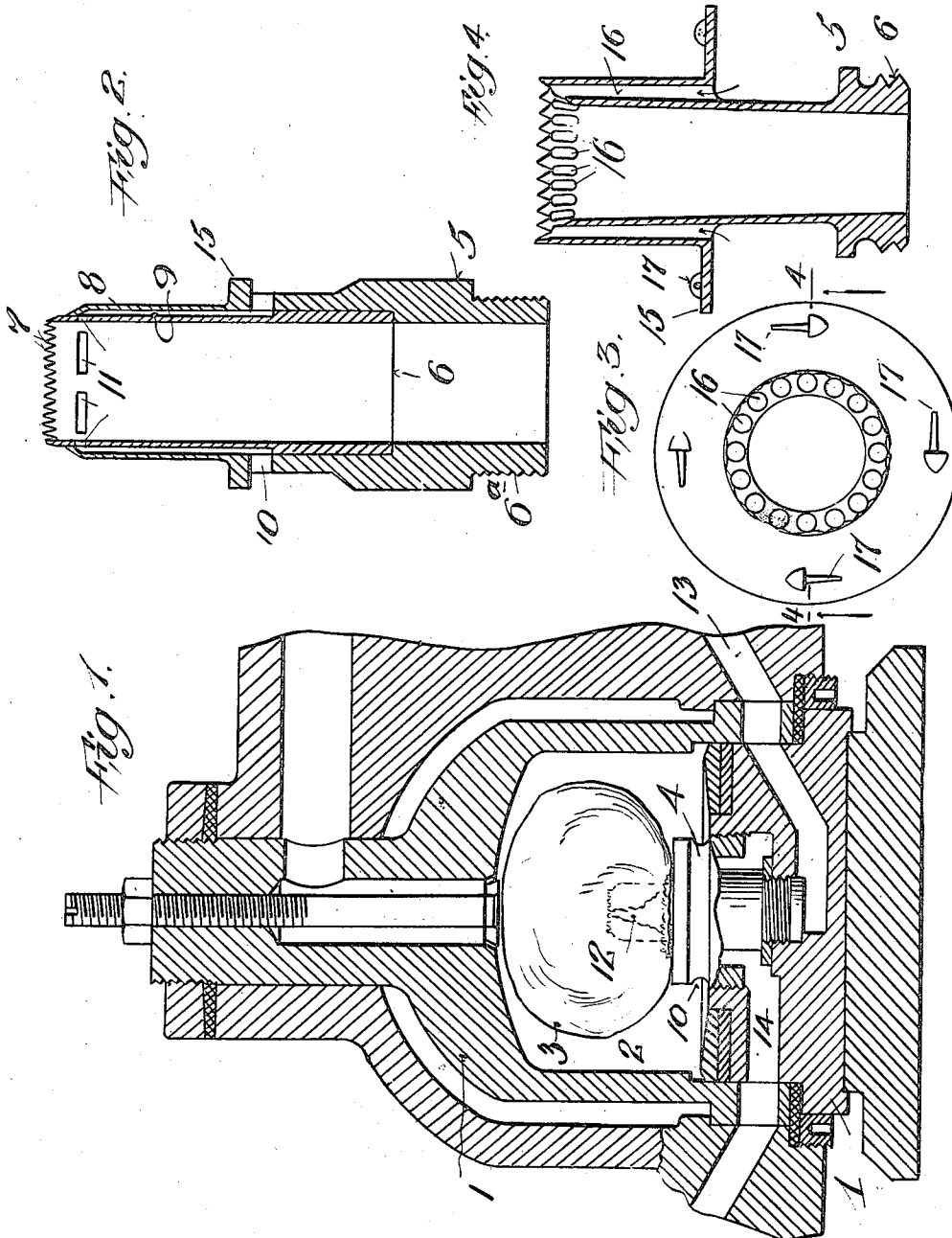


W. B. FENN.
 MEANS FOR AND METHOD OF REMOVING CORES FROM FRUITS.
 APPLICATION FILED MAR. 2, 1917.

1,282,402.

Patented Oct. 22, 1918.



Inventor
 William B. Fenn
 by his atty Samuel I. Dorch

UNITED STATES PATENT OFFICE.

WILLIAM B. FENN, OF NEW YORK, N. Y., ASSIGNOR TO MARGARET F. FENN, OF
NEW YORK, N. Y.

MEANS FOR AND METHOD OF REMOVING CORES FROM FRUITS.

1,282,402.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WILLIAM B. FENN, a citizen of the United States, residing at New York, in the county and State of New York, have made a certain new and useful Invention in Means for and Methods of Removing the Cores from Fruits, of which the following is a specification.

This invention relates to means for and method of removing the cores from fruits. The object of the invention is to provide a method of removing the cores from fruit, which is simple and efficient for the purposes required.

A further object of the invention is to provide a device which is simple in character, but efficient in operation, in connection with the method employed in accordance with my invention for the purpose herein-after set forth.

