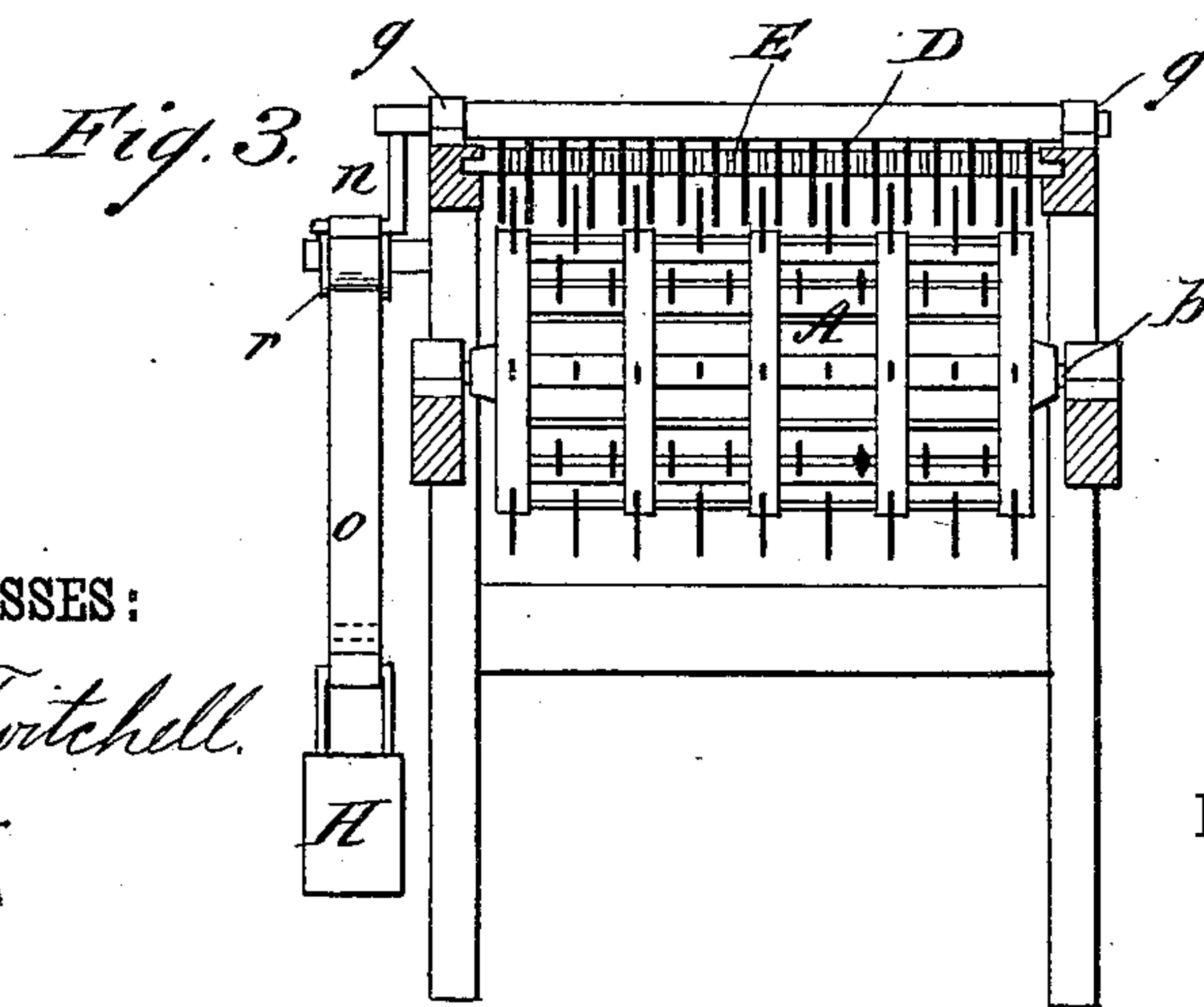
