

(No Model.)

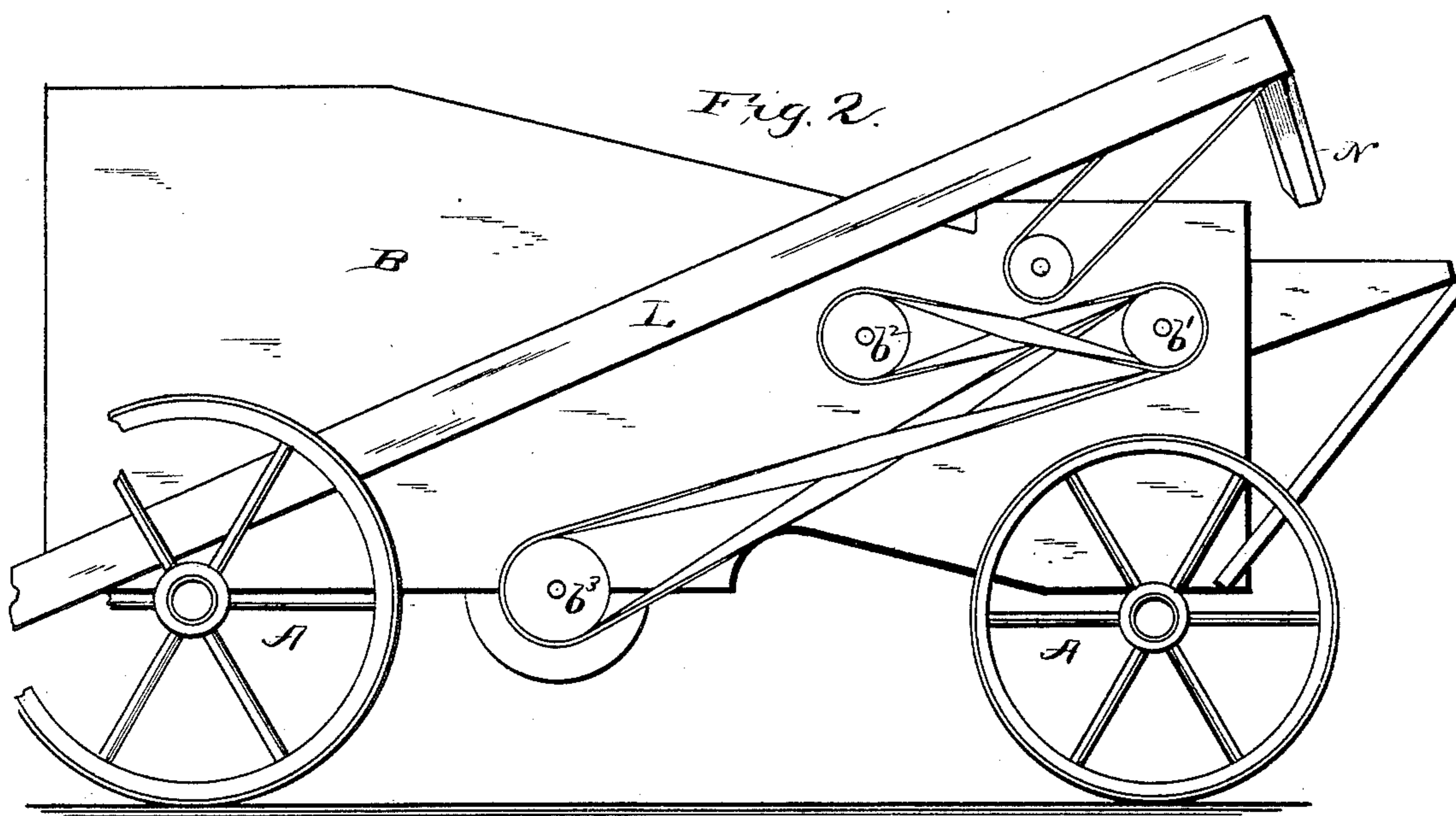
