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P. BRUNETT.

ASPARAGUS BUNCHER.

APPLICATION FILED APR. 3, 1902.

NO MODEL.

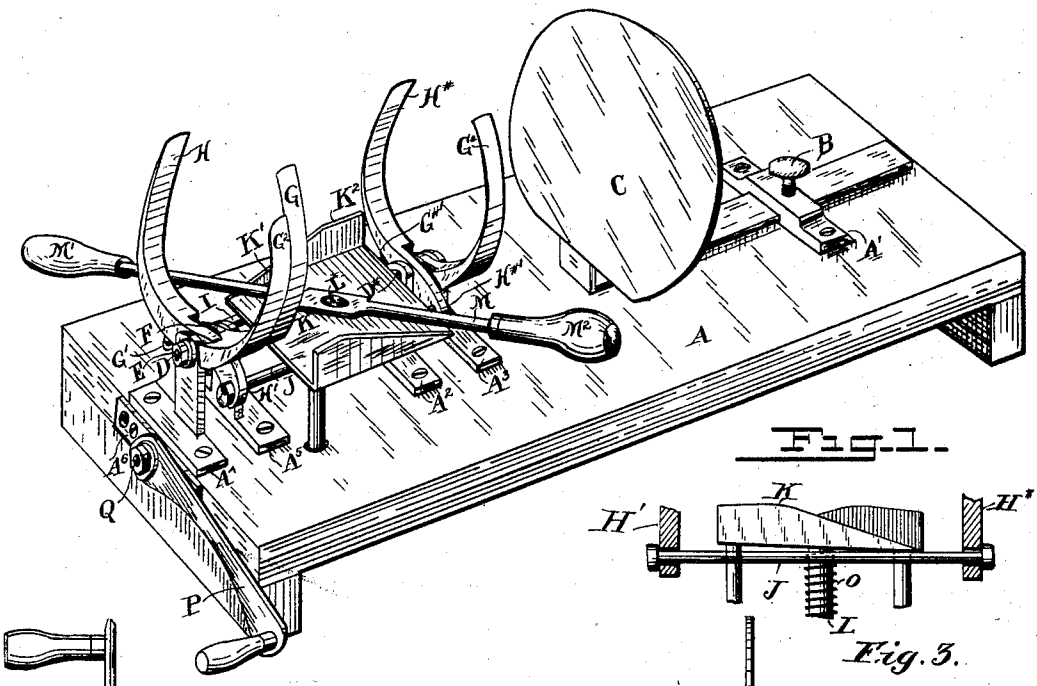


Fig. 1.

Fig. 3.

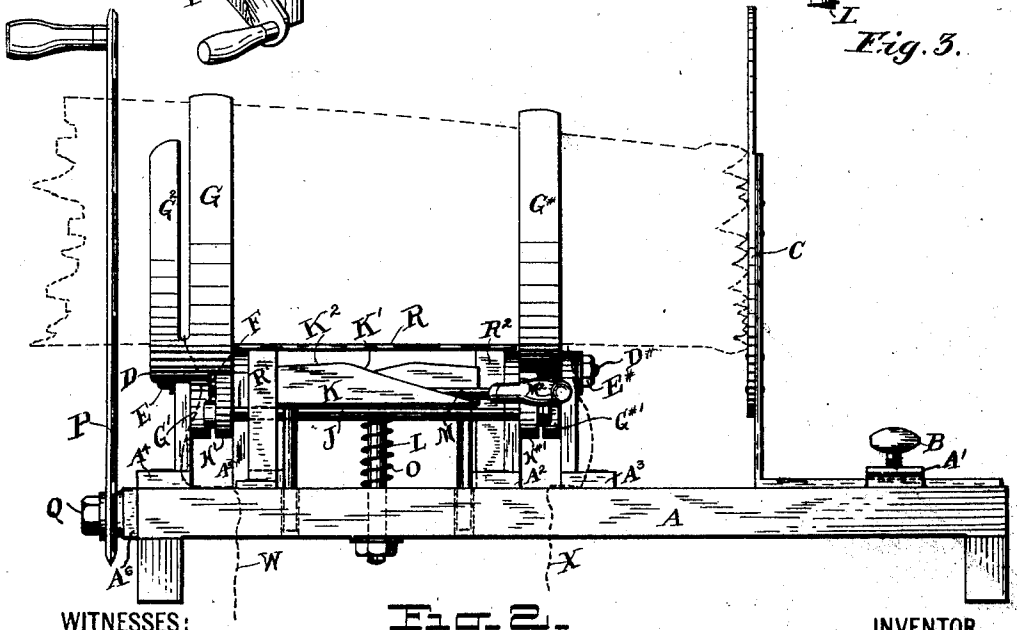


Fig. 2.

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PHILIP BRUNETT, OF CLARKSBORO, NEW JERSEY.

ASPARAGUS-BUNCHER.

SPECIFICATION forming part of Letters Patent No. 719,561, dated February 3, 1903.

Application filed April 3, 1902. Serial No. 101,242. (No model.)

