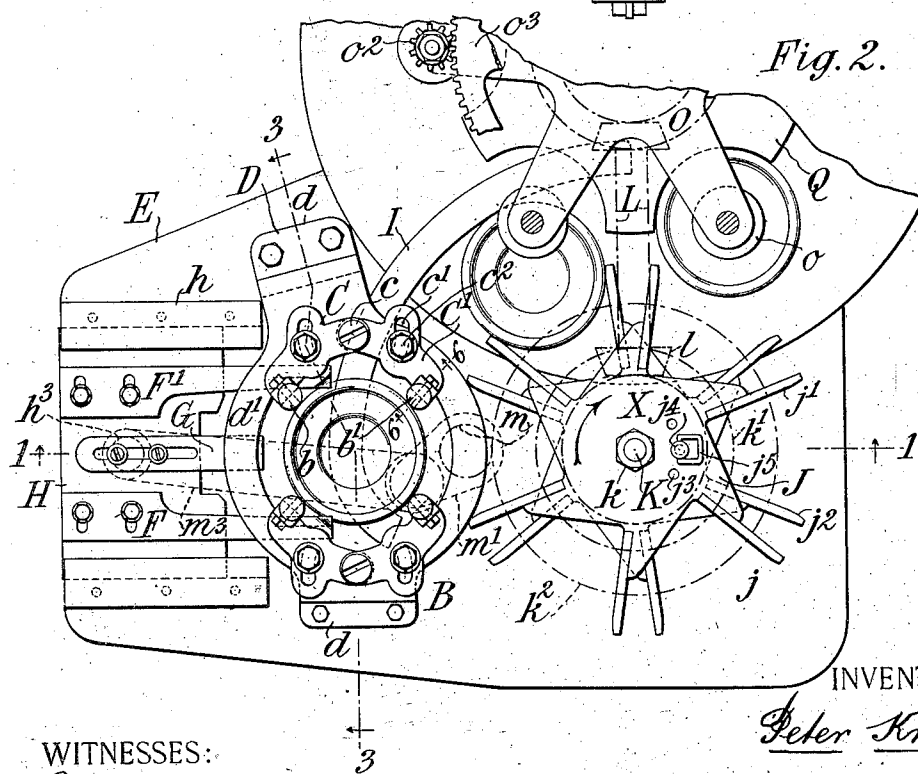
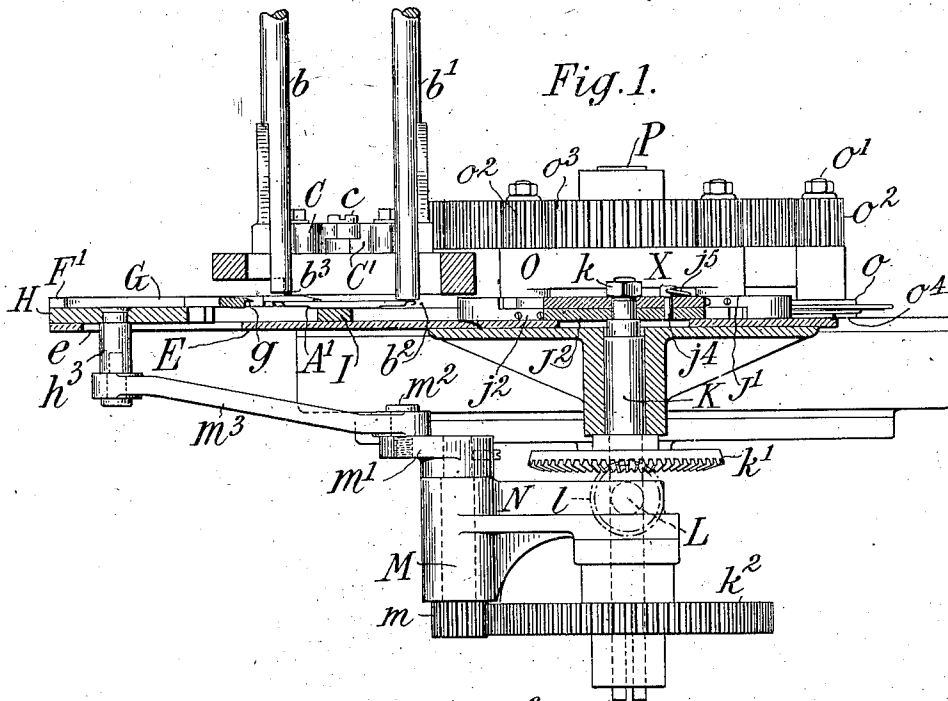


P. KRUSE.
 AUTOMATIC MECHANISM FOR FEEDING CAN HEADS.
 APPLICATION FILED FEB. 23, 1912.

1,058,372.

