

(No Model.)

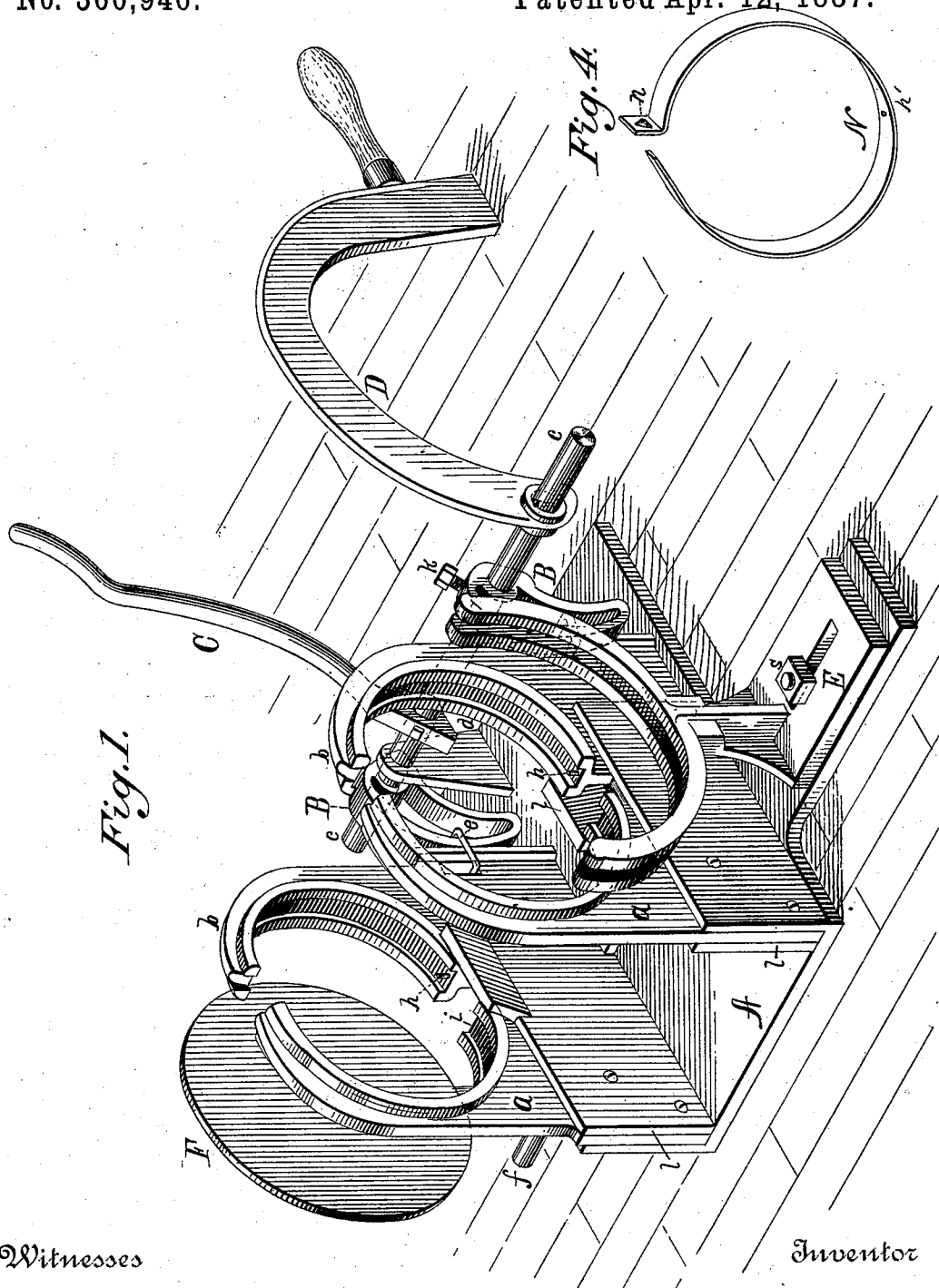
2 Sheets—Sheet 1.

