

J. W. PEASE.
SORTING MACHINE.
APPLICATION FILED JAN. 17, 1910.

975,064.

Patented Nov. 8, 1910.

FIG. 1.

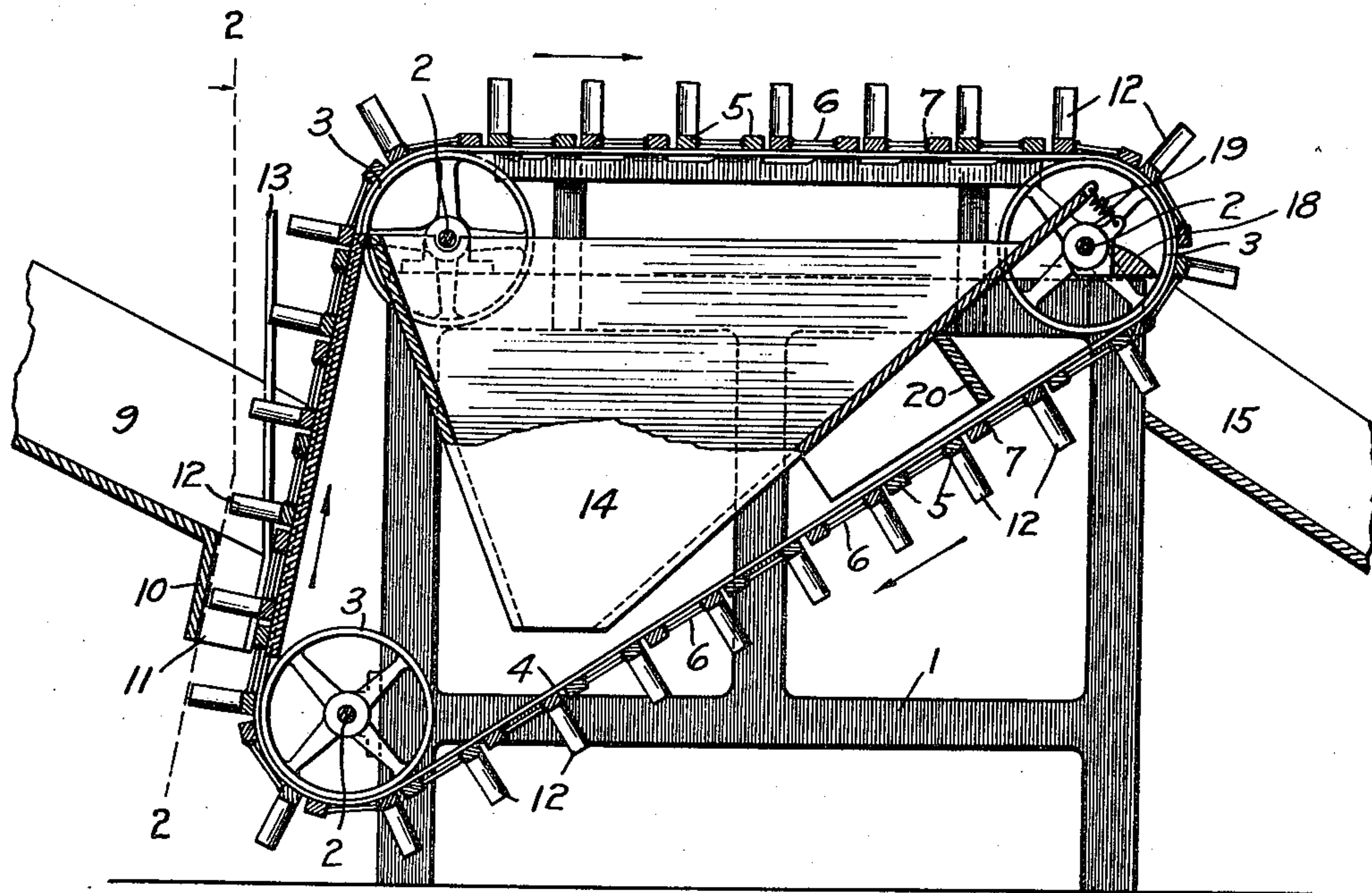


FIG. 2.