A further object of my invention is to provide a device of the character set forth which may be used in connection with means and the method of removing the core from fruits.

Further objects of the invention will appear more fully hereinafter.

The invention consists substantially in the method employed and in the construction, combination, location and relative arrangement of parts, all as will be more fully hereinafter set forth, as shown on the accompanying drawing, and finally pointed out in the appended claims.

Referring to the drawings—

Figure 1 is a sectional view of the apparatus employed in accordance with my invention, showing a corer embodying my invention as employed in connection with means for removing the skin from fruit.

Fig. 2 is a sectional view of the detail of construction of the corer.

Fig. 3 is a top plan view of a modified structure of corer embodying my invention.

Fig. 4 is a sectional view of the same taken on the line 4—4 Fig. 3 and looking in the direction of the arrow.

The same part is designated by the same reference numerals wherever it occurs throughout the several views.

It is among the special purposes of my present invention to provide a method and means to be used in connection therewith, for removing the cores from fruit, for example, apples, tomatoes, or the like, for any

use required thereof, with the cores removed, such, for instance, as for canning, or similar processes, which requires the cores of the fruit to be removed prior to the usual processes to which the fruit is ordinarily subjected.

While I have shown and will describe in connection with Fig. 1 of the drawing, the present invention, as applied in connection with means for removing the skin from the fruit, as being one of the steps taken in the process of preparing the same for canning, I wish it to be understood that my invention is not to be limited in this respect as the same may be readily applied in any connection regardless of the use to which the fruit is to be put, whether for canning, or for use immediately after the core has been removed. Further, while I have shown and will presently describe my invention as applied to a tomato, I wish it to be understood that the use of the tomato is merely for illustrative purposes and my invention can be used in connection with any fruit containing a core.

In accordance with my invention, I impinge the tomato upon a hollow circular member, which member is of sufficient height and width to completely inclose therein the core of the tomato. The member referred to is provided with a sleeve member through which fluid pressure of desired strength or material is passed. This fluid pressure passes inwardly from the sleeve and in effect cuts the core of the tomato from the rest of the tomato body and the core is thereupon removed in any desired manner.

Referring to Fig. 1, I show an inclosed chamber which is diagrammatic of the means employed for removing the skin from the tomato, as shown and described in detail in my Letters Patent No. 1,243,724, issued to me October 23, 1917.

As the details of construction thereof form no part of the present invention, I will merely describe the same generally as a casing 1, which forms a chamber 2 therein, in which chamber the fruit, which in this instance is shown to be a tomato 3, is supported in the chamber by the corer indicated generally at 4. The corer consists of a portion 5 provided with screw threads 6 at the end thereof to screw into casing 1 as shown in Fig. 1. The portion 5 is prefer-

ably circular and is provided with a circular central opening extending through the longitudinal length thereof, within the other end of which is inserted a sleeve member 6, which is likewise provided with a central opening therethrough, the two central openings of the members 5 and 6 being in alinement with each other as shown in Fig. 2. The end of the member 6 is provided with teeth 7 which are preferably sharpened to allow the tomato to be more readily impinged thereon. The central opening of the member 5 at its upper end is of larger diameter than at its lower end, and wall 8 thereof is secured to the member 6 in any suitable way, for example by welding, brazing soldering or the like. In effect, this forms a circumferentially extended passage 9 around the upper end of the member 6, which passage is in communication with the source of fluid pressure through port 10, extending through the side wall of the member 5. The fluid pressure enters through the port 10, circulates around passage 9 and passes horizontally through the member 6, through ports 11, of any desired number spaced circumferentially around the member 6 as shown.

The fluid pressure employed may be of any desired nature or strength as hereinbefore stated, suitable for the purpose, that is, which is not injurious to the fruit being cored. As set forth in my co-pending application above identified, I find steam to be one example of efficient character of fluid pressure for this purpose. When the present device for coring the tomato is used in connection with the chamber in which the tomato is inclosed while being subjected to the process of removing the skin therefrom, it will be seen that the core 12 of the tomato is completely inclosed within the central opening of the member 6, which opening, communicating through the central opening of the member 5, is in communication with the exhaust port 13 of the casing 1. The fluid pressure, in this instance steam, is admitted to the chamber 2 in any suitable way, as described in my co-pending application above identified and into port 10 of the member 5, so that the steam passes through the passage 9 and jets horizontally across the portion of the tomato inclosed by the member 6, through ports 11. This cuts off the core 12 so that when the passage 13 is opened to exhaust the core of the tomato which has thus been severed from the body the tomato is forced out by the steam pressure through this passage.

It is obvious that different size corers may be employed for different size fruit or for different size cores of the various fruits, so, as is readily apparent, any suitable means may be employed for controlling the distance into the fruit the member 6 extends.

By this I mean in some fruits, such as apples, the core extends substantially through the entire apple in which case the corer would extend substantially the same distance, whereas in tomatoes, as shown, the core only extends a short distance into the body of the tomato, in which case the corer likewise extends but a short distance. This adjustment of the corer may be readily secured, where different size corers are not utilized, by placing washers or the like on the seat 15, formed on the member 5, in any desired sizes or numbers, which washers will limit the degree of penetration of the corer into the fruit, and will at the same time afford a seat for the fruit or vegetable thereon.

