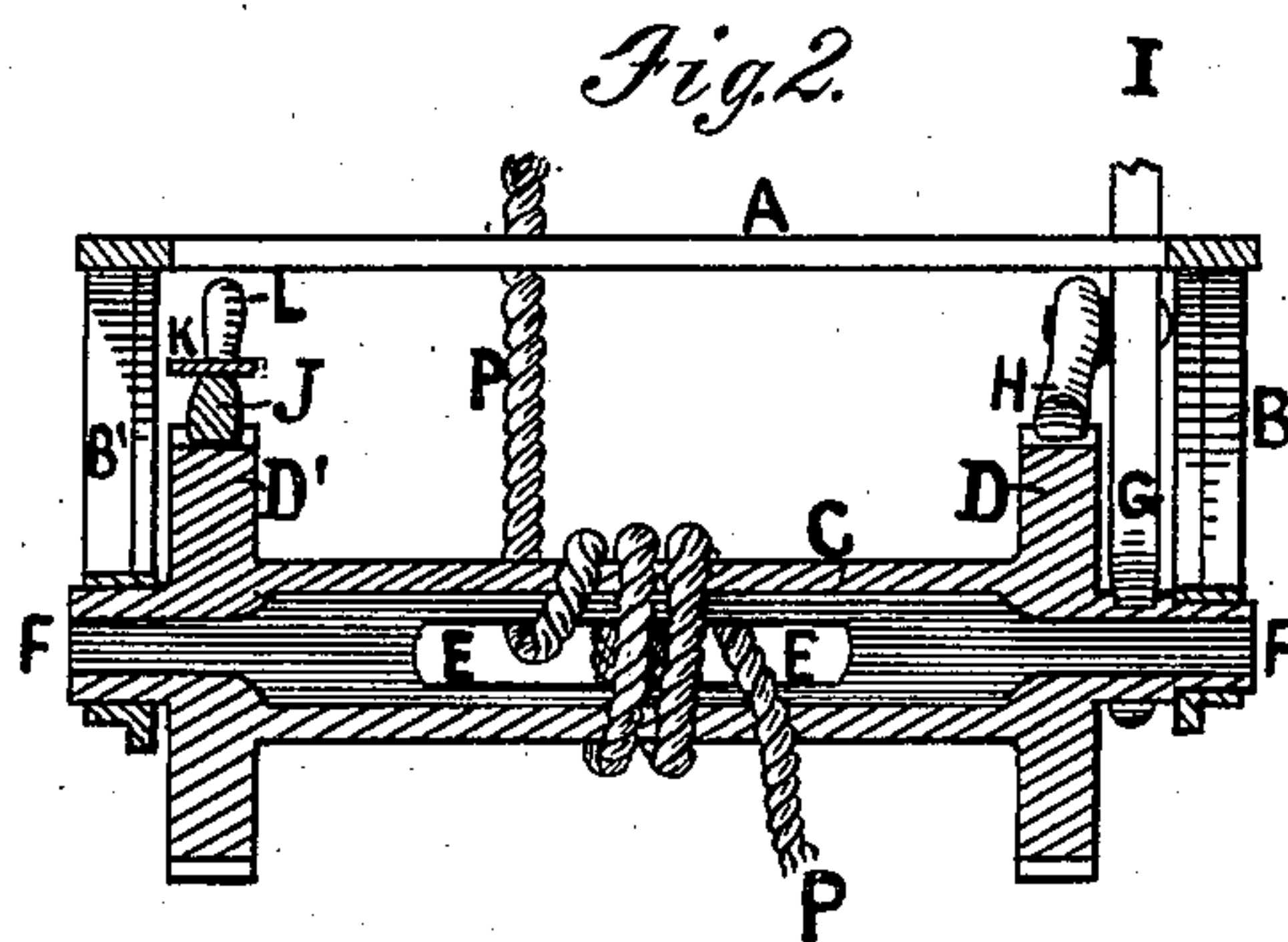