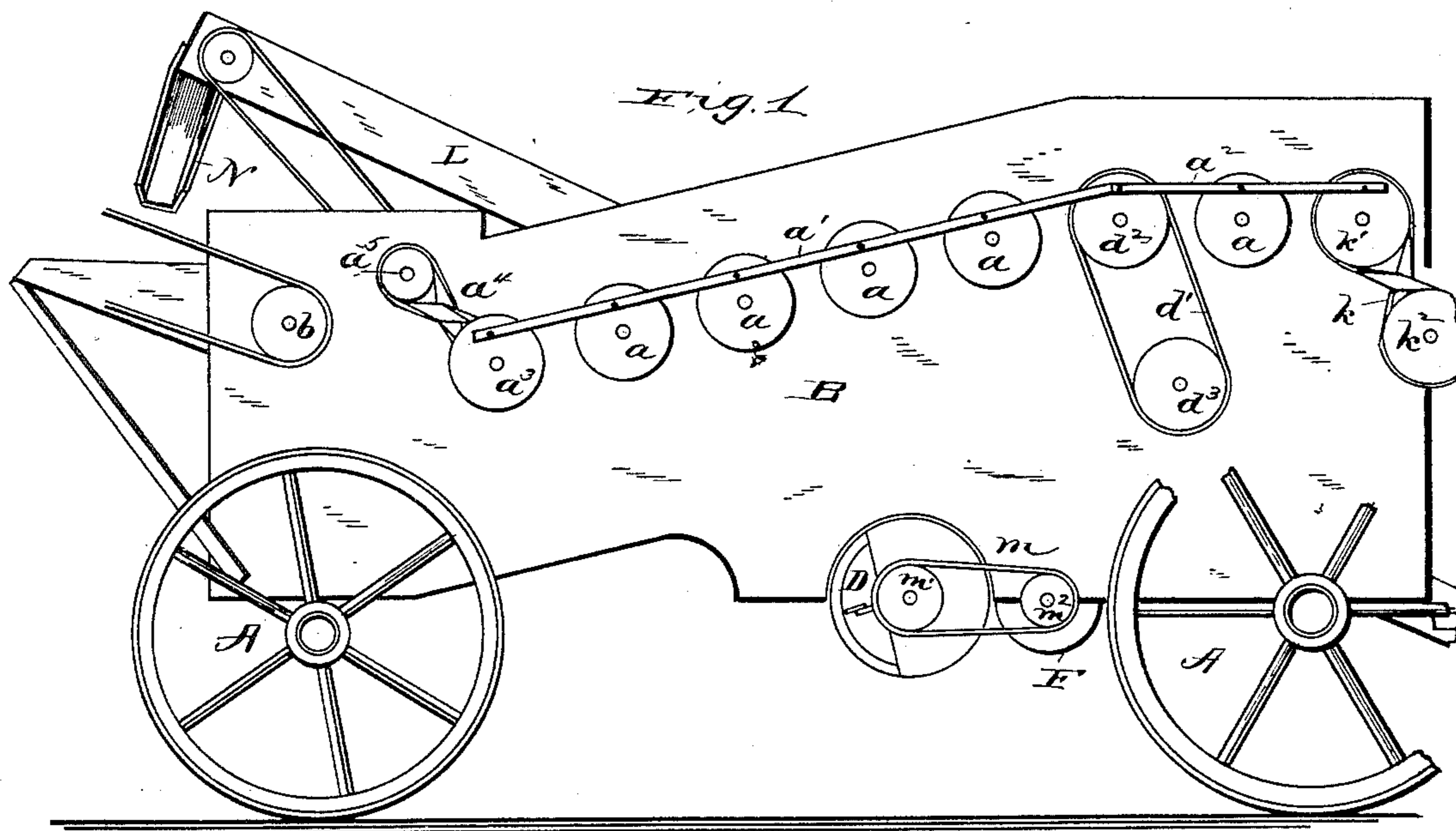
3 Sheets—Sheet 1.