To all whom it may concern:

Be it known that I, PHILIP BRUNETT, a citizen of the United States, residing at Clarksboro, in the county of Gloucester, in the State of New Jersey, have invented a certain new and useful Improvement in Asparagus-Bunchers, of which the following is a specification.

The importance has long been appreciated of having small and convenient machines with curved guides within which the stalks of asparagus may be laid in proper quantities, with provisions for gaging the position of the stalks endwise and for compressing the clamps together, and with facilities for tying the bundles and also for cutting the butt-ends of the stalks square and even. My machine attains all these ends and affords marked advantages over any before known to me.

I provide clamps directed upward and opening widely, so that the stalks may be easily laid in from above, and a spring for pulling them sharply open and a cam motion for effecting their closing, whereby the force applied may be increased as the bundles become compressed and the resistance is increased in any required degree, as shall be found most desirable in practice, and I provide a simple lever extending to the clamping and releasing motions by being turned alternately in opposite directions horizontally, which allows of being operated from either side or of being worked with both hands, if preferred.

There are two pairs of clamps with a loose connection between them, and the operating force is applied to the connections so that in case of irregularities in the relative sizes at the large and small ends the two pairs will accommodate themselves thereto and the strain will be divided.

The clamps G H will be made a little larger than the clamps G⅌ H⅌, enough to conform to the average difference in the size of the bunches at the two ends. When a bunch is more nearly equal at the ends or more widely different than the average, the rods I and J and shoe K and the lever M can rock, so as to apply the compressive force very nearly as desired.

In what I esteem the most complete form of the machine a knife is operated by a separate movement to squarely cut across and make the butts even, and I provide a moving support for the ends, which aids to hold them correctly in position during the cutting operation.

The following is a description of what I consider the best means of carrying out the invention.

The accompanying drawings form a part of this specification.

Figure 1 is a perspective view with the platform removed. Fig. 2 is a side elevation. Fig. 3 is a side elevation of a portion, partly in longitudinal section, showing the equalizing action when there is more or less than the usual inequality in the filling of the claws.

Similar letters of reference indicate corresponding parts in all the figures where they appear.

A is the foundation-board. A′ is a casting secured thereon. It is traversed by a pinching-screw B and holds the horizontal arm of an ordinary gage C sliding therein, which determines the positions of the tassel ends of the asparagus-stalks.

A^4 and A^5 are brackets screwed firmly on the board A at a little distance apart, and D is a screw-bolt inserted loosely through the bracket A^5 and tapped through the bracket A^4 and carrying on its end a jam-nut E.

G and H are curved clamps turning on the bolt D and of such thickness near the pivot that they, with the thin washer F between, loosely fill the space between these brackets. Cast in one with the clamp G is a shorter arm G^2, set nearly parallel therewith, but at a sufficient distance to allow the string to be received and operated. This arm is also set a little farther out from the center of the bunch. The edge of this arm G^2 presented toward the butts serves an important function in holding the stalks of asparagus firmly in position when the knife is drawn across to effect the cutting, as will be described farther on.

The clamps G and H turn on the bolt D, so that when their upper ends are together the space inclosed thereby is just sufficient for the thickest portion of the bunch of asparagus.

A^2 and A^3 are brackets similar to A^4 and A^5, set in reversed position and carrying a similar bolt D⁂, similarly held and similarly secured by a nut E⁂. This bolt D⁂ carries two clamps G⁂ and H⁂, corresponding to the clamps G and H, before described, but of smaller size, adapted to clamp the bunch where it is smaller.

The supernumeral "1" designates the lower extensions of each of the clamps G and G⁂. They are traversed by a bar I, which connects them with a little looseness to allow for irregularities in motion.

H′ and H⁂′ represent the lower ends of the clamps H and H⁂. They are similarly united by a bar J.

K is a horizontal plate, which I will term a "shoe," carried above I and J and capable of being moved vertically. It is pressed upward by a helical spring O. A cam-ridge is formed on each side, the upper surface of which is inclined in different and nicely-determined degrees at different points through a portion K′ and level or slightly inclined in the opposite direction for a portion K^2, the arrangement of these inclines and level portions being reversed on the two sides. This shoe is adapted on being forced down to depress both bars I and J, and consequently close both clamps.

L is a vertical bolt standing in the center line of the mechanism. This serves the important functions, one of guiding the shoe K, which receives it in a hole in its center as it rises and sinks in operating the clamps, another of supporting the spring O in its proper nearly-straight line to enable it to lift sufficiently on the shoe, and another the still more important duty of forming a pivot for a horizontally-turning lever M, which extends across the machine and is provided with handles M′ M^2 at the ends, respectively. Turning this lever into one position acts on the inclined tops of the cam-ridges to depress the shoe K and close both the clamps. Turning it into the opposite position—that shown in the figures—allows the shoe K to rise in obedience to the force of the spring O. When the short nearly-horizontal length K^2 at the upper portion of each ridge receives the lever, it holds it without any disposition to return, and thus, holding the asparagus compressed, allows the strings W and X to be tied by hand. After the tying the lever M is swung back to its original position, the spring O promptly lifts the shoe K and allows the clamps to open by their gravity, and the bunch of asparagus may be lifted out and fresh asparagus supplied and the operation repeated. My construction allows the clamps to open so widely that the bundle may, if preferred, be lifted out vertically. In most cases it will be preferred.

