C. W. GRAHAM.

DEVICE FOR FEEDING INDIVIDUAL PIECES.

APPLICATION FILED MAR. 9, 1912.

1,158,045. Patented Oct. 26, 1915.

Fig. 1

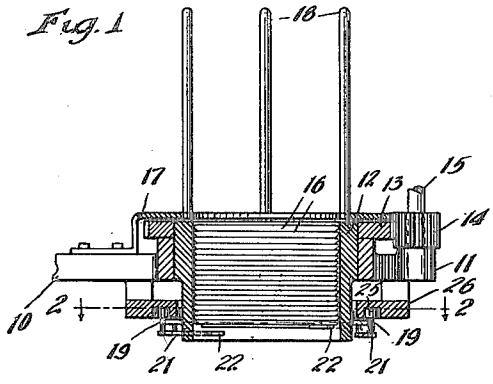


Fig. 3

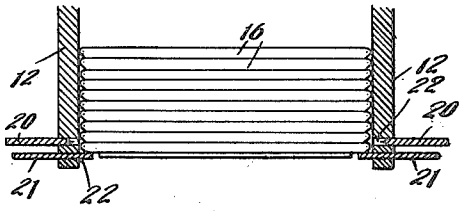


Fig. 4

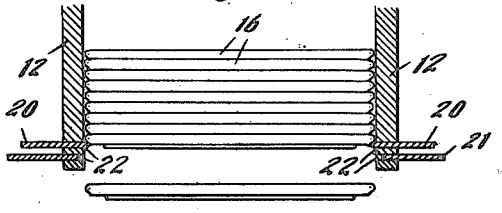
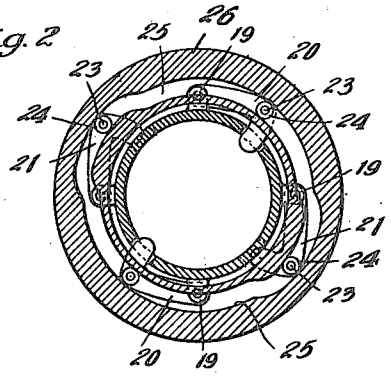


Fig. 2



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UNITED STATES PATENT OFFICE.

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DEVICE FOR FEEDING INDIVIDUAL PIECES.

1,158,045. Specification of Letters Patent. Patented Oct. 26, 1915.

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To all whom it may concern:

Be it known that I, CHARLES W. GRAHAM, a citizen of the United States, residing in Huntington, Long Island, in the county of Suffolk and State of New York, have invented a new and useful Improvement in Devices for Feeding Individual Pieces, of which the following is a specification.

This invention relates to improvements in devices for feeding individual pieces.

The object of this invention is to provide a structure which is adapted to separate individual pieces from a stack, such, for instance, as a stack of can heads, and feed the same one at a time to machines where the same are to be operated upon.

Other objects of the invention are to provide a structure which shall be compact, simple in operation, and having all of its parts easily accessible, and having also a continuous and perfectly timed operation of the elements thereof.

In the drawings, I have shown my improvements as adapted to feeding can heads, but it will be obvious that the same is equally as well adapted to feed single pieces from a stack of other articles.

In the drawings forming a part of this specification, Figure 1 is a vertical, sectional view of a structure embodying my improvements. Fig. 2 is a horizontal, sectional view, taken on the line 2—2 of Fig. 1. Fig. 3 is an enlarged, detail, vertical sectional view, showing the lower set of fingers in the position when they are adapted to support the stack, and Fig. 4 is a view, similar to Fig. 3, showing the upper set of fingers in their innermost position and adapted to support the stack of heads.

In the drawing, 10 denotes any suitable bracket attached to a machine to which can heads are adapted to be fed, said bracket being adapted to support the can head separating and delivering mechanism.

Mounted in a hub 11 in the bracket 10 is a rotatable, cylindrical carrier 12, having secured thereto at its upper end a gear 13, the gear 13 serving to retain the carrier in position.

Meshing with the gear 13 is a pinion 14 keyed to a shaft 15, the same being mounted in a suitable bearing in a part of the hub 11 and driven from any suitable source of power, whereby the carrier 12 is rotated and adapted to retain and carry therewith the stack of can heads 16. Secured to the bracket 10 and extending over the upper portion of the carrier 12 is another bracket 17, in which are secured a plurality of rods 18 which form a continuation of the carrier 12, the rods being of course mounted stationary, whereby the can heads are adapted to be readily inserted therein from the top.