J. HERSHBERGER.

THRASHING MACHINE.

No. 324,997.

Patented Aug. 25, 1885.



Witnesses:
Wm. Rosinbaum
H. A. Daniels

Inventor.
Jonathan Hershberger
by W. Purvis
Atty.

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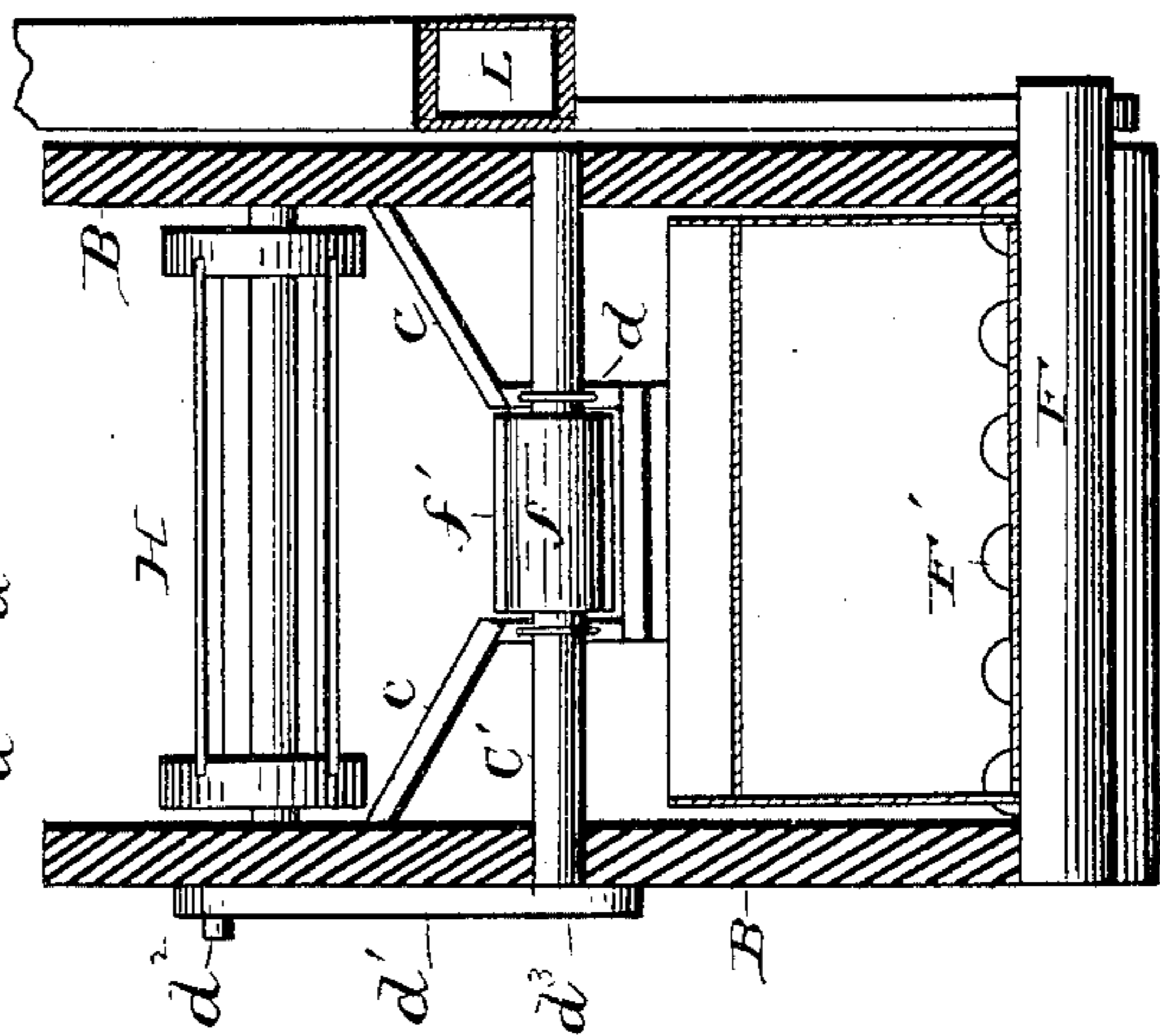
