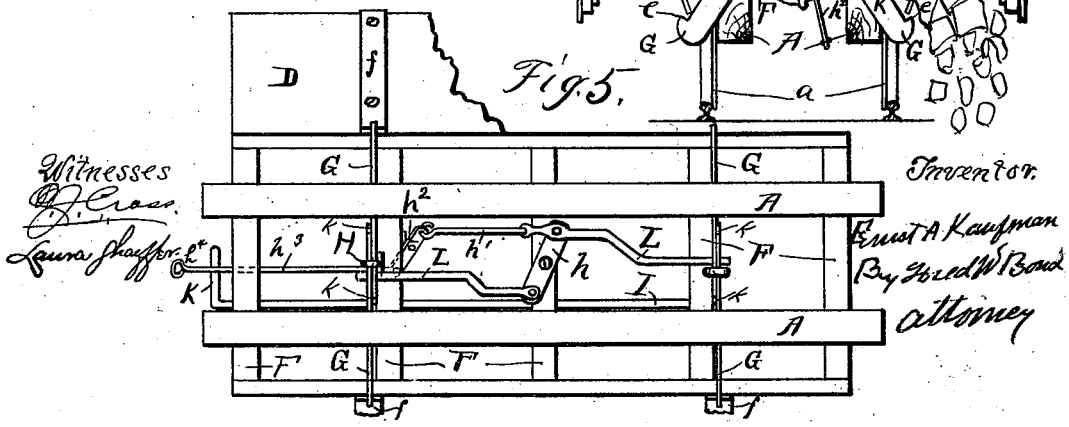


Fig. 5.



Witnesses
C. J. Cross.
Laura Shaffer.

Inventor.
Ernest A. Kaufman
By Fred W. Bond
Attorney

UNITED STATES PATENT OFFICE.

ERNST A. KAUFMAN, OF CANTON, OHIO.

DUMPING-CAR.

SPECIFICATION forming part of Letters Patent No. 492,904, dated March 7, 1893.

Application filed October 25, 1892. Serial No. 449,973. (No model.)

To all whom it may concern:

Be it known that I, ERNST A. KAUFMAN, a citizen of the United States, residing at Canton, in the county of Stark and State of Ohio, have invented certain new and useful Improvements in Dumping-Cars; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters of reference marked thereon, in which—

Figure 1, is an isometrical view of the car showing the same properly adjusted to receive its load. Fig. 2, is an end view of the car. Fig. 3, is a transverse section showing the car loaded and the side-boards properly located. Fig. 4, is a transverse section showing the positions the side-boards assume when released. Fig. 5, is a bottom or under side view showing the trucks removed and illustrating the mechanism for locking the side-boards.

The present invention has relation to dumping cars, and it consists in the different parts and combination of parts hereinafter described and particularly pointed out in the claims.

Similar letters of reference indicate corresponding parts in all the figures of the drawings.

In the accompanying drawings A, represents the truck which may be constructed in any convenient and well known manner, to which truck the traveling wheels *a*, are properly attached and journaled in the ordinary manner. The end pieces or frame B, of the car proper are substantially of the form shown in Figs. 1 and 2, and as shown their tops are somewhat wider than their bottoms, thereby providing a means for forming the top of the car wider in cross section than the bottom, which arrangement is for the purpose hereinafter described. To the ends of the car are fixed the rods C, and for the purpose of providing a strong support for said rods the bars *b*, are provided, which bars are securely attached to the ends B, and form a part of the ends.

To the rods C, are hinged the sides D, which sides are located and arranged substantially as shown in the drawings. For the purpose of providing a means for hinging the sides D, the bars *d*, are provided; which bars are securely attached to the sides D, in any convenient and well known manner.

For the purpose of throwing the dirt or other material to the outer edges of the car, the inverted V-shaped center E, is provided, which V-shaped center is substantially of the form shown and is formed of sufficient strength to support and hold the load designed and calculated to be placed in the car, and as shown, the V-shaped center extends the entire length of the car.

To the truck A, are attached the cross-bars F, which cross-bars are properly framed to the truck A, in any convenient and well known manner; or if desired, said cross-bars may be attached by means of clamping-bolts or their equivalents, and are located substantially as illustrated in Fig. 5. To the outer cross-bars F, are pivotally attached the dogs G, which dogs are located and arranged substantially as shown in Figs. 3, 4, and 5, and as shown their outer ends are provided with the hooks *e*, which hooks are for the purpose of engaging the bottom or lower ends of the bars or straps *f*, which bars or straps extend a short distance below the bottom edge of the sides D, for the purpose of bringing the said bottom or lower ends in proper position to be engaged by the hooks *e*, as hereinafter described.

