

(No Model.)

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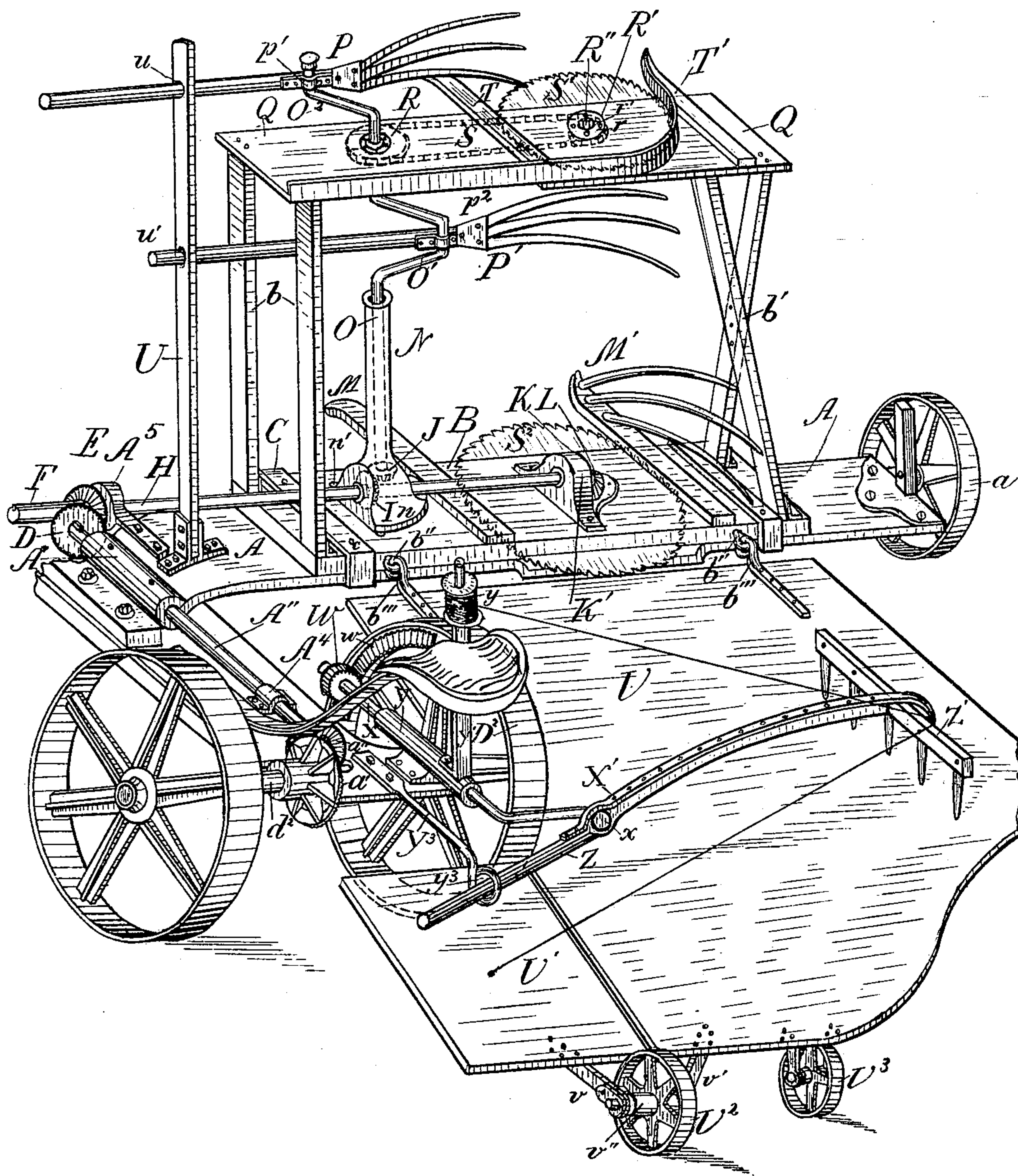
G. H. KUNSMAN.

CORN HARVESTER.

No. 326,993.

Patented Sept. 29, 1885.

Fig. 1.



