

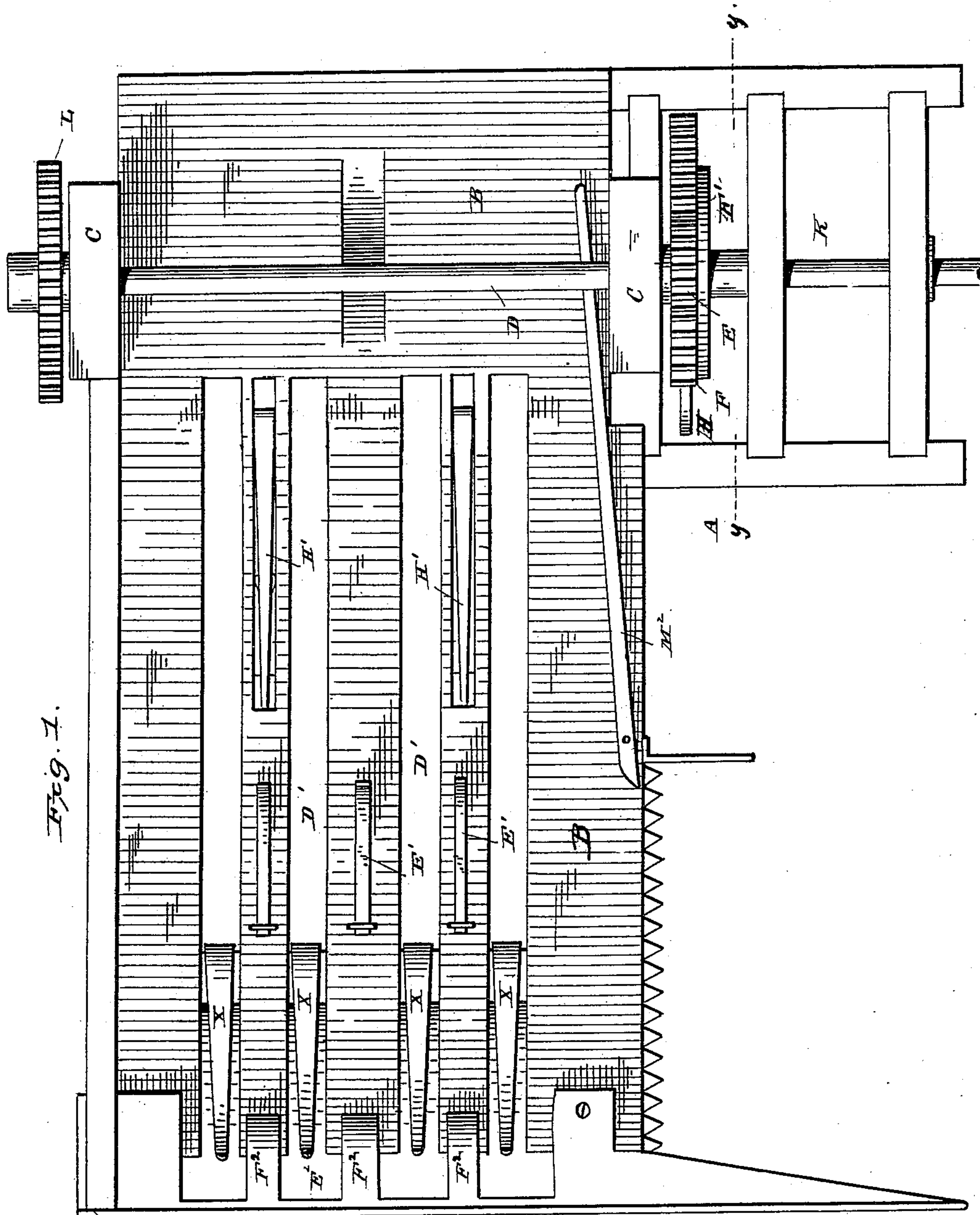
(Model.) :

3 Sheets—Sheet 1.

W. DINGMAN.
HARVESTER.

No. 297,357.

