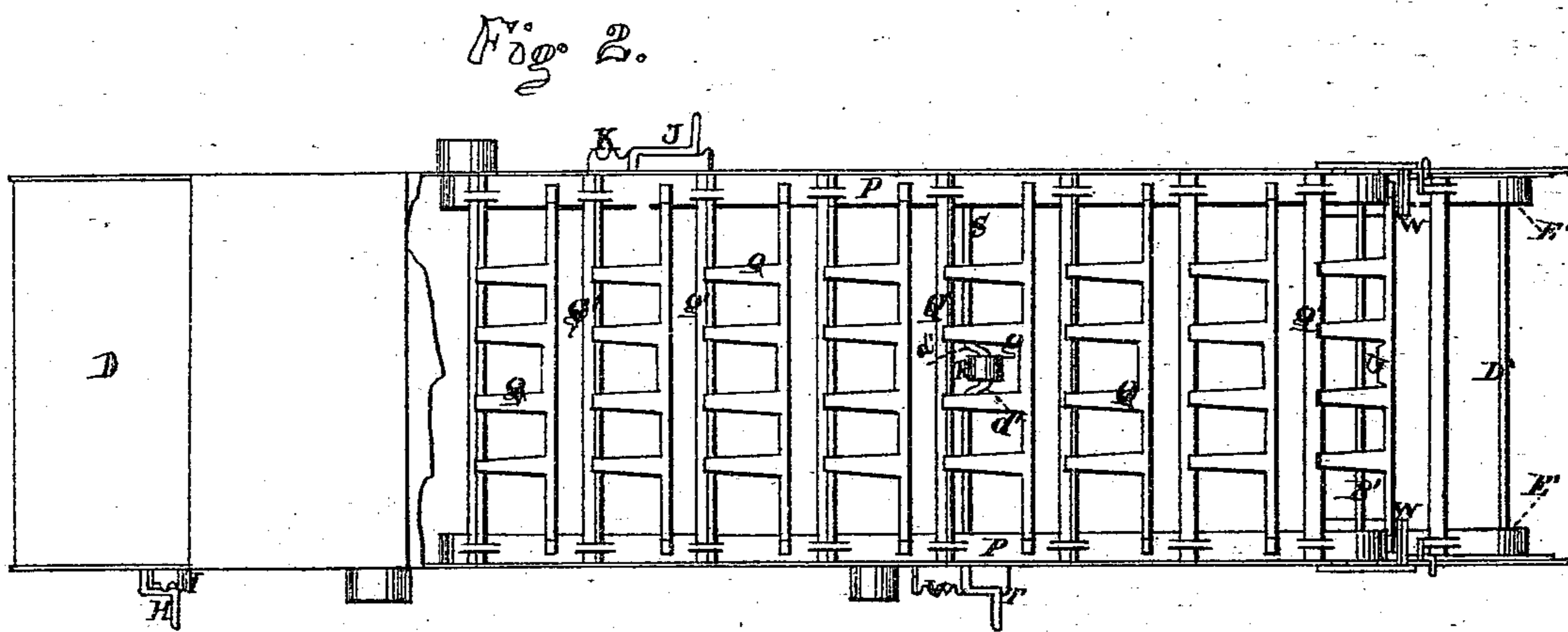
