

(No Model.)

R. C. RUTHVEN.
WAGON LOADING MACHINE.

No. 537,072.

Patented Apr. 9, 1895.

Fig 1

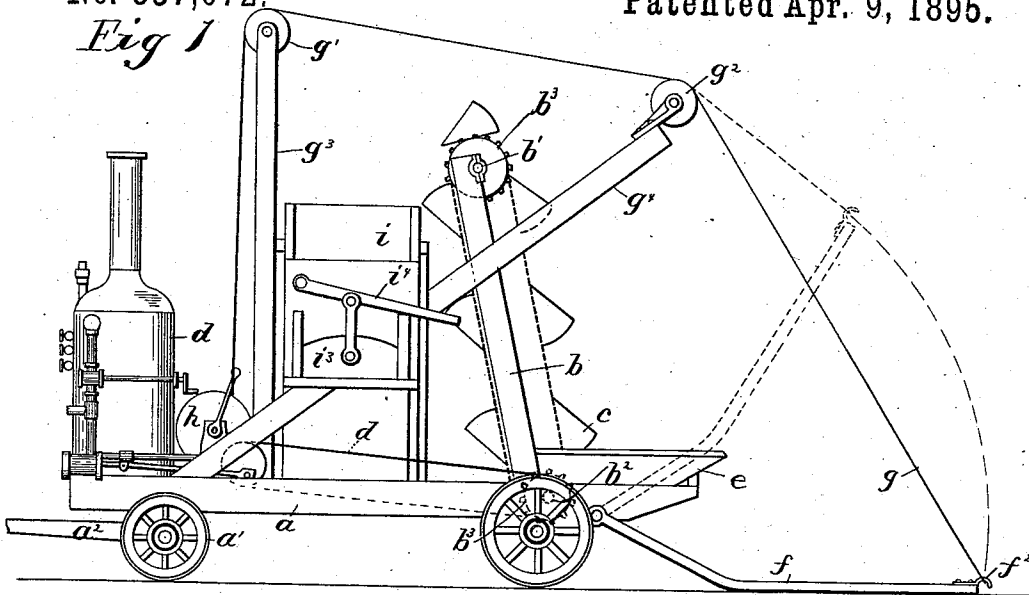


Fig 2

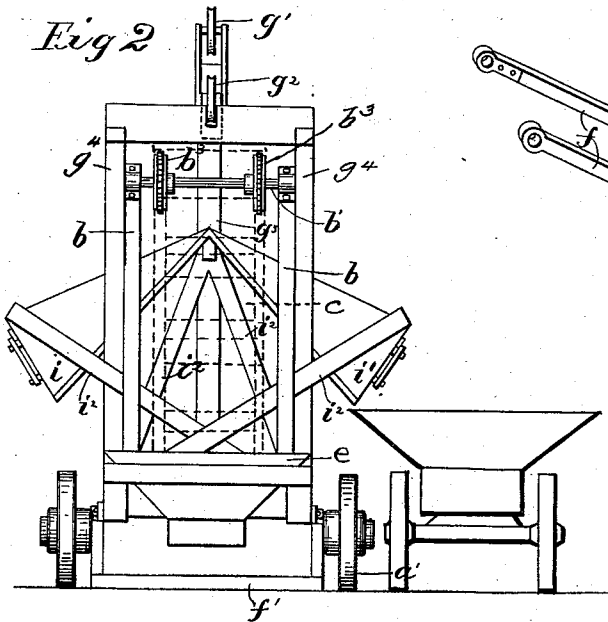
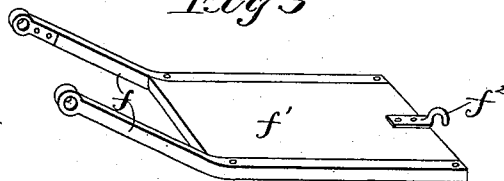


Fig 3



WITNESSES:

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UNITED STATES PATENT OFFICE.

ROBERT C. RUTHVEN, OF BUFFALO, NEW YORK.

WAGON-LOADING MACHINE.

SPECIFICATION forming part of Letters Patent No. 537,072, dated April 9, 1895.

Application filed February 16, 1893. Serial No. 462,538. (No model.)

To all whom it may concern:

Be it known that I, ROBERT C. RUTHVEN, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Wagon-Loading Machines; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to an improvement in machines for loading earth, &c., upon vehicles, particularly horse-carts, and although susceptible of universal use, is designed with special reference for use in connection with street and road excavating; and my object is to construct a simple and easily operated machine wherein means are provided for conveying the dirt from the ground to an elevated hopper, from whence it is fed to wagons or carts to be hauled away.

A further object is to construct the machine so that it may be more easily transported and located in relation to the material to be operated upon.

