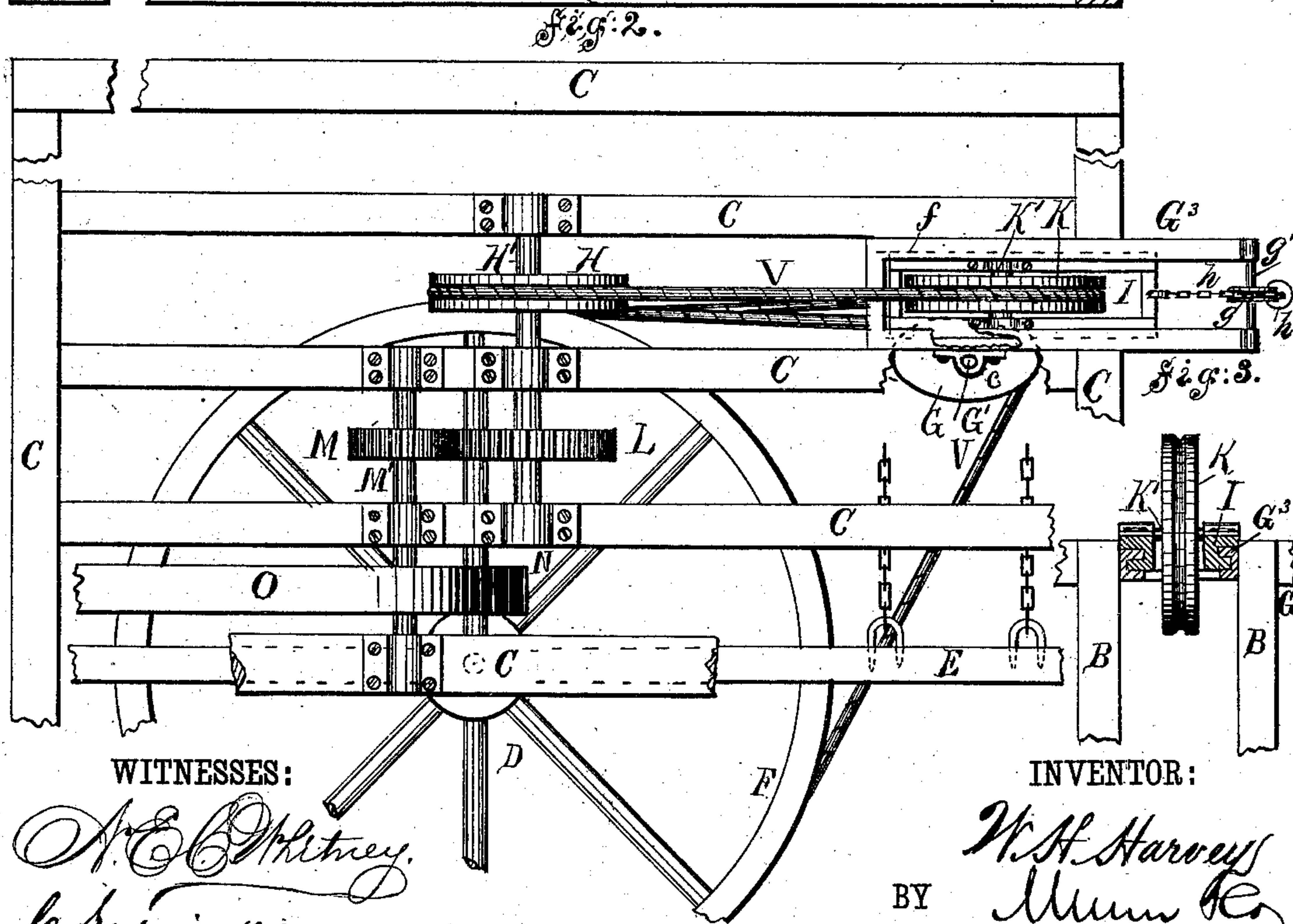