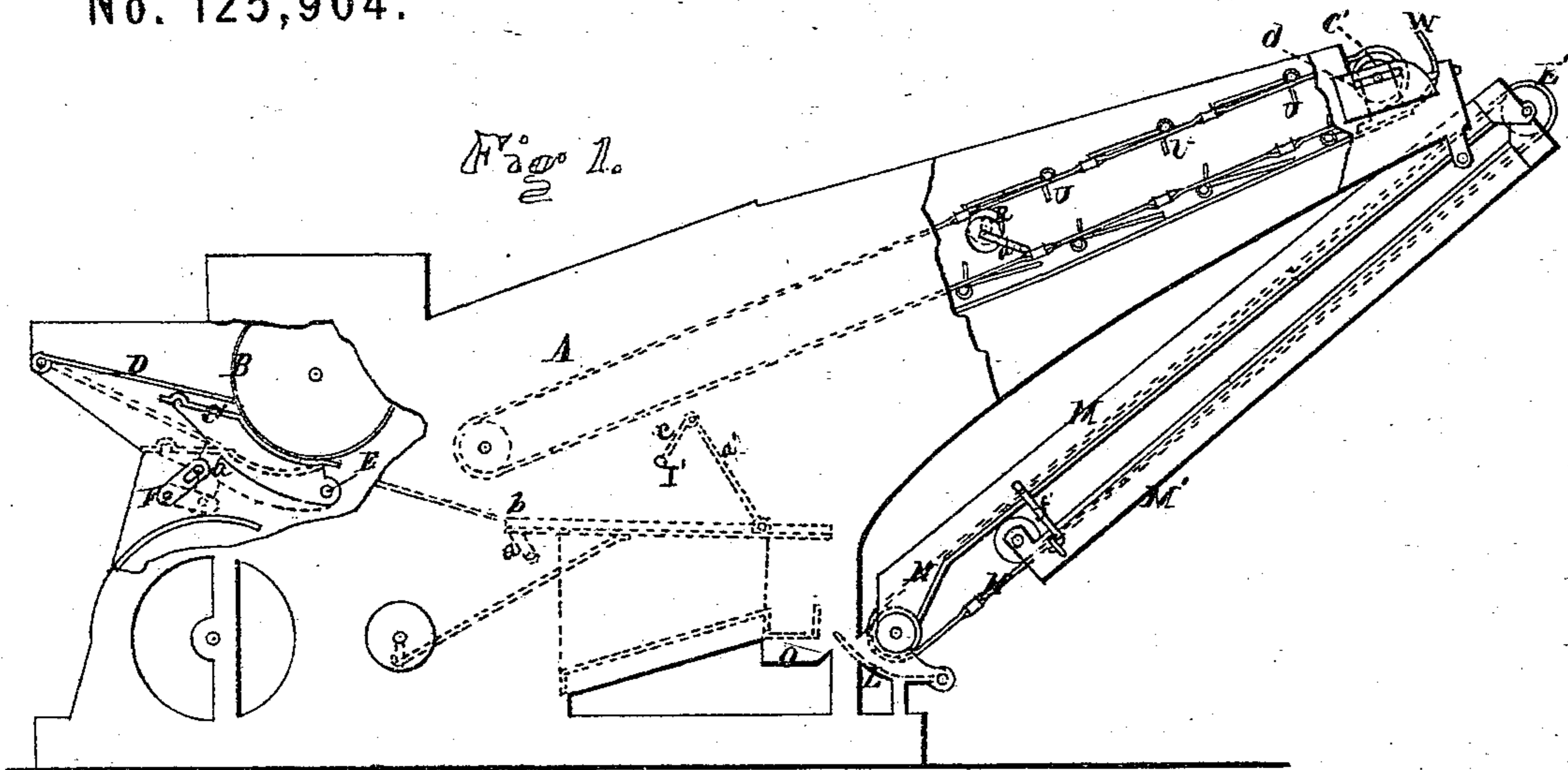