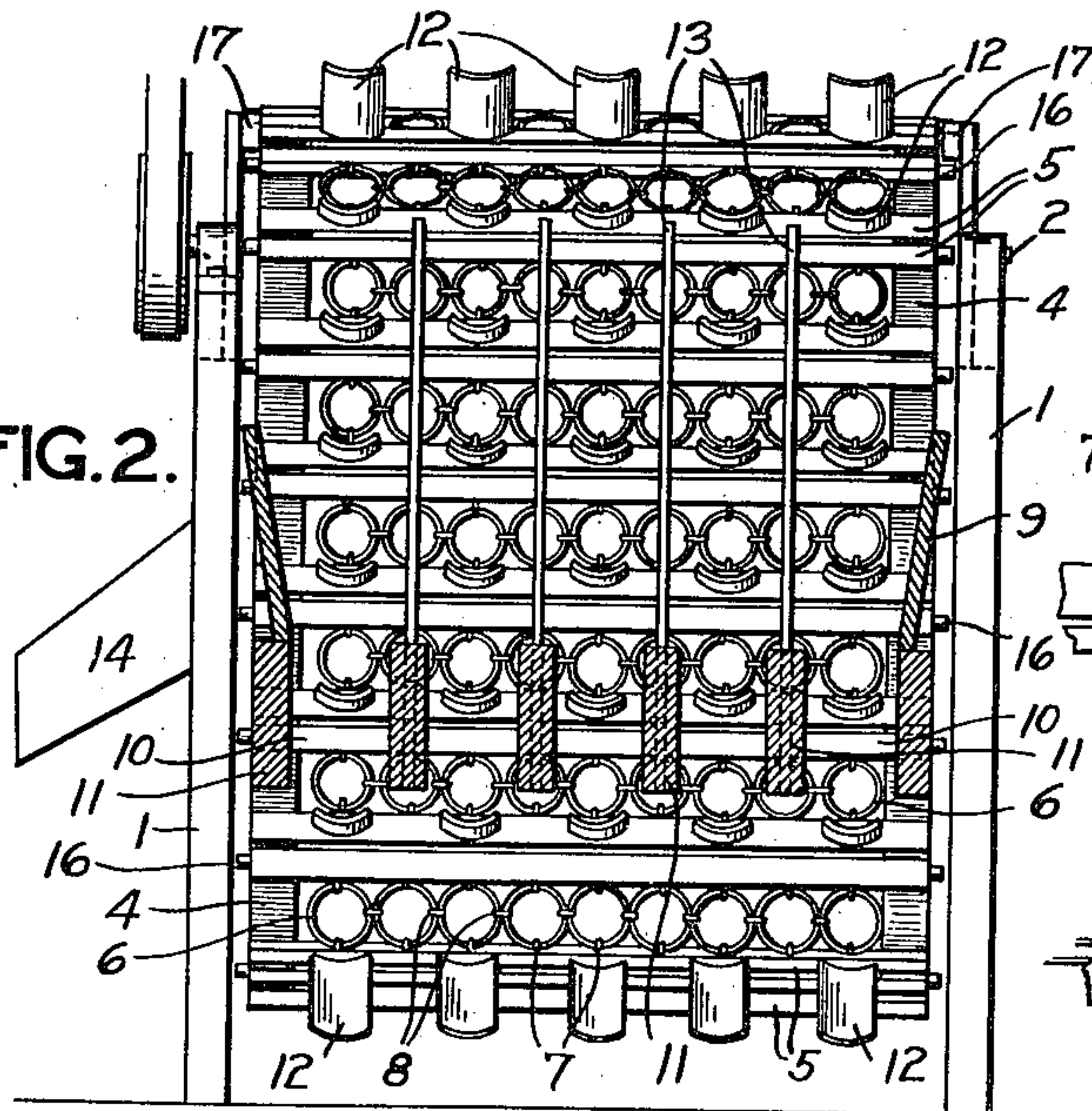


FIG. 3.