Patented Apr. 8, 1913.

2 SHEETS-SHEET 1.



WITNESSES:
Rene Guine
Ired White

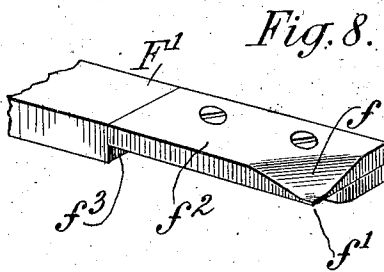
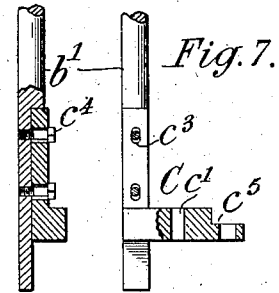
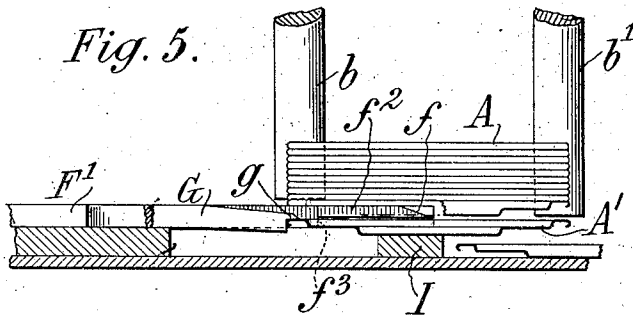
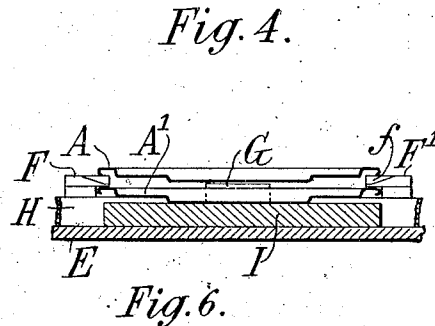
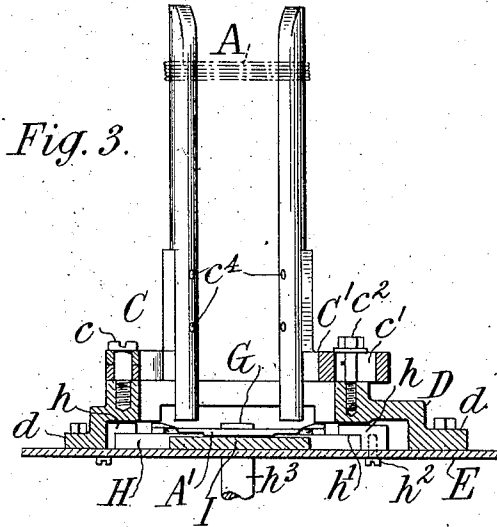
INVENTOR :
Peter Kruse,
 By Attorneys,
Fraser, Turck & Myers

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2 SHEETS—SHEET 2.



WITNESSES:
Rene Guine
Fred. White

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Peter Kruse,
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UNITED STATES PATENT OFFICE.

PETER KRUSE, OF NEW YORK, N. Y., ASSIGNOR TO E. W. BLISS COMPANY, OF BROOKLYN,
NEW YORK, A CORPORATION OF WEST VIRGINIA.

AUTOMATIC MECHANISM FOR FEEDING CAN-HEADS.

1,058,372.

Specification of Letters Patent.

Patented Apr. 8, 1913.

Application filed February 23, 1912. Serial No. 679,278.