Patented Apr. 22, 1884.



witnesses.

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H. A. Paulmin

Inventor.

Wallace Dingman.

E. M. Alexander.

Attorney

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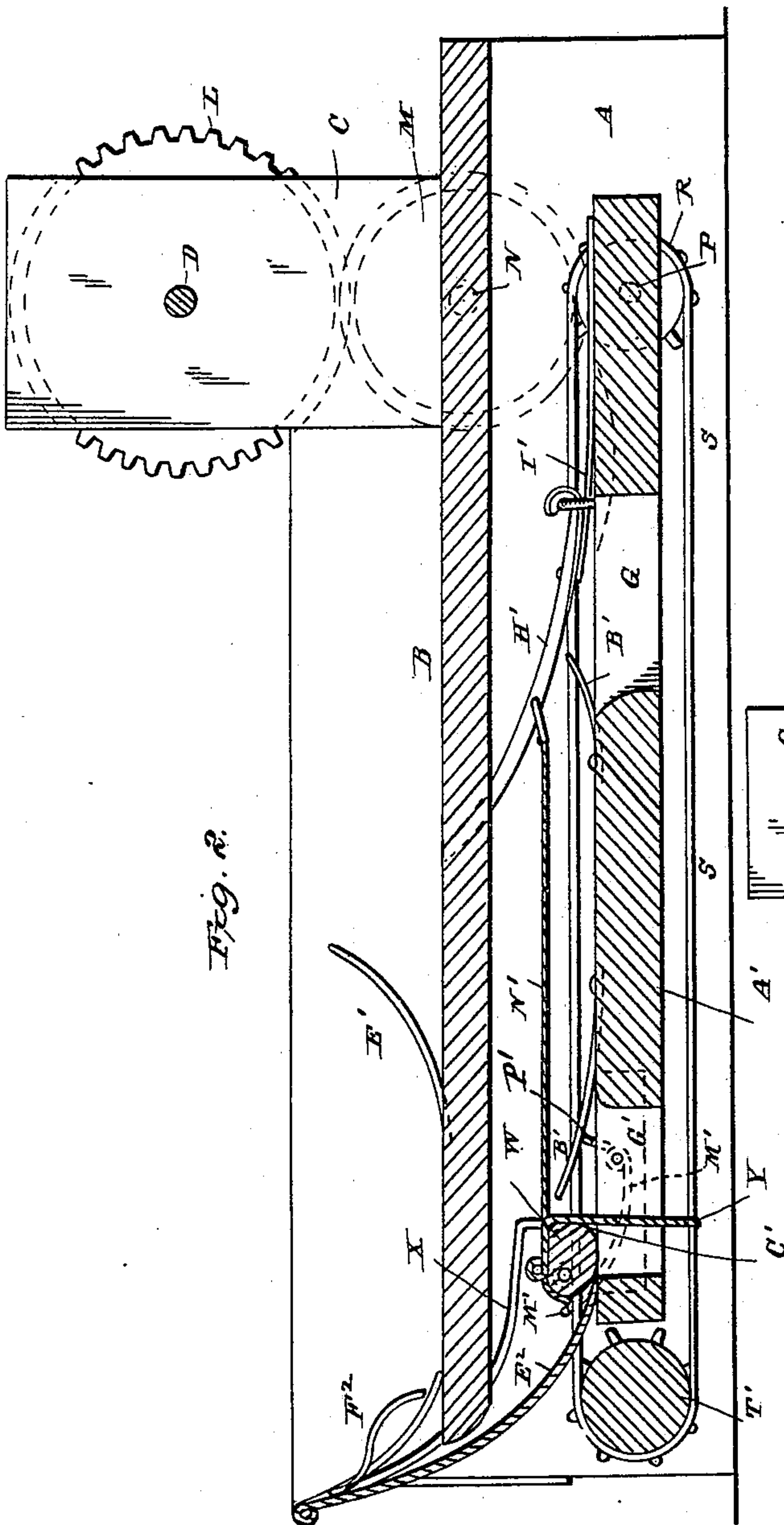


Fig. 2.