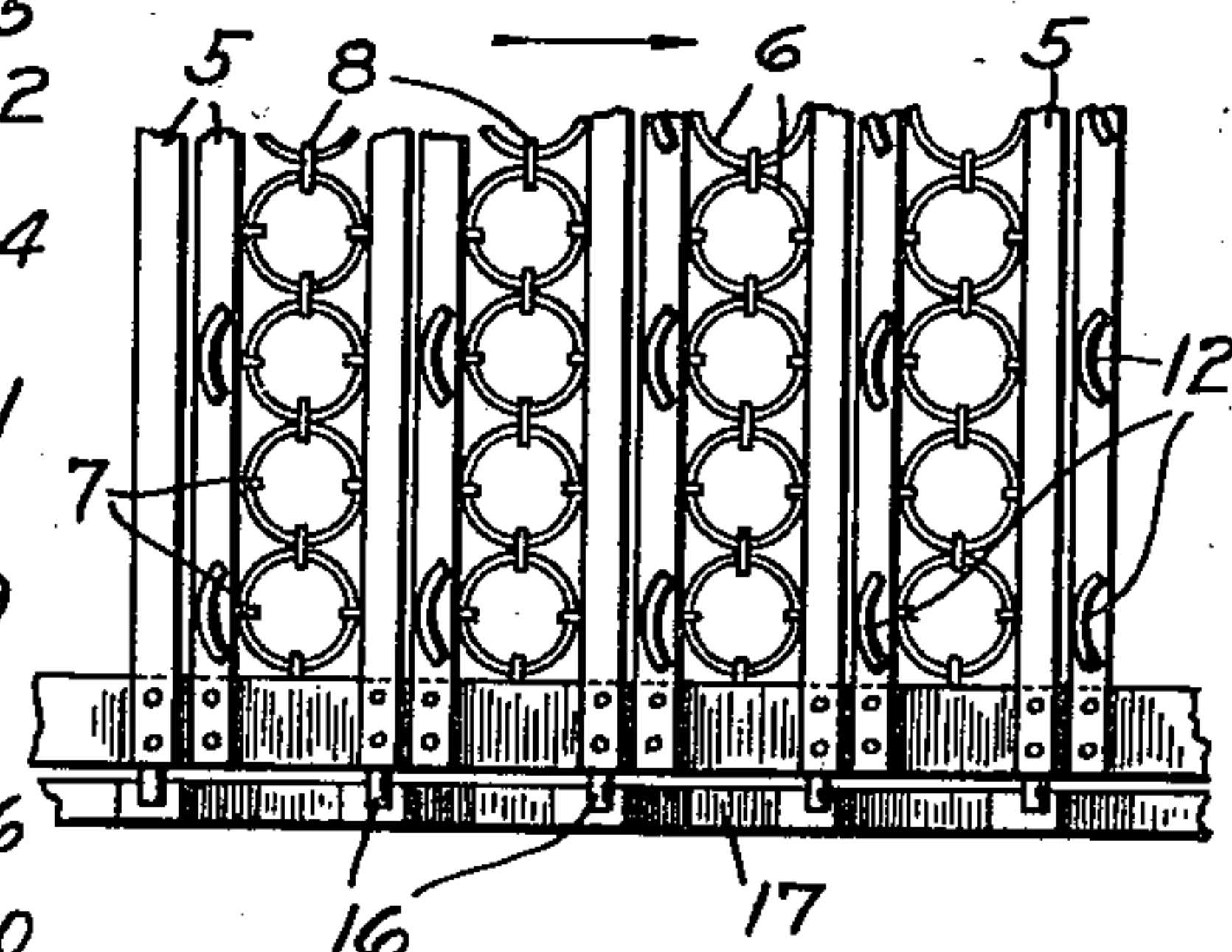
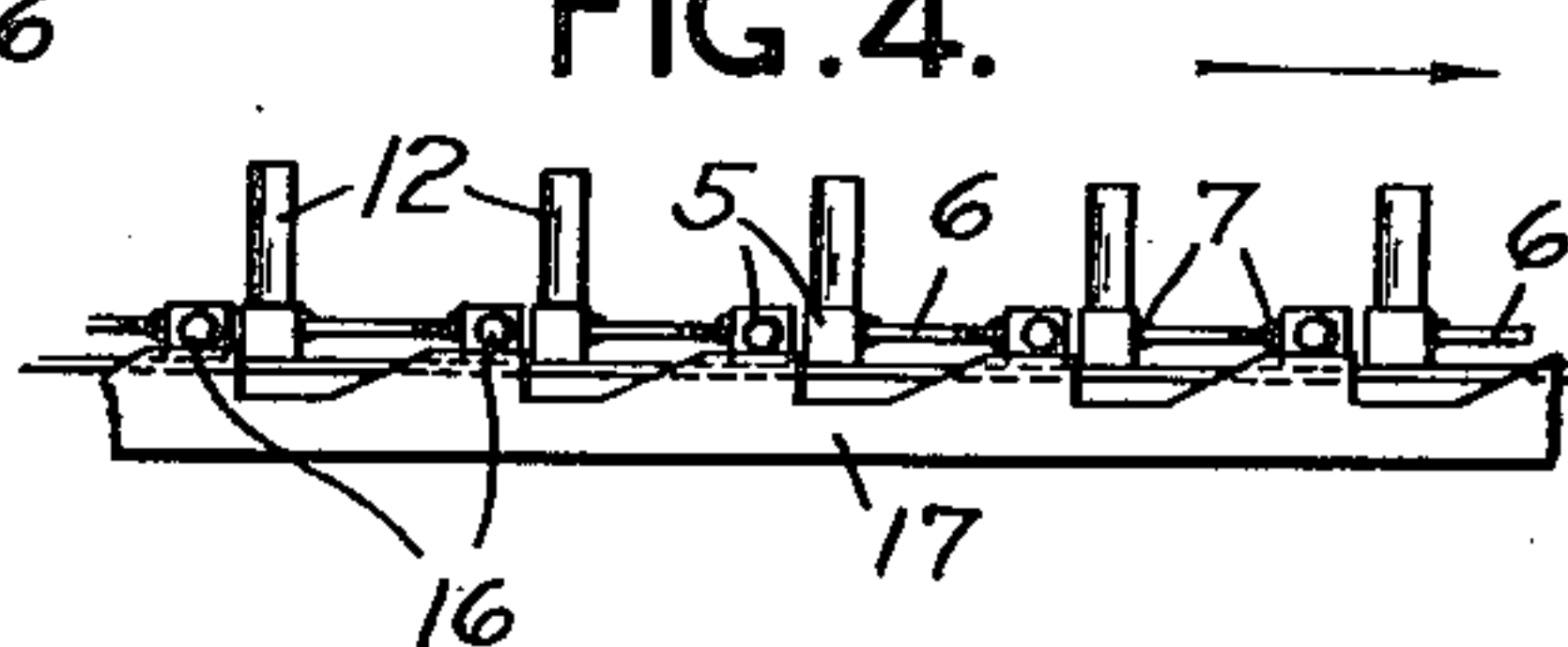


