

Oct. 31, 1950

G. W. ASHLOCK, JR

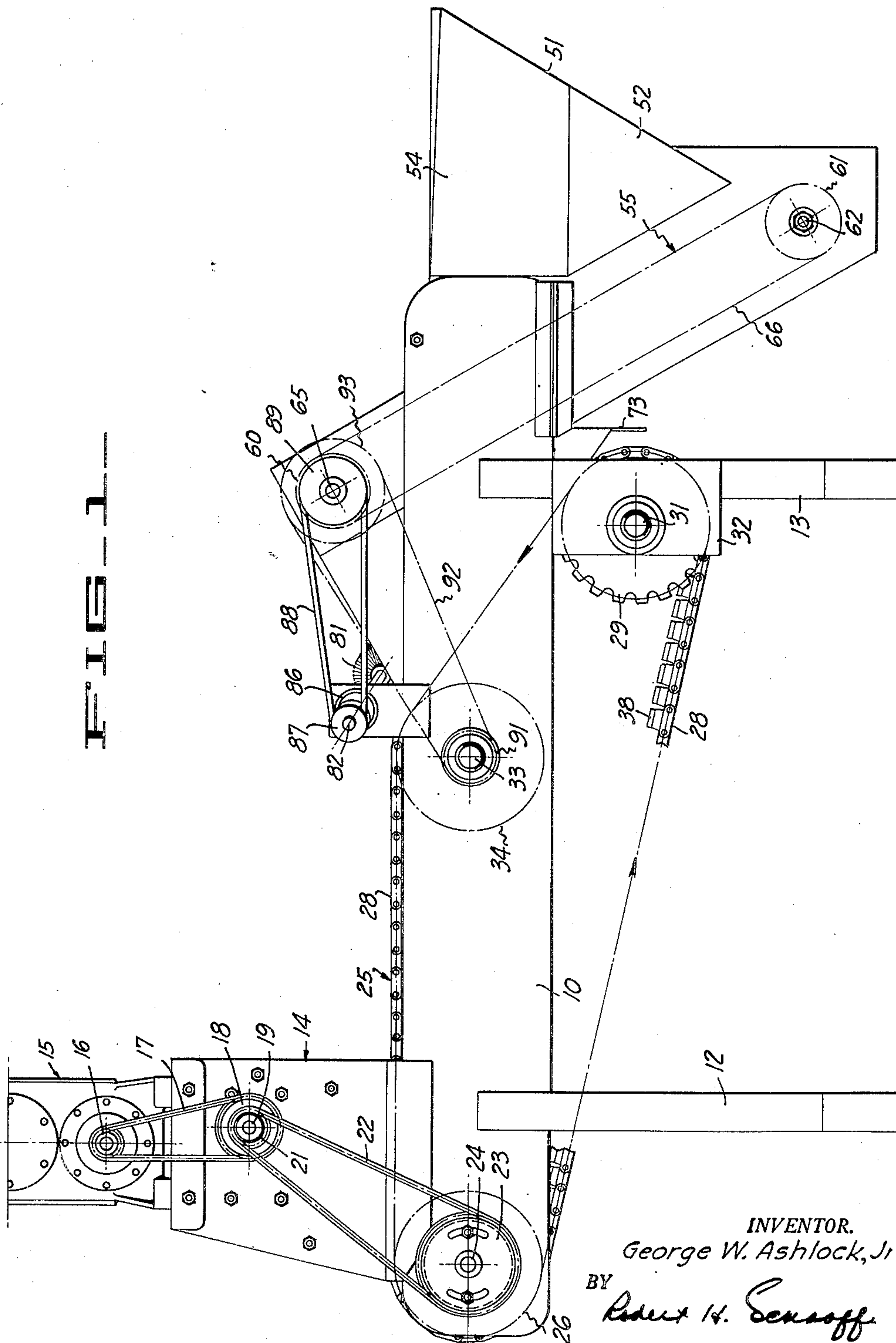
2,528,293

FEEDING OF CHERRIES HAVING STEMS ATTACHED

Filed Aug. 9, 1947

4 Sheets-Sheet 1