E. BEEKMAN.

ASPARAGUS BUNCHING MACHINE.

No. 360,946.

Patented Apr. 12, 1887.



Witnesses

J. H. Schott
Edmund Wilson

Inventor

Edwin Beekman

By *his* Attorney

D. H. Applegate

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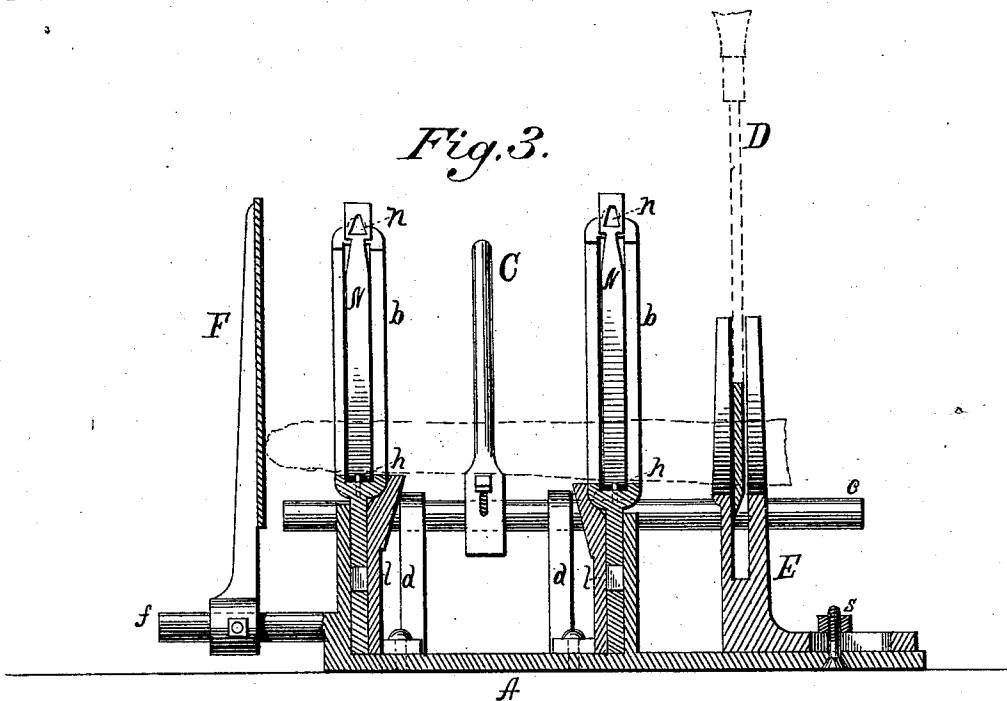
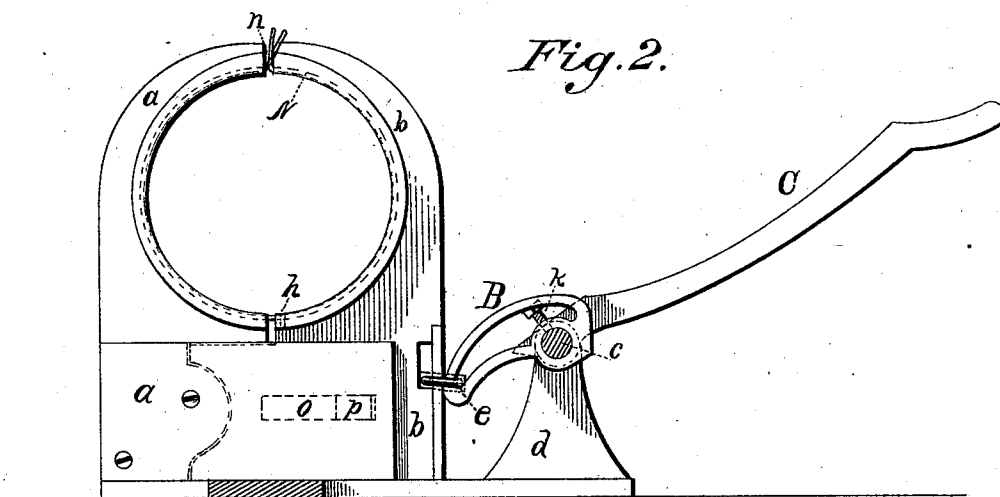
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UNITED STATES PATENT OFFICE.

