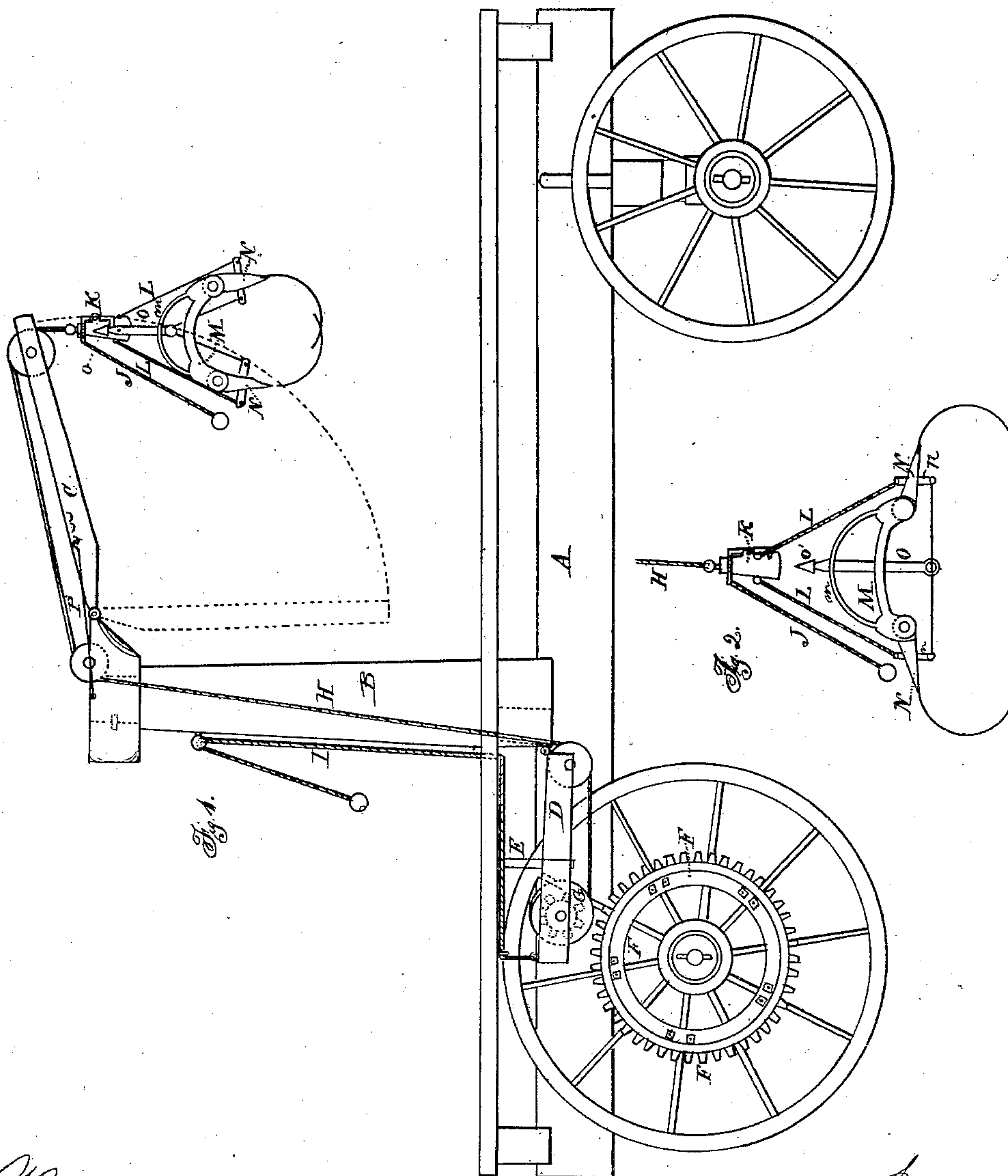


Hall & Johnson.

Hay Loader.

N^o 63382

Patented Apr. 2, 1867.



Witnesses
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United States Patent Office.

WILLIAM M. HALL AND JOHN JOHNSON, OF BARRINGTON, NEW YORK.

Letters Patent No. 63,382, dated April 2, 1867.

IMPROVEMENT IN HAY LOADERS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that we, WILLIAM M. HALL, and JOHN JOHNSON, of Barrington, in the county of Yates, and State of New York, have invented a new and useful Improvement in Machines for Loading and Unloading Hay or Grain; and we do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a side elevation.

