

M. D. BIRGE.
Horse Hay-Fork.

No. 68,690.

Patented Sept. 10, 1867.

Fig: 1.

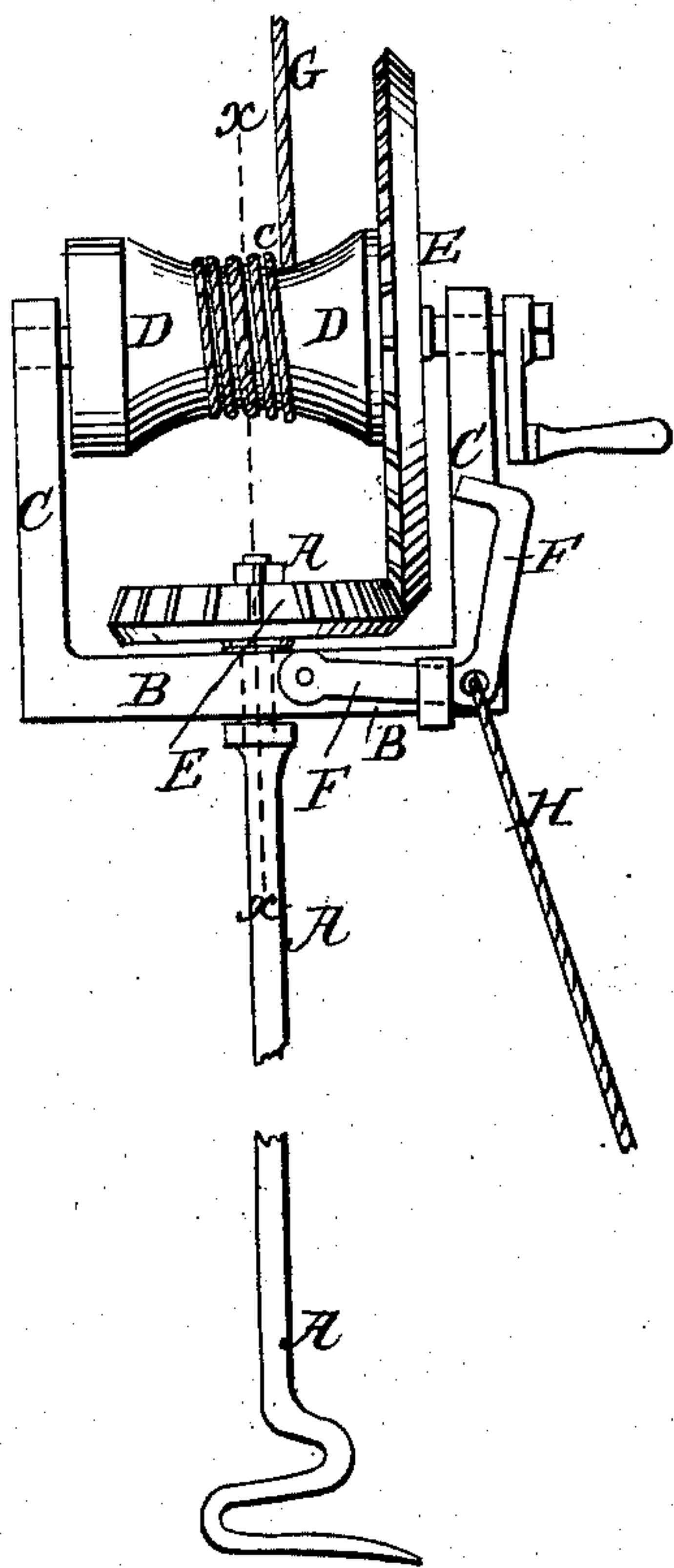
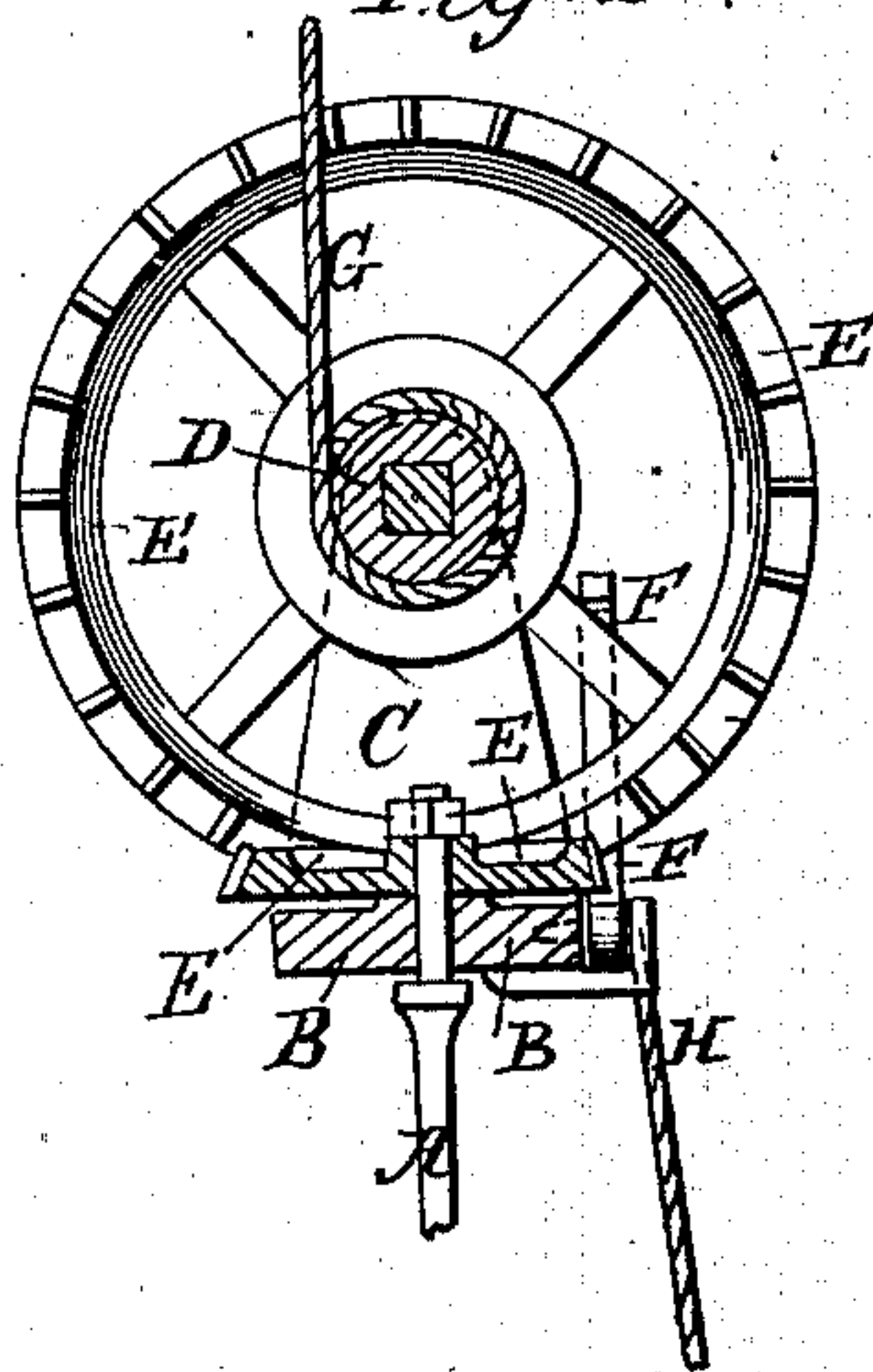