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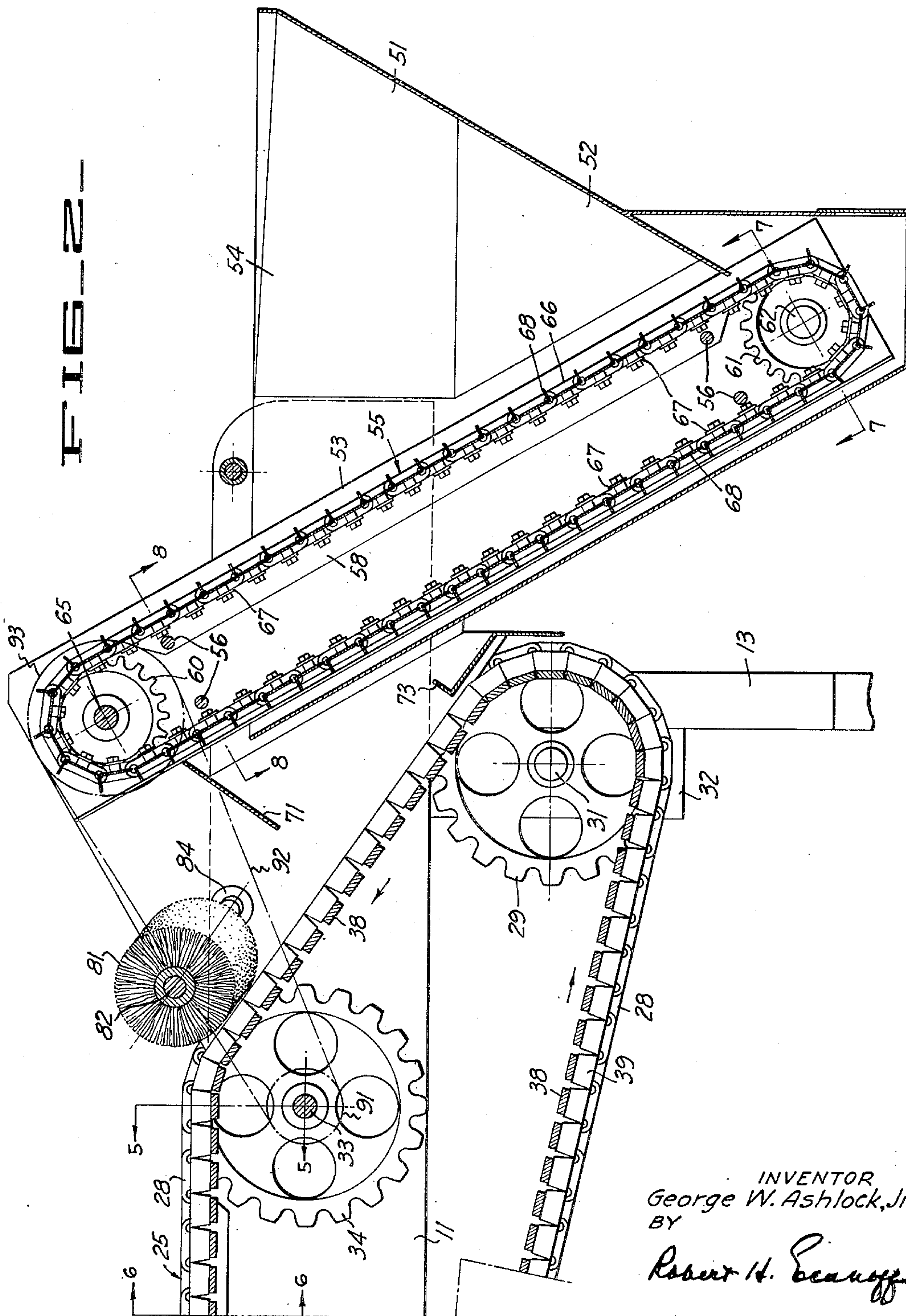
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FEEDING OF CHERRIES HAVING STEMS ATTACHED