Many modifications of my invention will readily occur to those skilled in the art, without departing from the spirit or scope of my invention as defined in the claims. For example, in Figs. 3 and 4, I show a modified construction of corer, wherein the same is made in one piece. In this instance, the member 5, at its upper end has a comparatively thicker wall than the lower portion thereof and a plurality of vertical extending passages 16 are bored therethrough as shown for the passage of the fluid pressure.

If desired the seat 15 may be provided with pins 17 to prevent the fruit from turning on the seat or from blowing off when subjected to the fluid pressure, as will be readily understood.

Having now set forth the objects and nature of my invention and having shown and described specific structures embodying the device thereof, what I claim as new and useful and of my own invention and desire to secure by Letters Patent is:

1. The method of removing the core from fruit, which consists in vertically severing the core from the body and then horizontally severing the end of the core from the body by the application of fluid pressure thereto.

2. The method of removing the core from fruit, which consists in vertically severing the core from the body and then passing fluid pressure through the vertical opening formed thereby and directing the fluid pressure in all directions, horizontally across the end of the core to sever the same from the body.

3. The method of removing the core from fruit, which consists in vertically severing the core from the body and then horizontally severing the end of the core from the body by the application of fluid pressure thereto, and finally forcing said severed core out of the fruit.

4. The method of removing the core from fruit, which consists in vertically severing the core from the body and then passing fluid pressure through the vertical opening

formed thereby and directing the fluid pressure in all directions, horizontally across the end of the core to sever the same from the body, and finally forcing said severed

5 core out of the fruit.

5. The method of removing the core from the fruit which consists in vertically severing the core from the body and then horizontally severing the end of the core from

10 the body by the application of fluid pressure thereto, and finally forcing said severed core out of the fruit, by the fluid pressure utilized in severing the core from the body.

6. The method of removing the core from

15 fruit, which consists in vertically severing the core from the body, and then passing fluid pressure through the vertical opening formed thereby and directing the fluid pressure in all directions, horizontally across the

20 end of the core to sever the same from the body, and finally forcing said severed core out of the fruit, by the fluid pressure utilized in severing the core from the body.

7. The method of removing the core from

25 fruit, which consists in severing the core from the sides of the fruit, and cutting the core from the heart of the fruit, by application thereto of steam.

8. The method of removing the core from

30 fruit, which consists in severing the core from the sides of the fruit, and cutting the core from the heart of the fruit, by application thereto of steam under pressure.

9. The method of removing the core from

35 fruit, which consists in severing the core from the sides of the fruit, inclosing the severed core in a tube, and jetting steam centrally in all directions from the end of

40 said tube to sever said core from the heart of the fruit.

10. The method of removing the core from

45 fruit, which consists in severing the core from the sides of the fruit, inclosing the severed core in a tube, and jetting steam centrally in all directions from the end of

50 said tube to sever said core from the heart of the fruit, and finally forcing said severed core through said tube.

11. Means for removing the core from

55 fruit, which consists in a circular tube, adapted to be projected into the fruit, to thereby surround the core thereof, and provided with a longitudinally extended passage in the wall thereof, said passage being

tube extending into the central hollow portion thereof.

12. Means for removing the core from fruit, which consists in a circular tube, adapted to be projected into the fruit, to

60 thereby surround the core thereof, and provided with a longitudinally extended passage in the wall thereof, said passage being provided with openings at the end of the tube extending into the central hollow portion thereof, and means for supplying fluid

65 pressure to said passage.

13. The combination with a hollow shell provided with a hollow sleeve thereabout a port communicating with the passage

70 formed by said sleeve and a port extending through said shell communicating with said passage.

14. The combination with a hollow shell provided with a hollow sleeve thereabout a

75 port communicating with the passage formed by said sleeve and a plurality of ports extending through said shell and communicating with said passage.

15. The combination with a hollow shell provided with a hollow sleeve thereabout a

80 port communicating with the passage formed by said sleeve and a plurality of ports extending through said shell and communicating with said passage, said port being

85 positioned to change the direction of flow of fluid pressure passing therethrough to right angles relative to the flow of fluid pressure through said passage.

16. The combination with a hollow shell provided with a hollow sleeve thereabout a

90 port communicating with the passage formed by said sleeve and a plurality of ports extending through said shell and communicating with said passage, said port being

95 positioned to change the direction of flow of fluid pressure passing therethrough to right angles relative to the flow of fluid pressure through said passage.

17. In a corer, the combination with a

100 hollow member adapted to have a fruit impinged thereon to thereby surround the core thereof, of means for passing fluid pressure along the side wall of said member to the

end of said corer within the fruit.

105 In testimony whereof I have hereunto set my hand this 27th day of February A. D. 1917.

WILLIAM B. FENN.