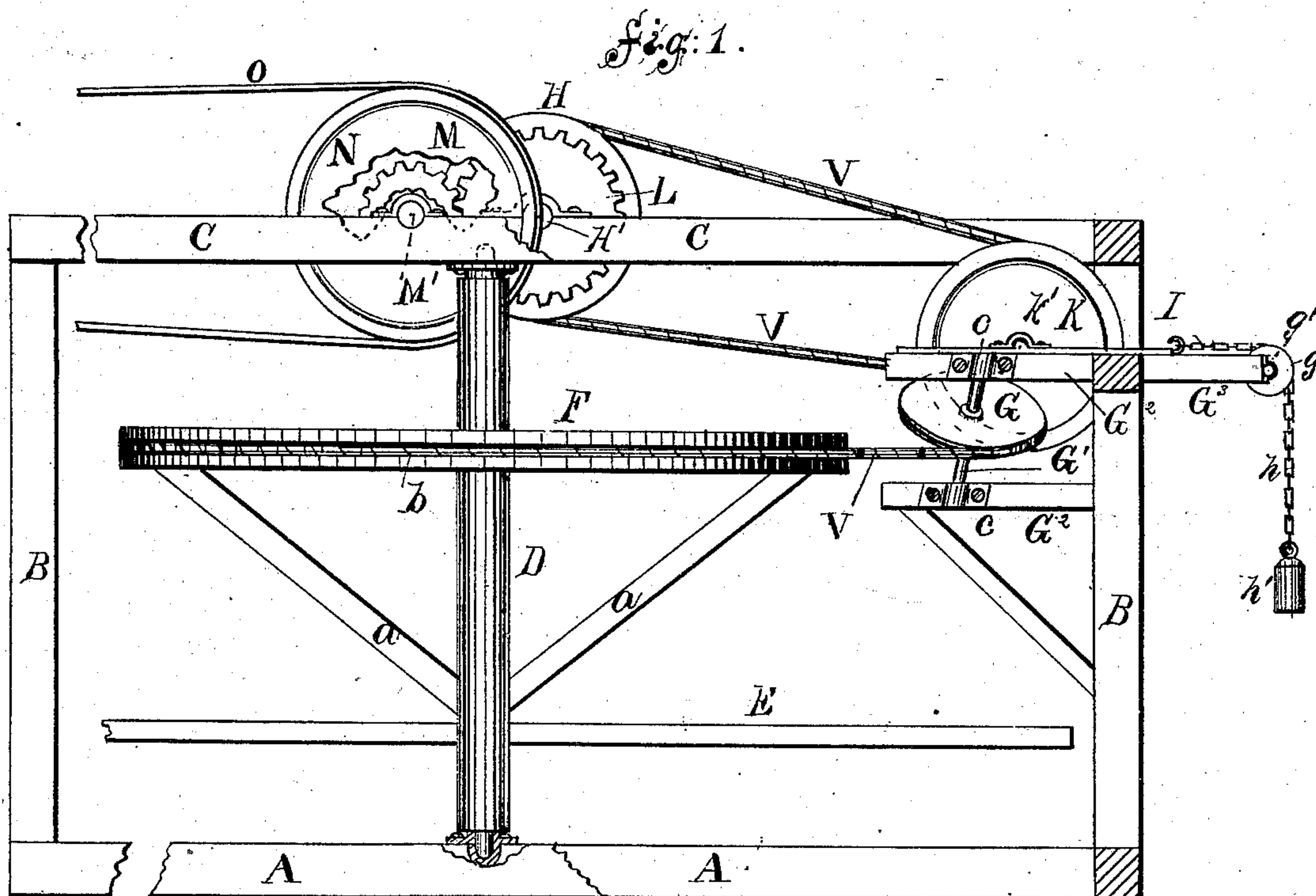


