

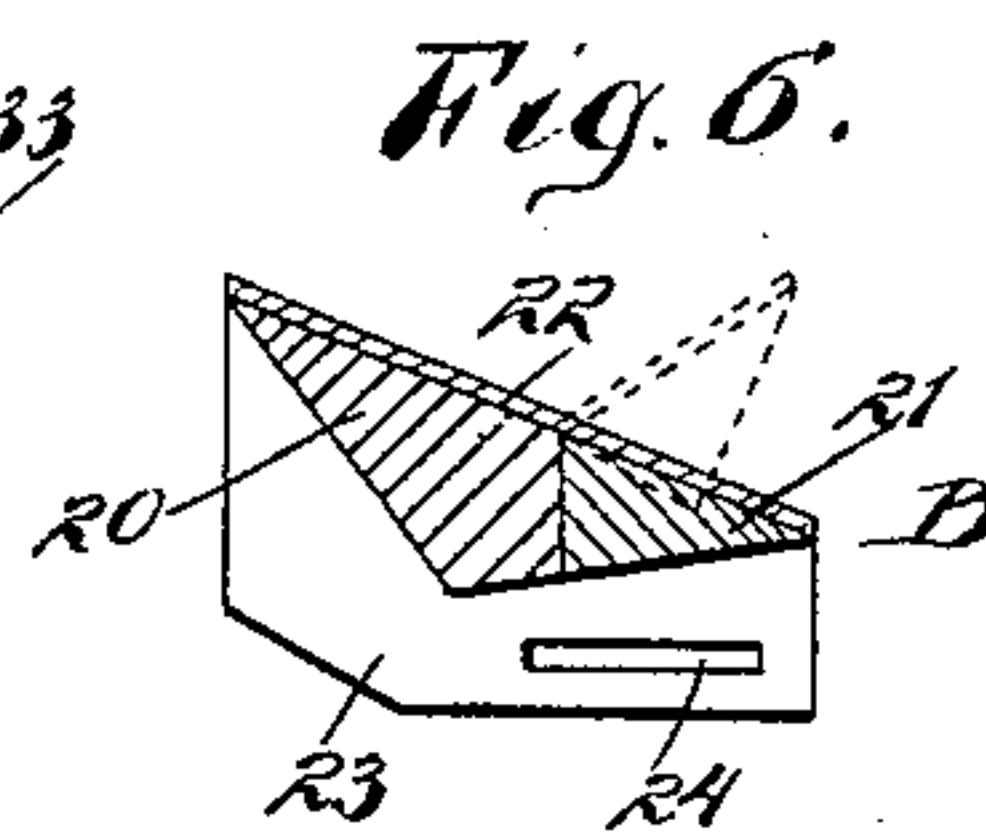
