(No Model.)

H. W. CHAMPLIN.

HOISTING APPARATUS.

No. 338,929. Patented Mar. 30, 1886.

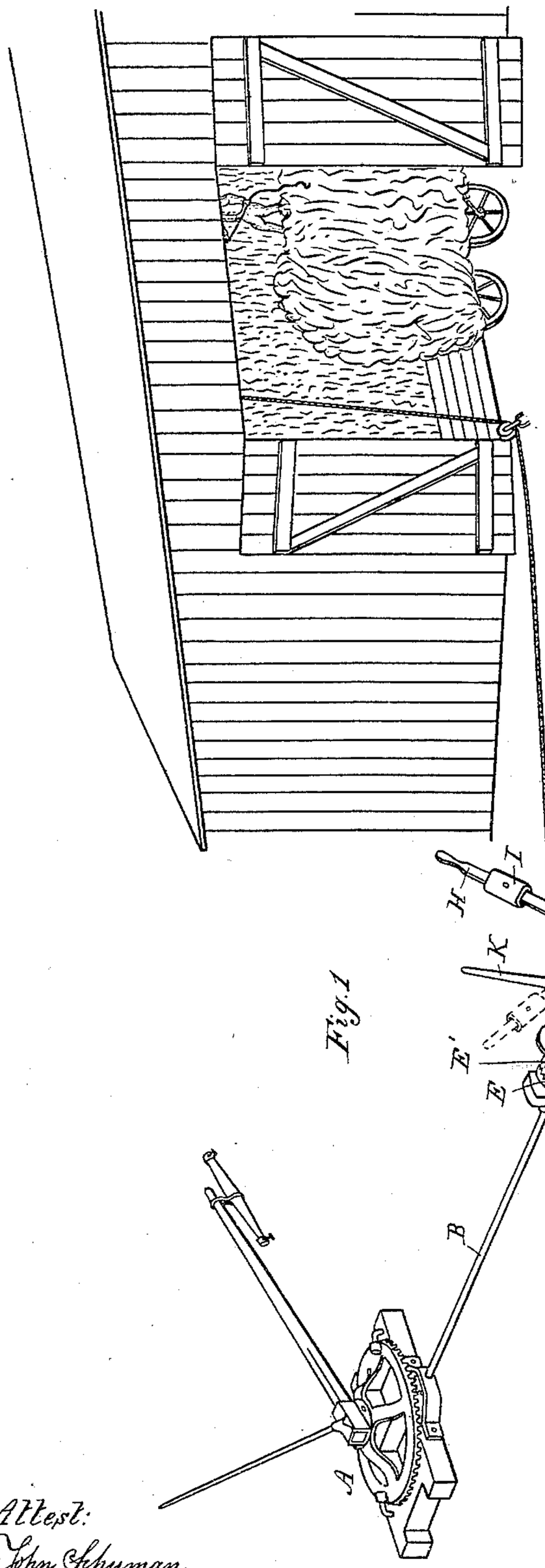

Fig. 1

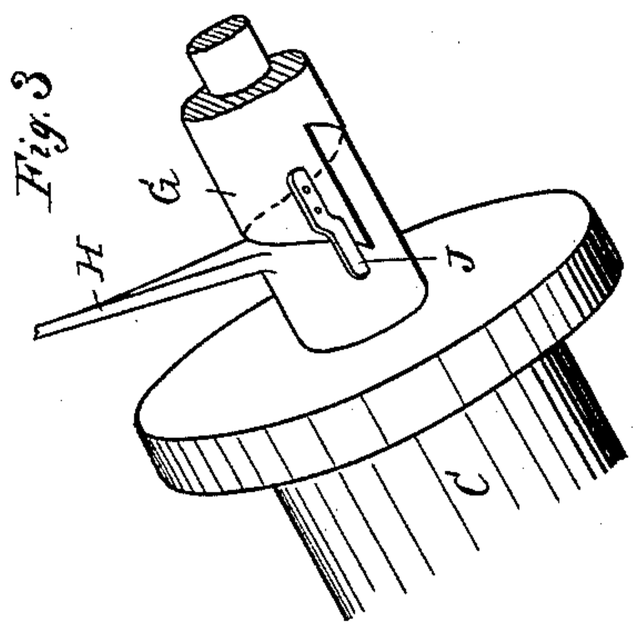

Fig. 3

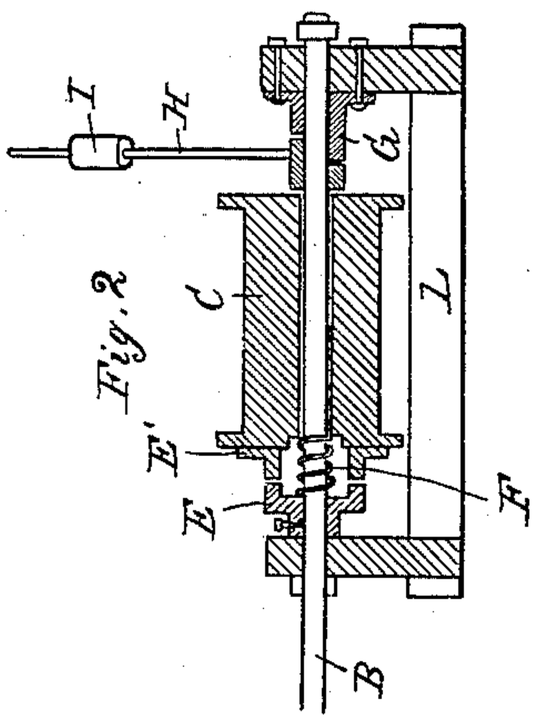

Fig. 2

Attest:
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UNITED STATES PATENT OFFICE.

HENRY W. CHAMPLIN, OF CHELSEA, MICHIGAN.

HOISTING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 338,929, dated March 30, 1886.

Application filed October 29, 1885. Serial No. 181,240. (No model.)

To all whom it may concern:

Be it known that I, HENRY W. CHAMPLIN, of Chelsea, in the county of Washtenaw and State of Michigan, have invented new and useful Improvements in Hoisting Apparatus; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to new and useful improvements in hoisting apparatus specially designed for applying horse-power to the hay-fork used in unloading hay. As the horse-power is now applied, the horses, being hitched directly to the elevating-ropes, have to go alternately ahead and back, which is a slow and tedious operation. My improvement furnishes a suitable and simple apparatus in which the horses travel continuously in one direction, and which is provided with a simple reversing device, all as more fully hereinafter set forth.

Figure 1 is a perspective view showing the disposition of the parts. Fig. 2 is a vertical central longitudinal section through the axis of the hoisting-drum. Fig. 3 is a perspective view of the reversing-lever.

In the accompanying drawings, which form a part of this specification, A is the horse-power, which is of known construction and operation.

B is the shaft, which communicates the motion from the horse-power to the hoisting apparatus.

C is the spool or drum upon which the hoisting-rope D is wound and unwound.

E E′ are the two parts of a spring-clutch, the part E being fast upon the shaft B, while the part E′ is secured to one end of the drum, which latter is loose upon the shaft.

F is a coil-spring interposed between the two parts of the clutch and arranged to exert its tension to keep the clutch open.

G is a bearing in which the free end of the shaft B is journaled, and H is a weighted lever provided with a hub, I, by means of which it is sleeved upon the shaft.

