





# UNITED STATES PATENT OFFICE.

LEWIS W. DELP, OF PEORIA, ILLINOIS.

## HOISTING-MACHINE.

No 806,116.

Specification of Letters Patent.

Patented Dec. 5, 1905.

Application filed November 19, 1903. Serial No. 181,864.

*To all whom it may concern:*

Be it known that I, LEWIS W. DELP, a citizen of the United States, residing at No. 1900 South Adams street, in the city of Peoria, county of Peoria, and State of Illinois, have invented a new and useful Hoisting-Machine, of which the following is a specification.

This invention pertains to improvements in hoisting-machines, but more particularly to a machine for returning the hay carrier or fork to the loading or starting position after it has deposited its load of hay within the barn.

The object of the present invention is first to improve upon the device described in my former Letters Patent, No. 736,234, dated August 11, 1903.

Furthermore, the object of the invention is to provide a new combination of elements in a machine of this character by which to more easily perform the work required.

A further and important object of the invention is to provide a mechanism that may be used with hoisting devices of other makes, and particularly to my device described in the Letters Patent above referred to.

In the accompanying drawings, Figure 1 is a vertical section of a portion of the machine. Fig. 2 is a top view of a yoke-frame for carrying pulleys. Fig. 3 is a face view of a central member of the frame shown in Fig. 6, showing part of the frame in section. Fig. 4 is a view of an adjustable fork for one of the wheels or pulleys of my improved machine. Fig. 5 is a side view of the wheel carrying the fork shown in Fig. 4. Fig. 6 is a perspective view of the entire frame shown in Figs. 1 and 3.

The frame of the machine consists of a U-shaped member *c*, inverted, as shown in Fig. 1. In the top or curved portion of said frame are two slots *s* for convenience in attaching the frame to the barn or other building to be filled with hay. This, however, will be more fully described hereinafter. Within the frame just described is a central depending member, also indicated by *c'*, being part of the entire frame, said member being formed with the balance of the frame or secured thereto in suitable manner. Thus constructed the frame now comprises three parallel members about evenly spaced apart, and two of the members are provided with short arms *o* at right angles for purposes to be described later. At the extremities of all three members is carried a horizontal shaft *x*, on which is secured near one end between two

of the adjacent members a wheel E, consisting of the rim T and the spoke-arms G, together with the hub P, by which the wheel is held firmly on the shaft *x* by means of a set-screw K. Near the opposite end of the shaft *x* is a pulley-wheel D, between the central and outer arms of the frame and also held securely on the shaft by means of the set-screw J. The spoke-arms G of the wheel E are extended beyond the rim T, as shown, where they present a broad surface at right angles to the plane of rotation of the wheel. Each arm thus extended is provided with a slot H in line with the spokes themselves, as shown in Fig. 1. A fork F is next provided, having a flat portion adapted to be clamped to each extension by means of a bolt 1, the slots H allowing of adjustment of the forks toward and away from the shaft *x*.

L is an iron rod supported at the free ends of the arms *o o*, hereinbefore described, and from said rod is suspended a pulley *w'*, over which runs a rope *m*. From said rope a series of weights V are suspended by means of two strands of chain *n*, there being, however, but two of the weights shown in the drawings, as this feature has been described in my former patent referred to and needs no further description here. About the pulley D and secured at its end to it is a rope B, the opposite end passing down through all the weights to the bottom one, to which it is secured; but this has been described also in my former patent and I will not enlarge upon it here. The wheel E is likewise provided with a rope C, one end being fastened to the wheel, (fastening not shown,) the opposite end having attachment with the hay-carrier, which is not shown, however.

In operation, the parts being positioned as shown, the rope C being wound upon the wheel E, the hay-fork having its load to be deposited is drawn along the track (usually provided, but not shown) and the load is deposited where wanted. In pulling the load to its place the wheel E is turned by the unwinding of the rope C therefrom, and this action winds up the rope B upon the pulley D, thus raising the weights V from below. This at once places a load upon the said pulley D, the tendency of which is to fall and reverse the direction of rotation of said pulley and the wheel E. The load being deposited and the rope C being released at the carrier end, the weights immediately begin their descent, thereby unwinding the rope B and winding



the rope C upon said wheel E, thereby returning the carrier to its starting position to again receive its load to repeat the operation just described. By extending or retracting the forks F of the wheel E the diameter of the latter may be changed. The purpose of this adjustment may be understood from the following: Barns are not always constructed of a uniform size, their relative lengths and heights being variable. Consequently the distance the hay-carrier must move on its track in some cases as compared with the distance the hoisting device is from the ground is either too much or too little to give the weights the proper distance in which to travel, so that if the wheel E were fixed in size the weights would either not reach the ground or would be so near the ground as to lie thereon at times, thus losing the advantage sought to be derived from the use of said weights. Now by having the wheel adjustable it may be changed to suit circumstances. When the barn is long for its height, the wheel is increased in size, thereby giving a greater circumference by which the rope can be taken up without affecting the distance of travel of the weights. When the barn is short for its height, the wheel E is made smaller in diameter, so that the same number of revolutions are imparted to the drum D as before, so that the movement of the weights will be the same as in the first instance. By means of the rope *m* all of the weights may be raised to a position where their action in descending will return the carrier only part way, so that hay may be readily moved from one end of the barn to the other or from one place to another when it is desired to rearrange hay-stacks and the like. Said adjustment of the weights is to permit the carrier to have greater or less distance of travel as may be found necessary in certain cases, as will be understood.