Attest:  
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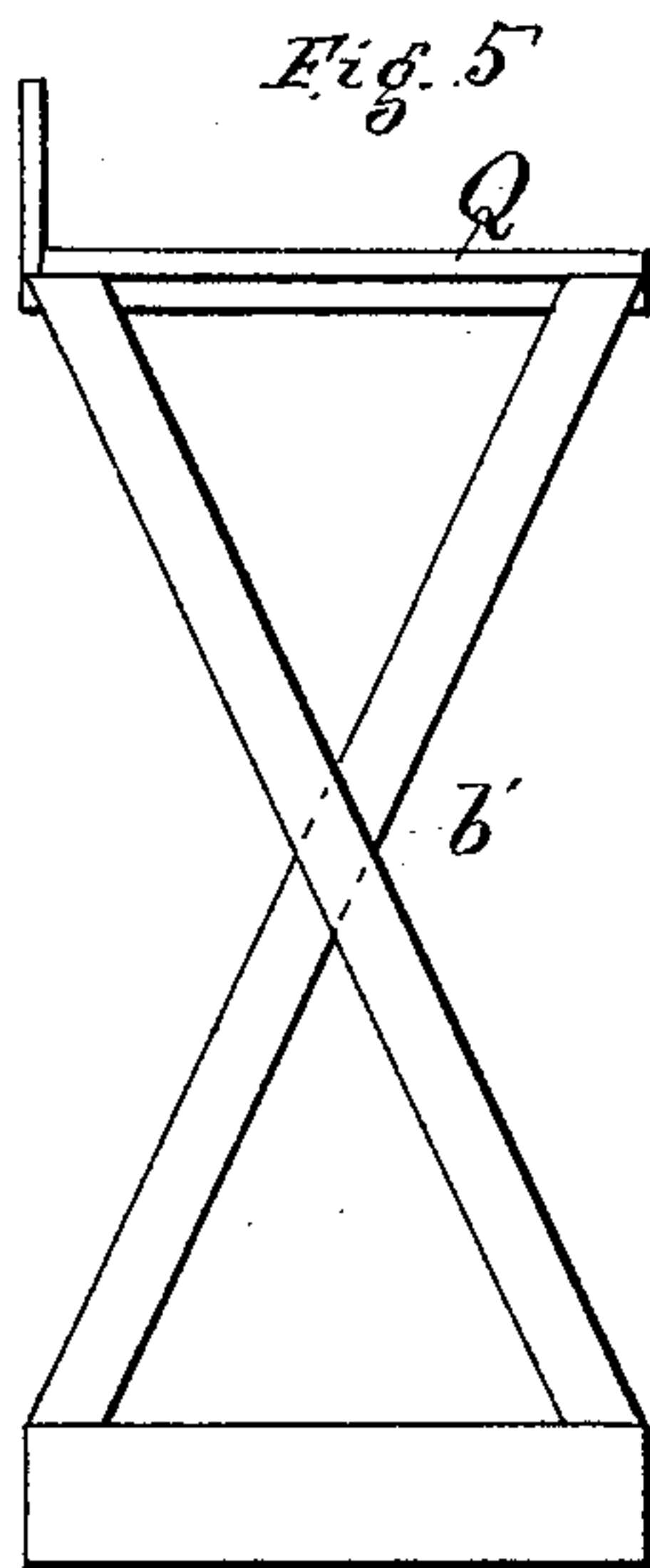
