

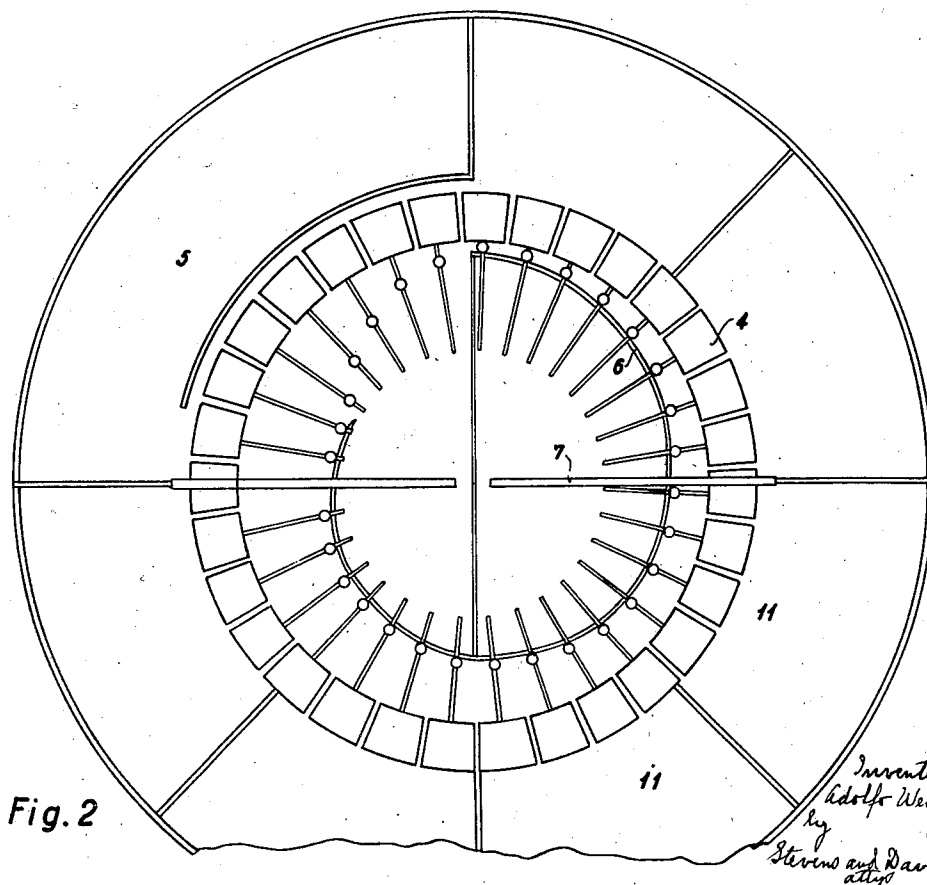
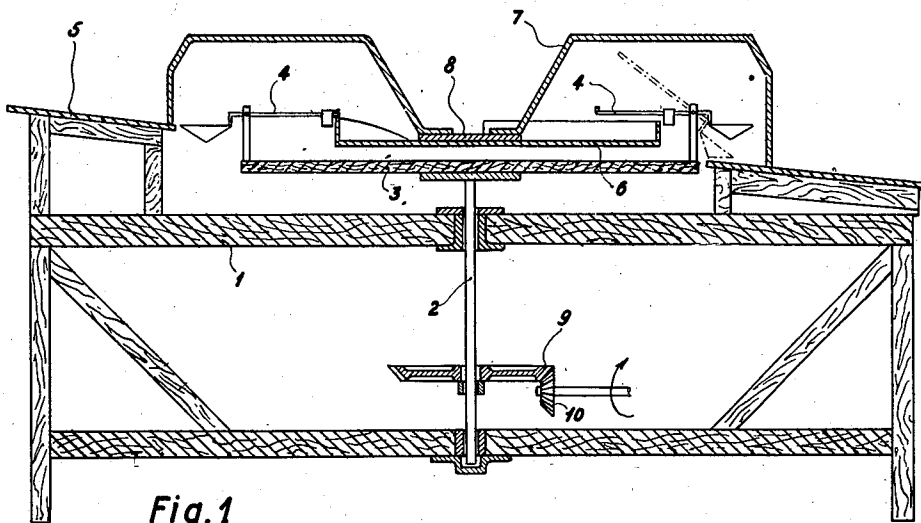
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FRUIT OR VEGETABLE SELECTING MACHINE

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FRUIT OR VEGETABLE SELECTING
MACHINE

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2 Claims. (Cl. 209—121)

The present invention refers to improvements in automatic selecting devices for fruits or round like shaped vegetables. This device separates according to the individual weight of the product and the operation is done in a very simple, quick and economical way and without pounding the fruit. The application of this invention is not restricted for fruits and it is also possible to select many other products with it, as long as they have a definite and a round like shape.