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4 Sheets-Sheet 2



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FEEDING OF CHERRIES HAVING STEMS ATTACHED

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4 Sheets-Sheet 3

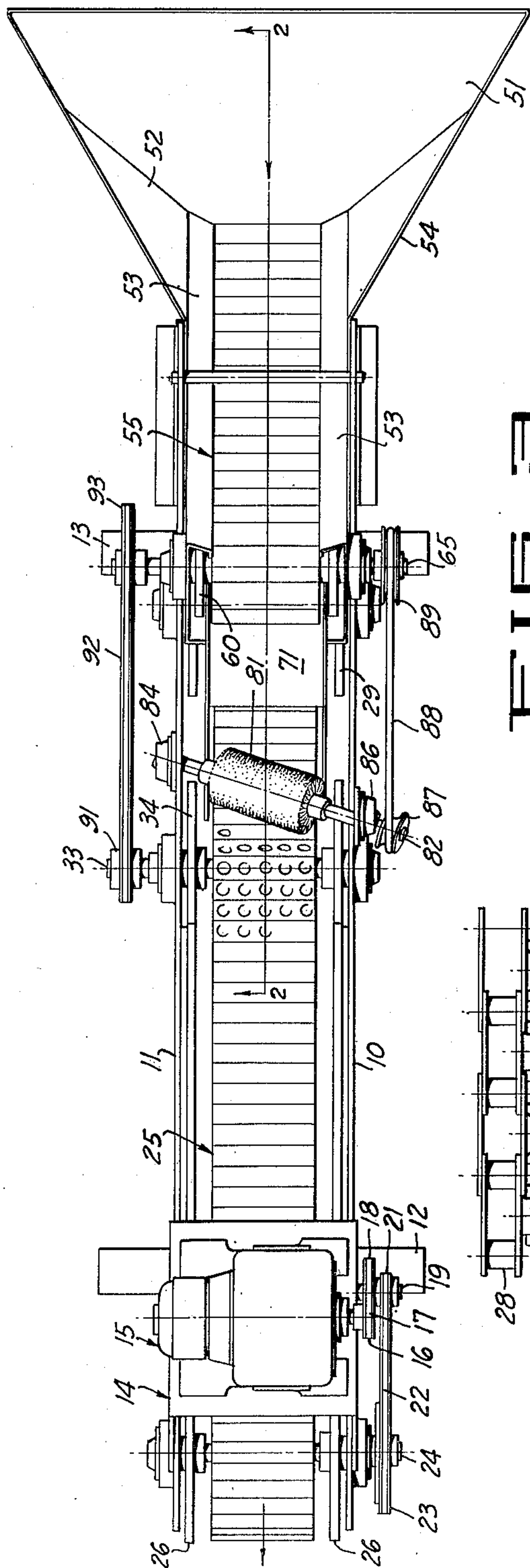


FIG. 3

