(No Model.)

J. S. VAN MATER.

ASPARAGUS BUNDLER AND CUTTER.

No. 490,179. Patented Jan. 17, 1893.

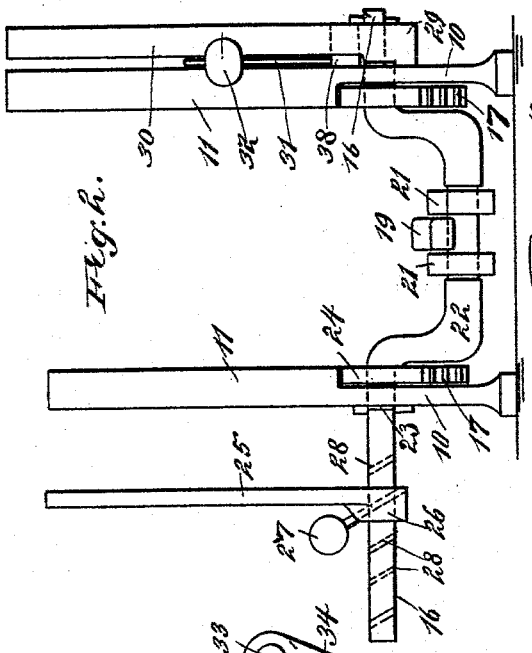

Fig. 2.

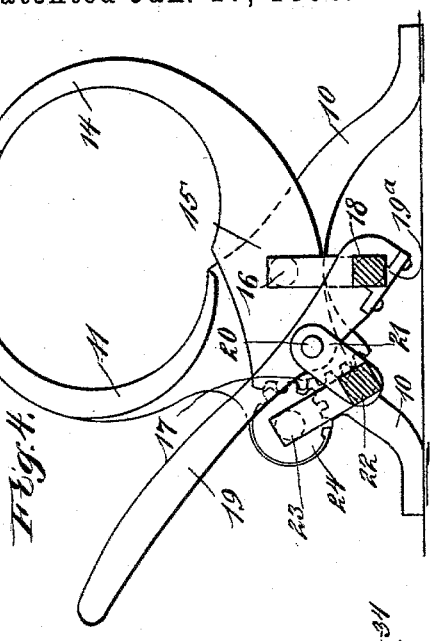

Fig. 4.

