

(No Model.)

2 Sheets—Sheet 1.

P. H. HAGENEY.
LOADING MACHINE.

No. 543,769.

Patented July 30, 1895.

Fig. 1.

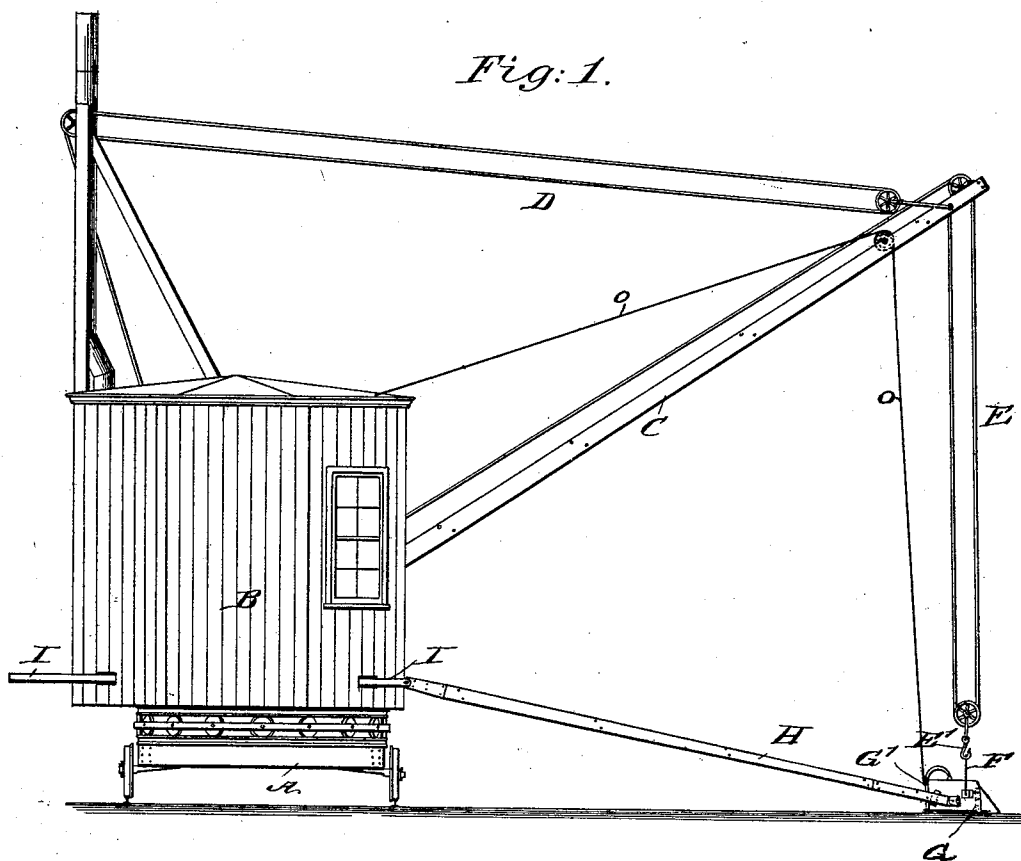
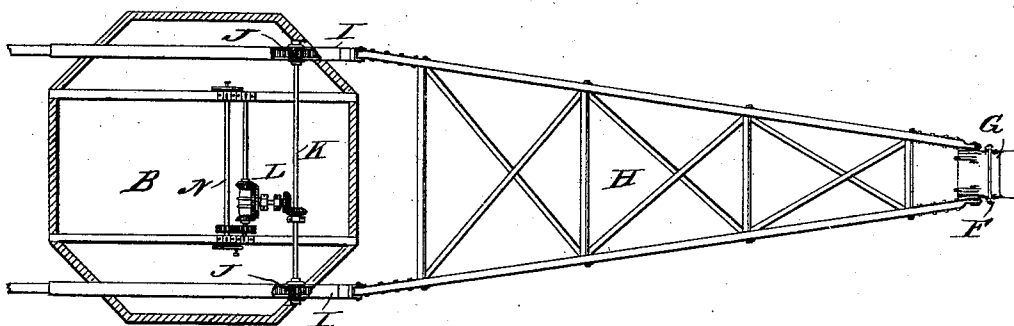


Fig. 2.