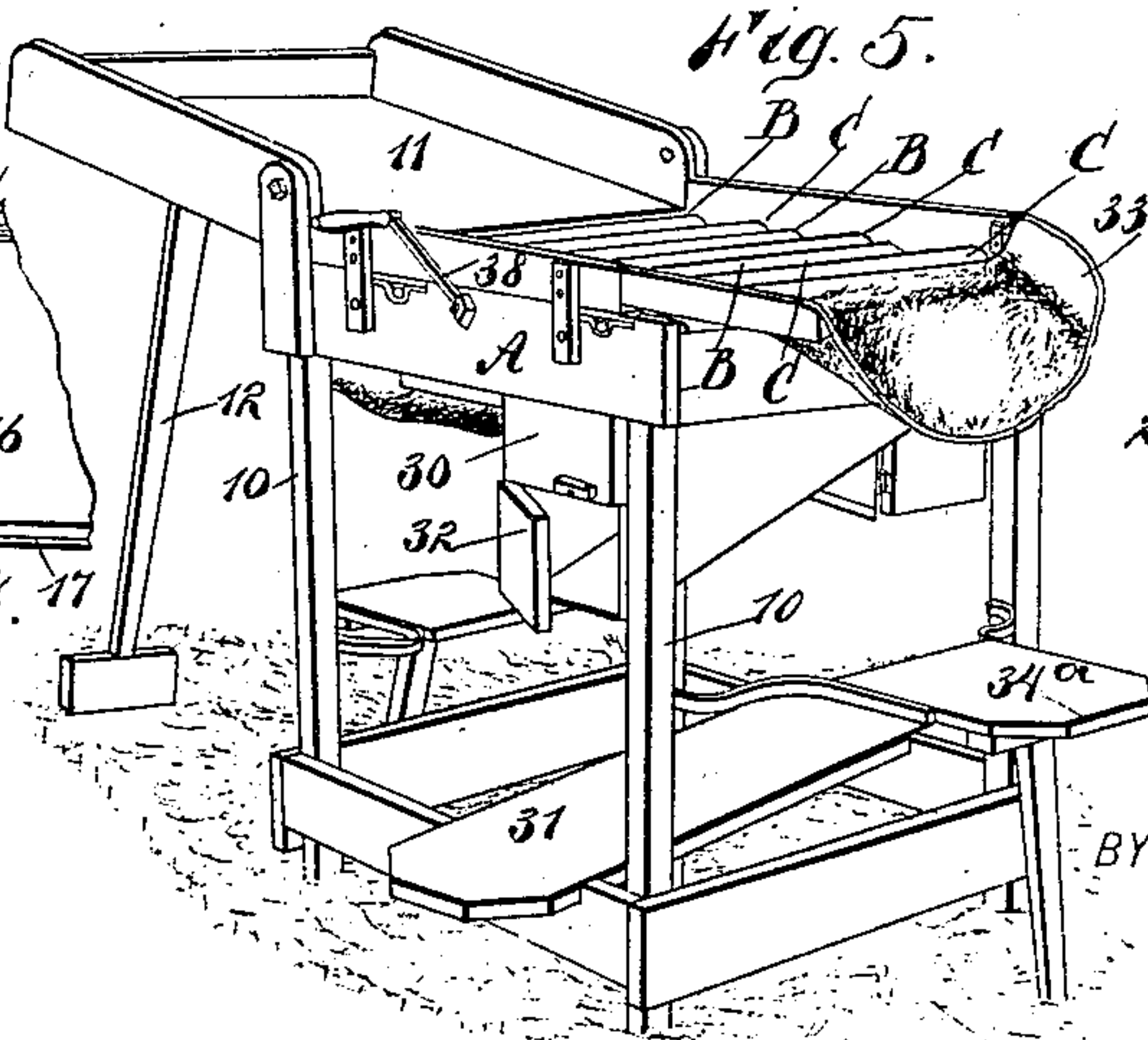
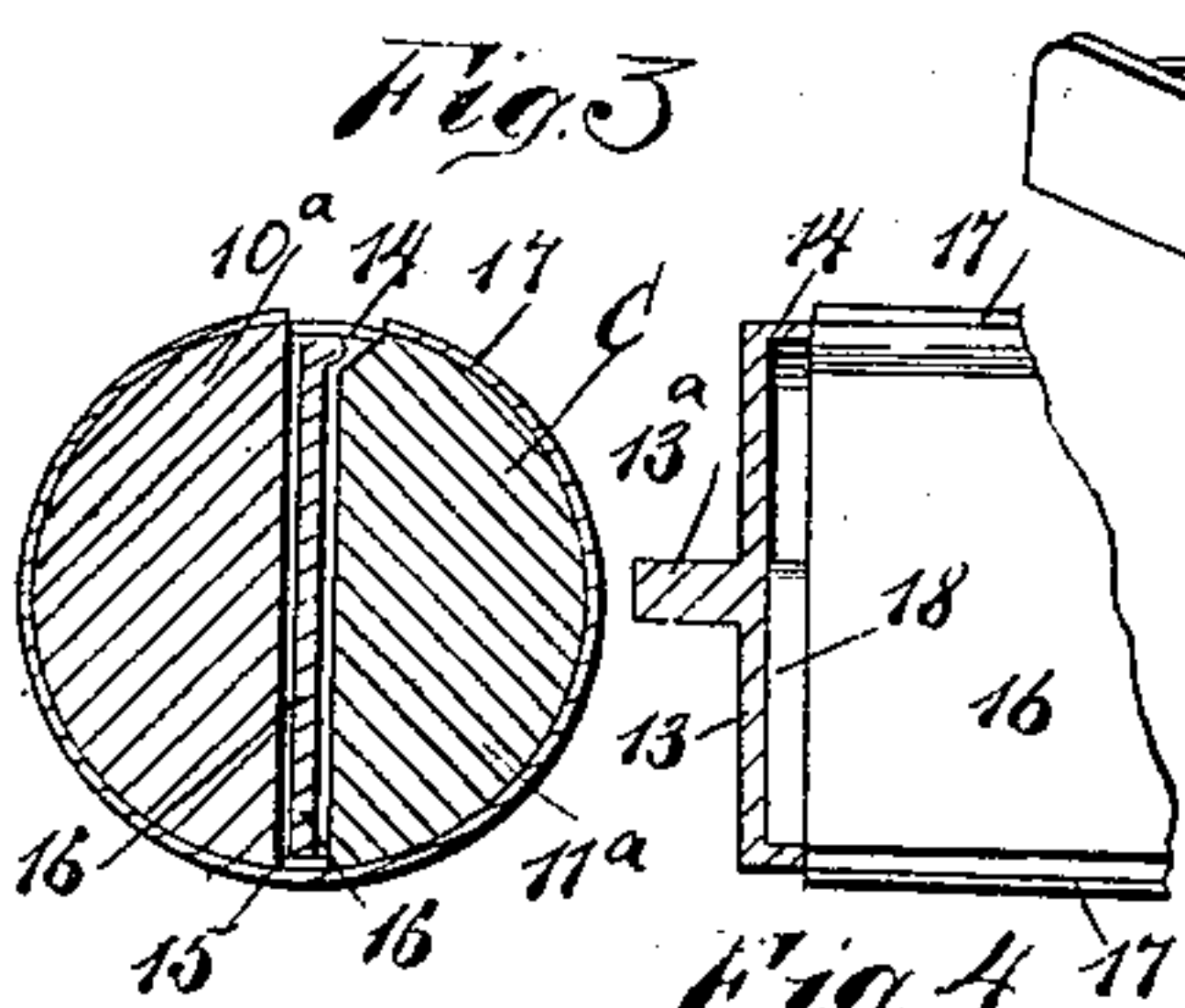