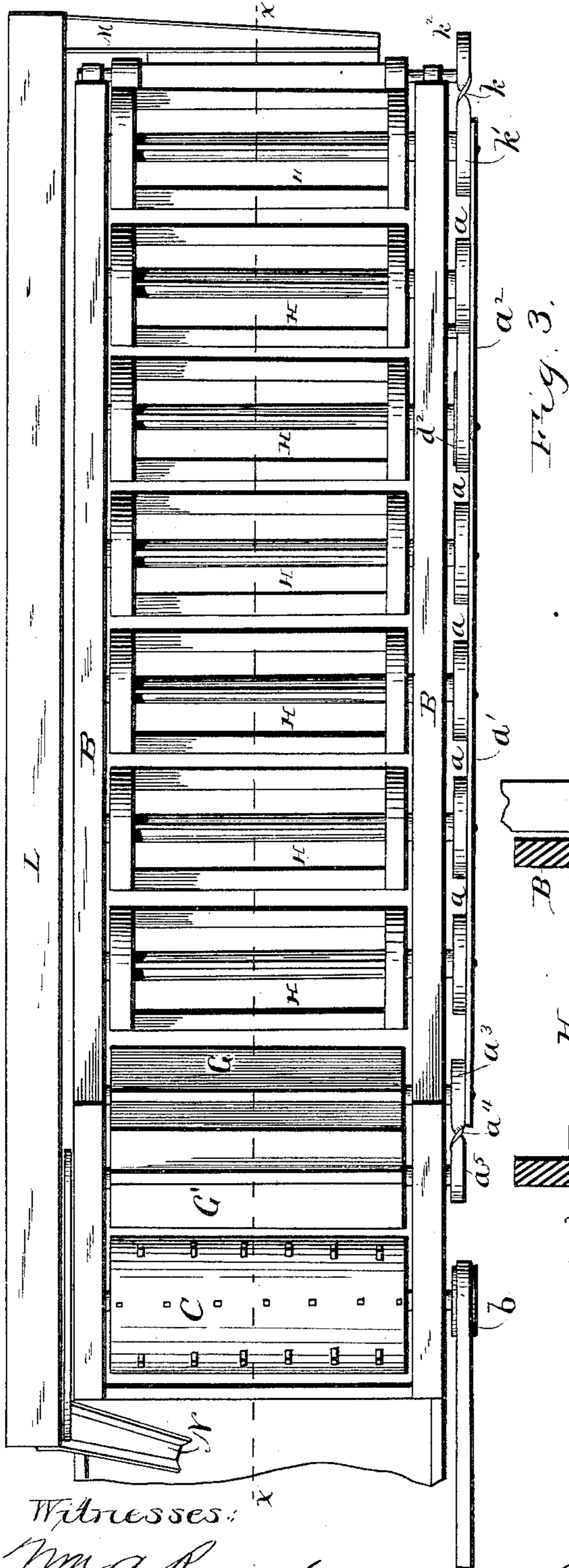
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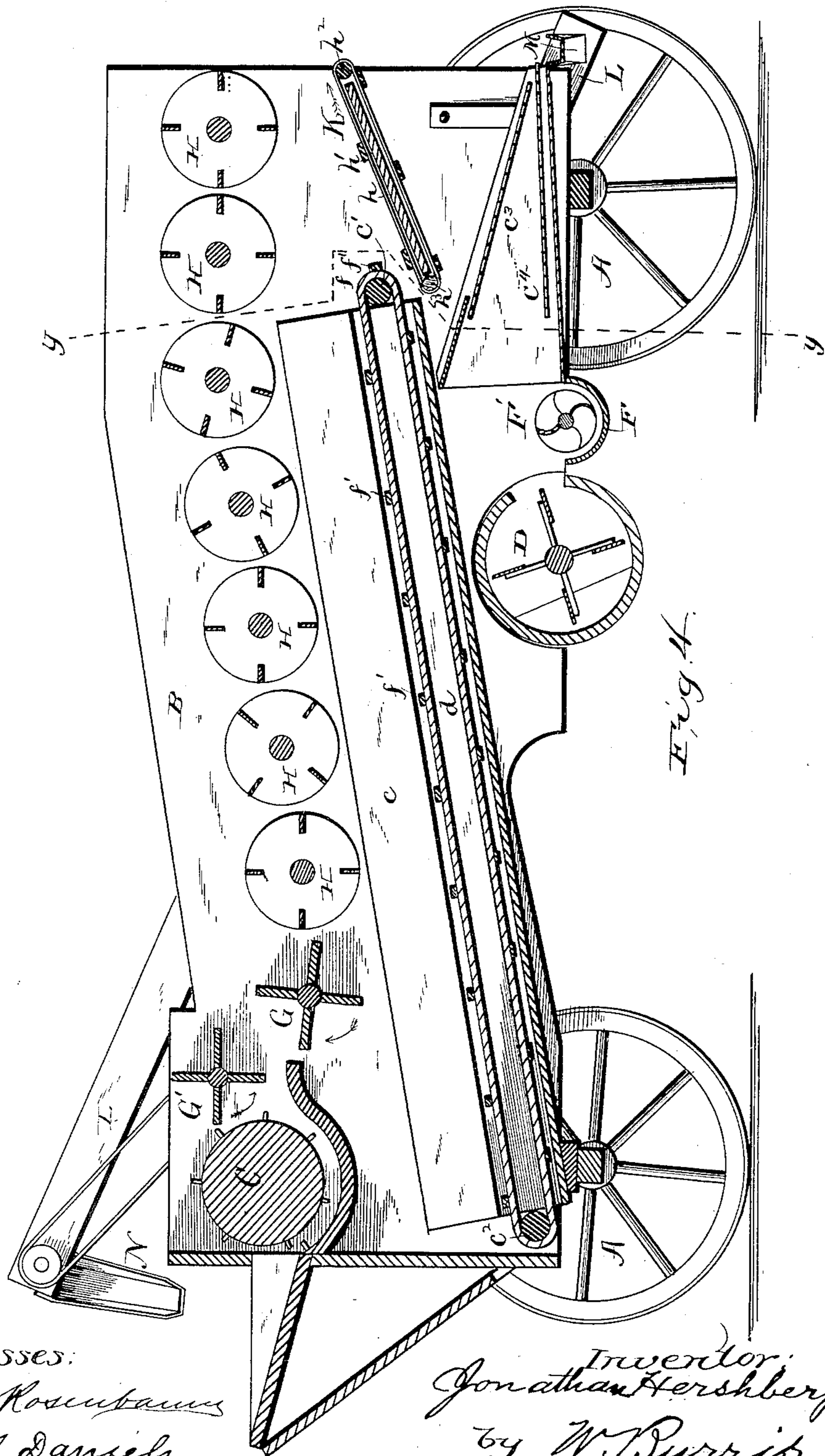
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THRASHING MACHINE.