The dogs G, are so located that their inner ends or portions will over-lap each other as illustrated in Fig. 5, and are so arranged for the purpose of being engaged by means of the links H, which links are pivotally attached at their top or upper ends to the right-angled arms *g*, which right-angled arms are securely attached to the shaft I, said shaft being properly journaled by means of boxes such as J, which boxes may be securely attached to the cross-bars F.

For the purpose of operating the shaft I, together with the arms *g*, the lever or handle K, is provided, which handle or lever may be securely attached to the shaft I, or it may be a continuation of said shaft bent at substantially right-angles to the shaft as illustrated in Fig. 1.

For the purpose of bringing the inner ends of the dogs G, below the bottom or under sides of the cross-bars F, said dogs are bent or curved downward as illustrated in Fig. 3,

thereby forming a space or opening between the bottom or under side of the bars F, and the top or upper edges of the dogs G. This opening or space between the dogs G, and the bars F, is for the purpose of allowing the locking-bars L to enter between the bars F, and the dogs G, substantially as illustrated in Figs. 3 and 5, thereby locking the dogs G, in the position illustrated in said figures; which position locks or holds the sides D, in the position illustrated in Fig. 3.

For the purpose of causing the locking-bars L, to move in opposite directions, the rock-bar h, is provided, which rock-bar is pivotally attached to one of the cross-bars F, or its equivalent. To the ends of the rock-bar h, are pivotally attached the inner ends of the locking-bars L. One of the locking-bars is provided with the connecting link or rod h', one end of said connecting link or rod, h', being pivoted to the rock-bar h^2, which rock-bar may be pivotally attached to one of the cross-bars F. To the opposite end of the rock-bar h^2 is pivotally attached the operating handle or bar h^3, the outer end of said operating handle being provided with any suitable hand-hold such as h^4.

In use when it is desired to lock the sides D, in the position illustrated in Figs. 1, 2, and 3, the lever or handle K, is placed in the position illustrated in Figs. 1, 2, and 3, which position lowers the inner ends of the arms g, and at the same time lowering the links H, thereby permitting the inner ends of the dogs G, to fall and at the same time elevate the outer ends of said dogs, which upward movement of the outer ends of the dogs G, brings the hooks e, in proper position to engage the bottom or lower ends of the bars or straps f; at which time the operating handle h^2 is pushed or forced inward or toward the body of the car, which movement throws the ends of the locking-bars L, between the bars F, and the dogs G. thereby locking the said dogs. When the parts are in the position just above described, the car is in proper condition to receive its load.

When it is desired to empty or dump the car of its load, the operating handle h^2, is pulled, which movement removes the ends of the locking-bars L, from between the dogs G, and the bars F; after which the handle or lever K, is thrown outward or toward the sides of the car, which movement elevates the arms g, and the links H, thereby elevating the inner ends or portions of the dogs G. As the inner ends of the dogs G, are elevated, the outer ends of said dogs are lowered; thereby disengaging the hook e, from the bars or straps f, at which time the sides D, are free to swing outward as indicated in Fig. 4. After the car has been emptied, the parts are again brought into the position illustrated in Fig. 1, when the car is ready for another load. It will be understood that by this arrangement, the dirt or other material falls on each side of the car, thereby better distributing the dirt or other material. It will also be understood that by this arrangement, the car can be dumped without tilting the body of the car.

For the purpose of preventing the dogs G, from becoming detached from the links H, the inner ends of said dogs are provided with the downwardly extending arms k, which arms prevent the links H, from slipping or swinging beyond the ends of the dogs G. These downwardly extending arms k, also prevent the dogs G, from becoming displaced; or in other words assist in holding said dogs in proper position so far as they overlap each other.

The object of forming the car wider at its top than at its bottom, is to bring the sides D, in such a position that a portion of the weight of the load will press or bear against the inner faces of the sides, thereby forcing said sides outward as indicated in Fig. 4, when released.

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

1. The combination of the truck A, provided with suitable traveling-wheels such as a, the end-pieces or frames B, provided with the bars b, or their equivalents, the rods C the pivoted sides D, provided with bars or straps f, extending past and beyond the bottom or lower edges of the sides D, the cross-bars F, the pivoted dogs G, provided with the hooks e, the locking-bars L, and means for operating the dogs and locking bars substantially as and for the purpose specified.

2. The combination of a car-body provided with pivoted sides and the inverted V-shaped partition E, the shaft I, provided with the arms g, the links H, pivotally attached to the arms g, the dogs G, provided with hooked outer ends, the locking-bars L, the rock-bars h and h^2, and the operating handle h^3, substantially as and for the purpose specified.

3. The combination of a car body provided with a suitable truck and traveling-wheels, the pivoted sides D, the dogs G, provided with hooked outer ends, and the downwardly extending arms k, the locking arms L, and means for operating the dogs and locking-bars, substantially as and for the purpose specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

ERNST A. KAUFMAN.

Witnesses:
LAURA SHAEFFER,
F. W. BOND.