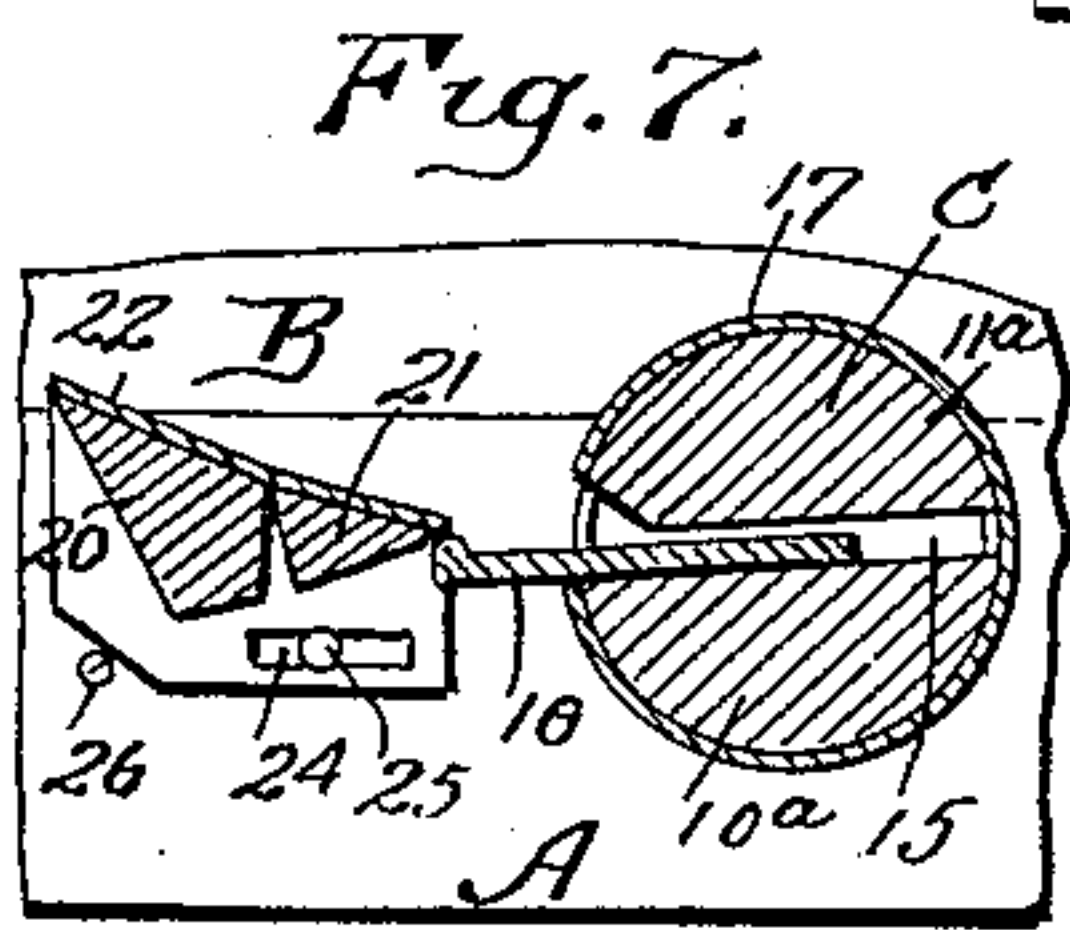