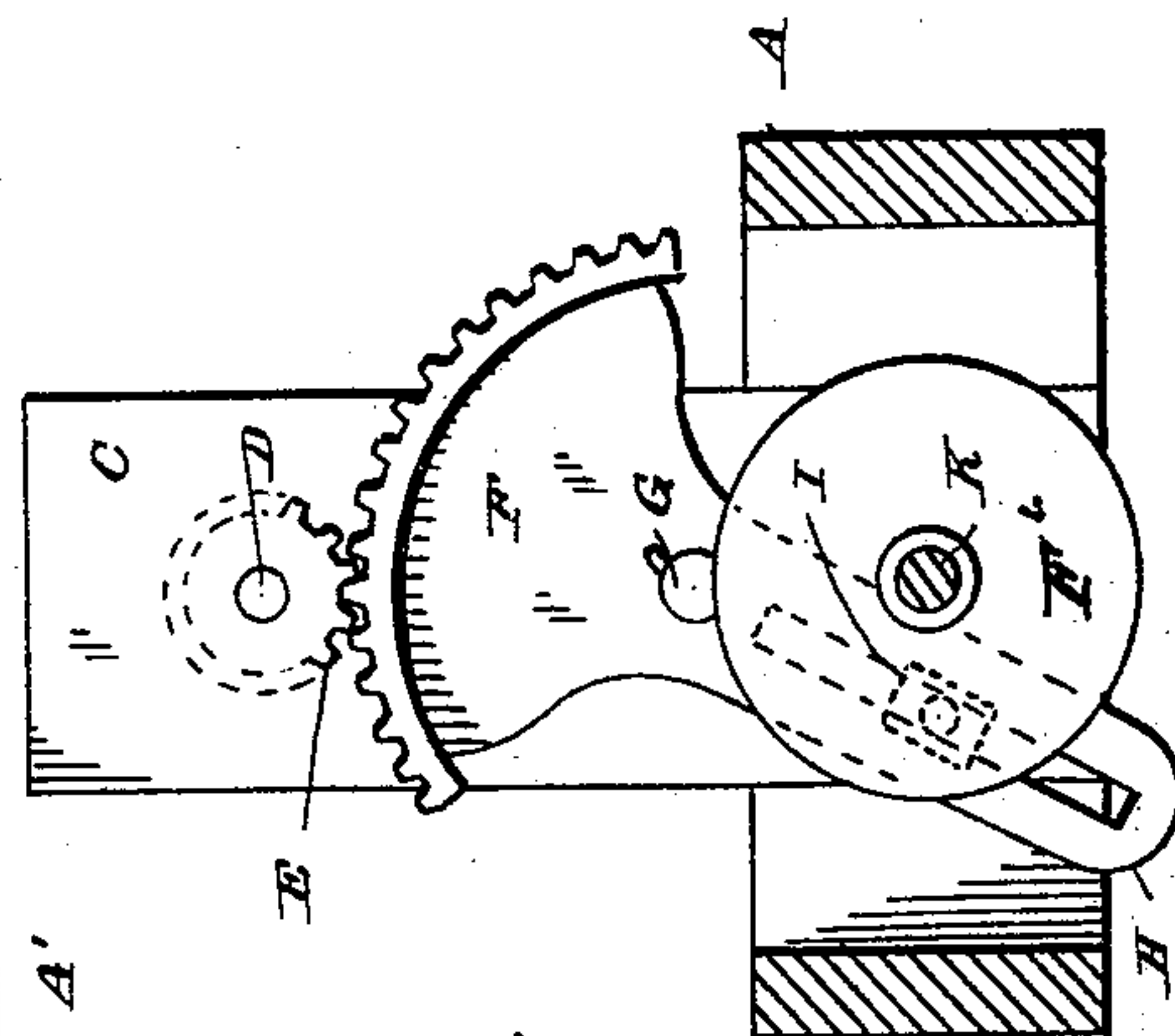


Fig. 3.