To these ends my invention consists in the combinations and arrangements and construction of parts all of which will be fully disclosed hereinafter and particularly pointed out in the claims.

Referring to the accompanying drawings: Figure 1 represents a side elevation of my machine complete and in operative adjustment; Fig. 2, an end elevation; Fig. 3, a detail in perspective of the hoisting table or platform.

The reference letter *a* indicates the body of my machine, which is mounted on the wheels *a'* and provided with a tongue *a²* by which it may be drawn from place to place. Rigidly fixed to the body *a* and rising therefrom at about an angle of eighty degrees, are two twin standards *b*, having journaled at or near their upper and lower ends respectively, the revoluble shafts *b'* and *b²*. These shafts have fixed to turn therewith, the pulleys *b³* over which the endless conveyer *c* operates. The conveyer *c* may be of any suitable construc-

tion, and is driven by the pulley *b³* mounted on shaft *b²* and operated by a belt from the engine *d*.

Arranged at the base of the conveyer *c* and at the front end of the machine, is the dirt hopper *e*, constructed with a bottom sloping toward the conveyer so as to feed its contents continuously thereto.

Pivoted to each side of the body *a*, under the hopper *e*, is a bar or rod *f*, each being bent so that their outer or free ends will lie flush or parallel with the ground. Secured between the free ends of the bars is a table or platform *f'*, having a hook or clevis *f²* fastened to its outer end. This clevis has attached to it, one end of a cable or chain *g*, which passes over the pulleys *g'*, *g²*, supported by the standards *g³*, *g⁴*, respectively. The cable has its remaining end connected to the hoisting-drum *h* of the engine *d*. By this arrangement the table *f'* may be swung from a horizontal to a vertical or nearly vertical position.

Arranged at the top of the conveyer *c*, so that its contents will be discharged therein, are two elevated hoppers *i* and *i'* supported by the frame-work *i²*, and formed so as to slope from their top downwardly and outwardly and beyond the opposite sides of the machine so as to discharge into a cart which may be driven under them, their upper ends being joined to form a sharp edge for dividing the stream of dirt discharged from the conveyer, and distributing it equally among the two hoppers. The lower end or mouth of these hoppers is provided with a vertically movable gate *i³* operated, as usual, by the handle *i⁴*. By this gate the discharge into the carts may be regulated.

The engine *d* is located at the rear end of the body *a*, and, together with the hoisting mechanism *h*, may be of any preferred type, no special construction being essential.

The preferred construction of my invention having been described, I will proceed to disclose its use and mode of operation.

When the machine is to be used for loading carts and wagons, it is located at a point conveniently near the excavations and the table *f'* allowed to rest upon the ground. When this has been done the scraper or road machine is driven over the table and its accumulated contents dumped upon it. After the

scraper has passed over the table, the latter is, by means of the cable *g* and hoisting mechanism *h*, raised or swung on its pivot as shown by dotted lines in Fig. 1, until its contents slide into the hopper *e*. From this point, the dirt, or whatever may have been deposited in the hopper *e*, is carried, through the medium of the conveyer *c*, to the hoppers *i*, *i'*, from whence it is fed to the wagons or carts by means of the gate *i*³, as previously explained. This operation is continued as long as desired.

It is obvious that my invention by slight changes of form, can be made susceptible of a much wider use than that just explained, for it could be used to load cars by dumping the contents of the wagons on the table *f'* and locating the machine so that the hoppers *i*, *i'* or one of them, will empty into the car; or for loading vessels and, in fact, for all classes of loading.

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

1. A wagon loading machine of the portable type, comprising the combination with a swinging table or platform arranged to be lowered and lie flat upon the ground, whereby horses and scrapers can pass over it with facility, a lower hopper into which the table dumps its load, a conveyer cooperating with said hopper, a second hopper elevated above the first and adapted to receive the contents of the conveyer, said elevated hopper having

its bottom inclined from an apex downwardly and outwardly to a point beyond the sides of the machine, and mechanism for operating the table and conveyer, substantially as described.

2. A wagon loading machine of the portable type, comprising the combination with a lower hopper, of a flat swinging table or platform arranged to lie prone upon the ground to allow horses and scrapers to pass over it, a conveyer arranged to elevate the contents of the lower hopper, a second hopper elevated above the first and adapted to receive the contents of the conveyer, and having its bottom inclined downwardly and outwardly to points beyond the sides of the machine, and mechanism for actuating the table and conveyer, substantially as described.

3. In a wagon loading machine, the combination with an engine and suitable actuating connections mounted upon a vehicle, of a lower hopper, a swinging table arranged to be lowered flat upon the ground, whereby horses and scrapers can be passed over it, an elevated hopper, and a conveyer arranged to elevate and transfer the contents of the lower hopper to the upper hopper, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

ROBERT C. RUTHVEN.

Witnesses:

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MYRON B. SPENCER.