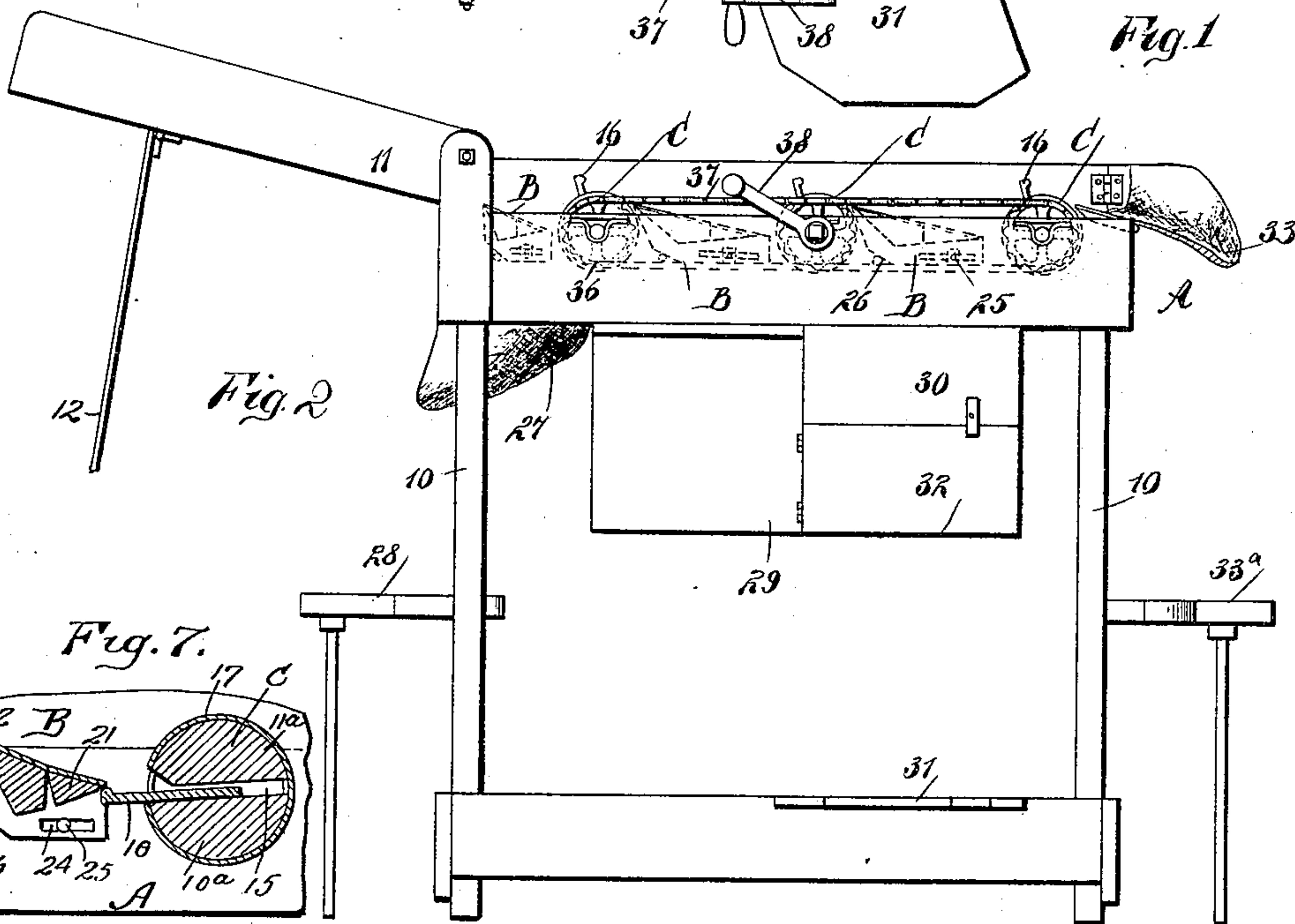