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ATTORNEYS.

(No Model.)

2 Sheets—Sheet 2.

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Fig: 3.

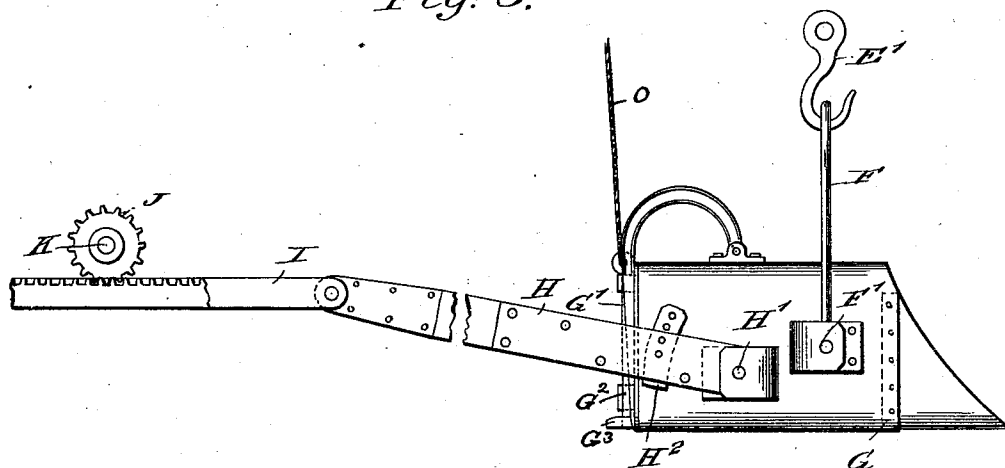
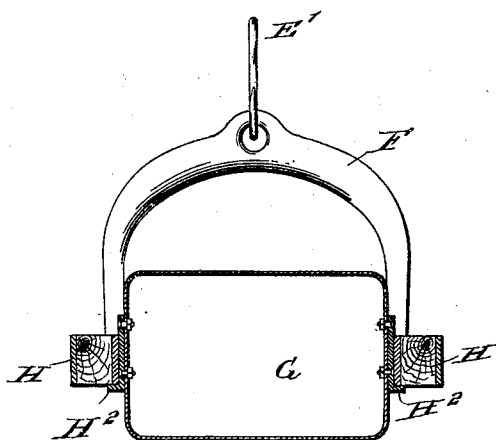


Fig: 4.



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UNITED STATES PATENT OFFICE.

PATRICK H. HAGENY, OF ASHTABULA, OHIO, ASSIGNOR OF ONE-HALF TO
THE PHOENIX IRON WORKS COMPANY, OF SAME PLACE.

LOADING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 543,769, dated July 30, 1895.

Application filed October 31, 1894. Serial No. 527,553. (No model.)

To all whom it may concern:

Be it known that I, PATRICK H. HAGENY, of Ashtabula Harbor, in the county of Ashtabula and State of Ohio, have invented a new and Improved Loading-Machine, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved loading-machine, which is simple and durable in construction, very effective in operation, and more especially designed for conveniently and rapidly loading ore, coal, and other material into cars or other means of transportation.

The invention consists of a loading-machine comprising a boom adapted to carry a bucket and bars pivotally connected with the boom and having a sliding motion to push the bucket into the material to be raised and removed and fill the bucket.

The invention also consists in certain parts and details and combinations of the same, as will be hereinafter fully described, and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of the improvement. Fig. 2 is a plan view of the same with parts broken out. Fig. 3 is an enlarged side elevation of the bucket-boom and bars, and Fig. 4 is a transverse section of the same.

The improved loading-machine is preferably mounted on a truck A, on which is held to turn a cabin or house B, containing the machinery for manipulating the device, as hereinafter more fully described. The cabin B carries a boom C, adapted to be raised and lowered by a suitable device D, manipulated from within the cabin B, and the said boom carries at its outer end a hoisting device E, of any approved construction, likewise extending into the cabin B to be under the control of the operator in charge of the machine.

