

FRANKLIN B. COLTON.
No. 122,226.

Improvement in Dumping Car.
Patented Dec. 26, 1871.

(31.)

FIG. 1.

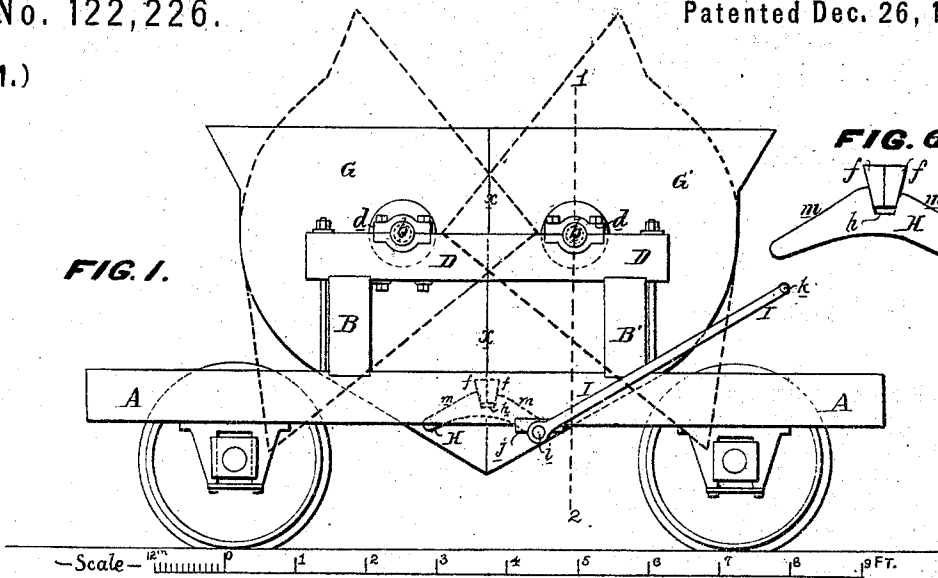


FIG. 6.

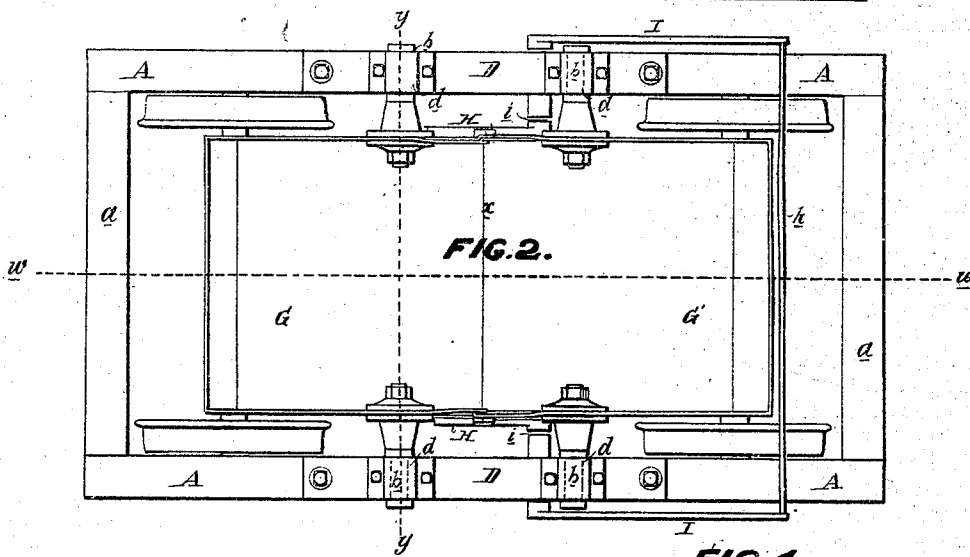
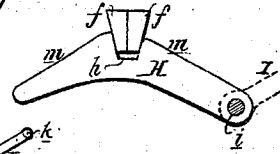


FIG. 2.

FIG. 4.



FIG. 3.