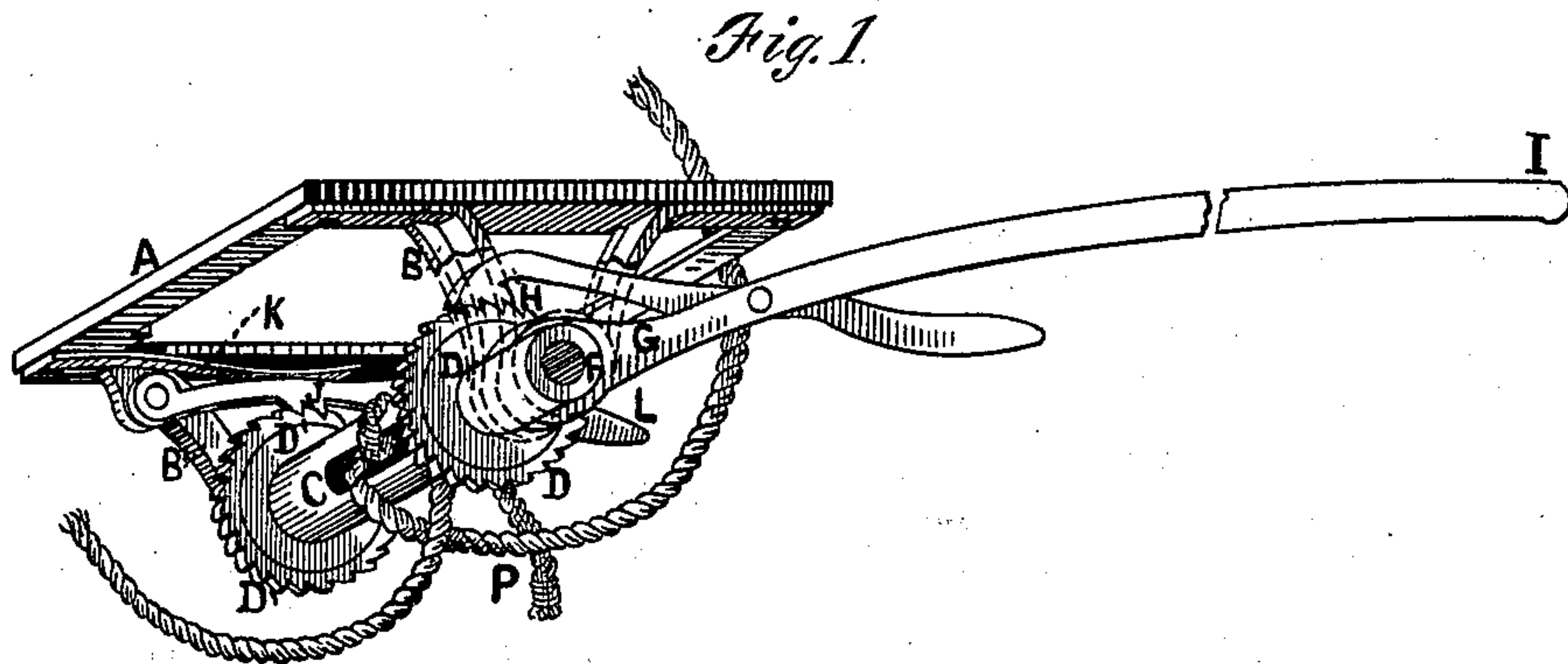


