(No Model.) 2 Sheets—Sheet 1.

A. HELFRICH.

DUMP WAGON.

No. 344,378. Patented June 29, 1886.

Fig. 1.

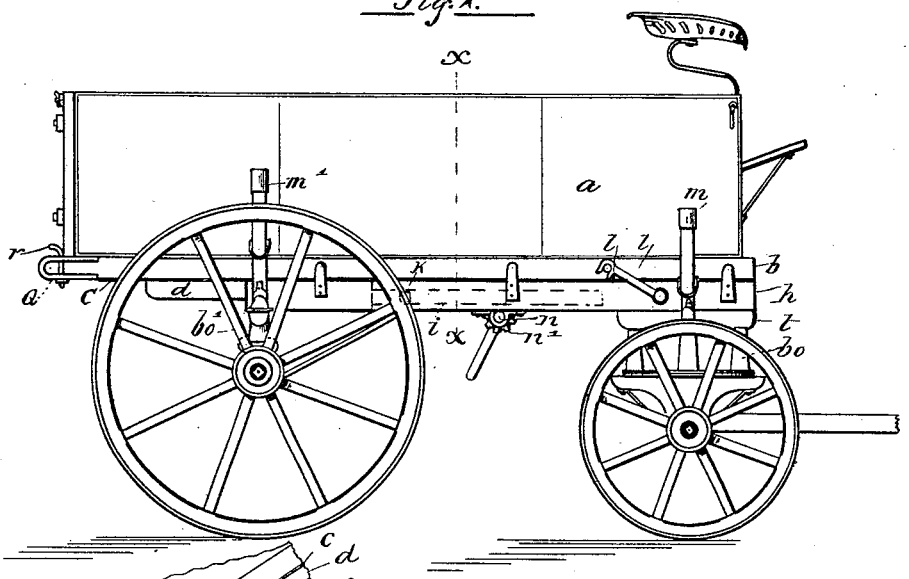


Fig. 2.

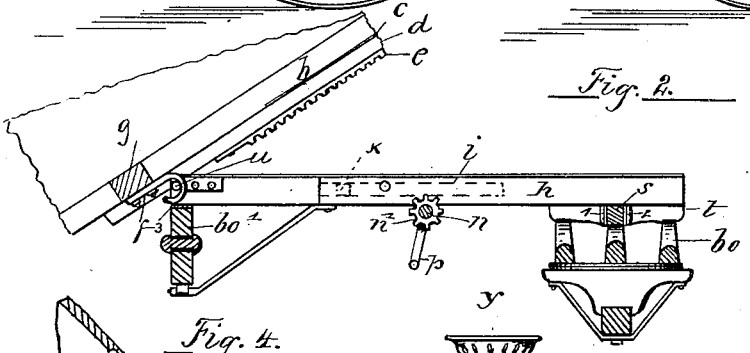


Fig. 4.

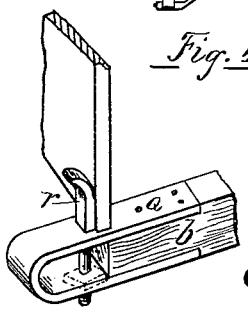
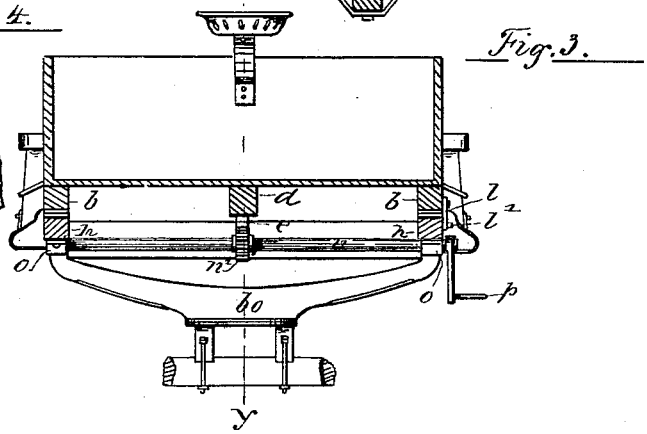


Fig. 3.



Witnesses.

B. B. Barnum

George A. Danby

Inventor.