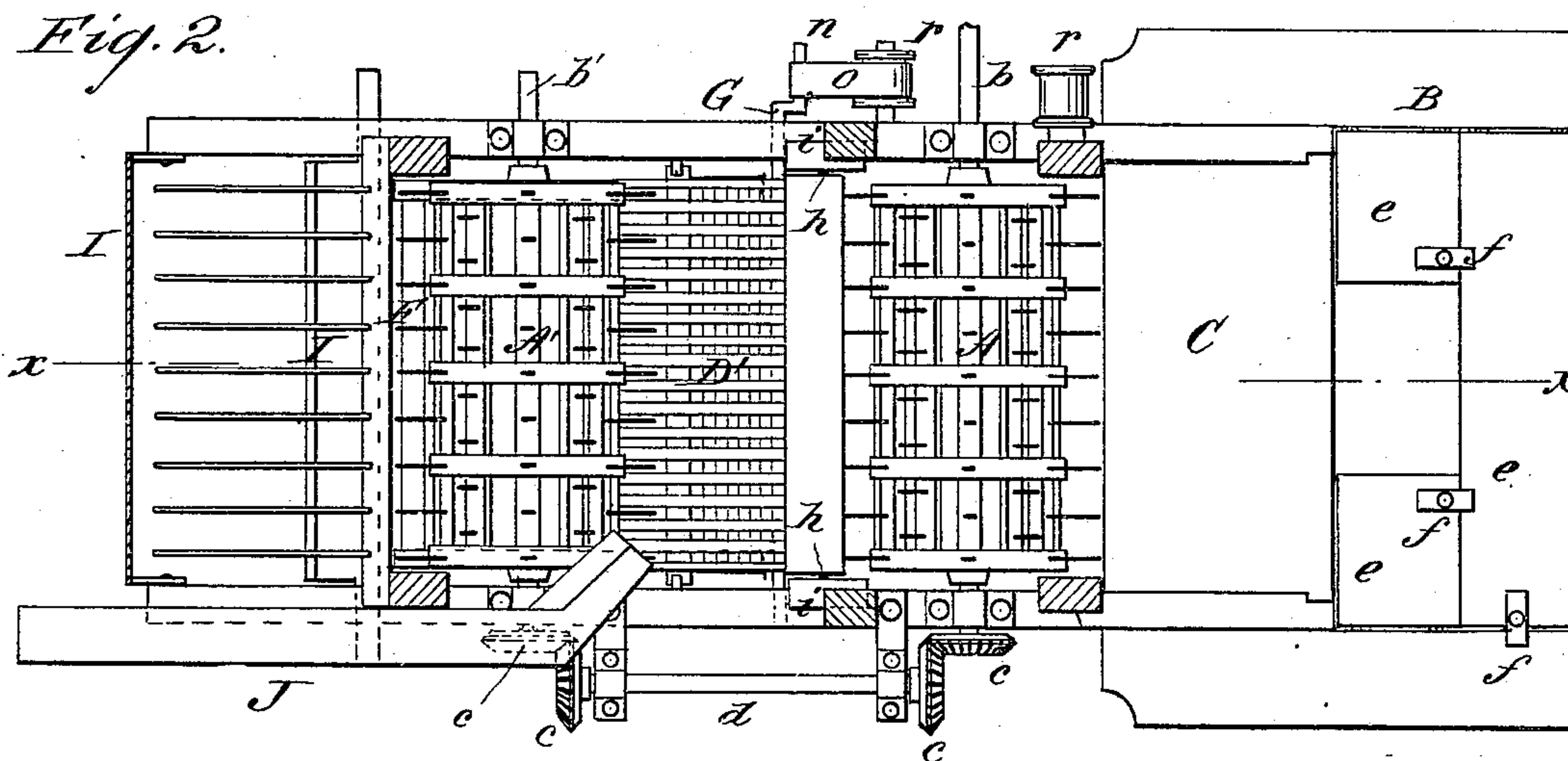