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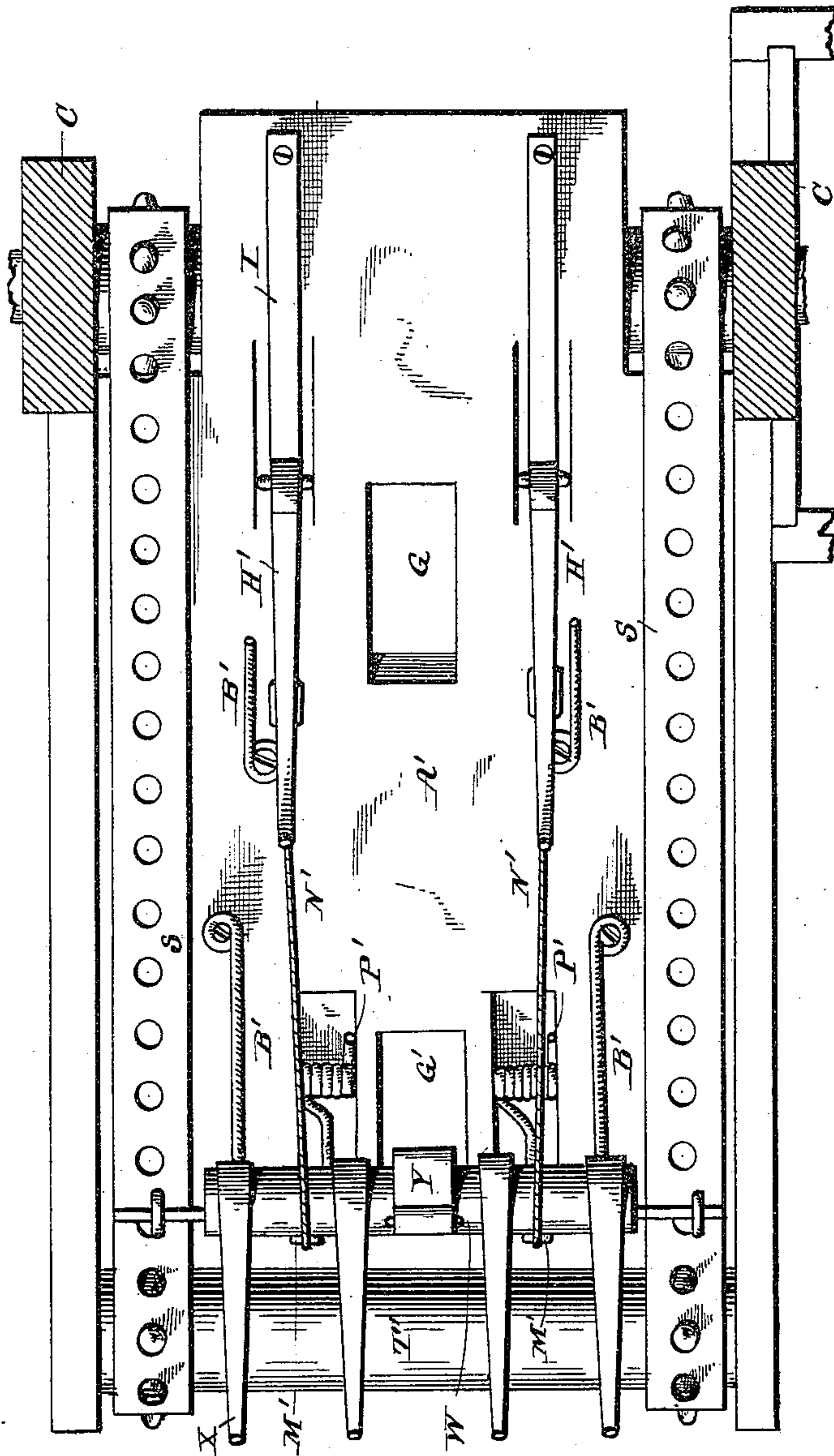
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Fig. 4.