EDWIN BEEKMAN, OF MIDDLETOWN, NEW JERSEY.

ASPARAGUS-BUNCHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 360,946, dated April 12, 1887.

Application filed January 28, 1887. Serial No. 235,757. (No model.)

To all whom it may concern:

Be it known that I, EDWIN BEEKMAN, a citizen of the United States, residing at Middletown, in the county of Monmouth and State of New Jersey, have invented a new and useful Asparagus-Bunching Machine, of which the following is a specification.

My invention relates to improvements in asparagus-bunching machines, whereby the machine becomes adaptable to the bunching of different sizes and qualities of asparagus without injury to the heads by using adjustable cams to actuate sliding jaws, so as to give an unequal motion and an unequal pressure on the jaws which shape the heads and butts of the asparagus-stalks, according to the requirements of different sizes and qualities of asparagus, and also to an automatic tying or binding device for asparagus-machines, and an improved device for cutting off the butts of the asparagus-stalks.

Referring to the drawings which illustrate my invention, Figure 1 shows the machine in perspective with the jaws open, ready for the reception of the asparagus-stalks. Fig. 2 is a side elevation of the jaws, cam, and arm or lever, showing the jaws closed and the tie-band fastened. Fig. 3 is a vertical section of Fig. 1 divided lengthwise between the jaws. Fig. 4 is a view of the tie-band.

Similar letters refer to similar parts throughout the several views.

A is a frame, arranged for the attachment thereto of the jaws *a a* and *b b*, the knife-guide E, and the sizing-plate F and the shaft *c*. *d d*, being supports for the shaft *c*, are parts of the frame A. The jaws *a a* are firmly attached to the frame A. The jaws *b b* are movable, and are kept in place by the upright sides of the frame A and the plates *l*. The jaws *b b* are slotted, (see Fig. 2, *o*,) and slide on a projection, *p*, of the plate *l*. The shaft *c* runs through the supports *d d*, and upon this shaft are fixed the adjustable cams B B, the arm or lever C, by which it is moved, and the cutting-knife D. The cams B B are connected with the jaws *b b* by the links *e e*, and may be so adjusted by the use of the set-screws *k k* that one of the jaws may move sooner or faster than the other, and also to allow a greater pressure to be put on one of the jaws than on the other. The

advantage of this arrangement will be plain to one accustomed to putting up asparagus—*i. e.*, where the grass is young or brittle it is necessary, in order to save the heads from being broken, that very little pressure should be put upon them, while the butts will stand a much greater pressure. I also propose, in making these machines, to have the butt-jaws interchangeable, so that when packing asparagus grown on young beds—which is unproportionably large at the butts as compared with grass grown on old beds—a larger pair of butt-jaws may be attached to the plate A, to be the same as above described, except in size.

The lever or arm C is securely attached to the shaft *c*, and the pushing of this up or down opens or closes the jaws *b b* by means of the cams.

The circular knife D is so constructed that in the operation of cutting the pressure on the knife is equivalent to a drawing movement of a knife-edge through the butts, thereby giving a clean cut. It is hinged on the shaft *c*, but works independently of it. The knife-guide E is provided with a slot, and is set to the frame A by the screw-bolt *s*, by means of which the length of the butts are regulated for cutting. The purpose of this guide is to regulate the length of the butts and to insure an even cutting of the same.

