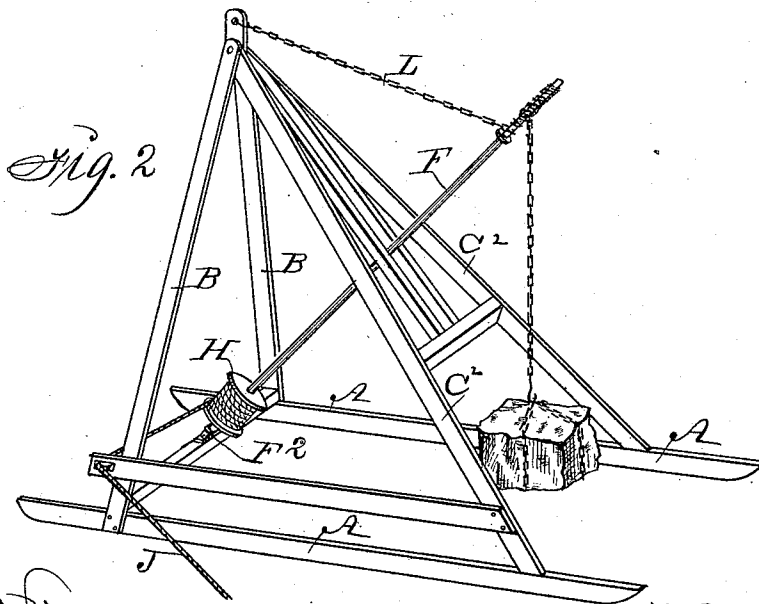
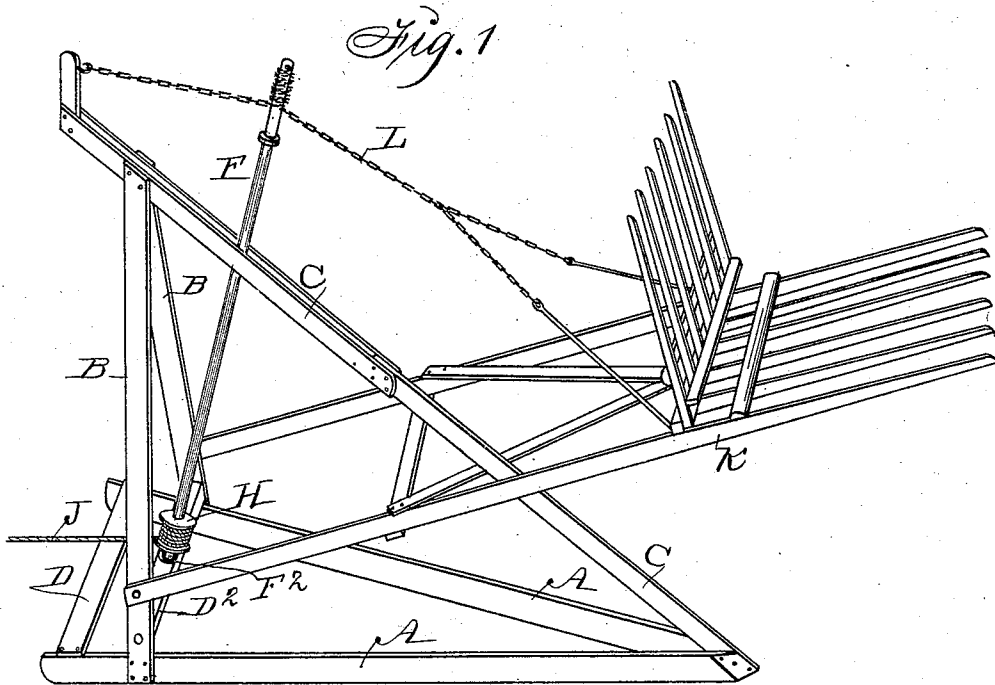


(No Model.)

O. F. SMITH.
HOISTING MACHINE.

No. 464,190.

Patented Dec. 1, 1891.