S. E. OVIATT.

Improvement in Thrashing-Machines.

No. 125,904.

Patented April 23, 1872.



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Fig. 3.

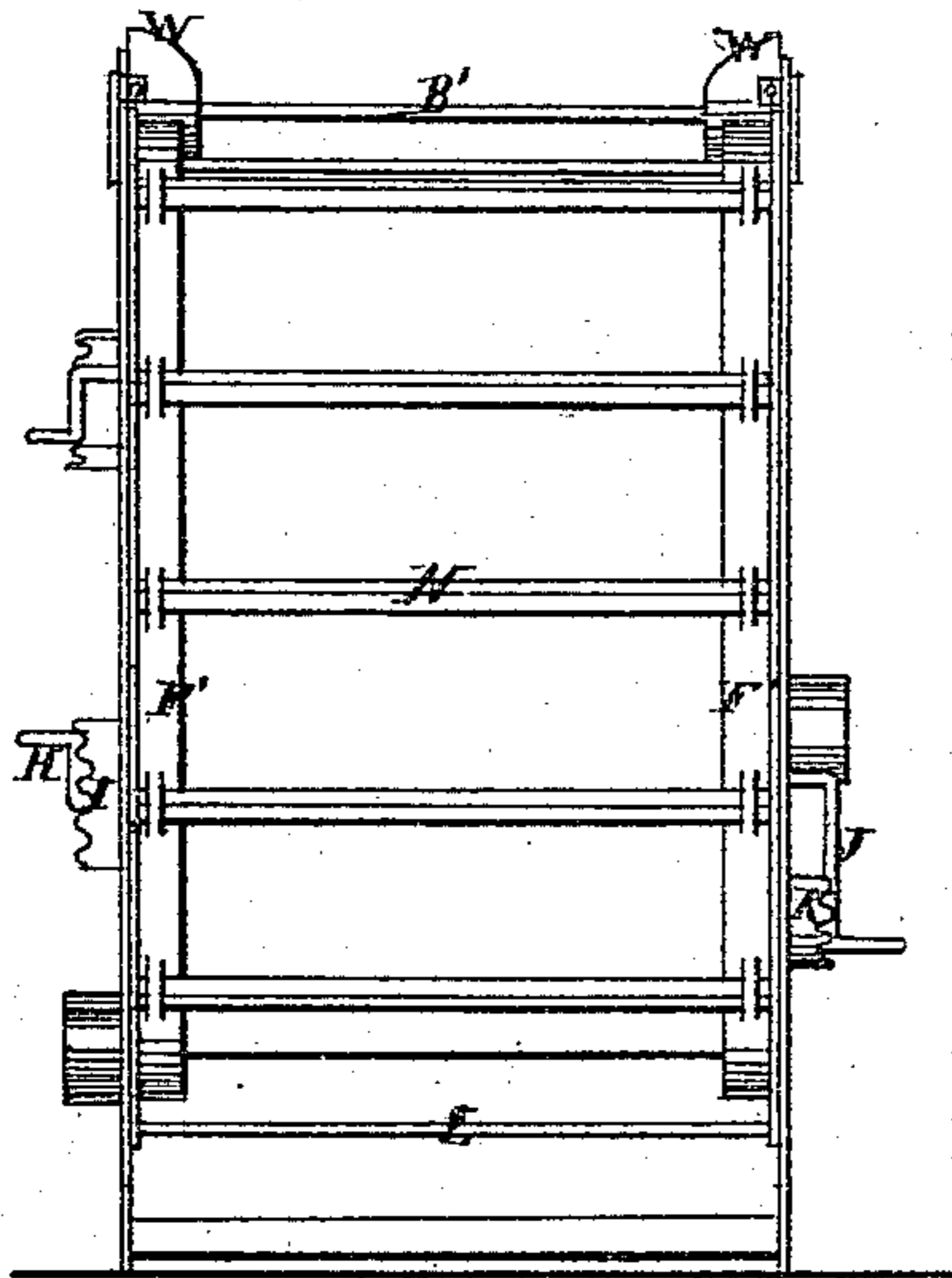


Fig. 4.