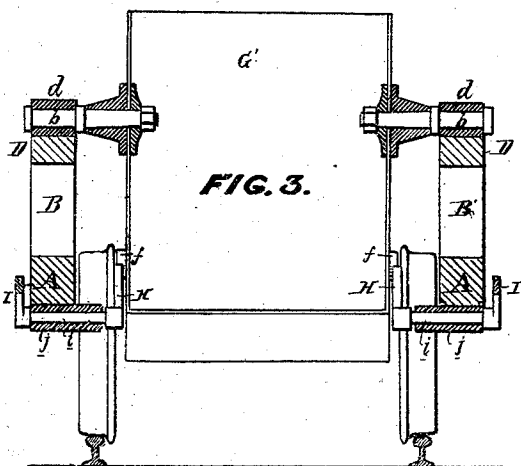


FIG. 5.

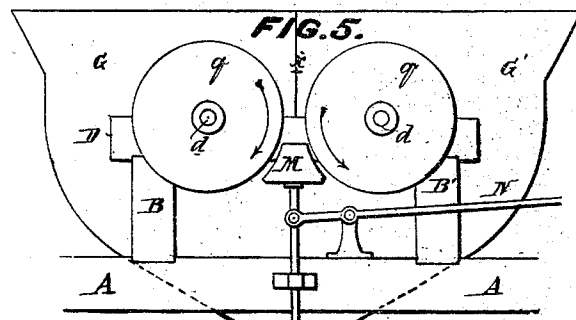
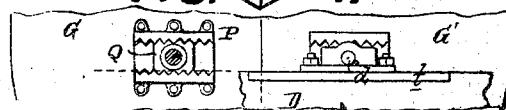


FIG. 7.



WITNESSES. *Thos. McMain*
John Parker

F. B. Colton
By his Atty. Genl.

UNITED STATES PATENT OFFICE

FRANKLIN B. COLTON, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN DUMPING-CARS.

Specification forming part of Letters Patent No. 122,226, dated December 26, 1871.

Specification describing an Improved Dumping-Car or Truck, invented by FRANKLIN B. COLTON, of Philadelphia, Pennsylvania.

My invention consists of a car or truck for transporting and discharging coal, earth, or other material, the said car having a body consisting of two sections adapted to each other and hung to the frame substantially in the manner described hereafter, so that the two sections on being unlocked will be self-separating and discharge their load, and be self-closing after the discharge. My invention consists of further improvements whereby the sections are made self-locking on meeting, may be retarded on tilting, and can have their journals and bearings adjusted as circumstances may require, all of which improvements are too fully explained hereafter to need preliminary description.

In the accompanying drawing, Figure 1 is a side view of my improved dumping-car; Fig. 2, a plan view; Fig. 3, a vertical section on the line 1 2, Fig. 1; Fig. 4, a side view of the car, illustrating a braking device attached to the same; Fig. 6, an enlarged view of part of my invention; and Fig. 7, a view illustrating a modification.

Each side frame of the car consists, in the present instance, of a longitudinal beam, A, short vertical pieces B B', and upper longitudinal beam D, the whole being properly secured together by any suitable system of bolts and stays. The opposite frames are connected together at their ends by transverse beams a a, and the whole is supported on axles provided with the usual flanged wheels. The body of the car consists of two sections G and G', of the shape, or approximating to the shape, illustrated in the drawing, the two sections, when closed, meeting at the central line x, Fig. 1. To each side of each section is secured a journal, b, the centers of two journals of each section being in the same line y, Fig. 2, which is at right angles to a line, w w, drawn through the center of the car, as shown in the plan view, Fig. 2, and the journals are adapted to suitable bearings d secured to the beams D D of the opposite side frames. The journals of the two sections are situated at equal distances from the central line x, Fig. 1, this distance, as well as the distance of the journals from the upper edge e of the sections, being substantially that illustrated in the drawing, so that when the body of the car is empty the two sec-

tions will, by their own gravity, be self-closing to each other, and, when loaded, will have tendency to separate and turn in the bearing and assume the position shown by dotted line in Fig. 1. In order to lock the two sections together I prefer the device which I will proceed to describe. On each side of each section is a projection, f, the two projections on each side of the car-body meeting and forming together a wedge shaped block, the lower end of which is adapted to a recess, h, in an arm, H, secured to a pin, i, arranged to turn in a bearing, j, attached to the frame; a lever, I, being secured to the same pin. There is a similar locking device on each side of the car-body, and the two levers I of the two devices are connected together by a cross-bar, k, and the weight of the levers and cross-bar will suffice to retain the arm H in an elevated position, although it may be prudent to apply further devices for controlling the arms I, and thereby preventing the accidental unlocking of the sections or the tampering of unauthorized parties with the same.