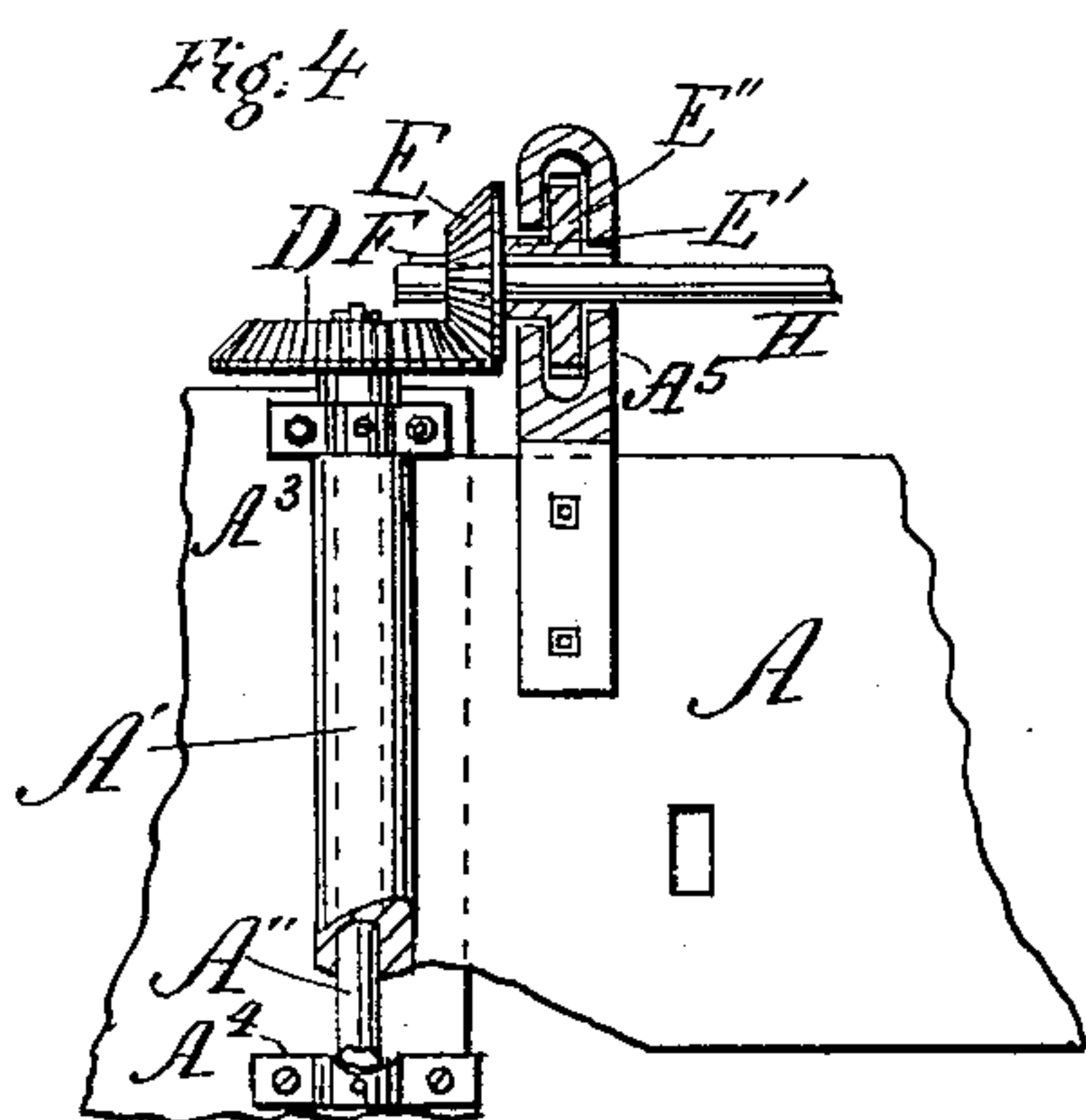
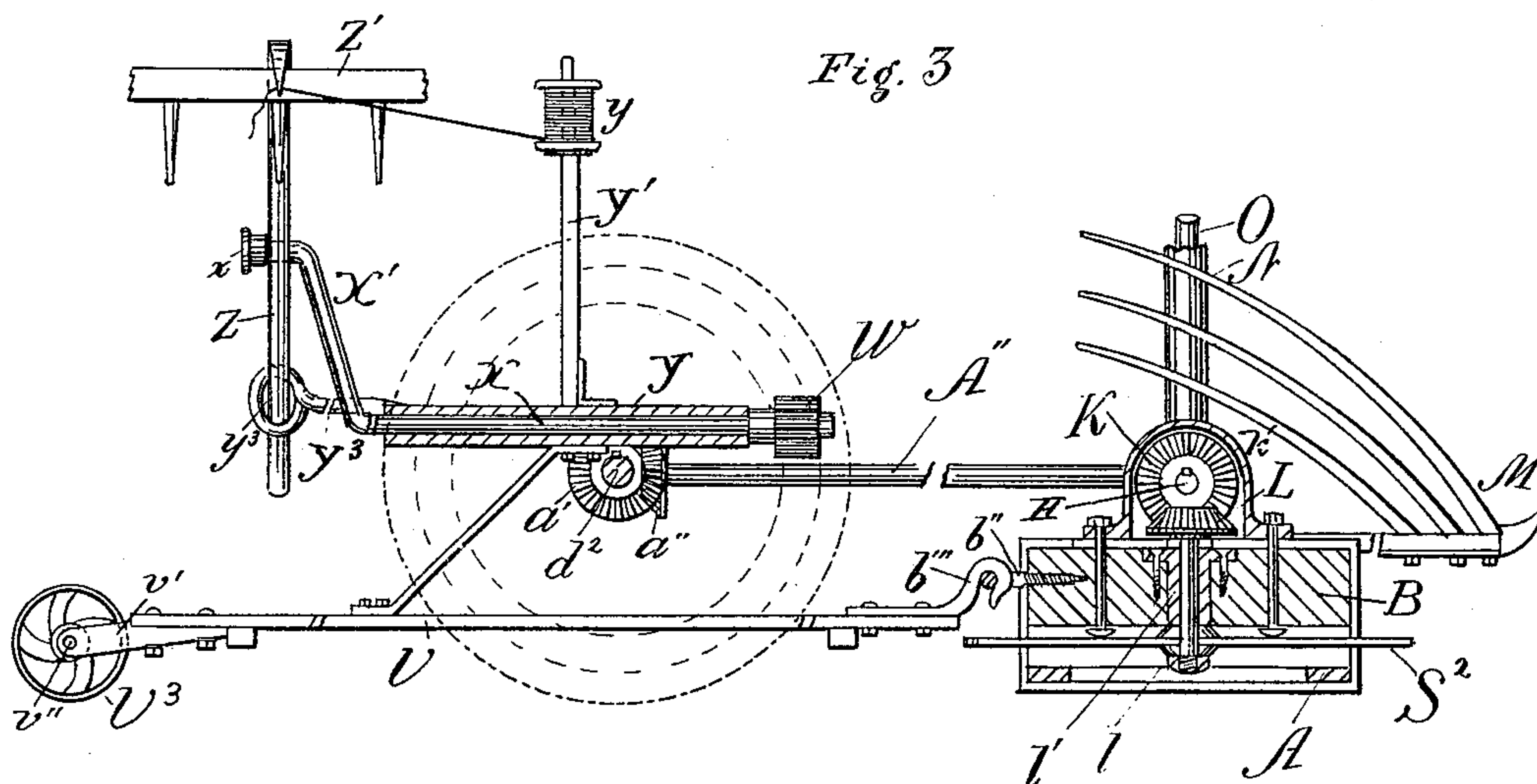
