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SEPARATOR.

APPLICATION FILED SEPT. 15, 1909.

953,398.

Patented Mar. 29, 1910.

2 SHEETS—SHEET 1.

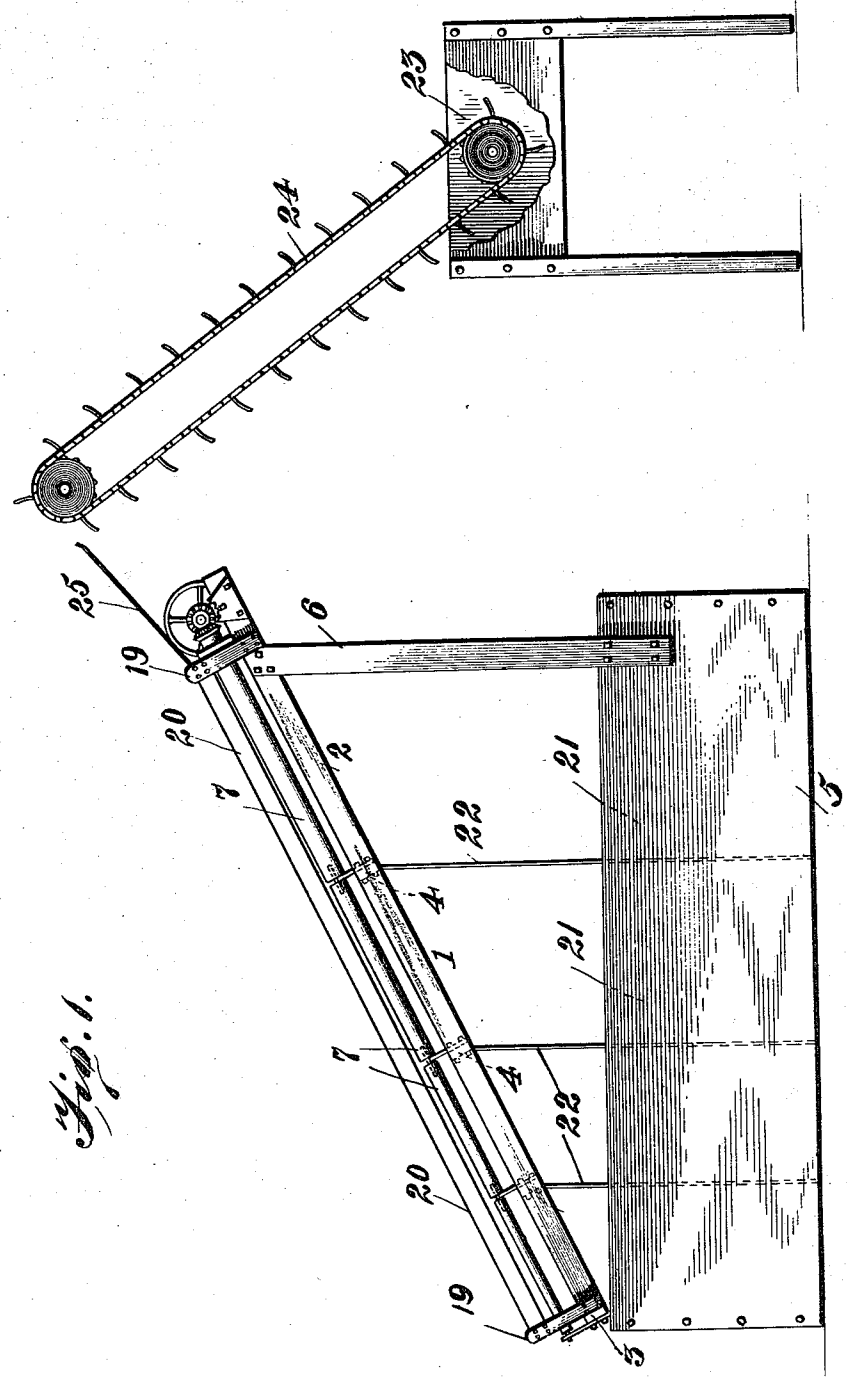

Fig. 1.

Witnesses

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2 SHEETS—SHEET 2.

