

G. L. LANGER.
FRUIT SEEDING MACHINE.
APPLICATION FILED MAR. 13, 1908.

991,791.

Patented May 9, 1911.

Fig. 2

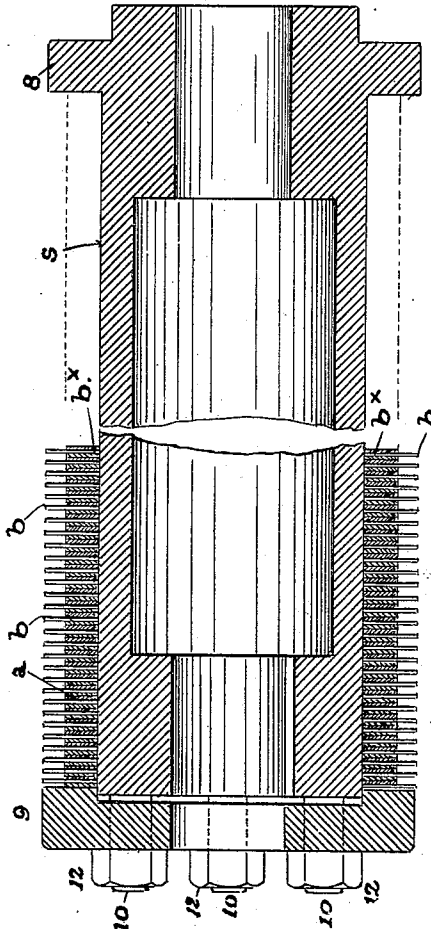


Fig. 1

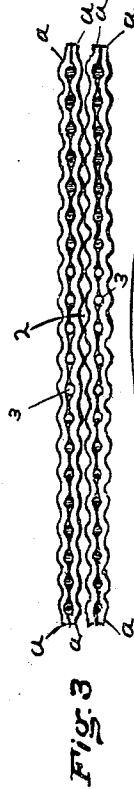
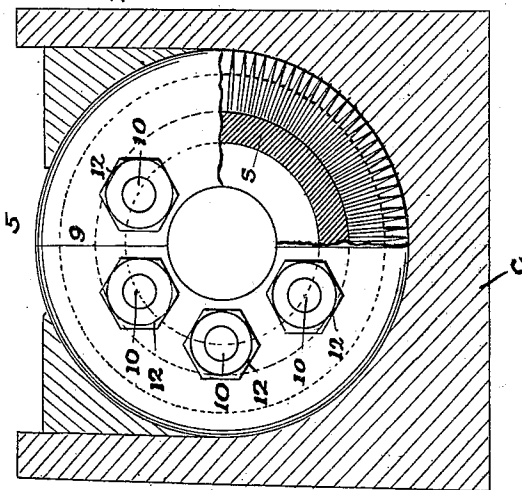
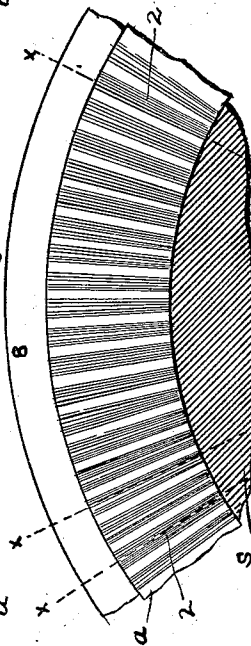


Fig. 4



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UNITED STATES PATENT OFFICE.

GOTTHOLD L. LANGER, OF SAN FRANCISCO, CALIFORNIA, ASSIGNOR TO UNITED STATES CONSOLIDATED SEEDED RAISIN COMPANY, A CORPORATION OF NEW YORK.

FRUIT-SEEDING MACHINE.

991,791.

Specification of Letters Patent.

Patented May 9, 1911.

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To all whom it may concern:

Be it known that I, GOTTHOLD L. LANGER, a citizen of the United States, and a resident of the city and county of San Francisco and State of California, have invented new and useful Improvements in Fruit-Seeding Machines, of which the following is a specification.