Fig: 2.



Witnesses.
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M. D. BIRGE, OF GRAND RAPIDS, MICHIGAN.

Letters Patent No. 68,690, dated September 10, 1867.

IMPROVEMENT IN HORSE HAY-FORKS.

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

TO ALL WHOM IT MAY CONCERN:

Be it known that I, M. D. BIRGE, of Grand Rapids, Kent county, Michigan, have invented a new and improved Horse Hay-Fork; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents a side view of my improved horse hay-fork.

Figure 2 is a vertical cross-section of the same, the plane of section being indicated by the line *x x*, fig. 1.

Similar letters of reference indicate corresponding parts.

This invention relates to a new manner of operating a horse hay-fork of that class in which a spirally-shaped tine is used. The invention consists in swivelling the shaft of the fork in a frame which is suspended by a rope from the roof of the barn, or from some other movable or stationary apparatus, the said rope being secured to a horizontal drum that has its bearings in the suspended frame, and that is connected with the fork by means of bevel gear-wheels in such a manner that they must both revolve together. When the fork is to be loaded it is screwed into the hay, and thereby the rope is wound upon the drum as the same revolves with the fork. By means of a catch of suitable construction the drum and fork are prevented from turning while the hay is elevated by pulling the rope. When arrived over the place where the fork is to be discharged the catch is released and the rope unwinds from the drum, thereby turning the latter and with it the fork in such a direction that the hay is being unscrewed from the fork while the same is thus being lowered and turned. The friction of the hay against the fork being so little and easily overcome by the weight of the hay, the mode of discharging, as above described, is made practicable.

A represents the fork, which consists of a vertical rod having at its lower end a spiral tine, as shown. Near its upper end the fork is swivelled into a plate, B, on which the bearings for a horizontal drum, D, are arranged. The drum D and fork A are connected by means of bevel gear-wheels E E, as is clearly shown in fig. 1. F is a catch, which can be thrown into holes provided for that purpose in either one of the gear-wheels after the rope G, which is attached to the drum D, and which passes over a pulley above, is wound around the drum and the fork is charged with hay. Then the whole apparatus is elevated by pulling the rope G over the aforesaid pulley. The fork and drum not being able to turn by reason of the catch F, the hay will be retained on the fork. But as soon as the catch is released, by pulling a cord, H, the drum will turn and the rope G will be unwound from the drum, and at the same time the fork will be turned so as to discharge the hay.

I claim as new, and desire to secure by Letters Patent—

The spiral fork A, when fitted in a frame or plate, B, and when connected, by means of gear-wheels, or their equivalents, with a drum, D, in combination with the catch F, all made and operating substantially as and for the purpose herein shown and described.

The above specification of my invention signed by me this fourth day of June, 1867

M. D. BIRGE.

Witnesses:

J. L. WILKES,

FRANK C. DILLENBACK.