No. 324,997.

Patented Aug. 25, 1885.



Witnesses:

M. A. Rosenthal

H. A. Daniels

Inventor:
Jonathan Hershberger
by *W. Purris* Atty.

UNITED STATES PATENT OFFICE.

JONATHAN HERSHBERGER, OF WALNUT CREEK, OHIO.

THRASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 324,997, dated August 25, 1885.

Application filed May 13, 1885. (No model.)

To all whom it may concern:

Be it known that I, JONATHAN HERSHBERGER, a citizen of the United States of America, residing at Walnut Creek, in the county of Holmes and State of Ohio, have invented certain new and useful Improvements in Thrashing-Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to combined thrashers and grain-separators having a series of beaters extending from the thrashing-cylinder back to the tail of the machine, and provided with a closed bottom consisting of inclined sides, and a central trough having an endless grain-conveyer; and the invention consists of the operating parts combined with the other parts of the machine, all arranged as hereinafter fully set forth and claimed.

In the accompanying drawings, Figures 1 and 2 are side elevations. Fig. 3 is a top view with the cover removed. Fig. 4 is a vertical longitudinal section on line xx of Fig. 3. Fig. 5 is a cross-section on line yy of Fig. 4.

The running-gears A, the supporting-frame and inclosing sides B, the thrashing-cylinder C, the fan D, the tailings-elevator L, the grain-receptacle F, and conveyer F' are all constructed and arranged in the usual well-known manner.

G G' designate radially-winged feeders arranged, as shown, between the beaters and the thrashing-cylinder, to revolve in reverse directions, as shown by arrows in Fig. 4 of the drawings, for the purpose of feeding the straw from the thrashing-cylinder to the beaters.

H designates a series of beaters extending from the feeders the entire length and to the tail of the machine. Several beaters composing the rear portion of the series are axled on a horizontal plane, and the other beaters are axled on a plane inclined downward to the feeders. One end of the axle of each of these beaters is provided either with a disk, a , or a pulley, a^2 or k' , to which are eccentrically attached by crank-pins the pitman-bars a' a^2 . The forward end of the bar a' is, in like manner, eccentrically attached to a pulley, a^3 , on one end of the axle of the feeder G, which pulley carries a band, a^4 , which is crossed and extended over the pulley a^5 on one end of the axle of the feeder G', by means of which de-

vices the feeders are rotated in reverse directions, as shown by the arrows.