This invention relates to improvements made in that part of a fruit-seeding machine commonly known as the impaling-cylinder, and consisting of a rotatable-cylinder or roller provided with teeth on its periphery, against the points of which the fruit is pressed by a roller having an elastic or yielding surface.

The object of the present invention is to provide an impaling-surface of improved construction in which the teeth or points are insertible and removable separately; also to provide a construction of built-up cylinder in which the impaling-points or teeth being separately clamped or held rigidly in place, are individually removable, and any one or more of the impaling-teeth or points can be readily replaced by a new one in case of accident.

To these ends and objects, chiefly, my invention consists in clamping-plates of novel construction having radially set sockets for the pins or teeth, and means for drawing up and holding the plates rigidly together upon a core so as to form a cylinder, with the teeth projecting radially therefrom in rows in which the teeth will be properly spaced all around its circumference.

The invention consists further in a built-up impaling-cylinder of novel construction, composed of a core and a plurality of fluted or corrugated annular plates or rings, loosely placed thereon, and means for drawing up and holding the said plates in place upon the core, so as to grip and hold the teeth or impaling points between them, the said plates being so formed or constructed as to provide sockets for the impaling-teeth at the required distances apart to properly space the teeth both longitudinally and circumferentially of the cylinder, all as hereinafter explained and afterward pointed out in the claims at the end of this specification.

The accompanying drawing that forms part of this specification represents an im-

paling-cylinder embodying my said invention.

Figure 1 represents an end-view of the cylinder, with a portion shown in section. Fig. 2 is a longitudinal section. Fig. 3 is an edge-view, on an enlarged scale, of four clamping-rings, showing several teeth removed and others in place. Fig. 4 is a side-view of one of the rings, showing the fluting or corrugations.

As the novel features of the present invention relate to the impaling-cylinder of a fruit-seeding machine, I have not shown, and do not consider it necessary to describe the other parts and mechanism that go to form the complete machine. It will be understood, that the cylinder is formed and provided with proper journals, or gudgeons on the ends, to which power is applied in the usual manner by gears, belt-pulleys, or other mechanical means, to rotate the cylinder.

The impaling-cylinder—Figs. 1 and 2—is built up of a plurality of annular disks, or plates, *a, a*, placed together in close order concentrically upon a core or cylindrical body *s*, and formed each with spaced grooves or flutings 2 on radial lines *x—x* all around the circumference. The plates are so formed as to be used in pairs; the grooves or flutings in the face of one plate being placed directly in line with and opposite to those in the contiguous face of the other plate of the pair.

When the plates *a* are placed on the core *s* in pairs, as described, the pins *b* are inserted in the sockets 3; after which the plates are pressed closely together so as to clamp the ends *b^x* of the pins between them. It will be seen that the ends or portions, *b^x*, of the pins that are between the clamping plates *a* are of substantially uniform cross section throughout in order that they may be easily withdrawn from or placed between the plates by direct endwise movement, thus permitting the replacement of a broken pin without necessitating the wide separation of the plates, as is necessary in other forms of impaling cylinders for fruit seeding machines in which the shanks of the impaling pins are of irregular shape or adapted to interlock with correspondingly shaped grooves in the clamping plates or are provided with enlarged heads that set in seats provided therefor. In that operation the

pins *b* are set in position around the circumference, and the sockets in each circumferential row are filled before the plates are forced together to hold the pins firmly in place; and it become necessary, therefore, to hold the pins *b* in position as they are inserted one after another between the plates until all the rows are filled, before pressing the plates together; and for that purpose the plates of each pair are set in relatively loose or open position on the core so as to allow the pins to be readily inserted, and yet hold them in place while the core is turned on its axis to bring the empty sockets into position on the upper side of the core for inserting the pins. Or in another way the core may be temporarily placed in a shield or casing of approximately cylindrical form, and of sufficiently large diameter to touch the points of the pins and hold them in the sockets until the plates are drawn or pressed together on the core. Such a casing is indicated at *c* in Fig. 1, wherein it will be seen that as the pins *b* are set in the sockets as fast as the latter are brought in line with the opening 5 at the top of the casing, the points of the inserted pins will be prevented from dropping out of the sockets while the core is being turned on its axis in the operation of inserting the pins. In a like manner the casing is employed to hold the pins in place when the clamping-rings are loosened for the purpose of drawing out broken or damaged pins and of inserting new ones in their place.