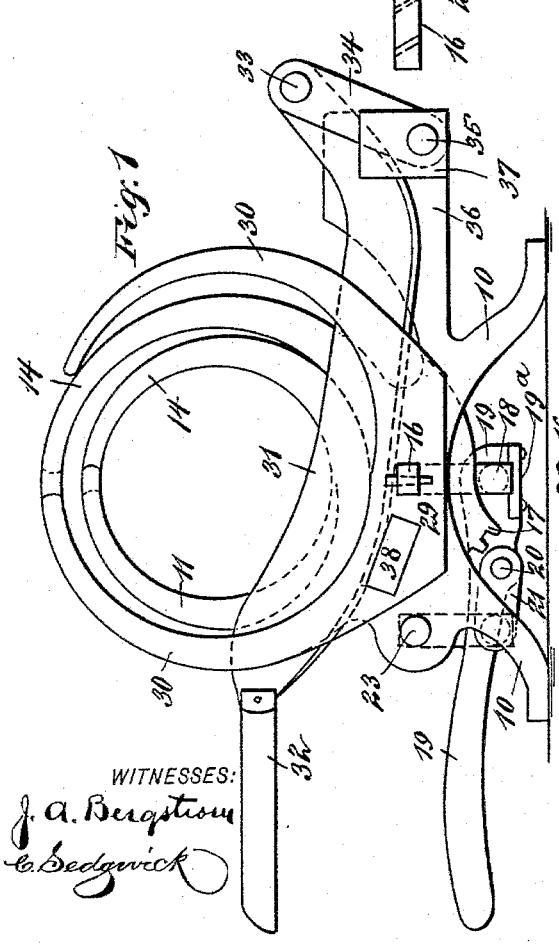

Fig. 1

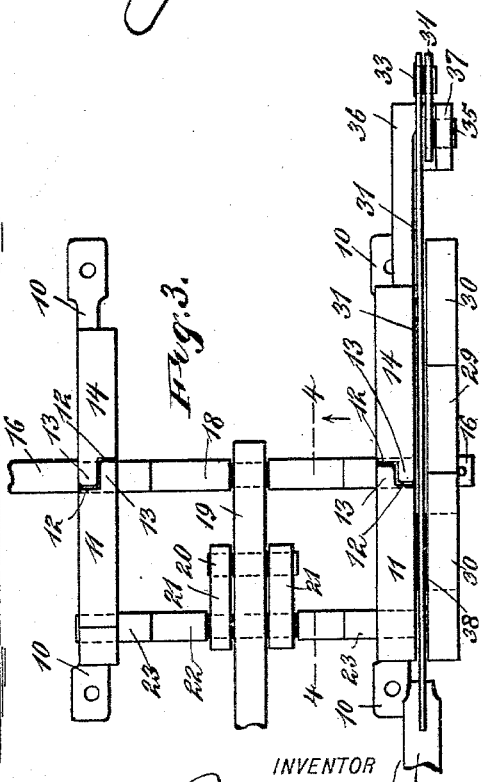

Fig. 3.

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ASPARAGUS BUNDLER AND CUTTER.

SPECIFICATION forming part of Letters Patent No. 490,179, dated January 17, 1893.

Application filed September 27, 1892. Serial No. 447,024. (No model.)

To all whom it may concern:

Be it known that I, JOHN S. VAN MATER, of Hazlet, in the county of Monmouth and State of New Jersey, have invented a new and Improved Asparagus Bundler and Cutter, of which the following is a full, clear, and exact description.

My invention relates to improvements in that class of machines which are used for bundling asparagus and cutting off the butt of the stalk.

The object of my invention is to produce a simple machine by means of which the asparagus may be quickly and nicely bundled and cut, and also to produce a machine which is durable and will not easily get out of repair, and further to provide a strong and easy movement for actuating the jaws of the machine.

To this end my invention consists in certain features of construction and combinations of parts, as will be hereinafter described and claimed.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is an end view of the machine embodying my invention; Fig. 2 is a side elevation of the same; Fig. 3 is a broken plan of the machine; and Fig. 4 is a cross section on the line 4—4 in Fig. 3.

The machine is provided with a suitable frame or rather with end frames having diverging supporting legs 10, and the end frames have upwardly extending curved jaws 11 which are formed integral with the frames, and the upper ends of which terminate at a point substantially above the center of the machine. The upper ends of the jaws 11 are recessed on one side, as shown at 12, so as to form forwardly extending tenons 13, and these recesses and tenons interlock with similar recesses and tenons on the upper ends of the movable jaws 14, which jaws are shaped like the jaws 11 and are widened at their lower ends 15 these widened ends being fulcrumed on a crank shaft 16 which extends longitudinally through the machine. The jaws 14 move independently of the shaft, however. The size of the jaws 11 and 14 is such that an ordinary commercial bunch of asparagus may be compressed between them, and the arms are somewhat smaller near the end of the machine which forms the top than at the other end, as shown in Fig. 1. The lower extremities of the arms 14 terminate in segmental racks 17 which engage actuating gears, as hereinafter described.

The crank shaft 16 has a middle crank 18 on which is pivoted the inner end of a bunching lever 19, the lever being recessed so as to fit upon a rounded portion of the shaft, as shown in Fig. 3, and a cap or box 19^a is secured to the under side of the lever, so as to hold it to the shaft. The crank shaft 16 is preferably of rectangular cross section except at the points where it is journaled and where it connects with the jaws 14.

The lever 19 extends laterally outward and is fulcrumed on a pin 20 which is held between arms 21, these being journaled on a second crank 22 of a shaft 23, which shaft is journaled in the end frames of the machine and is held in bearings parallel with those of the crank shaft 16. The shaft 23 is provided at the ends with mutilated gears 24 which engage the racks 17 on the lower ends of the jaws 14. It will thus be seen that by raising the lever 19, the jaws 14 will swing outward so as to permit the asparagus stalks to be placed between the jaws 11 and 14, and by turning the lever downward the jaws 14 will swing inward so as to compress the stalks between the two jaws.