FIG. 4.



WITNESSES:

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UNITED STATES PATENT OFFICE.

JOHN W. PEASE, OF ROCHESTER, NEW YORK.

SORTING-MACHINE.

975,064.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JOHN W. PEASE, a citizen of the United States, and resident of Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Sorting-Machines, of which the following is a specification.

This invention relates to sorting machines, and its object is to provide ready and rapid means for sorting articles, and particularly larger vegetables and fruit, like potatoes and apples.

To this end the invention consists in the sorting machine hereinafter described, as it is defined in the succeeding claims.

In the drawings:—Figure 1 is a central longitudinal section of the machine; Fig. 2 is a view of the machine looking from the left of the plane 2—2 in Fig. 1; Fig. 3 is a partial plan view of the carrier mechanism; and Fig. 4 is an elevation projected from Fig. 3.

The frame of the illustrated embodiment of my invention, represented by 1 in the drawings, is of any suitable construction, preferably rectangular in form, and supports transverse shafts 2, 2, 2, in suitable bearings, each of which carries at each end a pulley wheel 3, those on the same side being aligned. The carrier is revolvably supported by said wheels, and in the form represented in the drawings comprises a belt 4 on each side that travels over the pulley wheels on that side, cross slats 5 in pairs that are separated from one another, and rings 6 between the slats of each pair, the last mentioned extending across the machine, a row of rings being between the slats of each pair as shown in the drawings. The rings 6 are fastened to the adjacent slats 5 by staples 7, and are connected together by links 8.

The vegetables, fruit, or other articles to be sorted, are preferably placed upon the carrier by discharging them from a hopper 9, which extends across the machine, in front of the carrier, and is so placed and tilted that the articles roll readily down through it onto the carrier. The mouth of the hopper is also carried down in front of the hopper at 10, in box-like form open toward the carrier, and is divided by vertical partitions 11 into passages of equal width, and of such width that each will contain only one of the articles at a time.

Supports in the form of buckets 12 are fixed to the carrier behind each row of rings in number corresponding to the number of pockets made by the partitions 11, and so spaced that they pass through said pockets, respectively, as the carrier rotates. The arrow indicates the direction of rotation, and the buckets 12 are accordingly in the case of each row of rings attached to the slat next behind the rings in order of rotation.

Guards 13 extend up vertically from the partitions 11, through the hopper 9 and in front of the carrier. Since the upward course of the latter is at an angle to the vertical plane (Fig. 1), any article that may have become wedged between the supports 12 is forced back into the hopper by the guards.

The machine is designed to discharge the smaller grade of articles through the rings, and carry forward the larger ones. To catch the smaller articles, as they fall through the carrier, a chute 14 is provided, and a chute 15 at the farther end catches the larger ones.