The motive power which operates the machine may be applied to a pulley, b , on one end of the shaft of the thrashing-cylinder, or to a pulley on any other operating-shaft. When the power is applied to the pulley b , the power which runs the feeders, beaters, fan, and other portions of the machine is conveyed from the pulley b' on the other end of the thrasher-cylinder to the pulley b^2 on one end of the shaft of the first beater and pulley b^3 on the end of the fan-shaft, as shown, the motive power being conveyed to the other beaters by the connecting pitman-bars.

The bottom of the thrasher consists of the sides c , fitted closely to the sides B of the machine, and are inclined inward and downward to a central trough, d , securely attached to the inner edges of the sides c . This bottom, filling the entire space between the sides, extends from the front end of the thrasher to and over the inner portion of the grain-board in the rear end of the thrasher, thus completely closing the lower portion of the thrasher and preventing any grain from falling through the machine to the floor or ground.

The trough is provided with an endless apron, f , furnished with transverse cleats f' , which apron runs over rollers c' c^2 , at the ends of the trough, for the purpose of conveying the grain to the grain-board K, placed over the riddle c^3 and screen c^4 at the rear end of the separator. The endless belt f is run by means of a belt, d' , extended over a pulley, d^2 , on the shaft of one of the beaters, and over a pulley, d^3 , on one end of the shaft of roller c' . Endless bands h , provided with transverse slats h' , are arranged to run over rollers h^2 h^3 at the ends of the grain-board K. These bands are run in the direction indicated by the arrow in Fig. 4 by means of the belt k , extended over the pulleys k' k^2 on the end of the shaft of the rear beater and the roller h^2 , for the purpose of carrying off the tailings which may fall upon the grain-board.

The grain-conveyer F' is run by means of a belt, m , extended over the pulleys m' m^2 on the ends of the shafts of the fan and the conveyer.

L designates an inclined tailings-elevator provided with an endless conveyer furnished

with buckets for elevating the tailings to the hopper of the thrasher, to be run again through the machine.

M is a chute placed at the outer end of the shoe in position to receive and convey the tailings to the lower end of the elevator L.

N is a chute attached to the upper end of the tailings-elevator in position to convey the elevated tailings to the hopper of the machine.

By this construction of the machine the ordinary webs and vibrating shoes are dispensed with. The entire space in the lower portion of the machine being closed by the close bottom and conveying-trough, no grain can pass downward to the floor or ground, and the entire upper portion, from the feeders to the tail of the machine, being used for beaters, allows the number of beaters to be greatly increased, which increased number of beaters increases correspondingly the agitation of the straw and the more thorough separation of the grain from the straw.

The dispensing with the vibrators and the webs ordinarily employed allows the machine to be constructed about three feet shorter, and the thrashing-cylinder to be placed about fifteen inches lower than the machines having the vibrators and webs. And this machine runs more steadily and is less liable to be moved from its position than a machine having vibrators, which shake the machine so as to render it difficult to fasten it so it will not be moved toward the engine.

A machine reduced in its depth and length, as described, evidently costs less and is better adapted to be well balanced on its running-gears than a deeper and longer machine.

As the straw passes under the thrashing-cylinder it is carried by the feeders to the beaters, and is kept in constant agitation by the continued series of beaters till it passes off at the tail of the machine, and the grain, being thus thoroughly separated from the straw, descends into the central trough and is conveyed to the grain-board, and is subjected to the fan-blasts as it passes through the riddle and screen to the grain-receptacle.

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

A thrashing-machine comprising the toothed cylinder C, the winged feeders G G', the series of beaters H, extended from the feeders to the tail of the machine, the disks *a*, and pulleys *b² d² k'* on the shafts of the beaters, the pulleys *b b'* on the shaft of the cylinder, the pulleys *a³ a⁵* on the shafts of the feeders, the fan D, and grain-conveyer F', the pulleys *b³ m' m²* on the shafts of the fan and conveyer, the pitman-bars *a' a²*, eccentrically attached to the disks *a* and to the pulleys *a³ d² k'*, the inclosed bottom consisting of the inclined sides *c* and central trough, *d*, extending from the front of the machine to and over the grain-board, the belt-rollers *c' c²*, and the endless belt *f*, arranged to run on the rollers in the central trough, substantially as and for the purposes described.

In testimony whereof I affix my signature in presence of two witnesses.

JONATHAN HERSHBERGER.

Witnesses:

JAMES A. LENHART,
CHRIST WEAVER.