A simple and effective means of pressing the clamping-rings together on the core *s* is illustrated in Figs. 1 and 2, in which the core is provided on one end with a fixed head 8, and on the opposite end with a removable head 9, which is secured in place by screw-studs 10, and nuts 12. The core *s* is made preferably hollow and open at the ends, so that it can be fixed on a shaft. But it will be obvious that the journal-portions formed on the heads or ends of the cylinder can be substituted for a shaft.

An impaling-cylinder of my invention, as thus constructed, has several advantages over those constructions wherein the impaling-surface of the cylinder is built-up or formed of a number of tooth-bearing elements in the form of metal plates or strips having teeth formed integral with the plate or strip; but more particularly with regard to the cost of repairs, and the loss of time involved in the substitution of new and perfect teeth for broken teeth, or damaged ones, for in case of injury to the teeth of a tooth-bearing plate or strip it becomes necessary to remove and discard an entire plate or strip, when only one or a few of the teeth on the strip may be damaged and required to be replaced.

In my present mode of forming and

building up an impaling-surface of individually detachable teeth, it will be seen that any tooth in the whole surface is accessible and can be removed and replaced by a new one without disturbing the remaining serviceable teeth and without throwing them away. The impaling teeth can also be adjusted from time to time as they become worn down, and their points can be set and maintained in the same working plane concentric with the axis simply by loosening the gripping plates and driving in or drawing out the pins in the sockets.

By employing sets of annular corrugated plates such as described, as means for securing in place the impaling pins, and supporting them loosely upon a core or cylinder, that is, so supporting them that they are freely movable both longitudinally of the supporting core and circumferentially about it, several advantages may be secured. By reference to Fig. 3 it will be seen that when the plates are arranged as there shown the impaling pins may be placed between each contiguous pair of plates, though the sockets or recesses for the pins between the two middle plates are, in this view, shown as being empty or unfilled. When all the sockets are filled the impaling pins in adjacent rows are in staggered relation to each other, which is a desirable arrangement for operating upon fruit of small size. In pitting fruit of larger size every alternate row of sockets may be left empty as indicated in Fig. 3 in which event each pair of clamping plates may be adjusted, as a pair, independent of the other so that the impaling pins may either stand behind each other as shown in Fig. 3 or in staggered relation, as may be found desirable. It will be evident from the drawing that by turning one of the pairs of plates slightly relative to the other, the projections of one plate will fit into the grooves of the adjacent one, in which event the pins will occupy a staggered relation with reference to each other, and the circumferential lines of pins will be closer together than in the arrangement shown. It thus is apparent that the clamping rings shown possess special advantages as elements entering into the construction of an impaling cylinder of a fruit seeding or pitting machine, permitting as described a considerable range of variation in the placing of the impaling pins, and that too by the use of duplicate parts.

What I claim and desire to secure by Letters Patent is:—

1. A cylinder for raisin seeders comprising a body, a series of washers supported upon said body and capable of longitudinal movement thereon, a plurality of individual pins positioned between said washers with their bases resting upon said body, the portions of said pins between the washers being

of uniform cross section, and a pressure device acting upon the washers to clamp the pins therebetween.

2. A cylinder for raisin seeders comprising a body, a series of radially corrugated washers supported upon said body and capable of longitudinal movement thereon, a plurality of individual pins of uniform cross section throughout seated in the radial sock-

ets formed by the corrugations of adjacent 10 washers with the lower ends thereof resting upon the body of the cylinder, and a pressure device acting on the washers to clamp the pins therebetween.

GOTTHOLD L. LANGER.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