Adam Helfrich

by Smith & Coeper atty.

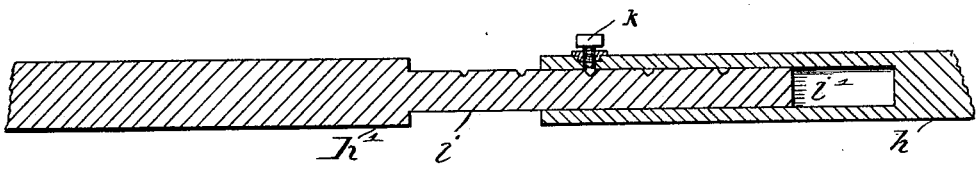
(No Model.) 2 Sheets—Sheet 2.

A. HELFRICH.

DUMP WAGON.

No. 344,378. Patented June 29, 1886.

Fig. 5.



WITNESSES.

George Soeper.

Royal B. Smith

INVENTOR.

Adam Helfrich

by Smith & Soeper Attys

UNITED STATES PATENT OFFICE.

ADAM HELFRICH, OF INDIANAPOLIS, INDIANA.

DUMP-WAGON.

SPECIFICATION forming part of Letters Patent No. 344,378, dated June 29, 1886.

Application filed November 9, 1885. Serial No. 182,167. (No model.)

To all whom it may concern:

Be it known that I, ADAM HELFRICH, of the city of Indianapolis, county of Marion, and State of Indiana, have invented certain new and useful Improvements in Dump-Wagons, of which the following is a specification.

My invention relates to improvements in Dump-Wagons, whereby the process of unloading coal and brick may be greatly facilitated, and is fully described in this specification, and illustrated in the drawings filed herewith and made a part of this specification, and in which letters of a like character relate to similar parts of my invention throughout the drawings, in which—

Figure 1 is a side view of my invention, showing a wagon with my improvement attached. Fig. 2 is a longitudinal section of my wagon, on the line *y y* of Fig. 3, with the wheels and a portion of the bed detached. Fig. 3 is a cross-section of my invention with the wheels detached, on the line *x x* of Fig. 1, looking to the right. Fig. 4 is a perspective view of the corner of the back end of my wagon-bed, showing a portion of the back end of the sill and the manner of holding the hind gate in position. Fig. 5 is a longitudinal section of my coupling-bar hereinafter described.

In Fig. 1, *a* represents a wagon-bed with suitable seat and foot-board.

b represents the sills of the bed-frame, provided with iron plates *c*, attached to their under sides and extending the entire length of the sills.

d is a square piece of timber, bolted or otherwise fastened to the under side of the bottom of the wagon-bed, to which is attached the rack *e*.

f are eccentrically-curved stop-hooks firmly fastened to the cross-bar *g*, as shown in Figs. 1 and 2.

h and *h'* represent coupling-bars made in two sections each, the outer ends of which are made to rest on, and are firmly attached to, the bolsters *bo bo'*, thus forming, in combination with the axles and wheels, the running-gears of my wagon. A portion of the hind section of each of these bars *h h'* is formed into a round or square tenon, *i*, to fit into a round or square socket, *i'*, provided in the corresponding sections of said bars. It will be readily seen that these sections can be adjusted to any requisite length by sliding the tenon *i* in or out of the socket *i'*, as occasion requires, and held in position by means of set-screws *k*. (See Fig. 2, in dotted lines; and also see Fig. 5, Sheet 2, in an enlarged sectional top view.) I adopt this method of adjusting the coupling of my wagon to fit it for the purpose of hauling coal, brick, or lumber, as occasion requires.

l is a hook loosely journaled on the headed bolt securely fastened into sill *b*. (See Fig. 1.) This hook fits into a staple, *l'*, on the coupling-bar *h*, to hold the bed in position while the wagon is in transit.

m m' are removable standards.

n is a shaft extending entirely across the under side of the of the bed *a* and journaled into hangers *o o*, attached to the under side of the coupling-bars *h*. To this shaft is rigidly mounted the gear-wheel *n'*, which meshes into the rack *e*, and is actuated by means of crank *p*, whereby the bed is moved backward or forward at will.