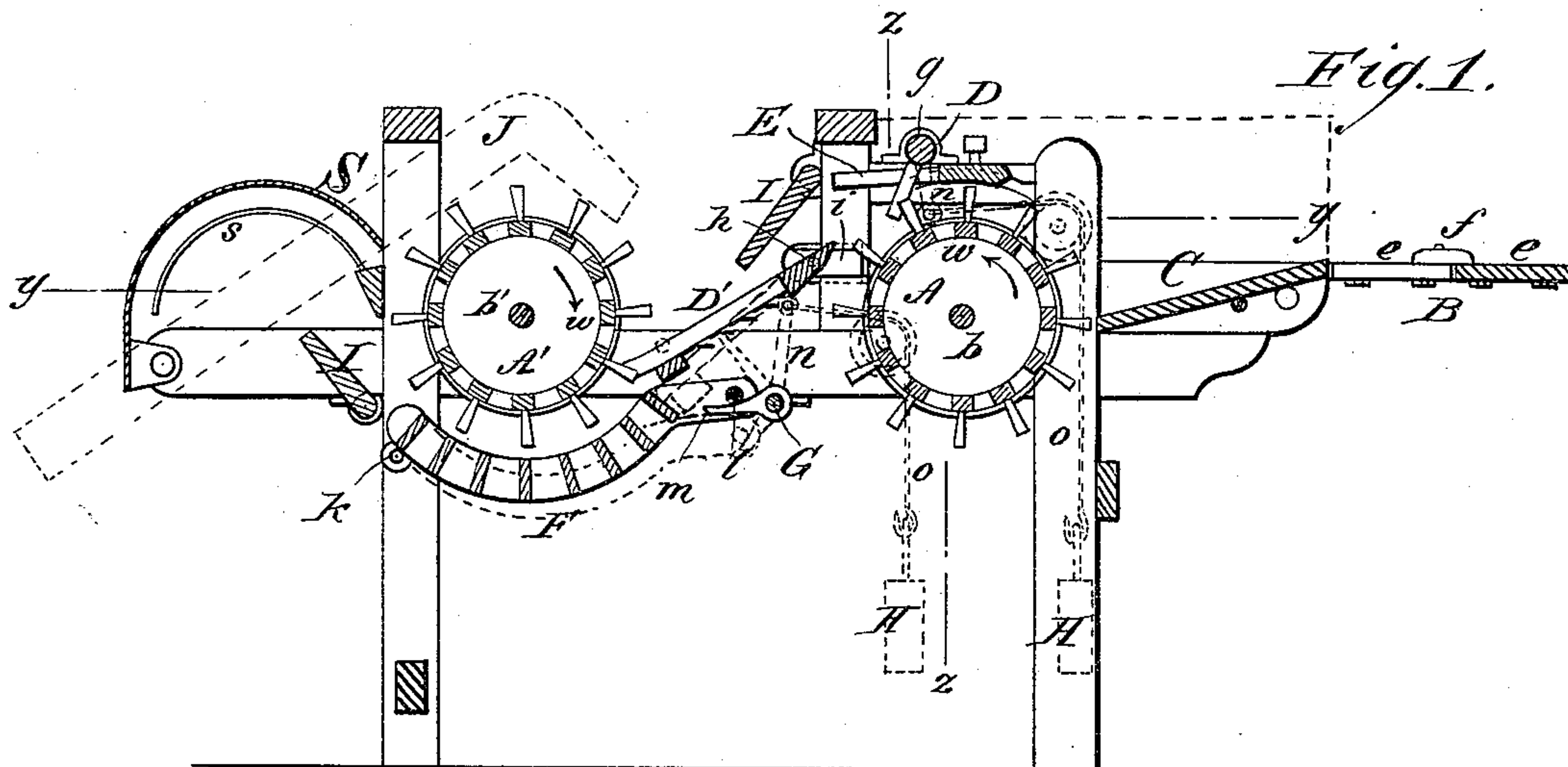