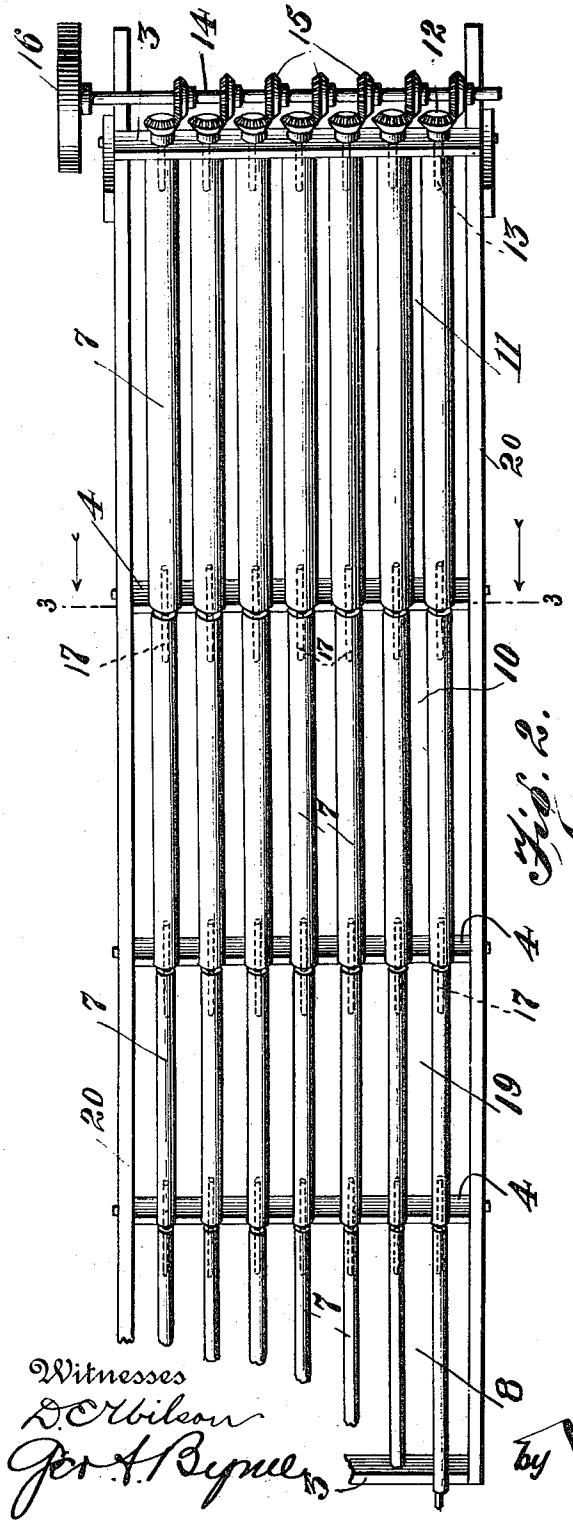

Fig. 2.

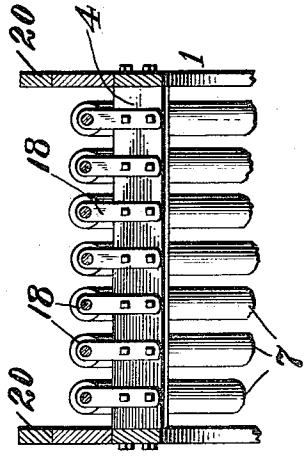

Fig. 3.

Witnesses

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UNITED STATES PATENT OFFICE.

ARTHUR R. ROGERS, OF JONESPORT, MAINE.

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To all whom it may concern:

Be it known that I, ARTHUR R. ROGERS, a citizen of the United States, residing at Jonesport, in the county of Washington and State of Maine, have invented certain new and useful Improvements in Separators, of which the following is a specification.

My invention relates to improvements in separators, and more particularly to a device of this character which is designed to facilitate the assortment of sardine herring, and other similar fish.

When fish are taken from the water in considerable quantities and processed in the aggregate, as has heretofore been the custom, some are cooked to the minimum, and others to the maximum degree, owing to the variations in the size of the fish. Apparatuses have been devised to overcome this discrepancy but they have been found to be more or less impractical for the fish are subjected to excessive treatment, frequently being skinned, and sometimes being lacerated to such an extent as to be rendered entirely worthless as an article of food.

It is, therefore, the object of my invention to provide a separator which will overcome these, and other, inherent disadvantages.

To the accomplishment of the recited object, and others coördinate therewith, the preferred embodiment of my invention resides in that construction and arrangement of parts hereinafter described, illustrated in the accompanying drawings, and embraced within the scope of the appended claims.