Pivotally mounted on lugs 19 integrally formed with the cylindrical carrier 12 are a plurality of pairs of fingers 20 and 21, the pair 20 comprising two fingers diametrically disposed and located in a plane above the lower diametrically disposed pair of fingers 21 and separated from each other approximately the thickness of the can heads or other articles to be fed. The fingers 20 and 21 are movable into and out of the interior of the carrier 12 through slots 22, and are adapted to alternately support the stack, as shown in Figs. 3 and 4, it being obvious that as the upper set of fingers is moved inwardly, the same enter the stack between the bottom can head or other article and the one next above it, and as the lower set of fingers is withdrawn, the bottom can head is separated from the rest of the stack and falls by its own weight from the feeding mechanism. The fingers 20 and 21 are each provided with a pin 23, having mounted thereon an anti-friction roller 24 moving in a cam groove 25 in a stationary disk 26 secured to the bracket 10. The cam groove is so constructed that the upper and lower pairs of fingers will be moved inwardly and outwardly alternately, the corresponding fingers of each pair moving together, one set being in the inner position, while the other set is in the outer position.

I have shown my improvements and described the same as applied to one construction, but it is obvious that many changes and variations may be made in the details of the same without departing from the spirit of the invention, and all such changes and modifications are contemplated as fall within the scope of the appended claims.

I claim:—

1. In a device of the class described, in combination, a rotatable carrier adapted to retain a stack of can heads or other articles, and mechanism for delivering can heads or articles from the bottom of the stack one at a time while the carrier is rotating.

2. In a device of the class described, in combination, a movable carrier adapted to retain a stack of can heads or other articles, and mechanism for delivering can heads or articles from the bottom of the stack one at a time, said mechanism being carried by said movable carrier.

3. In a device of the class described, in combination, a carrier adapted to retain a stack of can ends, the carrier being rotatable about the axis of the stack, and mechanism for delivering can heads from the stack one at a time, said mechanism being carried by said rotatable carrier.

4. In a device of the class described, in combination, a rotary carrier adapted to retain a stack of can heads or other articles, and mechanism for delivering can heads or articles from the bottom of the stack one at a time, and stationary means for operating said mechanism.

5. In a device of the class described, in combination, a movable carrier adapted to retain a stack of can heads or other articles, devices, movable in a horizontal plane only for separating and discharging individual pieces from the stack, said devices being carried by the movable carrier, and stationary means for operating said devices.

6. In a device of the class described, in combination, a carrier adapted to retain a stack of can heads or other articles, said carrier being rotatable about a vertical axis coincident with the axis of the stack of heads, and mechanism for delivering can heads or articles from the stack one at a time.

7. In a device of the class described, in combination, a carrier rotatable about a vertical axis and adapted to retain a stack of can heads or other articles, mechanism for delivering can heads or articles from the bottom of the stack one at a time, and fixed means for operating said mechanism.

8. In a device of the class described, in combination, a hollow carrier movable about a vertical axis and adapted to retain a stack of can heads or other articles therewithin, and mechanism for delivering can heads or articles from the stack one at a time, said mechanism comprising a plurality of fingers movable in and out of the interior of the carrier and into engagement with the stack.

9. In a device of the class described, in combination, a rotatable carrier adapted to retain a stack of can heads or other articles therewithin, and mechanism for delivering can heads or articles from the stack one at a time, said mechanism being carried by the carrier and comprising a plurality of fingers movable in and out of the interior of the carrier and into engagement with the stack.

10. In a device of the class described, in combination, a rotatable carrier adapted to retain a stack of can heads or other articles, mechanism for delivering can heads or articles from the stack one at a time, said mechanism being carried by the carrier and comprising a plurality of fingers movable in and out of the interior of the carrier and into engagement with the stack, and stationary means for operating said fingers.

11. In a device of the class described, in combination, a carrier rotatably mounted and adapted to retain a stack of can heads or other articles, and mechanism for separating and discharging can heads from the stack one at a time, said mechanism being carried by the carrier and comprising sets of fingers movable in and out and alternately adapted to support the stack.

12. In a device of the class described, in combination, a rotatably mounted carrier adapted to retain a stack of can heads or other articles, and mechanism for simultaneously separating and discharging can heads one at a time from the stack, said mechanism comprising a plurality of pivotally mounted separating fingers, and stationary means for operating said fingers.

13. In a device of the class described, in combination, a carrier rotatable about a vertical axis and adapted to retain a stack of can heads or other articles, and mechanism for delivering can heads from the stack one at a time, said mechanism comprising sets of pivotally mounted fingers movable in and out of the carrier, the sets alternately supporting the stack, and a stationary cam for positively moving said fingers in and out.

14. In a device of the class described, in combination, a hollow carrier adapted to retain a stack of can heads or other articles, said carrier being rotatable about a vertical axis, means for rotating said carrier and mechanism for separating and discharging can heads one at a time from the bottom of the stack, said mechanism being carried by the carrier and comprising two sets of pivotally mounted fingers movable into and out of the interior of the carrier and adapted to alternately support the stack of heads, and means for moving the fingers in and out as the carrier rotates.

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