(No Model.)

H. A. WETSELL.  
THRASHING MACHINE.

No. 336,366.

Patented Feb. 16, 1886.



WITNESSES:

*Donn Twitchell.*  
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# UNITED STATES PATENT OFFICE.

HORACE A. WETSELL, OF TRACY, MINNESOTA.

## THRASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 336,366, dated February 16, 1886.

Application filed April 18, 1885. Serial No. 162,710. (No model.)

*To all whom it may concern:*

Be it known that I, HORACE A. WETSELL, of Tracy, in the county of Lyon and State of Minnesota, have invented certain new and useful Improvements in Thrashing-Machines, of which the following is a full, clear, and exact description.

This invention consists in the construction and arrangement of parts, as will be herein-  
after set forth and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 represents a longitudinal vertical section on the line  $x x$ , Fig. 2, of a thrashing-machine embodying my invention, with its outer boxing, feed-hood, and other parts not immediately relating to my invention removed. Fig. 2 is a horizontal section of the same on the irregular line  $y y$  in Fig. 1, and Fig. 3 a transverse vertical section on the irregular line  $z z$  in Fig. 1.

On the frame of the machine, which may be of any suitable construction, are mounted duplicate thrashing-cylinders  $A A'$  parallel with each other, and the one,  $A'$ , at any desired distance in rear of the other. These cylinders are made to rotate in reverse directions relatively to each other, as indicated by the arrows  $w$ , which may be done by power applied to the shaft  $b$  of the front cylinder and connecting said shaft by bevel-gears  $c$ , and intermediate shaft,  $d$ , with the shaft  $b'$  of the other cylinder; or it may be otherwise done. As shown in the drawings, the two cylinders are represented as geared to rotate at the same velocity; but they may travel at different speeds, and in some cases it will be advantageous to have the rear cylinder run much faster than the front cylinder.

$B$  is the feed-table which, if desired, may be constructed in part of hinged sections  $e e e$ , secured by buttons  $f$ ; and  $C$  is the feed-board to the front cylinder,  $A$ . The short sections  $e$  are hinged at their outer ends to the inner edges of the sides of the table, and the buttons  $f$  are pivoted near the inner corners of said short sections. The long section  $e$  is hinged at one end to one side of the table, and has a button on its other end to engage the

opposite side of the table. By this construction the operator may inclose himself in the space formed by the long and short sections, and be surrounded by a table, as shown plainly in Fig. 2.

The grid  $D$  is journaled over the upper portion of the off side of the cylinder and fitted to rock in bearings  $g g$ , the teeth of the cylinder  $A$  passing between the teeth of the said grid  $D$ , the teeth of which latter in turn pass down through a toothed or barred clearer,  $E$ .

The grid  $D'$  for the rear cylinder,  $A'$ , through which the teeth of said cylinder work, is in the form of a backwardly and downwardly inclining open-ended grate or clearer, arranged on the front side of the cylinder and fitted to rock at its upper end, as at  $h h$ , in longitudinally-sliding bearings  $i i$ , to provide for its adjustment closer to or farther from the cylinder to suit different grains, &c., and to adapt the machine to thrashing flax, the bolls of which will all be required to run into the second cylinder only, and in this case the grid  $D'$  is slid back or adjusted so as to throw it out of operative connection with the cylinder  $A'$ . Beneath the second or rear cylinder,  $A'$ , is a separating-concave,  $F$ , pivoted, as at  $k$ , in the rear and resting at its forward end by a cross-bar,  $l$ , on toes  $m$ , of which there may be one on either side, attached to a rocking bar,  $G$ . The free lower end or rear of the grid  $D'$  rests on the free end or sides of the separating-concave  $F$ , so that both rise or fall together, according to the direction in which the bar  $G$  is rocked.