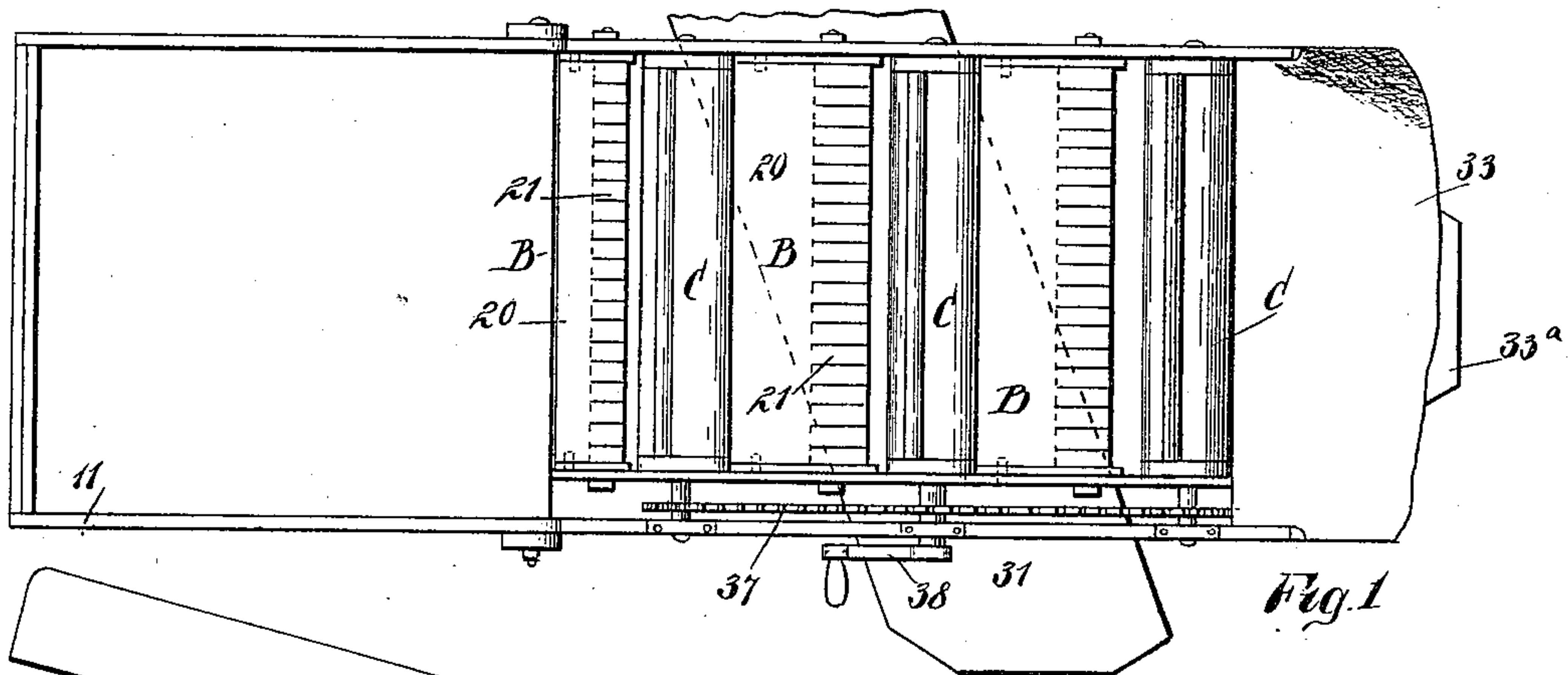
No. 611,859.