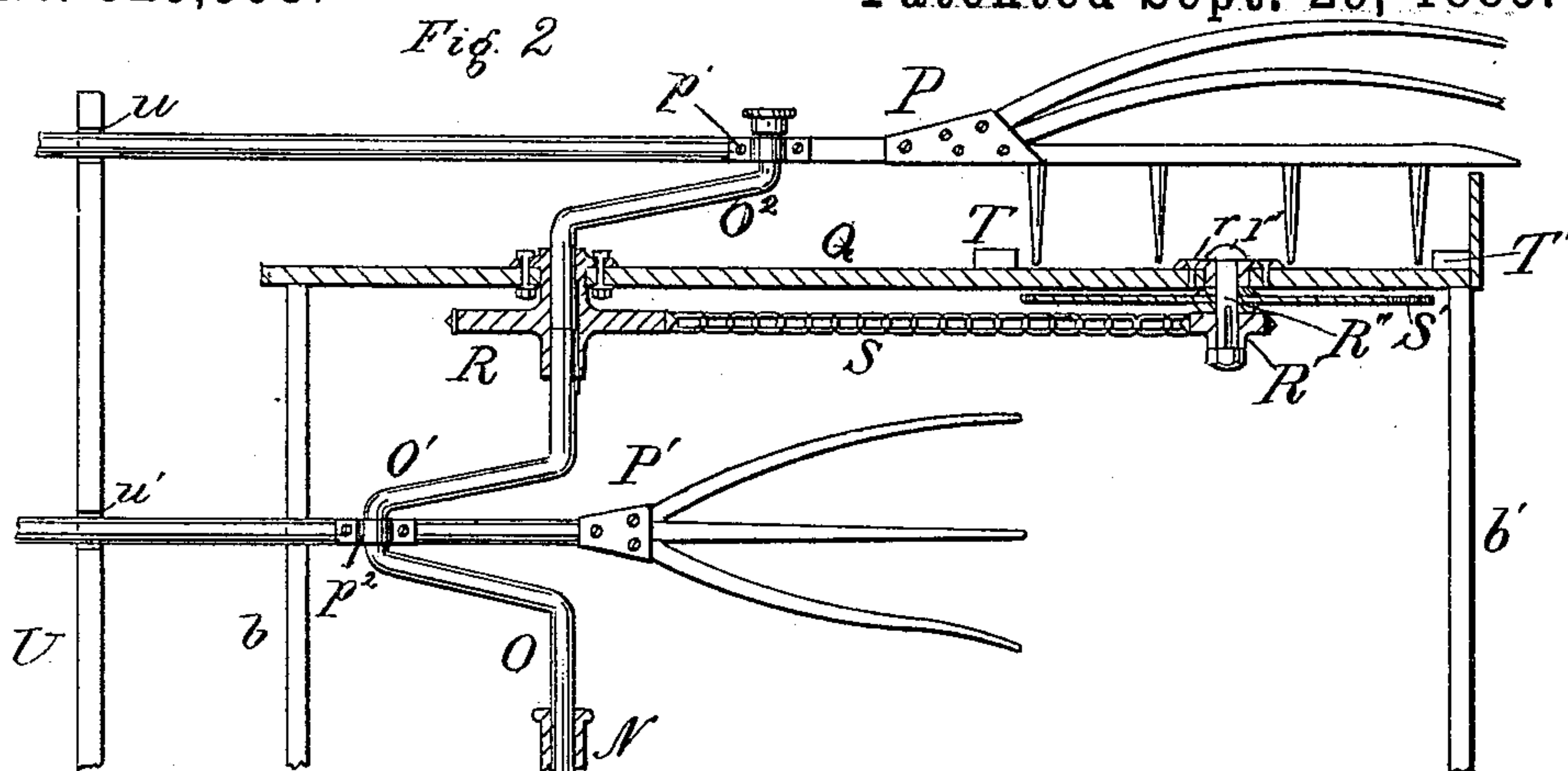
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2 Sheets—Sheet 2.