WITNESSES

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UNITED STATES PATENT OFFICE.

WALLACE DINGMAN, OF BATTLE CREEK, MICHIGAN.

HARVESTER.

SPECIFICATION forming part of Letters Patent No. 297,357, dated April 22, 1884.

Application filed March 29, 1883. (Model.)

To all whom it may concern:

Be it known that I, WALLACE DINGMAN, of Battle Creek, in the county of Calhoun, and in the State of Michigan, have invented certain new and useful Improvements in Harvesters; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

This invention relates to certain improvements in that class of harvesters in which the grain is cut, gathered, bound, and the bundles discharged on the stubble-field out of the way of the machine on its next round.

The object of the invention is, first, to provide a simple, convenient, and effective machine for perfectly delivering the gavel to the binding mechanism, so that each bundle shall have the straw uniformly arranged and free from entanglement; and, secondly, to provide certain devices whereby a horizontally-traveling automatic rake running parallel to the cutter-bar and level therewith shall gather, carry laterally, and deliver the gavels to the self-binder as desired, as more fully hereinafter specified. These objects I attain by the means illustrated in the accompanying drawings, in which—

Figure 1 represents a plan view of my device; Fig. 2, a longitudinal section; Fig. 3, a sectional view through the line *yy*, Fig. 1; and Fig. 4, a plan view of the device with the platform, cutter-bar, and the curved guide removed and the standard shown in section.

The letter A indicates the frame or portion of the frame of a harvester, of the usual construction, mounted on wheels, as usual, and which is provided with the ordinary platform, B, the cutter-bar, and operating mechanism, which last forms, however, no part of the present invention and need not be shown. At one side of the platform B are located the upright standards C, in which is journaled a shaft, D, which has on one end a pinion, E, which intermeshes with a cog-segment, F, pivoted to a stud, G, and provided with a slotted extension, H, in which is located a slide, I, which is connected to a wrist-pin on a rotating disk, F', secured to the rotary shaft K,

which receives its motion from the driving-gear of the machine or harvester.

At the rear end of the shaft D is secured a gear-wheel, L, intermeshing with a gear-wheel, M, mounted on a short stud, N, secured to one of the standards, the said wheel M intermeshing with a pinion on the end of a shaft, P, which carries sprocket-wheels R, over which pass the belts S, having apertures in which the sprockets engage for the purpose of actuating the belts. Said belts pass over sprocket-wheels T', journaled at the opposite end of the frame. The belts have suitable bearings, in which are eccentrically journaled the ends of the rake-head W, which are provided with curved rake-teeth X. To the said rake-head is hinged a weighted shoe, Y, which, by coming in contact with the bottom A' when the rake moves inward, holds the teeth in a vertical position. The frame is provided with a bottom or lower platform, A', to which are secured the reversely-pointing springs B', which are adapted to engage the rake-head as it is reciprocated, as more fully hereinafter explained.

The platform B is provided with slots D', which extend from the outer side to the line of the standards before mentioned, and which correspond in number to the number of teeth on the rake-head. Between the slots, on a line with the inner portion of the cutter-bar, are arranged a series of curved springs, E', which prevent the grain from scattering when it falls on the platform.

To the outer end of the bottom A' is secured the curved guide E², to the upper part of which are attached the guards F², between which the rake-teeth are adapted to work as they pass upward through the slots in the platform.

The bottom A' has near its inner end the opening G, into which the hinged shoe or trip-lever Y on the rake-head is adapted to fall at each reciprocation of the rake-head, to permit the latter to turn to withdraw the teeth below the platform on the return-stroke of the rake. A similar recess, G', is provided at the outer end, to permit the shoe Y to drop so as to engage the bottom A' when the rake is again moved inward.

Hinged to the bottom A' about in a line with the inner ends of the slots in the platform,

and between said slots, are the grain-holding fingers H' H', which are pressed upward and held in position by suitable springs, I', as shown, which fingers are operated by the mechanism now to be described.