The adjoining sides of the hub I and bearing G are spiral or wedge-shaped, so that when the lever H is turned upon the shaft in the proper direction it will be pushed laterally.

In practice these parts are so arranged that the lever H can be moved from the position shown in full lines in Fig. 1 to the position shown in dotted lines in the same figure. In each position it is inclined at about an angle of forty-five degrees, and in the first position it keeps the clutch E E′ open, while in the latter position it is closed, the drum being pushed laterally one way by the action of the wedge or spiral and in the other direction by the coil-spring.

A suitable stop, J, prevents the lever H from turning farther than necessary to perfect the clutch.

K is a brake-lever suitably arranged to operate in connection with one of the disks of the spool to act as a brake when forced against it.

L is a frame in which the parts of the hoist are supported.

It will be seen that when the clutch E E′ is perfected by means of the lever H the power will revolve the drum and start the hay-fork on its outgoing trip. As soon as the word to back is received the operator in charge of the hoist reverses the lever H, thus allowing the drum to unwind, the operator, if necessary, applying the brake to check the too rapid unwinding. The weight of the lever H prevents the accidental displacement of the lever, but does not prevent the parts from being thrown out of gear automatically if the strain of the rope becomes abnormal through accident or neglect of the operator.

A suitable shaft-coupling or a universal coupling may be employed, in connection with the shaft B, to admit of placing the horse-power in a convenient position or detach it for other uses.

What I claim as my invention is—

1. In a hoisting apparatus for the purpose described, the shaft B, spring-clutch E E′, spool C, weighted lever H, and bearing G, the latter constructed to give a lateral movement to the lever in turning it, all combined and arranged substantially as described.

2. In a hoisting apparatus for the purpose described, the horse-power A, shaft B, spring-clutch E E′, loose spool C, weighted lever H, bearing G, and brake K, all arranged and constructed to operate substantially in the manner and for the purposes set forth.

HENRY W. CHAMPLIN.

Witnesses:

H. S. SPRAGUE,

CHARLES J. HUNT.