(No Model.)

W. H. HARVEY.
Horse Power for Gins, &c.

No. 239,491.

Patented March 29, 1881.



WITNESSES:

A. E. Whitney.
C. Sulgwick

INVENTOR:

BY *W. H. Harveys*
Mum Co
ATTORNEYS.

UNITED STATES PATENT OFFICE.

WILLIS H. HARVEY, OF SOMERVILLE, TENNESSEE, ASSIGNOR TO HIMSELF
AND FRANK TRIMBLE, OF SAME PLACE.

HORSE-POWER FOR GINS, &c.

SPECIFICATION forming part of Letters Patent No. 239,491, dated March 29, 1881.

Application filed January 12, 1881. (No model.)

To all whom it may concern:

Be it known that I, WILLIS H. HARVEY, of Somerville, in the county of Fayette and State of Tennessee, have invented a new and Improved Horse-Power for Gins, &c., of which the following is a specification.

The invention relates to an apparatus for transmitting motion from a prime motive power to the machinery intended to be driven thereby; and its object is to reduce the cost of construction, to adapt it to any present gin-house without interfering with or moving the gin-stand or lint-room, and to economize in space and in power.

The invention is designed as an improvement upon the devices set forth in the Patent No. 229,407, granted to me June 29, 1880, and in the Patent No. 233,244, granted to me October 12, 1880.

The invention consists in an improved relative arrangement of pulleys for carrying and adjusting the driving-belt, and in the addition of other pulleys or cog-wheels to the device for increasing the speed of the driven machine or mechanism.

Figure 1 is a front elevation of my improved device with parts broken away to exhibit other parts. Fig. 2 is a plan of the same. Fig. 3 is a sectional end elevation of tightening-pulley frame and sash.

Similar letters of reference indicate corresponding parts.

In the drawings, A represents the sill, B the vertical posts, and C the horizontal upper timbers, that together form the supporting-frame of the device. These parts may be of any suitable number, and arranged in relation to each other as may be preferred.

Journaled above and below in the frame A B C is the vertical shaft D, carrying a sweep, E, to which the horses are hitched for operating the device.

Rigidly secured upon the shaft D is a large horizontal pulley or wheel, F, braced by the braces *a*, that extend upward from the shaft D, and having a grooved periphery, as shown at *b*, to receive the driving band, wire, or rope V.

At a short distance from the main pulley or wheel F is a pulley, G, keyed on a shaft, G', that is journaled in suitable boxes *c*, between

brackets G², that are properly secured to and extend from a post, B. Said shaft G' is inclined forward, and to the right forms a vertical position, as shown in Fig. 1, and consequently the pulley G is so inclined that the lowest point of its grooved periphery is on a level or in the same plane with the groove *b* in the main wheel or pulley F, while the highest point on the periphery of said pulley G is on a line with the grooved periphery of the vertical driving-pulley H, which is keyed on a horizontal shaft, H', that is journaled on the top of the frame A B C in such a manner that the said pulley H is in a direct vertical line above the periphery of the pulley F, so that the wire or rope V shall run truly from one to the other of the pulleys F G H.

The upper bracket, G², forms a sash, G³, having longitudinal grooves *f*, in which slides a movable frame, I, carrying a pulley, K, arranged vertically, and keyed on a shaft, K'.

At the outer end of the stationary sash G³ is journaled a horizontal shaft, *g*', carrying a vertical sheave, *g*, over which passes a rope or chain, *h*, whose one end is made fast to the movable frame I, while it has attached to its dependent end a weight, *h*'.

V represents an endless band, cord, rope, or chain, that passes around the main pulley F, thence around the pulley G, and, finally, around the pulleys H K, in succession to the pulley F again; and by means of this construction and arrangement the horizontal rotary motion of the pulley F is converted into a vertical rotary motion in the pulley H.

It will be seen that the weight *h*' exerts a constant force by drawing upon the frame I, that carries the pulley K, to take up the slack in the rope V, and thus tends to compensate for the wear and stretching of said rope V, and to keep the same at suitable tension to drive the machinery. The weight *h*' should be heavy enough to prevent all slipping of the rope V.

On the horizontal shaft H' is keyed a cog-wheel, L, that gears with a smaller cog-wheel, M, which is carried on a parallel shaft, M', that is journaled on the top of the frame A B C, and on the same shaft M' is keyed a band-wheel or drum, N, from which passes a belt,

O, to drive the gin or other machinery to which the device is connected.

I do not confine myself to the precise construction and arrangement of parts herein shown, as, instead of the cog-wheels L M, band-wheels or drums connected by belt may be used; and in a single-gear horse-power the cog-wheels L M, or their substitutes, may be dispensed with, and the band-wheel or drum N, from which the power is delivered to the wire, may be placed on the shaft H'. In either case the combination of the inclined pulley G and movable pulley K, for holding the driving-rope V in position and preserving its tension, will be retained.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. In an apparatus for transmitting motion from a prime motor to machinery, the combination, with the horizontal pulley F, vertical pulley H, sliding pulley K, and endless band or rope V, of the inclined grooved pulley G, substantially as herein shown and described.

2. The combination, with the pulleys F H N and cog-wheels L M, of the sash G³, sliding frame I, pulley-rope and weight *g h h'*, vertical pulley K, and inclined pulley G, arranged and operating substantially as herein shown and described.

WILLIS H. HARVEY.

Witnesses:

H. C. MOORMAN,
JAMES FERISE.