It will be noticed that the manner of hanging and connecting the lever 19 provides for a quick and strong movement of the jaws, as there is a double lever motion. That is to say, when the lever 19 is pressed downward, the cranks 18 and 22 will swing in opposite directions and the lever 19, in connection with the arms 21, will act as a toggle and cause the shaft 23 to be turned quickly and with necessary power.

At one end of the machine is an abutment plate 25 which is held in a plane parallel with the jaws 11 and 14 and against which the tops of the asparagus stalks are placed. This plate thus acts as a gage to regulate the length of the bunch. The plate extends upward from the rear protruding end of the shaft 16 and has a

thickened boss 26 which slides upon the shaft, and the plate is held in a desired position by a pin 27 which extends diagonally downward through the boss and into one of a series of holes 28 which are produced diagonally in the shaft 16, as is best shown in Fig. 2. At the opposite end of the machine and outside of the jaws 11 and 14, is a guide plate 29, which is carried by the shaft 16 and has upwardly extending arms 30, sufficient space being left between the tops of these arms, as shown in Figs. 1 and 3, to permit the asparagus stalks to be easily inserted in the machine.

A swinging knife 31 is adapted to pass downward between the guide arms 30 and the jaws 11 and 14, as best shown in Fig. 3, this knife being for the purpose of cutting off the butts of the stalks. The knife has a curved blade which, at its free end, terminates in a handle 32 and the opposite end of the knife is bent upward and journaled on a stud 33 carried by a link or crank 34, and the latter is journaled on a stud 35 held between an arm 36 which projects from one side of the frame and a flange 37 which is produced on the arm, as shown in Fig. 3. The knife may thus be moved backward and forward and may also be swung vertically, and when the asparagus is being bunched, the knife is thrown over out of the way and after the bunch is formed, the knife is brought downward so as to cut off the butts.

A block 38 extends through the guide plate 29 and into the frame of the machine, this block being arranged beneath the jaws 14 and in the path of the knife 31, so as to serve as an abutment for the knife. When the machine is used, the asparagus stalks are placed between the open jaws 11 and 14 with the tops of the stalks abutting with the plate 25, and when enough stalks have been placed between the jaws to form a bunch, the lever 19 is depressed and the stalks are thus compressed between the jaws 14 and 11 in the manner already described, after which the bunch is tightened in the usual way, the knife 31 swung downward so as to sever the butts, and the bunch is then removed.

Having thus described my invention, I claim as new, and desire to secure by Letters Patent,—

1. An asparagus bundler and cutter, comprising oppositely arranged stationary and swinging curved jaws, the jaws being placed near opposite ends of the machine and the swinging jaws having their lower ends formed into racks, an oscillating crank shaft geared to the racks on the swinging jaws, and a lever for moving the crank shaft, substantially as described.

2. An asparagus bundler and cutter, having a suitable frame with curved fixed jaws produced thereon, swinging jaws fulcrumed on the frame and held to move opposite the fixed jaws, the swinging jaws having racks formed on their lower ends, a crank shaft extending longitudinally through the machine, a second crank shaft arranged parallel with the first shaft and carrying gears to mesh with the racks of the swinging jaws, and a lever journaled on the crank of the first shaft and connected by arms with the crank of the second shaft, substantially as described.

3. In an asparagus bundler and cutter, the combination with the frame and the bunching jaws, of a guide plate outside of the jaws and having upwardly extending and curved guide arms arranged parallel with the jaws at one end of the machine, a swinging knife held to move between the jaws and the guide arms, an abutment block for the edge of the knife, and a link connection between the pivoted end of the knife and the frame of the machine, substantially as described.

4. An asparagus bundler and cutter, comprising oppositely arranged stationary and swinging curved jaws, the jaws being near opposite ends of the machine, means for operating the swinging jaws, an adjustable abutment plate at one end of the machine, and a swinging knife at the other end of the machine, said knife working between a guide plate and the jaws, substantially as herein shown and described.

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