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WITNESSES

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# UNITED STATES PATENT OFFICE.

GEORGE H. KUNSMAN, OF SHAKOPEE, MINNESOTA.

## CORN-HARVESTER.

SPECIFICATION forming part of Letters Patent No. 326,993, dated September 29, 1885.

Application filed March 17, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE H. KUNSMAN, a citizen of the United States, and a resident of Shakopee, in the county of Scott and State of Minnesota, have invented certain new and useful Improvements in Corn-Harvesters, of which the following is a specification.

The invention relates, mainly, to attachments for a mowing-machine carriage for cutting cornstalks, sugar-cane, sorghum-cane, broom-corn, and the like; and the invention consists in novel features in the construction of the same, and in certain novel combinations thereof, as hereinafter described and claimed.

In the drawings, Figure 1 represents a rear perspective elevation of my machine. Fig. 2 represents in rear elevation and partly in vertical section the upper portion of the stalk-cutting mechanism. Fig. 3 is a side elevation, partly in section, on irregular lines, (not shown,) looking from the grain side of the machine. Fig. 4 is a detail plan view showing on an enlarged scale the relation of the parts by which motion is communicated from the axle of the machine to the stalk-cutting mechanism. Fig. 5 is a side elevation representing the supports, (shown at the right in Fig. 1,) portions of the upper table and the base or sliding supporting-plate being attached thereto.