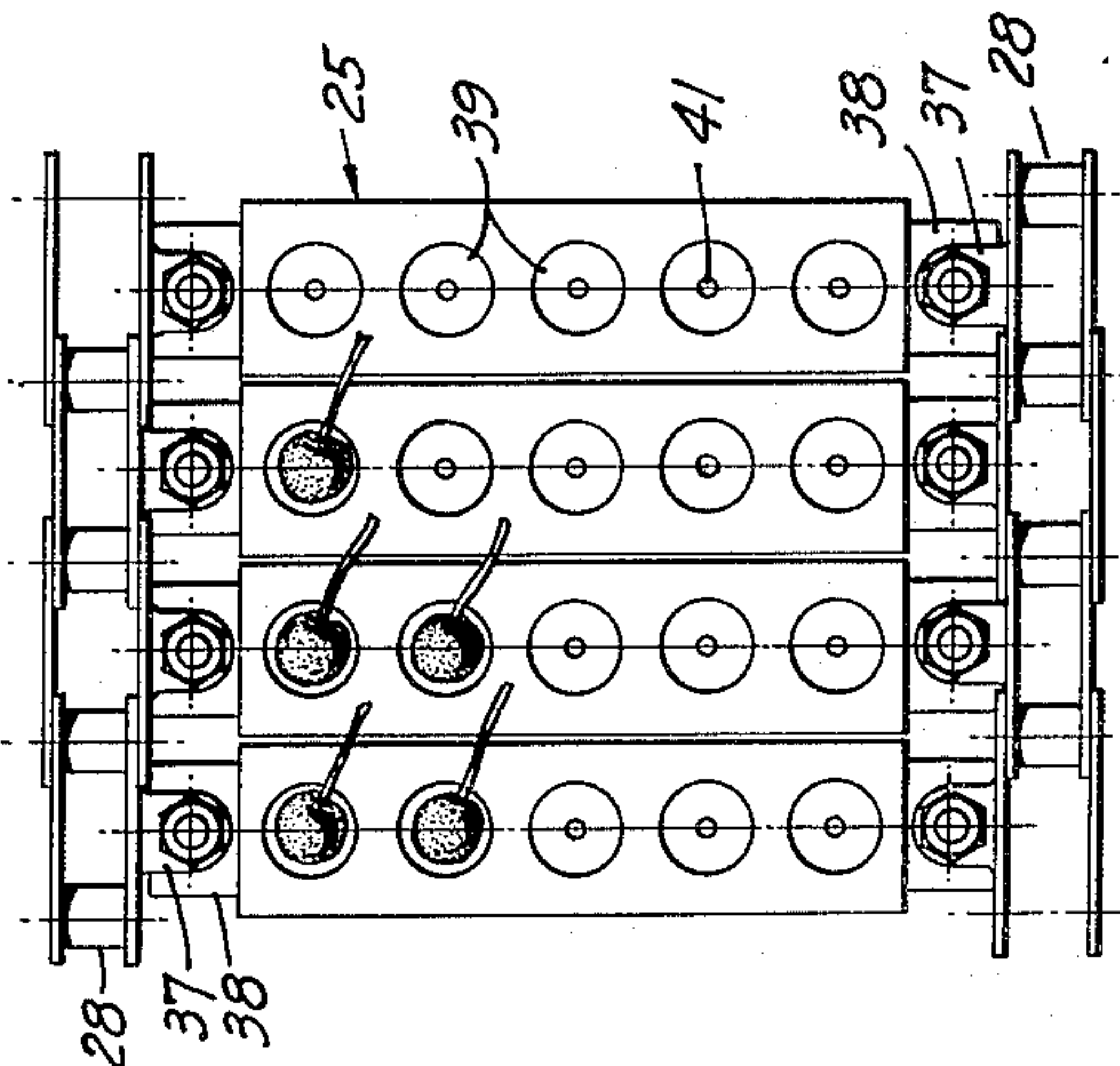


FIG. 4

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FEEDING OF CHERRIES HAVING STEMS ATTACHED

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4 Sheets-Sheet 4

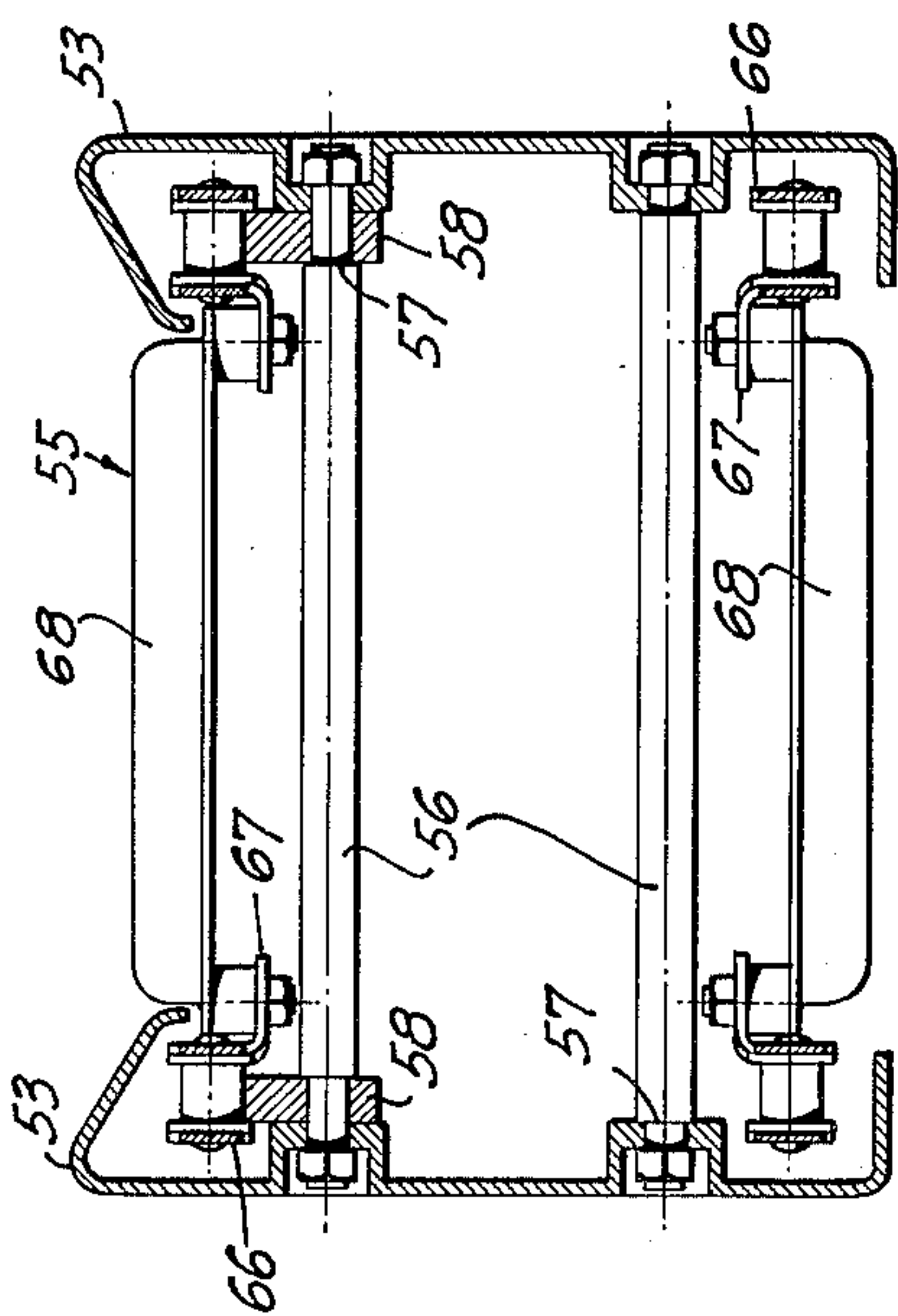


FIG. 5

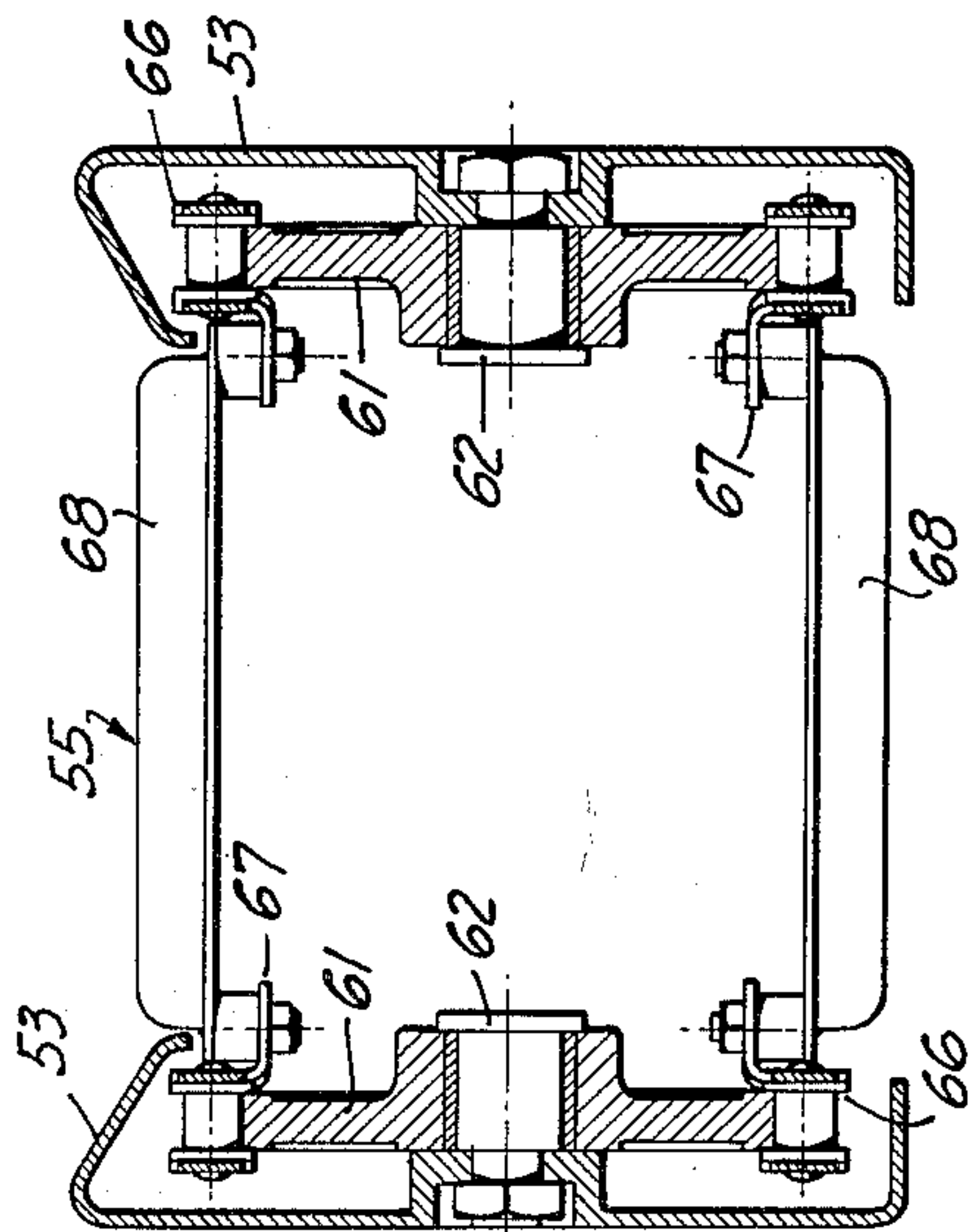


FIG. 6