To all whom it may concern:

Be it known that I, PETER KRUSE, a citizen of the United States, residing in the borough of Brooklyn, county of Kings, city and State of New York, have invented certain new and useful Improvements in Automatic Mechanism for Feeding Can-Heads, of which the following is a specification.

My invention relates to devices for automatically feeding can heads for use in machines where such can heads are treated. I have illustrated my invention in connection with a portion of a machine wherein said can heads may be treated as by having adhesive applied thereto, but it will be evident that the machine in which said can heads are treated after being fed is unimportant for the purposes of this present invention and forms no part thereof, and that said invention may be used in connection with any machine to which it is desired can heads should be fed.

My invention as illustrated is particularly useful in the feeding of can heads which have depressions or beads formed therein and which have raised flanges or rims. Such can heads will nest or interlock one with the other if superposed in a magazine and this relation precludes the use of ordinary feeding devices.

My invention therefore has for its object to produce means whereby nested can heads may be fed from the magazine, wherein they are contained, rapidly and with certainty and without subjecting the said can heads to any stress or strain whereby the same might become distorted.

According to my invention means are provided wherein the can heads in the magazine are separated so that the particular can head which it is desired to feed is freed from the mass, and in connection therewith means are provided for feeding the said can head from the magazine. Means are likewise provided for conveying the said freed and fed can head to its point of destination in the machine.

My invention also includes the provision of means whereby one feeding mechanism will feed can heads of varying diameters and of varying heights, and to accomplish this means are provided whereby the magazine may be increased in diameter to receive can

heads of varying diameter and wherein the magazine may be adjusted longitudinally to permit the feeding of can heads of varying heights. Furthermore separating devices are provided, whereby one can head is freed from the mass, with a capacity of adjustability, and feeding and conveying devices with a like capacity for the same purpose.

A desirable form in which my invention may be embodied is illustrated in the accompanying drawings wherein,—

Figure 1 is an elevation partly in section on the line 1—1, Fig. 2, looking up, of my invention, illustrating its application to a machine for treating can heads. Fig. 2 is a plan view of the said machine. Fig. 3 is a section on the line 3—3, Fig. 2, looking toward the left. Fig. 4 is an enlarged view of a portion of the device illustrated in Fig. 3. Fig. 5 is a fragmentary sectional view on an enlarged scale of a portion of the feeding mechanism taken on the line 1—1, Fig. 2, illustrating a stack of nested can heads in the magazine which have been raised by the separators so that the lower can head is free and is about to be engaged by the feed bar. Figs. 6 and 7 are detail views partly in section, illustrating the adjustability of the magazine posts upon their supporting brackets. Fig. 8 is a detail view of the operative end of one of the separators.

In accordance with my invention I provide a magazine wherein the can heads are superposed and in which they are permitted to become nested, as illustrated in Fig. 5. The particular can head to which my invention is directed is there illustrated, and it will be perceived that the portions of adjacent can heads interlock in such a manner that the feeding of one can head from the mass while so interlocked is impossible. The said magazine is provided with a feed opening at its lower front end and likewise with openings to permit the entrance of the separating and feeding devices. The parts of the magazine are likewise made adjustable radially with respect to the can heads to permit of the use of the machine with varying diameters of can heads, and the parts are likewise adjustable longitudinally or vertically in the form illustrated, so that the heights of the openings at the bottom may be varied to suit varying heights of can

heads. In combination with the said magazine I employ reciprocating separators which are adapted to alternately pass within the vertical lines of the stack of can heads and withdraw therefrom. The said separators have thin wedge-shaped faces which entering between the flanges of adjacent can heads lift the superposed can heads and raise them above the lowermost can head and therefore free the lowermost can head. When the said can head is so freed, a feeding bar having an engaging face which prevents the can head from riding up thereon engages the rear side of the can head and feeds the same forward through the feed opening and out of the magazine. The said separators are likewise made adjustable to accommodate varying sizes of can heads, as is also the feed bar. The said can head is so fed within the path of a rotary carrier that the latter in connection with a curved guide bar conveys the can head to its point of destination in the machine where it is to be used. Said carrier is likewise made adjustable to accommodate varying diameters of can heads.