Figure 2 is a view of the fork.

The letters of reference refer to the same parts in each figure.

The invention consists in a particular construction and arrangement of the parts of the fork and of the mechanism for actuating it, for the purpose of loading and unloading hay or grain, when attached to an ordinary wagon or cart, and so connected to the wheel thereof as that the forward motion of the wagon will cause the fork to raise hay upon the wagon, and also so that when loaded the same fork may be used to unload with when the hay is not to be deposited higher than the crane can be elevated, as hereinafter explained.

To enable others skilled in the art to make and use our invention, we will proceed to describe its construction and operation.

A is a frame of any ordinary construction, except so far as it is necessary for the support of the crane post, and it must be securely fastened to the wagon. B is the crane post, fastened to one side of the frame A, as shown in fig. 1. It must be made hollow or in such manner that the rope H may pass through the pivot at the top on which the crane is fastened. C is the crane arm, made to fit upon the top of the post B, in such manner as to turn freely thereon, and held upon the post by a pin being passed through it into a groove around the pivot. It has a joint in it near the post so that its outer end may be lowered when going into the barn or when not used, and it may be elevated to suit the height of the load or the place of deposit when used to unload with. The outer end is held in position by the hooks P, or any other equivalent device. It is provided with a roller at the outer end and one near the pivot-hole for guiding the rope H. D is an arm, hinged to the cross-piece of the frame A, as shown in fig. 1. It has a roller near the hinge to guide the rope H. At the other end is a spool, G, to wind the rope H upon. The axis of the spool is held by this arm. At the end of this axis is a pinion of spur gear; it is represented by dotted lines, and is driven by the wheel E, and when let in gear it will by the motion of the wagon-wheel turn the spool G, wind up the rope H, and raise the fork and hay upon the wagon. The rear end of this arm may be raised with the rope I. E is a guide or stirrup that holds the arm D in position. F is a cog-wheel or spur gear, provided with arms or a rim inside, that may have holes made through it so that the wheel may be fastened with clips to the spokes of any ordinary wagon-wheel, and be easily removed when not wanted for the purpose specified. G is a spool to wind the rope H upon, driven by a pinion on the end of the axle that is driven by the wheel F. H is a rope fastened, one end to the spool G and the other end to the fork, as shown in fig. 1. I is a rope that is used to raise the arm D, as shown in fig. 1. One end is fastened to the rear end of the arm D, the other end near the top of the crane post; with this the arm is raised and the pinion taken out of gear with wheel F. J is a cord, fastened to the catch in the socket K; with this the catch is loosed from the stem O, so that the fork will open. K is a socket made to fit upon the stem O; it is provided with a ring at the top, a spring-catch to hold the stem O, and an eye at each side to attach the ropes L and L, as shown in each figure. L and L are ropes; one end is fastened to the socket and the other end to the outer ends of the bars that pass through the parts N of the fork. When the stem O is unhooked the weight of the fork rests upon these ropes and causes it to open. M is the body of the fork; it may be made as shown in the figures, the arched portion *m* being provided with an opening or passage for the stem O to pass freely through. The two lower parts terminate with a hinge or knuckle-joint to receive the clasp of the tines. N and N are clasps into which any number of tines may be fastened. They are made to unite with the body M, and each is provided with a bar, *n*, through it at right angles. To the outer ends of these bars the ropes L L are fastened; to the inner end the connections that unite them to the stem O. O is a stem provided with an enlarged conical head *o'*, at the upper end made to enter the socket K, the lower end to receive the connection from it to the bars. This stem

is used when raising anything up with the fork, and when the fork is to be unloaded the head of the stem is disengaged by means of the cord J, so that the fork will be held by the ropes L L, as shown in fig. 2. P is a hook or clasp that holds the crane in any position required. There is one at each side of the crane.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The fork-head M, provided with the arched guide *m*, in combination with the hinged clasps N, having the cross-bars *n* attached thereto, stem O o', and socket K, when the several parts are constructed and arranged to operate substantially as and for the purpose described.

2. The detachable driving spur-wheel F, constructed and applied as described, in combination with hollow crane post B, provided with the hinged adjustable crane arm C, and jointed arm D, upon which is mounted the spool G and its driving pinion, the whole arranged and operating substantially as and for the purpose specified.

WILLIAM M. HALL,
JOHN JOHNSON.

Witnesses:

JOHN L. LEWIS,
CHARLES KETCHUM.