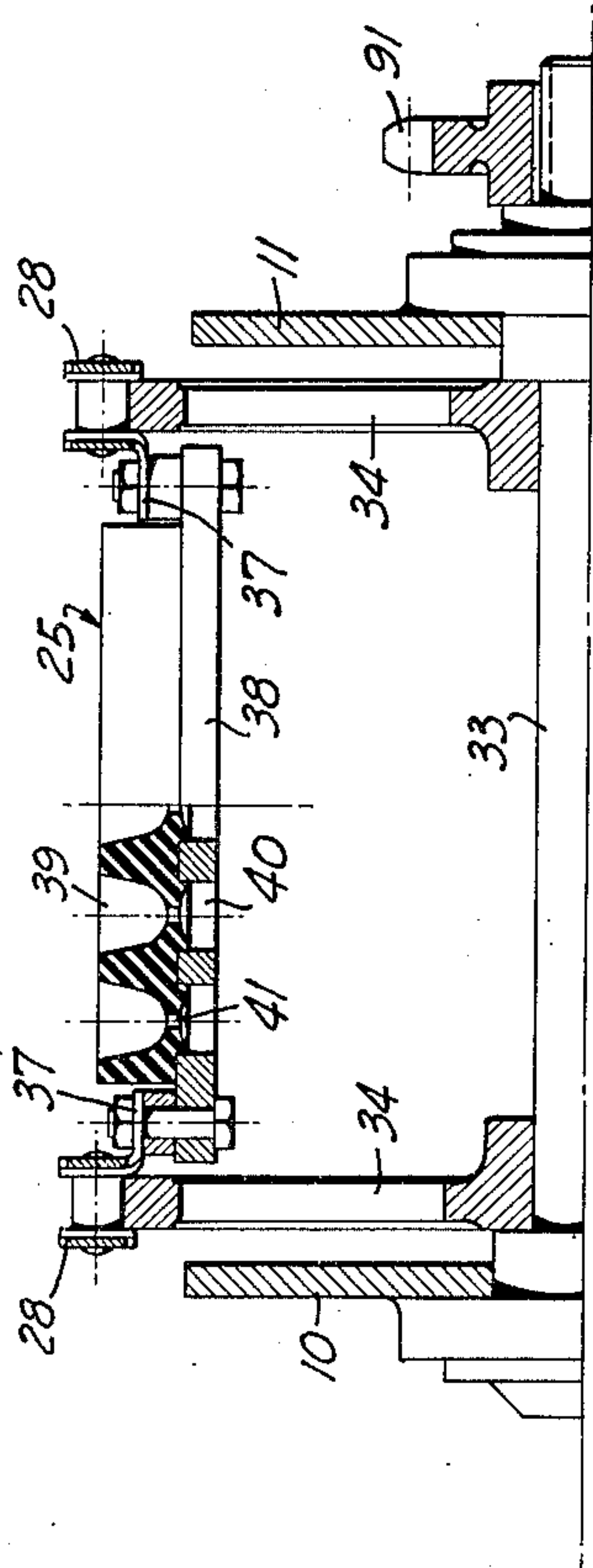


FIG. 7

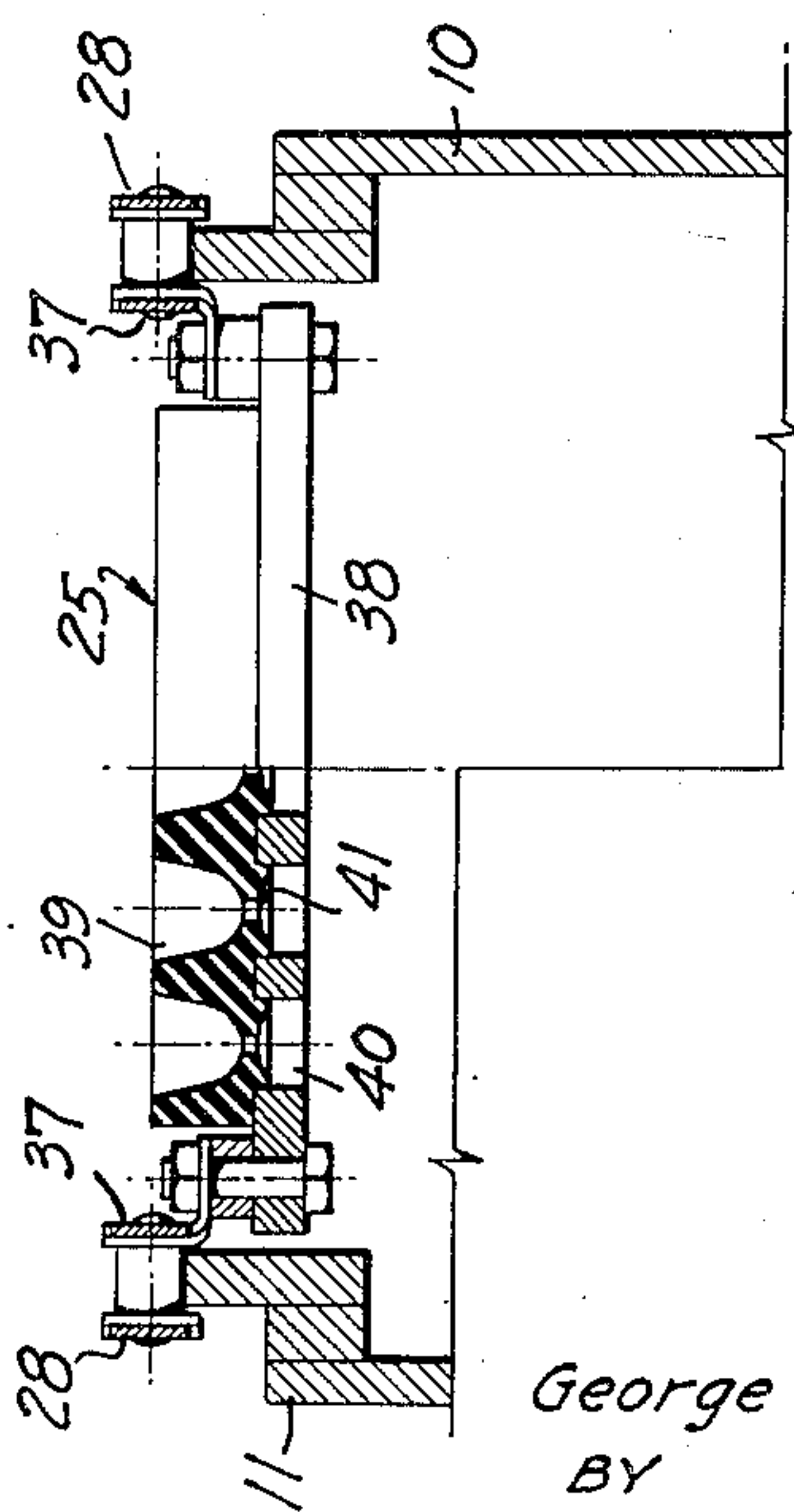


FIG. 8

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FEEDING OF CHERRIES HAVING STEMS ATTACHED

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4 Claims. (Cl. 198—33)

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This invention relates to the feeding of cherries having attached stems to a pitting mechanism whereby the cherries are positioned so that the stone in the cherry can be removed through the side of the cherry and the attached stem does not interfere with the pitting operation.