F. H. BURNHAM.
Windlass for Binding Hay on Wagons.

No. 230,610.

Patented Aug. 3, 1880.



Witnesses:

H. S. Talbot

W. R. Marble

Inventor:

Francis H. Burnham,

By Sylvanus Walker

Atty

UNITED STATES PATENT OFFICE.

FRANCIS H. BURNHAM, OF IPSWICH, MASSACHUSETTS.

WINDLASS FOR BINDING HAY ON WAGONS.

SPECIFICATION forming part of Letters Patent No. 230,610, dated August 3, 1880.

Application filed January 5, 1880.

To all whom it may concern:

Be it known that I, FRANCIS H. BURNHAM, of Ipswich, in the county of Essex and State of Massachusetts, have invented certain new and
5 useful Improvements in Windlasses for Binding Hay or other Bulky Loads upon Wagons or other Vehicles, of which the following is a specification.

The object of my invention is to enable a
10 single person to securely bind a load of loose hay or other bulky material desired to be transported by team in a very expeditious manner without the aid of horse-power, or that of several individuals, as heretofore required
15 to apply the necessary power in order to compress such load sufficiently by means of a binding-pole, lever, and ropes, usually employed, attended with considerable time and expense, which are fully overcome by my in-
20 vention, as hereinafter more fully described and set forth.

Figure 1 is a perspective view of my invention as detached from the wagon-body. Fig. 2 is a vertical section through the same.

25 A represents a square or rectangular iron frame provided with suitable bolt-holes, in order to allow it to be permanently secured to the under side of the body or wings of a wagon hay-body. B represents two hangers or brack-
30 ets permanently attached to the frame A, or the frame A may be dispensed with and the hangers B secured directly to the body.

Between the hangers B are journaled a cylinder or roll, C, having a ratchet-wheel, D,
35 upon or near each end of the roll C, and oblong opening E through the same, about midway between the two ratchet-wheels D D', the ends F of the roll C forming journals which, having bearings in suitable holes formed hori-
40 zontally through the lower ends of the hangers B, permit the roll C and its ratchet-wheels D D' to be revolved therein by means of a hand-lever, G, one end of which is slightly bifurcated or hollowed out, so as to fit upon a
45 smaller portion of the roll C, between the ratchet-wheel D and its hanger B, a pivoted, hooked, or tooth-ended pawl H being secured to the lever G, so as to engage with the teeth upon the upper portion of the ratchet-wheel
50 D, and thereby turn or revolve the wheel D

partially. When the handle or opposite end I is pressed downward a pawl, J, secured to the hanger B' by a bolt or pivot, engages with the teeth upon the ratchet or ratchet-wheel D' upon its upper portion, so as to prevent it from
55 turning in the opposite direction, said pawl J being held or forced downward in contact with the ratchet-teeth by a flat steel spring, K, its opposite end being secured to the frame A, or otherwise, so as to exert the pressure required
60 upon the pawl J to hold it in contact with the ratchet-wheel D', and when desired to disengage the pawl from the ratchet-wheel teeth it may be raised up by its handle end L depressing the spring, or otherwise disengaging the
65 pawl from the ratchet-wheel, so as to allow roll C and ratchet-wheels to revolve or turn in the opposite direction.

It will be seen that if the end of a rope, P, be passed through the opening E of the roll
70 C, and its opposite end be carried up over a binding-pole, or the load, as heretofore, then brought down again and passed through the hole E in the same direction as the former end, then power applied to the end I of the
75 lever G, so as to turn the roll C, the rope would be wound around the same with great force and in a manner to hold both ends of the rope, as its subsequent turns or coils around the roll would come upon the former ends, so
80 as to bind and hold them securely in place without the necessity of tying or in any manner securing the ends of the rope to the roll, as heretofore; and as both ends of the rope are passed through the windlass or roll in my
85 device, it is brought taut or secured in half the time, as both ends are wound up simultaneously, or released in the same manner whenever desired.

This is an essential feature of my inven-
90 tion, and the combination of which, with the roll and double ratchet-wheels, pawls, and lever, constitute the device, which I contemplate attaching in pairs or one upon each side of a vehicle-body at or near its middle portion,
95 between the extreme ends, or in any other manner desired.

Having thus described my invention, what I claim is—

1. The combination of the roll C, having the 100

oblong slot E, ratchet-wheels D, pawls H and J, and lever G I, substantially as described, as and for the purposes set forth.

2. The combination of the roll C, having the
5 oblong slot E, ratchet-wheels D, and hangers B, constructed and arranged to operate by means of the lever G I, pawls H J, and rope P, substantially as and for the purposes set forth.

3. The combination of the roll C, having the 10 oblong slot E, and ratchet-wheels D D', as and for the purposes set forth.

FRANCIS H. BURNHAM.

Witnesses:

SYLVENUS WALKER,
D. W. SMITH.