In the bottom A' are formed suitable recesses, wherein are hinged the spring lever-arms M', which project upward, and to the upper ends are attached cords N', which pass over the rake-head, and are attached by means of suitable rings to the fingers H' H'. The lower ends of the said levers M' are formed with short arms P', which engage with the bottom of the recesses in which the levers are pivoted, whereby the levers and grain-holding fingers H' are prevented from moving too far.

Pivoted to the finger-bar on the front part of the platform, near the heel of the cutter-bar, is an adjustable butt-board, M², the office of which is to adjust the grain to the binder, the same being adjusted according to the length of the grain, and is operated by the driver from his seat by any suitable means.

The operation of my invention is as follows:
 25 When a sufficient amount of grain has accumulated on the platform outside of the springs E', the rake having assumed a position with the teeth resting outward and upward at an angle of about forty-five degrees, the points
 30 against the curved guide-board E² immediately back of the guards F², as shown in the drawings, the rake moves in the position it is in until the rake-head strikes against the outer springs, B', which, resisting the same, cause
 35 the rake to turn partially, the teeth taking an upright position. The rake moves forward, gathering the loose straw against the springs E'; but the pressure of the rake and grain against these springs flattens them to the platform, thus allowing the grain to pass over
 40 them. The rake carries the grain along the platform over the ends of the grain-holding fingers H' (which rest in recesses in said platform) until the rake-head strikes said fingers
 45 on their under side and raises them. The fingers then catch the straw in the rear, allowing the rake to return without the straw. The springs hold the fingers in that position until the rake, returning, strikes against the inner
 50 springs, B', which turn the rake with its teeth in a horizontal position. When the rake-head has moved the curved fingers H' upward, the cords secured to said fingers are drawn taut, pulling the springs M' inward, causing their
 55 short arms to bear against the bottoms of the recesses in which they are pivoted. When the rake-head returns, it strikes said springs M', releasing the short arms from their hold on the bottom, and so draws the cords back, pulling
 60 the grain-holding fingers H' down into the re-

cesses, in which they lie, so that the next rakeful of grain may pass over it.

The weighted shoe Y, hinged to the rake-head, falls into the recess G' when the rake is returned. After passing said recess G', the
 65 long side of said weighted shoe will rest on the bottom A', sliding thereon between the two recesses, holding the rake and teeth in a vertical position. After the grain has been deposited at the inner end of the machine, the grain-
 70 binding mechanism receives it, binds it into bundles, and discharges the bundles at the side of the machine.

The adjustable board M² is for the purpose of acting against the butts of the grain to move
 75 the grain backward more or less, according to its length, in order that it may be delivered to the binding mechanism in such a position that the board will be applied centrally. The grain growing in fields in patches of long and short,
 80 the driver of the harvester, when reaching a change in the height of the grain, regulates this board accordingly.

Having thus fully described my invention, what I claim, and desire to secure by Letters
 85 Patent, is—

1. The combination, with the grain-platform and rake-head, of the grain-holding fingers, the spring-levers, and the ropes connecting said
 90 fingers and spring-levers and passing over the rake-head, the whole arranged to operate substantially as and for the purposes herein set forth.

2. The combination of the double platform, the rake-head, mechanism for reciprocating the
 95 rake-head, and the reversely-arranged springs secured to the bottom portion of the platform, as and for the purposes herein set forth.

3. The combination of the platform, the rake-head, the mechanism for reciprocating the
 100 rake-head, and a shoe hinged to the rake-head, and adapted to fall in recesses in the bottom portion of the platform and to slide upon said bottom, as and for the purposes herein set forth.
 105

4. The combination, in a harvester, of a double platform, the lower platform provided with recesses and openings, as described, the reciprocating rope and spring-levers, grain-
 110 holding fingers, and reversely-pointing springs, all carried by said lower platform, as and for the purposes herein set forth.

In testimony whereof I affix my signature, in presence of two witnesses, this 16th day of February, 1883.

WALLACE DINGMAN.

Witnesses:

MARTIN METCALF,
 FRANK W. CLAPP.