Pitted cherries with stems attached are widely used. Heretofore, such cherries have been generally pitted by hand inasmuch as the presence of the stem made the handling of the cherry in any of the previously known cherry pitting machines impractical. In accordance with the present invention, the stemmed cherries are placed upon the pitting conveyor with the individual cherry stems extending in substantially the same direction, the cherries being supported on their sides so that, upon operation of the pitting mechanism, the stone of the cherry is removed.

By positioning cherries with their stems extending horizontally and in the same direction, the cherries are positioned so that the stone can be removed from the cherry through the side of the cherry thus enabling the stem attachment to be continued and, at the same time, effecting only a minimum of cutting in the cherry so that its appearance is altered only very slightly.

The invention also contemplates provision of a novel feeding device and method for delivery of stemmed cherries to the pitting conveyor. Since the stemmed cherries are usually handled as a mass, preliminary segregation of the cherries into smaller masses is effected as the first step in proper placement of the cherries for pitting. After segregation, the several smaller masses are delivered successively to the pitting conveyor for placement preparatory to pitting by such mechanism as that shown in my prior Patent 2,157,218 or 2,219,832.

It is generally the broad object of the present invention to provide a novel machine as well as a method for feeding cherries having attached stems to an automatic mechanism for removing the pits from the cherries.

A further object of the present invention is to provide a novel feeding device particularly suited to the feeding of cherries having attached stems to a pitting conveyor.

The invention includes other objects and features of advantage, some of which, together with the foregoing will appear hereinafter wherein the present preferred form of cherry feeder is disclosed in association with its related mechanism.

Referring to the drawings,

Figure 1 is a side elevation of a machine embodying the present invention.

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Figure 2 is a view taken along the line 2—2 of Figure 3.

Figure 3 is a plan view of the machine shown in Figure 1.

Figure 4 is an enlarged plan view showing cherries positioned for pitting after operation of the feeding mechanism.

Figures 5, 6, 7 and 8 are respectively figures taken along the lines 5—5, 6—6, 7—7, and 8—8, of Figure 2.

Referring to the drawings, the machine of the present invention includes a pair of opposite vertical frame members 10 and 11, suitably secured together and supported by legs 12 and 13. A pitting mechanism, generally designated as 14, is mounted at one end of frame members 10 and 11; the pitting mechanism can be that shown in my Patents 2,157,518 of May 9, 1939 and 2,219,832 of October 29, 1940.

To drive the pitting mechanism and to operate the other units of the machine, a prime mover device, generally indicated at 15, is mounted upon the pitting mechanism.

The prime mover includes a V-belt sheave 16 having a V-belt 17 trained thereover and about sheave 18 on shaft 19 in the pitting mechanism. Another sheave 21 is mounted upon shaft 19 and a V-belt 22 is extended about this sheave and about sheave 23 mounted upon pitting conveyor shaft 24 at the forward end of the machine and which is utilized to drive the pitting conveyor generally indicated at 25.

To support the conveyor 25 and provide for a definite path of movement of the pitting conveyor, shaft 24 is suitably journaled in the side members 10 and 11 and carries sprockets 26, each of which is in mesh with the links of chains 28 which are extended about the sprockets 26. Sprockets 29 are mounted upon shaft 31, the latter being journaled suitably in plates 32 extending between frame members 10 and 11 and legs 13. A shaft 33 is also journaled between frame members 10 and 11 and includes sprockets 34 supporting the upper run of the chains 28. The rotation of the several sprockets is such that the conveyor chains 28 advance from sprockets 34 to sprockets 26 and then downwardly to sprockets 29 from which the chain passes upwardly at an acute angle to the horizontal to pass over sprockets 34 and thence on toward the pitting mechanism 14.

The several links comprising chains 28 include angle pieces 37 to which are secured plates 38 having apertures 40 therein. Each plate 38 includes suitable fruit pitting chucks 39, which appear in Figures 5 and 6; each of the chucks

is of generally circular cross-section and includes an aperture 41 in the bottom portion thereof over an aperture 40 in plate 37 through which the stone from the fruit can be ejected. The pitting conveyor can include any desired number of chucks in transverse alignment; one can refer to my prior Patent 2,209,305 and 2,314,862 for an illustration of the construction of typical fruit pitting chucks and their attachment to the transverse plates 38 to make a suitable pitting conveyor.