The particular form which I have chosen to illustrate as embodying my invention is the best now known to me. It is practical and in use has been found capable of feeding can heads at a high rate of speed. While its detail construction may be greatly varied without departing from the principles of my invention, I will describe the same in the form in which it is illustrated.

Can heads A are inserted in the magazine which as a whole I designate B. The drawings illustrate the said can heads as being inserted with the top uppermost, in which form they are usually fed. The magazine B comprises a plurality (illustrated as four) of posts $b\ b'$. The said posts are each supported upon brackets C C' and the said brackets are pivoted by a pivot screw bolt c to a frame or support D which is suitably bolted to the table E. The said frame D has projecting lugs d by which it is bolted to the table and has a central part in the form of a ring or annulus d' . This ring or annulus is raised some distance above the table at both its front and rear ends; at the front end to provide for the feeding of a can head therethrough and at its rear end to permit the introduction of the feeding and separating devices. The front posts b' are raised above the table E a sufficient distance to permit the feeding of a single can head, to wit, the lowermost can head in the stack thereunder. This is seen from Fig. 1 wherein the said feeding space is lettered b^2 and the said posts b' act to retain the remainder of the can heads which have been lifted by the separating devices and to prevent their being fed forward or from in any way interfering with the feed of the lowermost can

head. The lowermost can head in Fig. 1 is illustrated as being in a position to be fed and will be lettered A'. The space between the bottom of the post b and the table E is sufficient to permit the passage of the separators and feed bar, as illustrated in Fig. 1, and is lettered b^3 . To permit can heads of varying diameters to be contained within the magazine B, I prefer to provide the said posts $b\ b'$ with means whereby they may be adjusted toward and from the said can heads. To accomplish this the brackets C C' are adapted to swing upon their pivots c and are slotted at c' to receive a set screw c^2 which is threaded into the frame D. By means of these parts the said posts $b\ b'$ may be adjusted in and out and may be fixed in adjusted position. I prefer likewise to provide means whereby the said magazine may be adjusted to suit can heads of varying heights so that the spaces $b^2\ b^3$ may be varied to accommodate such heights. To accomplish this the posts are made separate from the brackets C C'. These brackets are provided with slots c^3 , Figs. 6 and 7, and binding screws c^4 pass through the said slots and are threaded into the said posts, whereby the posts are capable of adjustment upon the said brackets. A desirable arrangement as shown is that wherein two brackets C C' are mounted upon a single pivot c and to accomplish this the brackets are shouldered as illustrated at c^5 , Fig. 7, the corresponding bracket being shouldered on the under side and the ends of the shoulder being curved concentrically with the pin c so that the said brackets may freely swing one upon the other. The means for freeing the can head which is to be fed, and which is illustrated as the lowermost can head, from the superposed mass of can heads, is illustrated in plan in Fig. 2 and in detail in Fig. 8. Such means comprise a pair of separating bars F F' and are referred to herein as separators. The said bars are adapted to reciprocate in such manner that they shall alternately pass between the lowermost can head and the superposed stack or mass of can heads and emerge therefrom. They are illustrated as reciprocating in a parallel path and engaging opposite sides of the can head, which is a convenient mode but is not the only mode by which the said separators could be reciprocated to engage opposite sides of the can head. The said separators reciprocate beneath the ring d' . They are beveled at f toward the inner corner f' of the tip or front portion and are located at such a height as that when reciprocated forwardly the corner f' will pass between the flange of the lowermost can head A' and the one immediately superposed thereon. As said separator travels farther in its forward motion the stack of superposed can heads will ride up on the top or face f^2 thereof, which raises

them to such a height that the lowermost can head A' is entirely freed from the remainder and may be fed. A recess f^3 is formed upon the under inner side of the said separators F F', as illustrated in Fig. 8, for the purpose of enabling the said separators to ride over the can head A' without moving the same. The said can head A' being so freed is then fed forward by the feed bar G.