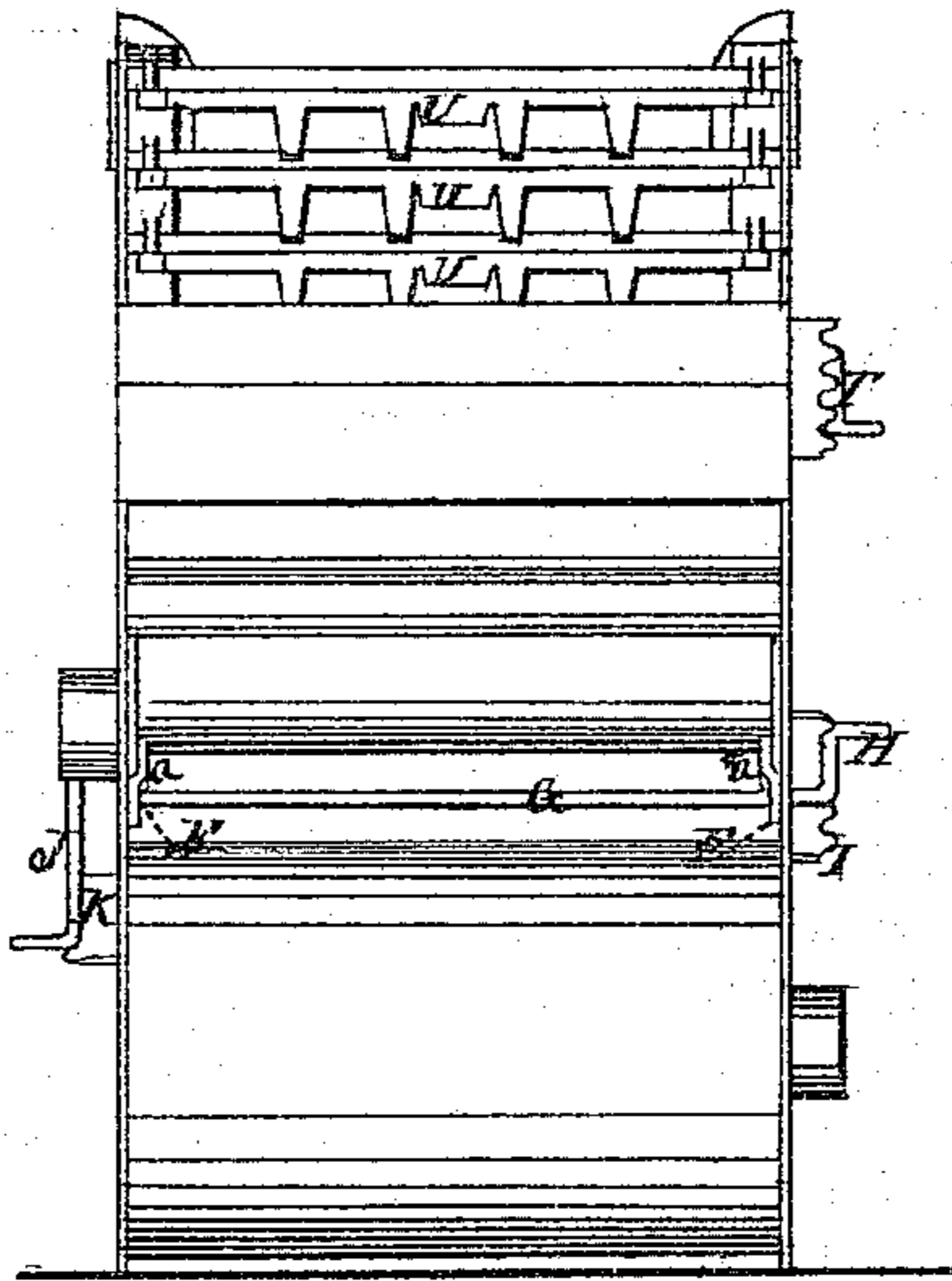


Fig. 5.