According to the present invention, each fruit is placed on a beam scale of already known type, which counterbalance is mechanically forced to slide until the weight of the fruit lowers the scale position, getting off the basin. Because of the very smooth scale movement and also because the receiving tables are disposed on a convenient level, no damage at all is done to the fruits or products selected hereby.

The selecting machine, based on the foregoing principle, has a number of equally designed beam scales, placed over a turning table and whose counterbalances look to the table center. The turning table fits inside a sectioned platform over which the selected products—released from the scale pan—are heaped. The sections can be increased if a very exact selection is not needed, and they can also be placed close together according to the selecting instructions. One of these sector like sections must be reserved for the loading of the product to be selected.

In order to obtain the progressive sliding of the counterweights, a fixed excentric guide is placed upon the turning table and over this guide rest the beams of the scales. In a complete turn of the table, this guide pushes the counterweights along starting from the end of each beam to a point nearer to the balancing axle. This excentric guide does not follow the complete circle and its interruption allows the fall of the beams and the return of the counterweights to the extreme of it, owing to their own weight. As the start of the excentric guide has a smooth slope, the fallen beams are easily lifted back to their horizontal position.

Only a small power is required to get this selecting device working and besides the turning movement of the central table, only the friction between the beams with the counterweights, and between the beams and the excentric guide must be overcome. Furthermore, the very easy construction, the simple mounting of the scale beams and the low cost price of the materials needed for the turning table and selecting table, give a rather cheap device for the purpose already described.

On the accompanying drawing, the selecting machine has been sketched diagrammatically. Figure 1 shows a vertical section of its main parts. Figure 2 shows a top view of the selecting device and here the loading sector 5 and the selecting sectors 11 have been indicated. Over a fixed base 1 and on the axle 2 is rotatably mounted table 3 over which all the beam scales 4 are attached. At the left side can be seen the loading platform 5, the lower end of which coincides with the horizontal scale pan position. The scales are mounted on the edge of the turning table concentrically, that means, with their counterweights toward the table center. The excentric guide 6, attached to a reinforcing plate 8 is held over the turning table by means of the support 7. The movement of the turning table can be obtained by several power supplies, the proper turning speed is also easy to reduce with pinions 9 and 10 or with a worm gear.

The working of the selecting machine is as follows: The table 3 rotates with a low speed, either by motor or by hand power. From the loading platform 5, every pan of the scale beams get one piece of fruit or similar products. If one complete turn of the table 3 is considered, we see that the excentric guide 6 pushes the counterweights always nearer the scales axles until the moment when the weight of the fruit—being greater than the counterweight—lowers the scale pan. Hereby, the fruit is delivered over the corresponding sector of the selecting table 11. The heavier fruit must fall sooner than the smaller or lighter one. Every piece with the same weight, that means, of the same size, must fall on the same sector.

Once the fruit gets out, the scale takes the horizontal position again until they arrive to the end of the excentric guide. As soon as they can not be supported by the guide, the beam swings down and the resulting slope makes the counterweights slide back to the inside ends of it. Beginning the second turn of the table and because of the inclined start of the excentric guide, the beams of the scales are slowly lifted again to the horizontal position. After this, the operation starts again in the same way as just described.

I claim:

1. A device for the grading of fruit and the like according to weight which comprises, a rotatable table, a plurality of levers radially arranged thereon and pivotally attached thereto so that they may be rocked in a vertical plane about the point of pivot as a fulcrum, the fulcrums lying in an annular path concentric to the axis of the table, a receptacle on one end of each lever. a

counterweight slidable on the free shank of each lever, said counterweight being sufficiently heavy to raise the respective empty receptacle above the horizontal plane of the fulcrum regardless of the distance of the counterweight from the fulcrum, means for rotating the table, separate stationary discharge chutes arranged radially about the table in registry with the receptacles throughout a substantial portion of their path of travel, a stationary charging table in registry with the receptacles through a lesser portion of their path of travel, and a stationary continuous spiral cam, the generation point of which coincides with the axis of the table, said cam being located in the same geometric segment as the discharge chutes, said cam presenting a supporting edge substantially in the horizontal plane of the fulcrums underlying a portion of the various levers between their free

ends and the location of the counterweights and serving to bias said counterweights toward their respective points of fulcrum as the table is rotated, said cam being interrupted at the zone of travel of the rotatable table adjacent the charging table to allow the end of the free shank of each lever to fall below the horizontal plane of the fulcrum so that the weight may slide on that portion of the lever to its position of maximum remoteness from the fulcrum preparatory to the charging of the respective receptacle with fruit.

2. A device as claimed in claim 1 comprising additionally, means constituting a part of said continuous cam for raising said levers to a horizontal position, said means constituting the termini of said cam toward which the table rotates.

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