R is a light stationary platform, which may be plane; but I prefer it slightly curved, mounted between the clamps G H and G⁂ H⁂. It is supported partly by resting on the tops of the brackets A^2 and A^5. I provide also posts R′ and R^2, which extend down from opposite corners to the board A and are held to the board by screws. This platform prevents the machinery and the asparagus from contact with each other, and the posts perform the double function of holding the platform firmly in position and serving as stops to arrest the lever M when it has been swung sufficiently far to fully depress the shoe and close the clamps and be supported on the flat portions K^2 of the cam-ridges.

A^6 is a bracket fixed on the end of the base-board A and carrying, by a pivot-screw Q, a swinging knife P, which is preferably curved, as shown, and which works so close to the arm G^2, which is carried outward and inward with the clamp G, that when the clamps are opened a clear space is left for the reception of the asparagus and also that when the clamps are closed the asparagus is sufficiently supported by the arm G^2 against the action of the knife and a clean and smooth cut is made quite across the bunch.

I attach importance to the bars I and J, one loosely connecting the lower ends G′ and G⁂′ of the clamp-levers on one side and the other loosely connecting the lower ends H′ and H⁂′ of the clamp-levers on the other side, because when the taper of the bunch is greater or less than usual it serves as an evener to distribute the depressing action, giving more motion to the pair of clamps which offers the least resistance. The parts are also held in the clamped position by friction without the necessity of any special mechanism for holding and releasing.

Modifications may be made without departing from the principle or sacrificing the advantages of the invention. The extra wideness of the clamp G may be omitted, and the knife will serve satisfactorily; but I prefer to employ the wide clamp and cause the knife to cut close to the clamp, as shown.

Parts of the invention may be used with some success without others. The knife may be omitted, and the cutting may be done by other means after the bundle has been removed from the machine. It will of course be understood that in the use of the machine the gage C may be adjusted inward and outward to adapt it to various lengths of the vegetables. Considerable bundles of strings W and X may be in the positions represented, extending across the machine just outside of the clamps.

The position of the bunch of asparagus (indicated by dotted lines in Fig. 2) corresponds in all respects to the positions in the ordinary machines, with the addition that the stalks may be introduced and also the completed bunch may be removed by direct vertical motions.

Although I have throughout this paper termed this an "asparagus-buncher," my ex-

periments indicate that it, in common with many other machines so named, may be successfully used in bunching other materials.

I claim as my invention—

1. In an asparagus-buncher, two pairs of curved jaws extending upward, in combination with operating mechanism, adapted to give a wide opening, comprising the downwardly-extending arm and loosely-connecting provisions for impressing a downward force on the mid-length of these bars so as to make their looseness distribute the force approximately equal, substantially as herein specified.

2. A vegetable-buncher comprising two pairs of alined levers pivoted together and to a support, and formed with curved arms extending upwardly from the pivot and other arms extending downwardly from the pivot, rods I, J, connecting the lower arms of the corresponding levers of the pairs, means bearing on the said rods for forcing the rods downward and thus causing forcible compression of the vegetables held in the upper arms, and means for forcing the arms to their original position when the compressing means is released, substantially as set forth.

3. A vegetable-buncher comprising two pairs of alined levers pivoted together and to a support, and formed with curved arms extending upwardly from the pivot and with other arms extending downwardly from the pivot, rods I, J, connecting the lower arms of the corresponding levers of the pairs, in combination with operating mechanism acting camwise, adapted both to give a wide opening and also an action varying as required toward the end of the closing motion, and with a single spring O, all arranged for joint operation substantially as herein specified.

4. A vegetable-buncher comprising two pairs of alined levers pivoted together and to a support, and formed with curved arms extending upwardly from the pivot, and with other arms extending downwardly from the pivot, rods I, J, connecting the lower arms of the corresponding levers of the pairs, in combination with operating mechanism acting camwise to give a wide opening, and with the shoe K and the cam-ridges K' K^2 carried thereon and the two-armed horizontally-operating lever M operable from either side, all arranged for joint operation as herein specified.

5. A vegetable-buncher comprising two pairs of alined levers pivoted together and to a support, and formed with curved arms extending upwardly from the pivot, and with other arms extending downwardly from the pivot, rods I, J, connecting the lower arms of the corresponding levers of the pairs, operating means therefor, and an arm G^2 carried with one of the jaws arranged to form an additional movable support to hold the projecting ends of the butts to be cut, all combined and arranged to serve substantially as herein specified.

In testimony that I claim the invention above set forth I affix my signature in presence of two witnesses.

PHILIP BRUNETT.

Witnesses:
FRANKLIN FLITCRAFT,
HENRY K. SHOEMAKER.