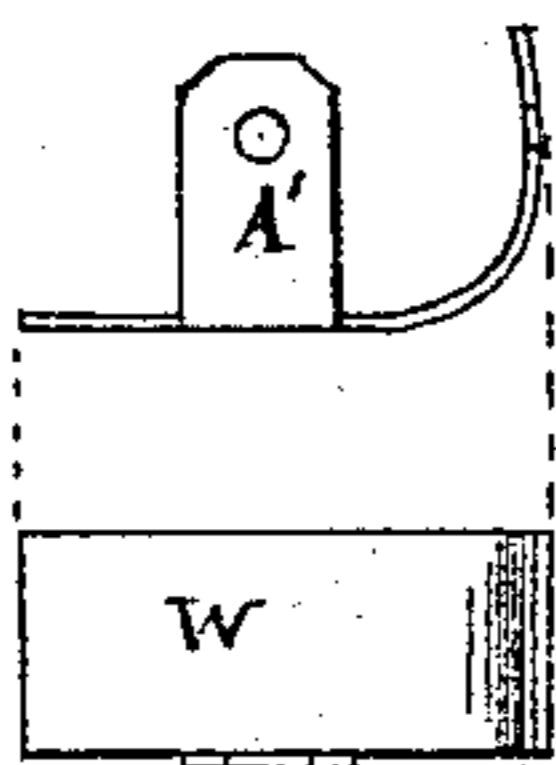


Fig. 7.