Patented Oct. 4, 1898.

A. O. DILLMAN.
MACHINE FOR SORTING FRUIT OR VEGETABLES.

(Application filed Oct. 29, 1897.)

(No Model.)



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MACHINE FOR SORTING FRUIT OR VEGETABLES.

SPECIFICATION forming part of Letters Patent No. 611,859, dated October 4, 1898.

Application filed October 29, 1897. Serial No. 656,771. (No model.)

To all whom it may concern:

Be it known that I, A O DILLMAN, of South Haven, in the county of Van Buren and State of Michigan, have invented a new and useful
5 Improvement in Machines for Sorting Fruit or Vegetables, of which the following is a full clear, and exact description.

The object of my invention is to provide a machine adapted for sorting fruits or vegetables and delivering the various sizes
10 through separate outlets to separate receptacles.

Another object of the invention is to provide a machine of this character which will
15 be simple, durable, and economic and which may be readily adjusted for the delivery of fruit or vegetables of any predetermined sizes and whereby also the machine when once set will be thoroughly automatic in its
20 action.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

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

Figure 1 is a plan view of the machine.
30 Fig. 2 is a side elevation thereof. Fig. 3 is a vertical section through one of the assorting-rolls. Fig. 4 is a longitudinal section through the central portion of one end of the assorting-roll shown in Fig. 3. Fig. 5 is a perspective view of the machine. Fig. 6 is a transverse section through one of the inclined
35 planes located between the assorting-rolls, and Fig. 7 is a transverse section through one of the inclined planes and an adjacent assorting-roller, illustrating the position of the
40 blade of the assorting-roller in its projected position, cooperating with and elevating a member of an inclined plane.

A represents a box-frame, shown as supported by legs 10. At one end of the frame
45 A chute 11 is pivotally attached, supported by a suitable upright 12. In the frame A inclined planes B and assorting-rollers C are alternately arranged, an inclined plane B being
50 at the end of the frame at which the chute 11 is located and an assorting-roller C being at the opposite end of the said frame.

The assorting-rollers C are alike in construction, and each roller is in two sections 10^a and 11^a, as shown in Fig. 3, the said sections
55 being attached at their ends to heads 13, provided with suitable trunnions 13^a, and at the inner peripheral edge of each head 13 a band 14 is constructed, the bands being either integral with the heads or attached thereto.
60 The sections 10^a and 11^a of an assorting-roll are not brought together, a space 15 being provided between their opposing inner side faces, as is also shown in Fig. 3, and the said
65 space is made wider at one side of the roll than at the other, but the bands 14 extend over the said space 15. Each space 15 is adapted to loosely receive a blade or a fan 16, which
70 is of a length corresponding to the distance between the bands 14, so that the blades may readily drop out from the rolls a predetermined distance at the wider ends of the
spaces 15 in said rolls, a covering 17, preferably of a soft material, preventing the blades
75 dropping out from the opposite ends of the spaces 15, the covering 17 not extending over the wider ends of the spaces, as shown in Fig. 3. Preferably a flange or rib is formed
80 upon each blade or fan at the edge presented to the wider end of the space in which the blade or fan is placed. The drop of the blades or fans or the distance that they may project
from the distributing-rolls is controlled by the length of stops 18, which are secured to the
85 end portions of the fans or blades, the said stops being preferably made of rubber. These stops, as the blades drop outward from the rolls, engage with the bands 14. These
90 ribs or flanges may be utilized to limit the inward movement of the blades, but are principally adapted to assist in the operation of the inclined planes B.

The inclined planes B, that alternate with the assorting-rolls, are constructed as shown
95 in Fig. 6, in which each inclined plane is provided with a downwardly and forwardly beveled surface at the back, and each inclined plane is made in sections—a continuous back section 20 and a front section 21—constructed
100 in a number of pieces. The members or pieces of the front section 21 of each inclined plane is hinged to the rear section 20, preferably through the medium of a soft covering material 22, secured upon the upper face of the

inclined plane, the smaller members 21 of the inclined planes being capable of rising upward, as shown in dotted lines in Fig. 6. Each inclined plane is attached at each end
 5 to a board or a plate 23, provided with a horizontal slot 24, the said slots receiving bolts 25, having suitable nuts, the bolts extending through the side pieces of the frame A, as shown in dotted lines in Fig. 2. Thus it will
 10 be observed that the pitch of the inclined planes may be changed as desired, so as to increase or decrease the distance between the delivery end of an inclined plane and an assorting-roll adjacent to such end, and in order
 15 that the rear or receiving ends of the adjustable inclined planes when adjusted shall remain quite close to the adjacent assorting-roll a bar 26 or a stop attached to the frame A is made to engage the rear inclined face of
 20 the rear section 20 of each inclined plane, as shown also in dotted lines in Fig. 1.