The bar  $G$ , and also the rocking back or bar of the grid  $D$  of the first cylinder are each provided with a crank,  $n$ , to which is attached a cord, chain, or strap,  $o$ , arranged to pass over a pulley,  $r$ , and carrying a weight,  $H$ . These weights  $H$  serve to hold the pivoted concave and grid up or into proper proximity with the cylinders  $A A'$ , subject to any suitable stops, and to admit of their yielding or playing up and down, whereby they are made self-adjusting to suit light or heavy thrashing and do clean work. For ordinary easy work, the weights  $H H$  may be replaced by lighter ones. In this way, or by these means, perfect work may be done in all kinds of thrashing.



Behind each cylinder is a board or guide, I, to hold the straw in any way that may be desired.

S is a rear hood, which is curved and provided internally with curved elastic straw-delivery fingers s.

When the usual feed-cap is put on the machine, the operator can stand and feed without exposing himself to dust or sticks being thrown by the cylinder A into his eyes or face, said cylinder, by its direction of rotation and the course of the feed, carrying everything away from him. The two cylinders acting in succession on the grain will effect much more thorough and easier thrashing, and in case of any heavy obstacles getting into the machine, the concave and grids will yield or let up, without bending a tooth or doing any harm, and perfect safety will be secured to the feeder, and more grain may be thrashed by the machine in a given time than with ordinary thrashers. This arrangement and action of the cylinders and concave and grids may be applied to different kinds of thrashers. All choking of the grain, as where only a single cylinder is used, will be avoided, and the grain will pass clear and better through the machine, and a proper amount of space in the concave and grids relatively to the feed will be maintained.

If desired, the rear cylinder may be driven at such an increased velocity as to thrash at touch without any concave, and each cylinder will act as a balance-wheel to the other, and there will be but little or no jar in feeding in wet bundles or heavy substances, all of which will add to the power and efficiency of the machine.

The usual or any suitable elevator, J, may be used and the same be arranged to deliver between the cylinders, as shown, when it is required to pass the material to be thrashed directly to the second cylinder without running it through the first.

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

1. The combination, with the frame and two thrashing-cylinders arranged thereon in approximately the same horizontal plane, of a grid over the forward cylinder and a grid intermediate of the two cylinders, substantially as set forth.

2. The combination, with the thrashing-cylinders, of a grid over the forward cylinder, a

clearer therefor, an intermediate grid, a downwardly-projecting guide over the forward end of the intermediate grid, and a concave below the rear cylinder, substantially as set forth.

3. The combination, with the thrashing-cylinders and a grid over the forward cylinder, of an intermediate grid pivoted at its forward end in adjustable bearings, and a concave below the rear cylinder, substantially as set forth.

4. The combination, with the thrashing-cylinders and a grid over the forward cylinder, of a concave pivoted at its rear end below the rear cylinder, a rock-shaft between the two cylinders on which the free end of the concave rests, and an intermediate grid pivoted at its forward end and resting at its rear end on the forward end of the concave, substantially as set forth.

5. The combination of the thrashing-cylinders in approximately the same horizontal plane, a grid over the forward cylinder, the counter-balanced rock-shaft between said cylinders, the pivoted concave below the rear cylinder and resting at its free end on said rock-shaft, and the intermediate inclined pivoted grid resting at its rear lower end on the concave, and longitudinally-adjustable bearings for the upper forward end of said grid, substantially as set forth.

6. The combination, with the thrashing-cylinders, of a yielding grid above and in rear of the axis of the forward cylinder, a guide or deflector in rear of said grid, an intermediate yielding grid below the said guide or deflector, and a yielding concave below the rear cylinder, substantially as set forth.

7. The combination, with the rear thrashing-cylinder, of the concave below the same, the upwardly and outwardly inclined guide or deflector adjacent to the rear end of the concave, a rear hood above the guide, and curved elastic fingers secured at their forward ends above the said guide, substantially as set forth.

8. The combination, with the thrashing-cylinders and a grid and a concave therefor, of an intermediate adjustable grid constructed to be thrown out of operative position with relation to said cylinders, substantially as set forth.

HORACE A. WETSELL.

Witnesses:

OLE OESTENSOE,  
JOHN A. CRAIG.