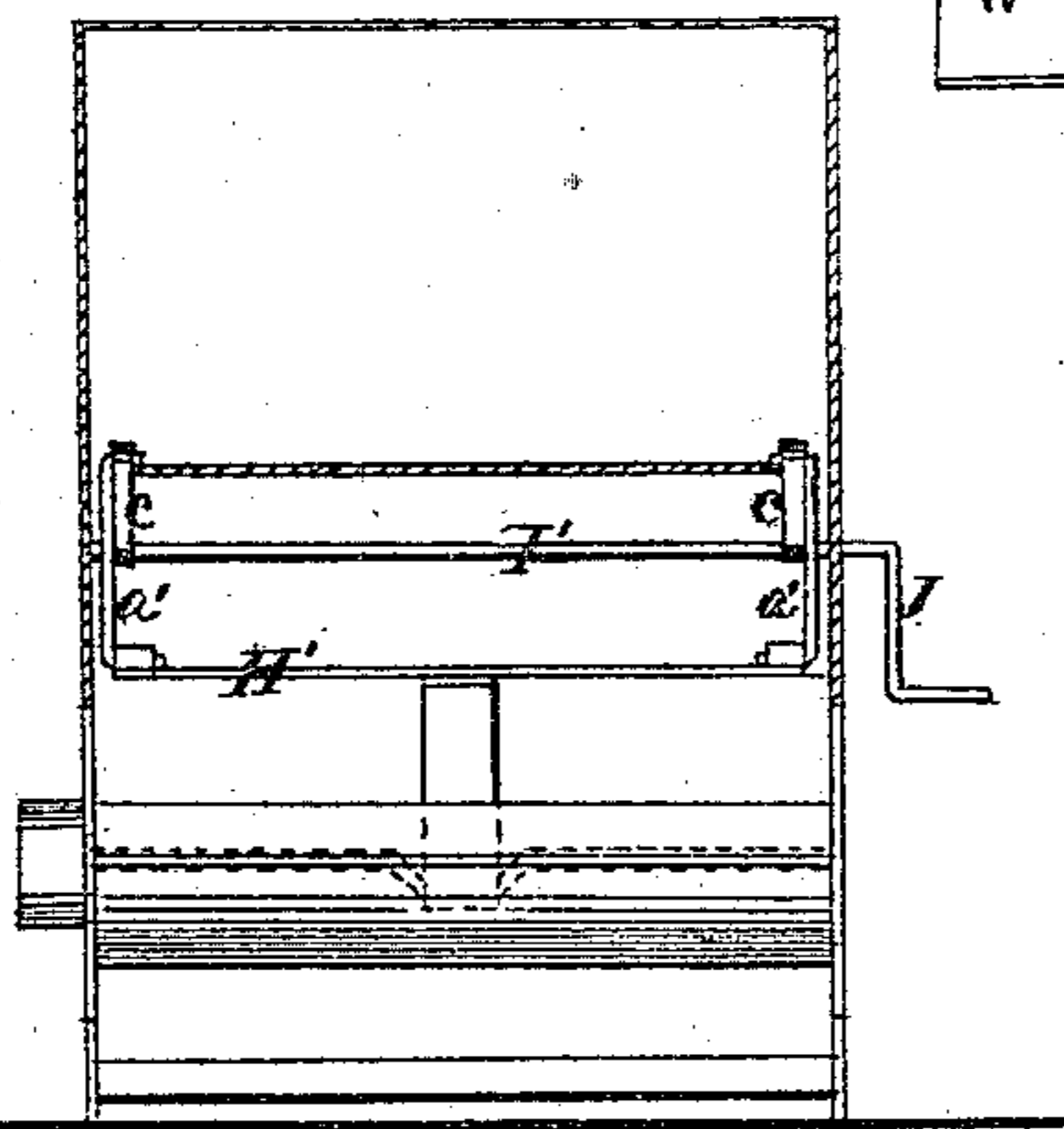


Fig. 6.



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SOLOMON E. OVIATT, OF WEST RICHFIELD, OHIO.

IMPROVEMENT IN THRASHING-MACHINES.

Specification forming part of Letters Patent No. 125,904, dated April 23, 1872.

To all whom it may concern:

Be it known that I, SOLOMON E. OVIATT, of West Richfield, in the county of Summit and State of Ohio, have invented a certain new and Improved Thrashing-Machine; and I do hereby declare that the following is a full, clear, and complete description thereof, reference being had to the accompanying drawing making part of the same.

Figure 1 is a side elevation of the thrashing-machine and stacker. Fig. 2 is a plan view. Fig. 3 is a rear elevation. Fig. 4 is a front elevation. Figs. 5 and 6 are detached sections. Fig. 7 is also a detached section.

Like letters of reference refer to like parts in the several views.

SPECIFICATION.

The nature of this invention relates to a thrashing-machine and stacker attached thereto, and which invention has for its object, in part, a device for adjusting the concave and feed-board to the cylinder of the machine; second, to a device for adjusting the sieves to any desired degree of elevation; third, to a shoe for supporting the base of the stacker and for catching the waste grain and litter; fourth, to a mode of tripping or agitating the rakes of the separating-carrier; fifth, to a grain-catcher or guard, at the outer end of the separating-carrier; sixth, so constructing the stacker that the rods connecting the sections and forming the hinges shall also act as shafts for the belt-pulleys; and seventh, in providing auxiliary bars for the rakes to rest upon, all constructed and operated as follows:

In the drawing, Fig. 1, A represents the body of the machine, in the front end of which is a cylinder, B, hung and operated in the ordinary way. C is the concave, and D the feed table or board, on which the grain is laid for being fed into the machine. The concave referred to is hung in the machine on a shaft, E, thereby allowing to it a vibratory movement to and from the cylinder to which it is related.

This movement or adjustment of the concave is effected as follows: From each end of the concave projects an arm, *a*, Figs. 1 and 4, to which is pivoted one end of a link, F, having a slot in the end for the movement of the pivotal pin, by which the arms and links are con-

nected to each other. The opposite end of the link is secured to a shaft, G, Fig. 4, having its bearings in the sides of the machine. One end of said shaft projects through the side of the body of the machine and terminates in a crank, H, whereby said shaft can be turned, and which turning will operate the links, and thereby move the concave to or away from the face of the cylinder, as the case may be, and which is retained in its relations of distance thereto by the crank being lodged in one of the series of notches in the rack I, seen on the side of the body in Figs. 3 and 4. The outer side or edge of the feed-table is pivoted in the sides of the machine, whereas its inner end is free, and lies upon the edge of the concave, so that, when the outer edge of the concave is moved or adjusted in its relation to the cylinder, the table or feed-board moves with it and adjusts itself in its angle or cant to the cylinder, more or less, as the adjustment of the concave may be, and which adjustment is governed by the condition of the grain.