The rolls are journaled by means of their trunnions in suitable bearings provided at the upper portion of the frame A, and each
 25 roll is furnished with a sprocket-wheel 36, all the sprocket-wheels being connected, preferably, by a chain belt 37, and usually the trunnion of the central assorting-roll carrying the sprocket-wheel is provided with a handle 38,
 30 through the medium of which a uniform motion in the same direction is given to all the rolls.

When three assorting-rolls are employed, four sizes or grades of the articles to be assorted and discharged from the machine will
 35 be secured, the first size being such as will pass through the space between the first inclined plane B and adjacent assorting-roll, the next size being such as will pass between
 40 the second inclined plane and the assorting-roll adjacent to the delivery end of the said inclined plane, the third size will be such as may pass through the space between the delivery end of the third inclined plane and
 45 the last assorting-roll, while the fourth and largest size will be such of the articles that pass from the last assorting-roll to the chute 33, located at the rear end of the frame A. The smallest size of the article to be assorted
 50 will be received in a chute 27, which will deliver its contents to a receptacle placed, for example, on a stand 28. The second size of article will be delivered to a chute 29, having an outlet at the left-hand side of the machine,
 55 delivering its contents to a receptacle placed at that side of the machine on a platform 31. The third size of article will be delivered to a chute 30, having an outlet at the right-hand side of the machine and delivering its contents to a receptacle placed at the right-hand
 60 end of the said platform 31, while the largest size of articles will drop from the chute 33 into a receptacle placed on a suitable stand 33^a.

The two chutes 29 and 30, receiving the
 65 medium grades, are each preferably provided with a door 32, so that the articles may accumulate in these chutes while the baskets

or other receptacles adapted to receive the articles from the chutes are being changed.

In operation the fruit, for example, is fed
 70 from the delivery-trough 11 to the first inclined plane B, and as the rolls C revolve and the spaces therein assume a vertical position, the mouth of the spaces being uppermost, the fans or blades will drop down into
 75 said spaces; but when the mouth portion of the spaces on the assorting-rolls faces downward the blades or fans drop out, and as the rolls continue to revolve will take the fruit that has been unable to pass between the
 80 rolls and adjacent inclined planes and carry the fruit to the next inclined plane and roll, between which the space is wider. By making the delivery ends of the inclined planes in hinged sections the blades or fans of the
 85 rolls will not become clogged by fruit of such size or shape that would pass through a space before the fans or blades had passed the delivery end of the adjacent inclined plane.

The inclined planes B are virtually assorting-tables, and will be referred to in the claims
 90 as such.

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

1. In an assorter for fruit, vegetables and the like, an assorting-roll provided with a gravity-blade having movement to and from the periphery of the roll, and an assorting-table having a hinged section arranged for
 100 contact with the said blade during a period in the revolution of the roll, as and for the purpose specified.

2. In an assorter for fruit, vegetables and the like, an assorting-roll provided with an
 105 interior space, a blade loosely fitted in the said space, means for limiting the movement of the blade to and from the central portion of the roll, and an assorting-table having a hinged section, the hinged section of the as-
 110 sorting-table being in the path of the said blade when the blade extends beyond the periphery of the roll, for the purpose set forth.

3. In a machine for assorting fruit, vegetables and the like, the combination, with an
 115 assorting-roll, a gravity-blade mounted in the assorting-roll, capable of extending beyond the periphery of the roll, means for limiting the movement of the blade, and a covering of a soft material for the said roll, the said
 120 covering forming a rest for the edge of the blade when entirely within the roll, of an assorting-table provided with a hinged member arranged for contact with the said blade when the blade extends beyond the periphery of
 125 the said roll, all combined for operation, substantially as described.

4. In a machine for assorting fruit, vegetables and the like, a series of alternately-arranged assorting-tables and assorting-rolls,
 130 the spaces between the various assorting-rolls and adjacent assorting-tables varying, each assorting-roll being provided with a blade loosely carried within the roll and capable of

extending beyond its periphery, and chutes arranged to receive the material from the spaces between the assorting-rolls and assorting-tables, substantially as described.

- 5 5. In a machine for assorting fruit, vegetables and the like, the combination, with an assorting-table having its delivery end constructed in hinged sections, and an assorting-roll adjacent to the delivery end of the as-

sorting-table, the assorting-roll being provided with a blade capable of being contained within the roll, or of moving out beyond the periphery of the roll, for the purpose set forth.

A O DILLMAN.

Witnesses:

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