In said drawings:—Figure 1 is a side elevation of the apparatus embodying my invention. Fig. 2 is a top plan view of the separator proper, and, Fig. 3 is a transverse sectional view taken along lines 3—3 of Fig. 2.

Similar reference characters represent corresponding parts throughout the several views.

Referring more particularly to the drawings for a detail description of my invention, the numeral 1 designates a substantially rectangular frame comprising longitudinal or side members 2, end cross beams 3, and intermediate cross beams 4. This frame is disposed at an inclination with respect to a bin 5, with which it is connected at its upper proximal end by the uprights 6, the lower end of the frame resting against the upper edge of the corresponding end of the bin. In the direction of the length of the frame I arrange in parallelism a plurality of rollers 7, the diameters of which progressively increase from the bottom to the top in such manner as to leave intervening spaces 8, 9, 10, and 11, which vary inversely to the diameter of the rollers. The upper terminals of the rollers are provided with beveled gear wheels 12, the connection being secured in each instance by an integral shank 13, which extend through the upper end cross beam 3. Arranged transversely of the upper extremities of the side members 2 is a shaft 14 having mounted thereon gear wheels 15, which mesh with the said gear wheels 12. A fly wheel 16 is also carried by the shaft 14, and this may be obviously connected with any suitable source of power to impart a rotatory movement to the rollers 7.

I, preferably, construct the rollers 7 in sections, which are connected by the concentric pins 17, the opposed adjacent end portions of the sections being spaced sufficiently to permit the interposition of the vertical bearings 18 secured to the intermediate and lower end cross beams 3 and 2. To prevent occlusion of the openings between the rollers each series of bearings have less transverse extent than the diameter of the smaller adjacent rollers. This novel manner of supporting the rollers at intervals along their longitudinal extent precludes any likelihood of lateral displacement, and also provides for the facile detachment of any one or more of the sections in case it should be found desirable to substitute new sections.

At opposite ends of the side members 2 short uprights 19 are fastened for the purpose of supporting the guard rails 20, which manifestly prevent the fish from falling over the edges of the rollers. Beneath the frame 1 compartments, as 21, are formed by the vertical partitions 22 to receive the different assortments of fish.

In conjunction with the hereinbefore described separator, I utilize a feed-tank 23 and an endless belt conveyer 24, the latter being designed to deliver the fish to the chute 25. I propose to construct the belt conveyer of a width equal to that of the separator in order that the fish may be fed evenly to the separator, and to insure the full working capacity of the latter.

In practical operation, the fish are fed to and deposited on the rollers 7, which are ro-

tated in the manner heretofore explained. Owing to the declivity of the rollers the fish will pass downwardly, and in their course will be agitated sufficiently to segregate them according to size and cause them to pass through the appropriate spaces between the rollers, when they are precipitated into their respective compartments and then transported to their proper destination. If any of the fish are too large to be admitted between the rollers, they will eventually find their way over the lower end of the rollers, and then into any suitable receptacle which might be provided for that contingency.

The principle of my invention is applicable to farm products, as apples, potatoes, onions, etc., or any other material which is required to be culled or assorted.

It should be understood that in its broader aspects my invention comprehends the employment not only of the means described, but of equivalent means for performing the recited functions.

While the arrangement shown is thought at the present time, to be preferable, it is desired to reserve the right to effect such modifications and variations thereof as may come fairly within the scope of the appended claims.

What is claimed, is:—

1. In a device of the character described, the combination of a chute comprising a frame having cross beams, a plurality of sectional rotatable rollers progressively increasing in diameter from the bottom to the top, the ends of the sections of each roller being arranged in close proximity to each other, concentrically arranged pins for securing the opposed ends of the sections together, whereby each roller will be substantially continuous from end to end, and bearing plates carried by the intermediate cross beams and one end beam, and interposed between the opposed ends of said sections.

2. In a device of the character described, the combination of a chute comprising a frame having cross beams, a plurality of sectional rotatable rollers progressively increasing in diameter from the bottom to the top, the ends of the sections of each roller being arranged in close proximity to each other, concentrically arranged pins for securing the opposed ends of the sections together, whereby each roller will be substantially continuous from end to end, and bearing plates carried by the intermediate cross beams and one end beam, and interposed between the opposed ends of said sections, said bearing plates being of less width than the diameter of the smaller adjacent rollers.

In testimony whereof I affix my signature in presence of two witnesses.

ARTHUR R. ROGERS.

Witnesses:
O. H. DUNBAR,
EDW. B. SAWYER.