The second improvement in this machine consists in a device for adjusting the elevation of the rear end of the sieve H', Fig. 7, so that such adjustment can be done while the machine is running. For this purpose the front end of the sieve is secured to the sides of the machine by a stirrup, *a*, at the point *o*, Fig. 1, whereas the rear end is suspended, by links *a'*, from the arms *c*, Fig. 7, projecting from a shaft, I', having its bearings in the sides of the machine. One end of said shaft projects through the side and terminates in a crank, J, Figs. 4 and 7. On turning said crank the end of the sieve or shoe in which the sieve is secured can be raised or lowered, as the case may be, and which is confined in any one position by the crank being lodged in one of the notches of the rack K. By this crank and shaft the rear end of the sieve can be raised or depressed, as circumstances may demand, without stopping the machine for that purpose, as the crank is on the outside, and therefore can be reached without trouble.

The third improvement relates to a shoe, which serves as a base, in which the lower end of the stacker is secured. Said shoe consists of a concave trough, L, Figs. 1 and 3, in the ends of which are journaled seats for holding

the shaft, whereby the lower end of the stacker M is attached to the machine and supported, as shown in Fig. 1.

The more special purpose of the shoe is for catching the loose grain that may be lodged in the chaff as it falls upon the stacker, and which is ordinarily thrown out with the chaff and lost; whereas by the use of the shoe referred to it is saved in the manner as follows: The grain, as it is shaken from the chaff while being conveyed by the carrier N of the stacker to the stack, falls down upon the tight floor or plain of the carrier, over which the carriers pass. The grain slides down said floor into the shoe, from which it is brushed out by the bars of the carriers, which sweep around therein in the course of their revolution. The grain thus removed falls into the conductor O, Fig. 1, immediately back of the shoe, from which it runs into the elevator, and is discharged thereby into the mouth of the machine with the rest of the unfanned grain to be cleaned by the fanning-mill.

By this device nearly if not all of the loose grain is saved, which in the ordinary machine is lost.

The fourth improvement relates to a device for tripping the carrier-rakes, whereby the straw is shaken up for dislodging the loose grain therein.

Said device is constructed and operated as follows: To the belts P, Fig. 2, are secured the ends of the carrier-rakes Q and bars Q', on which the teeth of the rakes fall and rest when undisturbed. Upon said rakes the straw directly from the cylinder is thrown and carried to the stacker. In said straw more or less grain is lodged, and for the purpose of dislodging the grain the rakes are shaken, thereby causing the grain to fall upon the floor of the separating-carrier, from which it is conveyed into the sieves.

The amount of shaking that the straw may require depends upon its condition as to dampness, &c. To effect this shaking, and the amount desirable, a roller, R, Figs. 1 and 2, is secured to a shaft, S. Said shaft is bent in the middle, forming a crank or arm, *d'*, on which the roller is placed, as shown in Fig. 2. One end of the shaft passes through the side of the machine and terminates in a crank, T, whereby the shaft is operated, for the purpose of elevating or depressing the roller, so as to bring it more or less in contact with the lugs U, Fig. 1, depending from the under side of the head of the rakes, which, as the rakes pass upward, impinge upon the face of the roller, thereby tilting the teeth of the rakes upward with a quick sudden movement, and more or less violent, as the elevation of the roller may be, and over which the ends of the lugs drag. By this means, the amount or violence of the shaking can be graduated as the condition of the straw may need. The position of the roller is maintained by the rack V, into which the crank is lodged, thereby holding the roller so

that the lugs may strike it and thus shake the rakes. The roller, by the same means, can be so depressed as to be out of the reach of the lugs; hence the rakes will pass over it without being shaken.