The slots *s* in the top of the frame *c c* are for the purpose of permitting any desired adjustment of that member upon the barn or other building, so that it may be placed at any angle found necessary, a bolt passing through each slot into the building being sufficient to retain the said frame in any position. I am aware of the state of the art in hoisting apparatus, and therefore claim—

1. A hoisting-machine comprising a supporting-frame substantially in the form of an inverted U for attachment at its top to the barn, a shaft having bearings in said frame, a wheel affixed to said shaft and constituting a winding-drum, a cable for such wheel, the said wheel being capable of adjustment to increase or decrease its diameter for the purposes set forth, a second smaller wheel on the said shaft also constituting a winding-drum, a cable attached to said latter wheel a series of weights, suspended beneath said wheel to the lowest of which the said cable is attached, and means for supporting all of the weights

and adjusting them vertically all for the purposes set forth.

2. A hoisting-machine comprising a supporting-frame substantially in the form of an inverted U for attachment at its top to the barn and adjustable at any angle, a shaft having bearings in said frame, a wheel affixed to said shaft to constitute a winding-drum, a cable attached to said wheel and also to the hay-carrier for the purposes described, the said wheel capable of adjustment for increasing or decreasing the diameter thereof for the purposes set forth, a second smaller wheel on said shaft also constituting a winding-drum, a cable affixed thereto, a series of weights suspended beneath said latter wheel and having the said cable attached to the lowest one, both cables being oppositely wound upon their respective wheels, one of them unwinding as the other is wound up all for the purposes indicated.

3. A hoisting-machine comprising a supporting-frame substantially in the form of an inverted U there being slots in the top of said frame for adjustable attachment thereby by means of bolts to the barn at any angle, a shaft having bearings in said frame and lying in a horizontal position therein, a wheel affixed to said shaft and constituting a winding-drum, the same being capable of adjustment for increasing or decreasing its diameter for the purposes set forth, a cable attached to said wheel and adapted to wind thereon, a second smaller wheel on said shaft also constituting a winding-drum, a series of weights suspended beneath the latter wheel, a cable attached to said wheel and to the lowermost weight and adapted to raise the weights by the revolution of the said wheel, and means for adjustably supporting the weights, the revolution of the first wheel adapted to raise the weights, and the falling of the weights adapted to wind the cable upon the first said wheel as set forth.

4. A hoisting-machine comprising a supporting-frame substantially of an inverted-U form, there being slots in the top thereof as shown by which to adjustably attach the frame to the barn at any angle, a common horizontal shaft having bearings in said frame, a convertible winding-wheel secured thereto for the purposes set forth, a cable carried thereon, a second smaller winding-wheel on said shaft and rigidly secured to the latter, a series of weights suspended beneath the latter wheel, means for suspending said weights, and a cable attached to the said second wheel and also to the weights as described, the unwinding of the cable on the first wheel winding the cable on the second to raise the weights, and the falling of said weights rewinding the cable on the first wheel all for the purposes set forth and described.

5. A hoisting-machine comprising a supporting-frame substantially in the form of an



inverted U for adjustable attachment to the  
barn, there being slots in said frame for pur-  
poses of said adjustment, a horizontal shaft  
having bearings in said frame, a winding-  
5 drum secured to said shaft, the same having  
radiating flattened extensions lying in a plane  
at right angles to the plane of rotation of the  
drum, there being slots in said extensions, a  
fork for each extension, each fork having a  
10 flattened base adapted to be adjustably  
clamped to the said flattened extension, a  
bolt for securing the fork to the extension,  
the said fork being adjustable toward and  
away from the shaft by means of the said  
15 slots for the purposes set forth, a second  
smaller winding-drum on the shaft, a series  
of weights suspended below said latter drum,

means for suspending them, a cable attached  
to the drum at one end and to the weights at  
the other and a cable attached to the first 20  
said drum and also to the hay-carrier, the un-  
winding of said cable adapted to winding the  
other cable upon the second drum, and the  
descent of the weights adapted to unwind the  
cable from the latter to rewind the cable upon 25  
the first drum for the purposes described.

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

LEWIS W. DELP.

Witnesses:

J. B. WOLFENBARGER,  
EMMET C. MAY.