q is a U-shaped wrought-iron strap sufficiently broad and long to fit over and completely protect the end of the sill *b*. The ends of this strap are firmly fastened to the corresponding sides of the sill in such a manner as to allow the central portion of the bent strap to project beyond the end of the sill and leave a U-shaped space between the end of the sill and curved portion of the strap, as shown in Figs. 1 and 4.

r is a bolt with its upper end flattened and bent outward. The rounded part, having a portion of its length threaded to receive a nut, is passed through the upper and lower sections of the strap *q*, and held in place by means of a nut provided for that purpose. This bolt serves the double purpose of holding the end-gate of the wagon in its proper place, and at the same time strengthens the grip of the strap *q* on the end of the sill *b*.

s is a false bolster held in position by means of two angle-irons, 1 and 2, firmly fastened to the inside of the bolster-blocks *t*. (See Fig. 2.)

The hook *f* is made in the form of an eccentric circle, and is of sufficient strength to sustain the weight of the wagon-bed, with its load of brick or coal, and, being firmly fastened to

the cross-bar *g*, acts, first, as a stop to the backward motion of the bed, and, second, as a fulcrum upon which the bed turns, thus relieving the strain on the stop-pin *u*.

The method of operating my device is as follows: When I wish to dump a load of coal or brick, I unhook the hook *l*, turn the crank *p*, which actuates the gear-wheel *n'*, engaged with rack *c*, which impels the bed *a* backward till the pin *u* strikes the upper end of the eccentric hook *f*, when the load is easily dumped. The tilting of the bed backward brings the rear end of the eccentric hook *f* in contact with an iron plate, 3, fastened on top of the hind bolster, which now sustains the entire weight of the load and leaves the stop-pin *u* free from any strain whatever. The center of gravity of the bed being thus transferred to the point of the eccentric hook, when the load is discharged the bed automatically returns to a horizontal position, and is readily replaced in its proper position by means of the mechanism above described.

The advantages I derive from the employment of my device are:

First, by means of my coupling-bars *h*, constructed in two sections, as above described, I can adapt my wagon to the purpose of hauling coal, brick, or lumber. By loosening the set-screw *k*, and drawing out the tenons *i* to the requisite distance, and fastening down the set-screw again the desired change is made with ease.

Second, by reason of the peculiar construction of my bolt *r* the hind gate of my wagon can be removed and replaced with ease, thus avoiding the inconvenience and delay usually attending this operation.

Third, by employing the eccentric hook *f* the process of dumping is greatly facilitated, and the strain usually attending this operation removed to parts better adapted to resist this strain than in wagons in common use, thereby lengthening the term of service, an object greatly to be desired.

Fourth, my bed being independent of the running-gears, it is more easily taken off and replaced than those in ordinary use, for it is obvious that when the bed is resting on the ends of the sills and the hooks *f*, as in the dumping position, the bed will recline at an angle of about forty-five degrees, when, by backing the wagons slightly, the hooks *f* are lifted off of the pins *u*, and the bed can easily be held in this position disengaged from the running-gears, which can then be drawn out of the way and the bed lowered to rest with less exertion than is usually required to perform this operation in the ordinary manner.

I am aware that various forms of dumping-wagons have been patented and used; but I am not aware that a device possessing the features above described has ever been patented; hence,

I claim as new and desire to secure by Letters Patent—

1. The coupling-bars *h*, constructed in two sections, one of which sections is provided with a lengthening tenon, and the other with a socket and set-screw, *k*, for regulating the coupling of wagons, substantially in the manner and for the purpose set forth.

2. The combination of the eccentrically-curved hook *f*, firmly fastened underneath the cross-piece *g*, the stop-pin *u*, rigidly attached to the inside of the coupling-bar *h'*, and mechanism for dumping wagons, substantially in the manner and for the purpose set forth.

3. A dump-wagon constructed as specified, having coupling-bars *h* with their lengthening tenon *i* and socket *i'*, and clamp-screws *k*, and provided with eccentric hooks *f* and bolts *r*, substantially as and for the purpose specified.

In witness whereof I have hereunto set my hand and seal, at Indianapolis, Indiana, this 4th day of November, A. D., 1885.

ADAM HELFRICH. [L. S.]

In presence of—
W. P. SMITH,
B. B. BARNUM.