To feed cherries onto the pitting conveyor 25, I provide a hopper 51 into which is placed cherries with their stems attached. The hopper includes side-walls 52 which form extensions of frame members 10 and 11, terminal portions 53 of which flare outwardly to form the hopper. The hopper includes parallel spaced guide walls 53 which form a part of the stemmed cherry separating and feed conveyor 55 as appears in Figure 8. The guide walls are spaced apart by threaded rods 56 extended between the two guide walls with shoulders 57 abutting conveyor support slides 58 (Figure 8). Mounted at each end of the guide walls 53 are sprockets 60 and 61, these being respectively mounted upon shaft 65 stub shafts 62 as appears in Figure 7. Chain 66 is trained about each of the sprockets 60 and 61 and over slides 58 on its upper run, the chain links including angle pieces 67 secured thereto. To each of the angle pieces are secured transverse L-shaped members 68 arranged one after the other to provide a series of ascending pockets defined by each L, the bottom of each L standing above the run of the conveyor and which pass through hopper 51 and pick up and carry along stemmed cherries. The conveyor 55 moves upwardly, finally passing over sprocket 60 at the upper end of the run of conveyor 55; at this point, the cherries carried by the conveyor 55 are discharged, falling down over the deflector plate 71 onto that portion of pitting conveyor 25 which is intermediate sprockets 29 and 34. Any cherries which fall until they are adjacent sprocket 29 are prevented from falling off the conveyor by stop 73. By utilizing L-shaped pockets in the feed conveyor 55, the cherries disentangle themselves from the mass of cherries in the hopper and are fed successively as a loose smaller mass. This disentanglement is further assisted by permitting the cherries to fall over the deflector plate 71 so that cherries are generally separated, one from the other, by the time they fall into place on pitting conveyor 25.

Feeding of the cherries to the pitting mechanism by the pitting conveyor 25 in other than a predetermined manner is prevented by brush 81 positioned cooperatively adjacent to the upper run of the conveyor 25 between sprockets 29 and 34. The brush 81 is positioned at an angle to the run of the conveyor so that it is effective to arrange the stems of the cherries at an angle to the run of the conveyor, as appears in Figure 4. To facilitate this shaft 82 supporting the brush 81 is angularly mounted with respect to conveyor 25 and is rotatably journaled in suitable bearings 84 and 86 provided upon side plates 10 and 11 of the machine. A sheave 87 is provided upon the extending end of shaft 82 and a V-belt 88 is trained about this and about a sheave 89 on shaft 65, the latter being driven from sheave 91 on shaft 33 by a V-belt 92 trained about the sheave 91 and about a sheave 93 on shaft 65.

By locating the shaft 82 at such an angle that the brush sweeps the cherry stems across the run

of the conveyor at an acute angle thereto, the distance between successive receptacles can be lessened while, at the same time, location and centering of the cherries in the several generally circular receptacles 39 on the pitting conveyor 25 is facilitated. Any cherries in excess of those required to provide single occupancy of each receptacle are forced back by the brush and into an oncoming open receptacle 29. In this manner occupancy of each of the receptacles by a stemmed cherry in the conveyor passing to the feeding mechanism is assured.

I claim:

1. A device for orienting cherries having attached stems comprising a conveyor movable over a path and including a plurality of article receiving receptacles arranged serially of said conveyor, each receptacle being a cup-like recess in an adjacent planar portion of the conveyor and of a depth approximately equal to the diameter of a cherry, means for depositing cherries on said conveyor in any position, and a brush supported for rotation at an angle to the path of the conveyor and cooperatively adjacent to the conveyor to brush each cherry stem and turn a cherry in a receptacle over onto its side in which position the cherry is stably supported by the receptacle with the stem thereon substantially coplanar with the adjacent planar portion of the conveyor and at an angle to the conveyor run.

2. A device for orienting cherries having attached stems comprising a conveyor movable over a path and including a plurality of article receiving receptacles arranged serially of said conveyor, each receptacle being a cup-like recess in an adjacent planar portion of the conveyor and of a depth approximately equal to the diameter of a cherry, means for depositing cherries on said conveyor in any position, and a brush supported for rotation cooperatively adjacent to the conveyor to brush each cherry stem and turn a cherry in a receptacle over onto its side in which position the cherry is stably supported by the receptacle with the stem substantially coplanar with the adjacent planar portion of the conveyor.

3. A device for orienting cherries having attached stems comprising a conveyor movable over a path and including a plurality of article receiving receptacles arranged serially of said conveyor, each receptacle being a cup-like recess in an adjacent flat top portion of the conveyor and of a depth approximately equal to the diameter of a cherry, means for depositing cherries on said conveyor in any position, and a brush supported for rotation cooperatively adjacent to the conveyor to brush each cherry stem and turn a cherry in a receptacle over onto its side in which position the cherry is stably supported by the receptacle with the stem resting along and engaged with the flat top of the conveyor.

4. A device for orienting cherries having attached stems comprising a conveyor movable over a path and including a plurality of article receiving receptacles arranged serially of said conveyor, each receptacle being a cup-like recess in an adjacent planar portion of the conveyor and of a depth approximately equal to the diameter of a cherry, means for depositing cherries on said conveyor in any position, a brush supported for rotation cooperatively adjacent to the conveyor, and means for rotating said brush in a direction opposite to that of the conveyor to brush each cherry stem and turn a cherry in a receptacle over onto its side in which

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position the cherry is stably supported by the receptacle with the stem extending rearwardly and in engagement with the planar portion of the conveyor.

GEORGE W. ASHLOCK, JR. 5

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