In all the figures, as referred to in the following description, like letters designate like parts.

The bed or supporting-sill A, which constitutes the base of the stalk-cutting attachment, rests by its enlarged end or sleeve A' upon the main frame or bed-plate of the machine, and upon the bed A is supported the sliding adjustable base or plate B, which is secured to the bed by guides C, and is provided with thumb-screws or equivalent clamping appliances c.

Near the point of connection of the bar A with the main frame a vertical standard, U, which is provided with an upper perforation, u, and a lower perforation, u', is firmly secured upon the bar.

Upon the base-plate B are fixed, preferably detachably, supports b b and b' b', upon which rests a table, Q. The base-plate B is provided also with an intermediate standard, N, which is rigidly attached to the base by bolts or other suitable means, the broad base n of the stand-

ard being provided with suitable perforated ears, n', to receive the fastening devices. The standard N is chambered, as indicated in dotted lines, to receive a shaft, O, which carries two cranks, O' and O'', and terminates at its lower extremity in a bevel-pinion, J, while its cranks form bearings for an upper rake, P, and a lower rake, P', which at their opposite extremities are respectively loosely supported in the perforations u and u' of the standard U.

Upon the shaft O, at a point immediately below the upper table, Q, is fixed a sprocket-wheel, R, which is connected with another sprocket-wheel, R', by means of a chain, S. The wheel R' is fixed to the axle or short shaft R'', which at its upper extremity projects through a box or bearing which is fixed in the table Q, upon which it is supported, a securing-plate, r, which is attached to the top of the table, engaging the shoulder of a nut, r', which is applied to the upper extremity of the shaft.

Upon the short shaft R'' is fixed a circular saw or cutter, S', which is of such dimensions that a considerable portion of the same projects beyond the front edge of the table between the guide-arms T T', which are secured to the table, as shown.

At the outer end of the bar A is attached a wheel, a, which is made vertically adjustable in a well-known manner, affording means by which the elevation of the outer end of this bar or bed, together with the base-plate and the superposed mechanism, may be varied as the differing requirements of the work to be performed may demand.

At its point of connection with the main frame of the machine the bar or bed A terminates in a sleeve, A', through which, from end to end, extends a shaft, A'', which, as shown, is so much smaller than the space within the sleeve as to permit a free pivotal movement of the bar thereon. The shaft A'' is journaled at its ends in fixed bearings A<sup>3</sup> A<sup>4</sup>, which are attached to or are made integral with the bed-plate or frame of the machine, and at its rear end it is provided with a bevel-wheel, a'', which receives motion from a corresponding bevel-wheel, a', which is fixed upon the axle d<sup>2</sup> of the machine, while on its opposite extremity it is provided with a bevel-wheel,



D, which communicates motion to a loose bevel-wheel, E, which is secured by the spline F upon the horizontal shaft H, thus allowing the shaft to be moved in the direction of its length, as occasion may require.

An arm, A<sup>5</sup>, rigidly attached to the bed A and recessed, as best shown in Fig. 4, receives a flanged continuation, E'', of the hub E' of the loose wheel E, and serves to retain it in the proper relation to its co-operating parts.

The shaft H is provided with a bevel-wheel, I, which engages with the bevel-pinion J at the foot of the shaft O, and at its outer extremity it terminates in a bevel-wheel, K, which actuates the bevel-pinion L, which is fitted upon the upper extremity of the vertical shaft l, upon the lower extremity of which is fixed a circular butt saw or cutter, S<sup>2</sup>, a large segment of which projects beyond the front edge of the base-plate B, and between the guide-arms M M', which are suitably secured to such frame.

When it is desired to change the position of the base-plate B, the thumb-screws c are loosened, and the plate is moved in the direction required to bring the cutters into the proper relation to the rows which are to be harvested.