In Fig. 5 the said bar G is illustrated in position where it is engaged with the said lowermost can head and is about to feed the same forwardly. It is provided with a feed or can engaging face which has an overhanging lip or flange g , the object of which is to pass over the can head about to be fed and prevent the same riding up or being pushed up by the feed bar. The said feed bar G reciprocates toward and from the can heads and is illustrated as reciprocating in the same direction as the separators. A convenient arrangement for reciprocating the said separators and feed bar is illustrated. Here the feed bar and separators are each mounted upon a reciprocating carriage H whereby they are all fed forwardly and back at the same time. The operative parts of the separators are sufficiently in advance of the feeding face of the feed bar so that the can heads superposed upon the lowermost can head A' shall have been lifted before the feed bar engages the lowermost can head to feed the same. The said carriage H is guided in its travel by guide rails h which are undercut to receive the same at h' , as illustrated in Fig. 3, and the said guide rails are maintained in position by screws h^2 tapped therein upon the under side of the table E. The can head thus fed forward by the feed bar G passes through the space b^2 and drops within the control of devices by which the same is carried and guided to its destination. Such devices may take any one of a large number of convenient forms. As illustrated they comprise a feed guide bar I which is curved upon its guiding face and extends beneath the magazine so that it shall be in a position to receive the can head as fed. In such position the said guide bar in the particular construction illustrated forms a rest or support for the stack of can heads in the magazine. A rotary carrier lettered as a whole J and which is provided with a series of peripheral recesses j is mounted upon a shaft K and turns in the direction of the arrow, Fig. 2. The inner guiding face of the feed guide bar I is concentric with the rotary carrier J, whereby the can head so fed forward from the magazine is received between one of the recesses j and the said guide bar I and is fed forward to its point or place of destination. By reason of the fact that my feeding device is intended to accommodate can heads of varying diameters I prefer to

construct the said carrier J so that it shall accommodate said varying size can heads, and this may be accomplished by constructing the same in two parts, which are relatively adjustable, and these are composed of upper and lower spiders J' J². Each of the said spiders is composed of a central star wheel X and projecting fingers j' j^2 one of which is secured on the straight side of each tooth of the star wheel. The fingers j' are in the upper spider and fingers j^2 in the lower spider. The can head space or recess j is formed between adjacent fingers j' j^2 . The said spiders are secured upon the rounded end of shaft K by a nut k which is threaded thereon and upon loosening the said nut the said spiders may be adjusted relatively to one another, thereby increasing or diminishing the space j between the fingers j' and j^2 , and permitting said carrier to accommodate larger or smaller diameters of can heads. Means are provided for fixing the said spiders in adjusted position relatively to each other. The diameters of can heads are substantially fixed within certain limits which may be determined in advance. Therefore I provide the said spiders J' J² with a series of openings j^3 and I provide also a locking pin j^4 which is adapted to fit in said openings when they are registered and to hold them in such position. A handle j^5 permits the withdrawal of said pin.

Means are provided for operating the parts as follows:—Upon the main shaft L a beveled gear l meshes with a similar gear l' upon the shaft K and causes the same to turn. Upon the same shaft a gear l^2 meshes with a pinion m upon a shaft M shown in dotted lines in Fig. 1. Upon the upper end of this shaft a crank arm m' through wrist pin m^2 engages a pitman m^3 which is pivoted upon a post h^3 secured to the table H. This post passes through a slot e in the table E as it travels to and fro in reciprocating the carriage H. The carrier J is rotated directly from the shaft K. The said shafts K and M are supported in a bracket N, Fig. 1, which forms part of the frame of the machine.

I have illustrated my feeding device in connection with a fragment of a machine for applying adhesives to can heads, patented to me March 14, 1911, No. 986,469. The said machine is illustrated for convenience only and as showing one possible adaptation of my feeding device, and it is to be understood that the said feed device is in no manner limited in its application to the said machine. Here a spider O rotating about a shaft P carries pads o of a chuck for holding can heads. The said chucks are mounted upon shafts o' and have pinions o^2 by which the said pads are turned from a fixed gear o^3 thereby gear o^3 and pinion o^2 constitute sun and planet wheels. A series of lower pads o^4 are likewise mounted to rotate about the

shaft P and are free to turn with the upper pad *o* when clutched thereto. The said chuck composed of the pads *o o'* is separable by means not herein shown for the purpose of introduction of a can head. A notched disk Q, Fig. 2, is rotated with the spider O and is employed to center the can heads.