In order to agitate the articles on the carrier during their passage across the machine, and so spread them out and bring them over the rings that are adapted to pass the smaller ones, means are provided for giving the carrier an up and down movement as it travels across the top of the machine. This is accomplished by supporting the carrier on trunnions 16 on some of the transverse slats 5, and providing a way for them in the top rails 17, 17 of the machine, that comprises in series a horizontal course, an incline, and an abrupt drop to the next horizontal course. The drop also tends to agitate the articles and start them moving on the carrier.

A guard is also shown at the discharge end of the machine, adjacent the hopper 15, for preventing articles that may have become wedged within the rings from being carried beyond the hopper 15. In the drawings this guard is a plate 18 that is pivoted on the shaft 2 and extending across the machine between the pulley wheels 3, 3, presenting an edge adjacent the under side of the rings, as they turn down toward the hopper 15, that is adapted to tip articles out of the pockets into the hopper 15. A spring 19 that holds the guard 18 in position, permits it to yield in a downward direction, and so pass any article that may have come through the rings and become wedged between the guard and the carrier, and a guide 20 on the

under side of the chute 14 intercepts such articles and deflects them to one side of the machine.

What I claim is:—

5 1. In a sorting machine, the combination of an endless carrier; means for moving the carrier arranged to cause it to travel upwardly during part of its course; a hopper adapted to discharge articles one at a time
10 through a plurality of passages open on the carrier side, and located adjacent the upwardly directed course of the carrier; and means carried by the carrier in position to pass through said passages and take the ar-
15 ticles from the passages, respectively.

2. In a sorting machine, the combination of an endless carrier; means for moving the carrier arranged to cause it to travel upwardly during part of its course; a hopper
20 adapted to discharge articles one at a time through a plurality of passages open on the carrier side, and located adjacent the upwardly directed course of the carrier; and buckets carried by the carrier, in position to
25 travel through said passages and take from them one at a time articles discharged into them from the hopper.

3. In a sorting machine, the combination of an endless carrier; means for moving the
30 carrier arranged to cause it to travel upwardly during part of its course; a hopper adapted to discharge articles one at a time through a plurality of passages open on the carrier side, and located adjacent the up-
35 wardly directed course of the carrier; buckets carried by the carrier, and adapted to travel through said passages and take from them one at a time articles discharged into
40 them from the hopper; and guards extending upwardly from said hopper, located between said passages, and adapted to dislodge articles wedged between the buckets.

4. In a sorting machine, a carrier comprising longitudinal supports, transverse
45 rails in pairs, and rings in series, located between said rails and supported thereby.

5. In a sorting machine, an endless carrier, comprising a belt at each side, transverse rails in pairs, and rings in series across
50 the carrier, located between said rails and supported thereby.

6. In a sorting machine, the combination of an endless carrier; means for moving the carrier arranged to cause it to travel up-
55 wardly during part of its course, and comprising a belt at each side, transverse rails

in pairs, rings in series across the carrier, located between said rails and supported thereby, and buckets in transverse series on the rails; and means for delivering to the buck- 60
ets articles to be sorted.

7. In a sorting machine, the combination of an endless carrier having a plurality of sorting orifices; and a guard located within the carrier, extending toward the same, and 65
adapted to engage and dislodge articles held fast in its orifices.

8. In a sorting machine, the combination of an endless carrier having a plurality of sorting orifices; and a yielding guard lo- 70
cated within the carrier, projecting toward the same, and adapted to dislodge articles held fast in its orifices.

9. In a sorting machine, the combination of an endless carrier having a plurality of 75
sorting orifices; and a guard consisting of a plate supported within said carrier, extending across it, and adapted to engage articles projecting through its orifices.

10. In a sorting machine, the combination 80
of an endless carrier having a plurality of sorting orifices; a guard consisting of a plate pivotally supported within said carrier, extending across it, and adapted to engage ar-
85 ticles projecting through its orifices; and means for holding said guard yieldingly in position.

11. In a sorting machine, the combination of an endless carrier having a plurality of sorting orifices, means for moving the car- 90
rier arranged to cause it to travel upwardly during part of its course, means projecting from the carrier for carrying and raising articles to be sorted, and a hopper arranged to deliver articles to said carrying means at 95
the point where the carrier moves upwardly.

12. In a sorting machine, the combination of an endless carrier provided with a suc-
cession of sorting orifices and with a bucket 100
projecting from the carrier adjacent to and behind each sorting orifice, means for moving the carrier arranged to cause it to travel upwardly during part of its course, and means for delivering articles to be sorted to 105
the buckets at the point where the carrier moves upwardly.

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Witnesses:

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D. GURNEE.