The short shaft or axle l of the bevel-wheel L extends downwardly through a box or bearing, l', secured in an orifice in the base-plate B, and to the lower end of the shaft the lower or butt saw or cutter is securely fixed by a key or other suitable means, the base-plate being in practice suitably recessed to receive the saw or cutter and its connections.

To a person skilled in the art to which this invention relates the operation of the apparatus will be apparent from the foregoing description.

The impelling force being the same as in other machines of this class, motion is communicated to the several parts of the stalk and top cutting mechanism by means of the shafts A'', H, and O, the chain S, the wheels R and R', and the bevel-wheels a'', D, E, I, J, K, and L. The rakes or arms P and P', moving in curved lines in a horizontal plane, operate, in conjunction with the guides T T' and M M', to gather the stalks or canes together, and to impel them toward the saws or cutters S' and S<sup>2</sup>, while the forward movement of the carriage tends further to throw them when cut upon the table V.

The table Q is attached at such an elevation that its saw S' will come in contact with the stalks or canes at a point below the lower extremity of the tops or heads of the same, which, as they are cut, fall, first upon this table, and then either upon the lower table or into any suitable receptacle arranged upon the base-plate B. This attachment, while adapted for "topping" Indian corn, is more especially intended for use in gathering the tops or "brush" of broom-corn. When it is

not desired to use this top-cutting apparatus, the table Q and the upper reel-rake, P, and their attachments or connections will be detached, and the lower cutter-rake and table will alone be used. The gathering arms or rakes may be secured to the cranks of the shaft O by loops p' and p<sup>2</sup>, as shown, by latches, or by any other well-known means which will insure their safe attachment and ready detachment.

A suitable guard or shield, K', covers the bevel-gearing K and L.

The hooks b''' are loosely engaged with eyes b'', which are secured to the table.

The table V may be provided with an independent wheel, V<sup>3</sup>, in addition to the wheel V<sup>2</sup>, which is common to that table and the table V'.

I do not herein claim the receiving-table and the raking and binding mechanism which operate in connection therewith; but I reserve the right to present a separate application for a patent therefor.

Having thus described my invention, what I claim is—

1. The combination, with the main frame of the machine, of a vertically-adjustable bed or supporting-sill which is attached to the carriage, a base-plate or carrier which is longitudinally adjustable upon the bed or supporting-sill, and a cutting mechanism which is attached to the base-plate or carrier.

2. The combination, with the main frame of the machine, of a bed or supporting-sill which is loosely connected to the carriage, a base-plate or carrier which is longitudinally adjustable upon the bed or supporting-sill, vertical supports upon the base-plate or carrier, a table which rests upon the vertical supports, and a cutting mechanism which is attached to the table.

3. The combination, with the main frame of the machine, of a bed or supporting-sill which is loosely connected to the carriage, a sliding base-plate or carrier which is mounted upon the bed or supporting-sill, a hollow standard mounted upon the carrier, and a vertical crank-shaft supported within the hollow standard.

4. The combination, with the main frame of the machine, of a bed or supporting-sill which is attached to the carriage, a standard fixed upon the bed or supporting-sill, a base-plate or carrier which is horizontally adjustable upon the bed or supporting-sill, a lower cutting mechanism which is directly connected to the base-plate or carrier, and an upper cutting mechanism which is supported by standards which rest upon the base-plate or carrier.

5. The combination, with the main frame of the machine, of a bed or supporting-sill which is connected to the carriage, a base-plate or carrier which is supported upon the bed or supporting-sill, a lower cutter which is connected to the base-plate or carrier, standards which are supported upon the base-plate



or carrier, a table which is supported upon the standards, an upper cutter which is connected to the table, and mechanism, substantially as described, whereby both cutters may  
5 be simultaneously operated.

6. The combination, with the main frame of the machine, of a laterally-projecting bed or supporting-sill, a longitudinally-adjustable base-plate or carrier which is supported upon  
10 the bed or supporting-sill, a horizontal shaft

attached to the base-plate or carrier and extending along the same, a loose bevel-wheel fitted upon the outer end of the shaft, and a spline fitted to the shaft and to the loose bevel-wheel.

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Witnesses:

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