The fifth improvement consists in guarding against the waste of grain by its being carried over the end of the separating-carrier on the belts P, as the grain is apt to lodge thereon, and is dropped with the straw. To prevent this waste of grain in that direction, I have provided a guard, W, Figs. 1 and 3. Said guard consists of a plate having a width a little more than that of the belts, and in front of which and partially around under the pulley over which the belts run. It is arranged as shown in Fig. 1. Figs. 5 and 6 are detached views of the guard, in which figures it will be seen that it is provided with a vertical ear, A', having a hole therein for the admission of the end of the shaft B', carrying the pulleys C', over which the belts P run, and which hole serves as the journal-seats for the shafts.

It will be seen that the ends of the shaft project through the sides of the machine, slots *d* being made therein for their admission. The purpose of the slots is to allow the shaft to be moved outwardly for tightening the belts from time to time, as may be needed, and which may be drawn outward by adjusting-screws, or by any other appropriate device. The under end of the guard lies upon the floor of the separating-carrier; hence, as the grain may fall from the belt onto the guard, it will be directed onto said floor, down which it will slide to the sieves.

The sixth improvement consists in constructing the stacker in two sections, M, referred to, and M', Fig. 1. Said two sections are connected to each other by means of the shaft D', Fig. 2, on which are carried the belt-pulleys E', said shaft being made to do double duty—viz., that as a joint for the connection of the two sections of the stacker, and shaft for the pulleys for carrying the belts F', Fig. 3. In thus connecting the two sections, as above described, I am enabled to close them back one upon the other, as shown in Fig. 1. The lower end of section M' being secured to section M by the hoops *f*, in this position of the stacker, it is much less trouble to move it from place to place, as it is folded up out of the way, which folding is easily and quickly done; also, it is in condition for being used with one section only, thereby obviating the necessity of removing the cylinder-section M', and which may be brought into use by simply unhooking its lower end and elevating it to the line of section M, thereby carrying the straw higher; and it is also in working position, as shown in Fig. 1, for carrying up the chaff, &c., and discharging it with the straw.

It will be observed, on examination of Fig. 2, that the rakes Q and the cross-bars Q' are arranged alternately, and in such relation to each other that said bars support the teeth of

the rake; whereas, in my former machine, the head of one rake supported the teeth of the adjacent one, the objection of which is, that when the rakes are tilted up, there is a larger space between the rakes through which the straw is liable to fall; but by the introduction of the cross-bars, which may be more or less in number, the space is partially filled up, so that the straw, &c., is much less liable to fall through onto the floor of the separator-carrier; hence the work is more thoroughly done.

Having described the several features of my invention, their operation, and their advantages, what I claim as new, and desire to secure by Letters Patent, is—

Claims.

1. The shaft G, links F, and arms *a*, as arranged, in combination with the concave C, constructed in the manner substantially as described, and for the purpose set forth.

2. The shafts I, arms *c*, and links *a'*, in combination with the sieve H, constructed substantially in the manner as and for the purpose set forth.

3. The concave trough or shoe L, having a journal-seat or seats on each end for supporting the base of the stacker, as arranged in re-

lation thereto, and in combination with a conductor, O, in the manner as and for the purpose specified.

4. The shaft S, having an arm or offset, *d'*, and roller R, in combination with the rakes Q, provided with a lug, U, constructed substantially in the manner as described, and for the purpose set forth.

5. The guard W and ear A', as arranged in relation to and in combination with the shaft D' and belts P, constructed in the manner substantially as described, and for the purpose specified.

6. The stacker, consisting of the sections M and M', when connected to each other by the shaft D', carrying the pulleys E' and belts F', so that said sections can be folded back one upon the other, in the manner substantially as described, for the purpose set forth.

7. The herein-described separating-carrier, consisting of the rakes Q and cross-bars Q', as arranged in relation to each other and in combination with the belts P, in the manner as and for the purpose set forth.

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