The outer lower end of the hoisting device E is connected by a hook E' with a bail F, pivoted at F' on the sides of the bucket G, open at the front and provided at its rear end with a door G' of any approved construction. I have shown the usual construction, which

consists in pivotally connecting the door with the bucket and providing it with a latch G², adapted to engage a lug G³ on the bucket. The door will close by gravity when the bucket returns to the horizontal position. In order to unlatch the door and cause it to open when the bucket is in a vertical or discharging position, a rope O, connected to the latch G², extends to the cabin B, so as to be under the control of the operator. The sides of the bucket G are pivotally connected at H' with a forked boom H, extending rearwardly and upwardly to pivotally connect with rack-bars I, mounted to slide horizontally in suitable bearings arranged in the cabin B. The rack-bars I are engaged by pinions J, secured on a transversely-extending shaft K, mounted to turn in suitable bearings within the cabin B and connected by a suitable gearing L with the driving-shaft N of an engine located in the cabin B.

The pivotal connection H' of the boom H is located somewhat in the rear of the pivots F' for the bail F, and the downward swinging of the boom H on the sides of the bucket G is limited by stops H², fastened to the sides of the bucket G. As illustrated by the drawings, the side members of the forked boom are pivotally connected to the bucket in front of its rear end and engage the sides of the bucket in the rear of the pivot H', (see Figs. 2 and 4,) so that the said members form guides for the bucket when it is tilted. Now when the several parts are in the position illustrated in the drawings and it is desired to scoop up material in front of the bucket, then the operator sets the engine in motion, so that the driving-shaft N, by the gearing L, rotates the shaft K and the pinions J of the latter impart a forward-traveling motion to the rack-bars I, so that the boom H, with the bucket G, is pushed forward, and as the bucket passes into the material the hoisting device E is made to rise, lifting the front end of the bucket by the bail F, pivoted at F' on the side of the bucket G', to help the bucket in filling. When a load has thus been obtained, the bucket is raised by the hoisting device E, and then the cabin B is turned on the truck A to bring the bucket to the point of unloading on a car, boat, or other means of transportation. The

bucket is then tripped to unload by means of the rope O or in any suitable manner. The several parts are then returned to their former position—that is, the cabin B is turned around on the truck A, the hoisting device E is actuated to lower the bucket G, and the latter is then again pushed forward into the pile of material to fill the bucket.

It is understood that the rack-bars I are moved inward and outward by a reversing friction-clutch or reversing-engine, either in a forward or reverse direction, as required to accomplish the proper filling of the bucket G.

It will further be seen that by the arrangement described the bucket G can be readily turned on the pivots H' in unloading, so that the front or open end swings upward and the rear end downward. By now unlocking the door G' the contents of the bucket can be dumped at the desired place.

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

1. A loading machine, comprising a boom adapted to carry a bucket, and bars pivotally connected with the boom and having a sliding motion, to push the bucket into the material to be raised and removed, and fill the bucket, substantially as shown and described.

2. A loading machine, provided with a bar having sliding movement in the frame of the machine, a boom pivoted to the sliding bar, a bucket pivoted to the boom, and a hoisting device for the bucket, substantially as described.

3. A loading machine, provided with a bar having sliding movement in the frame of the machine, a boom pivoted to the sliding bar, a

bucket pivoted to the boom, and a hoisting device pivotally connected to the bucket in advance of its connection with the boom, substantially as described.

4. A loading machine, comprising a bucket carrying a pivoted bail for connection with a hoisting device, and a forked boom whose side members are pivotally connected with the sides of the bucket in advance of the rear end thereof, but at the rear of the bail pivots, the side members of the boom engaging the sides of the bucket at the rear of the pivot so as to form guides for the bucket, substantially as described.

5. A loading machine, comprising a bucket carrying a pivoted bail for connection with a hoisting device, a forked boom whose side members are pivotally connected with the sides of the bucket in advance of the rear end thereof, but at the rear of the bail pivots, the side members of the boom engaging the sides of the bucket at the rear of the pivot so as to form guides for the bucket, and stops for the boom, secured to the sides of the buckets, substantially as described.

6. In a loading machine, the combination, with a hoisting device, of a bucket provided with a bail connected with the said hoisting device, a boom pivotally connected with the said bucket, and rack bars mounted to slide and pivotally connected with the said boom, substantially as shown and described.

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Witnesses:

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