It will be observed that when the body of the car is loaded and the sections locked together the said body is fastened to the frame on each side at three points, namely: through the medium of two journals and their bearings and through that of the locking-arm H. On elevating the levers I I the arms H will be depressed and the projections f f freed from the control of the arms in other words the two sections of the body will be unlocked, and, owing to the weight of the load, will at once turn in their bearings to the position shown by dotted lines, and the load will be discharged. Immediately after this discharge of the load, however, the two sections will, owing to their own gravity and the manner in which they are hung, return to their former position in doing which the projections f f will strike the inclined planes m m of the arms H (See Fig. 6) and depress the said arms until the two sections of the body meet, when on the projections f f coinciding with the recess h of the arms H, the latter will be elevated by the weight of the levers I I and the two sections will be locked together as before. It will be thus seen that the sections of the loaded body are self-separating when unlocked and self-closing and self-locking after the load is discharged. One section must necessarily overlap the other at the top when tilted; thus,

Fig. 4, G and G' show the upper edges of the two sections where they overlap. The end *p* of one of the overlapping portions of one of the sections is bent so as to bear against the other and thus scrape away any dirt which might tend to enter between the overlapping portions of the sections and interfere with their free movement. The upper adjacent corners of the two sections could slightly overlap, even when the sections are closed. In some cases it may be necessary to retard the tilting movement of the sections after they are unlocked to prevent them from acquiring too much momentum. For this purpose I adopt a braking device, such for instance as is shown in Fig. 5. On the journal or trunnion of each section I place a disk, *q*, and between them I range a rubber, *M*, controlled by a lever, *N*, in a manner which will be readily understood by reference to the drawing, the brake being applied to the peripheries of the disks *q q* when it is desirable to retard the movement of the sections on the latter being unlocked. Other braking devices will readily suggest themselves to those familiar with the construction of machinery of this class. The proper position of the journals or trunnions on the sections is an important matter, as on this will depend the proper functions of the sections—that is, the self-separating when the same are loaded, and self-closing when empty; as the drawing is made in accordance with the scale below, Fig. 1, this scale will afford the means of determining the position of the journals approximately, but the exact position of the journals will, in a great measure, depend upon the material with which the sections are loaded; some material, for instance, cannot be so readily disposed of in tilting the sections as others. When the load is easily disposed of, the journals of one section may be nearer to those of the other than when the load is of a character which renders it more difficult to be discharged. In all cases, however, the position of the journals should be such that when the loaded sections are unlocked they should acquire such momentum that they will not begin to close until the load

is fully discharged. In order that this end may be always attained I prefer to make the journals adjustable on the sections, the bearings being also adjustable on the frame of the car. One way of accomplishing this is illustrated in Fig. 7, where *P* represents a socket firmly secured to a section, this socket having two ribs toothed on the inside and adapted to a toothed block, *Q*, which forms part of the journal, so that the latter can be withdrawn and reinserted in the socket at various distances from the central line *x* where the two sections meet. The bearing *d* in Fig. 7 is also adjustable, being arranged to slide on a plate, *t*, attached to the side frame of the car. Many other plans of rendering the journals of the sections adjustable will readily suggest themselves.

As to the precise shape of the sections, that too, will, in a manner, depend upon the character of the material with which they are loaded. I prefer the shape shown in the drawing as in my opinion the best for the purpose.

I claim as my invention—

1. A car or truck, the body of which consists of two sections, *G G'*, adapted to each other and hung to the frame of the car, substantially in the manner and for the purpose described.
2. The said sections hung to the frame of a car or truck, in combination with the locking and releasing device herein described, or its equivalent.
3. The combination of the said sections with a braking device for retarding their tilting movement.
4. The said sections having adjustable journals or trunnions, in combination with adjustable bearings on the frame of the car or truck.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FRANKLIN B. COLTON.

Witnesses:

WM. A. STEEL,
HARRY SMITH.

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