Witnesses: Inventor: Orvin F. Smith.
M. P. Smith. }
R. H. Orwig. } By Thomas G. Orwig, Atty.

UNITED STATES PATENT OFFICE.

ORBIN F. SMITH, OF OSCEOLA, IOWA.

HOISTING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 464,190, dated December 1, 1891.

Application filed August 10, 1891. Serial No. 402,188. (No model.)

To all whom it may concern:

Be it known that I, ORBIN F. SMITH, a citizen of the United States of America, residing at Osceola, Clarke county, State of Iowa, have invented an Improved Hoisting-Machine for Stacking Hay, &c., of which the following is a specification.

My object is to facilitate the elevation of hay and other bulky and heavy matter by means of horse-power; and my invention consists in the construction and combination and arrangement of operative mechanism with a portable frame, as hereinafter set forth, pointed out in the claims, and illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view showing my machine adapted for use as a hay-stacker. Fig. 2 is a perspective view showing the machine adapted for lifting a heavy stone or other large and heavy object.

A A are the sills of the portable frame, in the form of runners at their ends, adapting them to be moved over the surface of the ground in different directions.

B B are posts fixed to the rear portions of the sills and rigidly connected at their top ends with braces C, that are fixed at their lower ends to the front portions of the sills A.

D is a cross-piece fixed to the rear portions of the sills.

F is a rotatable shaft supported by a step F², fixed to a cross-piece D², that is pivoted to the posts B, as shown in Fig. 1. This rotating shaft is extended upward between parallel parts of the brace C, as shown in Fig. 1, or between corresponding parallel parts fixed to the braces C, as shown in Fig. 2, in such a manner that the top portion is allowed vertical motion in the central plane of the machine at the same time that it is rotated, but no lateral motion.

H is a drum fixed to the lower portion of the shaft F, and J is a rope fixed to the drum and extended horizontally, and adapted for hitching a horse thereto for the purpose of rotating the drum and shaft.

K (shown in Fig. 1) represents a fork adapted to elevate hay, hinged to the post B.

L is a chain fixed to the apex of the frame at one end and to the top of the shaft F at its central portion in such a manner that when the shaft is rotated the chain will wind doubly on the shaft and shorten, as required, to draw the inclined top end of the post toward the

apex of the frame and to lift any object that may be attached to the lower end of the chain. In Fig. 1 the chain is attached to a hinged fork, and in Fig. 2 the chain is fastened to a large stone.

In the practical operation of my invention, when placed in proper position relative to the object or material to be hoisted thereby, a horse hitched to a rope on the drum will, as he walks away from the machine, draw it from the drum, as required, to rotate the drum and shaft, and the chain fastened to the apex of the frame and also to the top of the shaft will be doubled and wound upon the top end of the shaft and draw the shaft toward the apex of the frame and at the same time lift the object attached to the lower end of the chain, and the diameter of the drum being larger than the diameter of the top of the shaft upon which the chain is wound the horse-power applied to the rope will be increased accordingly as it is transmitted from the rope and through the drum, and shaft, and chain to the weight that is lifted.

I claim as my invention—

1. A hoisting-machine comprising a portable frame or device composed of sills adapted to slide on the ground, posts fixed to the rear end portions of the sills, and braces fixed to their top ends and to the front end portions of the sills, a rotatable shaft supported by a step and cross-piece at the rear end portions of the sills and extended up between two parallel portions of the post-braces, a drum fixed to the lower end of the shaft and a rope fixed to the drum, and a chain fixed to the apex of the frame and to the top of the rotatable shaft, to operate in the manner set forth, for the purposes stated.

2. A portable frame composed of sills A, posts B, braces C, and a cross-piece D, a rotatable shaft F, the step F², the drum H, and rope J, attached thereto, and the chain L, fixed at one of its ends to the apex of the frame and at its central portion to the top of the rotatable shaft, arranged and combined, substantially as shown and described, to operate in the manner set forth, for the purposes stated.

ORBIN F. SMITH.

Witnesses:

CHAS. F. ISRAEL,
W. B. TALLMAN.