In order that the asparagus may be packed and cut to a uniform length throughout, the plate F is attached to the rod *f*, projecting from the frame A, by means of a set-screw, and against this plate the heads of the asparagus are placed while filling the jaws.

The binding device is as follows: On the inside of the jaws *a a* and *b b* are cut shallow grooves *i*, and at the lower termination of each of the jaws *b b* a pin, *h*, is inserted. The band N, Fig. 4, fits into these grooves, and is held in place in the jaws by the pin *h* passing through the hole *h'* in the band N. One end of the band N is turned up and a hole cut into the same to allow the other end of the band, which is tapered, to pass through it. The upper ends of the jaws are beveled corresponding to the width of the groove, so that when the bands are in place and the jaws are pressed together the tapered ends of the bands

run through the holes *n*, and as the jaws close the ends are brought to such an angle as to secure them. They may be further secured by pressing the ends flat against the bands. The bands are stamped out by a machine specially constructed for that purpose.

The operation of the machine is as follows: Referring to Fig. 1, the cams *B B*, the knife-guide *E*, and the plate *F* are first adjusted to the size and quality of the grass to be bunched. The bands *N* are slipped in the grooves of the jaws and over the pin *h*. The asparagus-stalks are then laid in the jaws with the heads against the plate *F* until the jaws are quite filled. The lever *C* is then forced back until the jaws come together. At the same time the bands are automatically fastened. The knife *D* is brought forward through the guide *E*, thereby cutting off the butts evenly. The lever *C* is then lifted up, opening the jaws and allowing the completed bunch to be taken out readily.

Having thus fully described the nature of my invention, what I claim herein as new, and desire to secure by Letters Patent, is—

1. In an asparagus-bunching machine, the combination of the supporting-frame *A*, the fixed jaws *a a*, the sliding jaws *b b*, the rod *f*, projecting from the frame, gage-plate *F*, adjustable on said rod and knife-guide *E*, with the shaft *c*, cams *B*, and knife *D*, carried by said shaft, substantially as set forth.

2. In an asparagus-bunching machine, the combination, with the frame *A*, fixed jaws *a a*, mounted thereon, and movable jaws *b b*, of the shaft *c*, mounted in bearings on the frame, the slotted cams *B B*, adjustable on such shaft, means for connecting said cams with the movable jaws, and means for cutting the bunch, substantially as set forth.

3. In an asparagus-bunching machine, the combination of the frame, bunching device mounted thereon, the adjustable gage-plate,

the adjustable slotted knife-guide, and the knife co-operating with such guide to sever the ends of the bunch, substantially as set forth.

4. In an asparagus-bunching machine, the combination of the frame, grooved jaws fixed thereon, the grooved sliding jaws provided with pins *h*, the tie-bands co-operating with the jaws, and means for operating the movable jaws, substantially as set forth.

5. In an asparagus-bunching machine, the combination of frame *A*, having end uprights, fixed jaws *a a*, and the plates *ll*, of the movable jaws working between the plates and end uprights, the shaft *c*, and adjustable cams *B B*, carried by the shaft and connected to the movable jaws, substantially as set forth.

6. In an asparagus-bunching machine, the combination of the frame and fixed jaws mounted thereon, the movable jaws, the shaft mounted in bearings on the frame, the adjustable cams carried by the shaft and connected with the movable jaws, the lever *C*, the curved knife *D*, and adjustable slotted knife-guide *E*, substantially as set forth.

7. In an asparagus-bunching machine, the fixed grooved jaws, in combination with the movable grooved jaws provided with means for holding the tie-bands in place, and mechanism for operating the movable jaws to compress the bunch, as set forth.

8. In an asparagus-bunching machine, the combination of the fixed grooved jaws and the movable grooved jaws provided with pins *h*, the spring-bands *N*, constructed as described, and means, as described, for operating the movable jaws to compress the bunch and close the bands around the same, substantially as set forth.

EDWIN BEEKMAN.

Witnesses:

CHARLES H. IVINS,
HARRY CROSSLEY.