In the operation of my invention, a stack of can heads A is placed within the magazine B, top side up, as shown in Fig. 5. The machine then being started, the carriage H will be reciprocated forward, whereupon the separators F F' will pass between the lowermost can head A' and the one immediately above it, and will lift the stack so as to entirely free the lowermost can head. The further travel of the carriage H will cause the guide bar G to engage the said can head A' on its rear side, and will feed the same forward so that it will pass out of the feed opening *b'* in the magazine and fall within the feed guide bar I. Here it will be engaged by the carrier J and will pass within one of the pockets or recesses *j* thereof, and will be conveyed forward between the pads *o o'* which will at that time be open to receive it. The said can head will be caused to coincide with the said chuck by means of the notched disk Q which will guide it to position. As seen, as the can head is in position between the pads *o o'* of the chuck, the said pads will close and will be rotated about the shaft P, which will then be turned upon the axis of the said chucks by means of the sun-and-planet gears *o' o''* for treatment in accordance with the method described for the purpose of having adhesive applied to the under side thereof. The particular instrumentalities employed for treating the said can heads in the said machine, are fully illustrated and described in my Patent No. 986,469, and are not illustrated here as they form no part of this present invention.

While I have described with great particularity the detail features of construction of my said feeding mechanism, it will be apparent that the invention is not necessarily limited thereto, as many changes may be made therein, and equivalent devices employed, within the limits of the appended claims.

What I claim is:—

1. A can head feeding device comprising a magazine wherein the bottom can head of the mass is normally in the path of movement of a feeding device, moving separators adapted to move the mass away from said bottom can head and to support said mass in such position, and a moving feeding device adapted to feed said bottom can head while the mass is so supported.

2. A can head feeding device comprising a magazine wherein the bottom can head of the mass is normally in the path of movement of a feeding device, reciprocating sep-

arators adapted to move the mass away from said bottom can head, and to support said mass in such position, and a reciprocating feeding device adapted to feed said bottom can head while the mass is so supported, and a carrier for conveying said can head to its destination.

3. A can head feeding device comprising a magazine wherein the bottom can head of the mass is normally in the path of movement of a feeding device, reciprocating separators adapted to move the mass away from said bottom can head, and to support said mass in such position, and a reciprocating feeding device adapted to feed said bottom can head while the mass is so supported, and a carrier for conveying said can head to its destination, and a guide cooperating with said carrier.

4. A can head feeding device comprising a magazine and means for adjusting same to the diameter of the can heads wherein the bottom can head of the mass is normally in the path of movement of a feeding device, reciprocating separators adapted to move the mass away from said bottom can head and to support said mass in such position, and a reciprocating feeding device adapted to feed said bottom can head while the mass is so supported.

5. A can head feeding device comprising a magazine and means for adjusting same to the diameter of the can heads wherein the bottom can head of the mass is normally in the path of movement of a feeding device, reciprocating separators adapted to move the mass away from said bottom can head and to support said mass in such position, means for adjusting same to the diameter of the can heads, and a reciprocating feeding device adapted to feed said bottom can head while the mass is so supported.

6. A can head feeding device comprising a magazine wherein the bottom can head of the device is normally in the path of a feeding device, means for adjusting same to can heads of varying diameters, reciprocating separators adapted to move the mass away from said bottom can head and to support said mass in such position, means for adjusting said separators to can heads of varying diameters, and a reciprocating feeding device adapted to feed said bottom can head while the mass is so supported, and means for adjusting same to can heads of varying diameters.

7. A can head feeding device comprising a magazine wherein the bottom can head of the device is normally in the path of a feeding device, reciprocating separators adapted to move the mass away from said bottom can head and to support said mass in such position, means for adjusting said separators to can heads of varying diameters, and a reciprocating feeding device adapted to

feed said bottom can head while the mass is so supported, and means for adjusting same to can heads of varying diameters.

8. A can head feeding device comprising a magazine wherein the bottom can head of the device is normally in the path of a feeding device, reciprocating separators adapted to move the mass away from said bottom can head and to support said mass in such position, means for adjusting said separators to can heads of varying diameters, and a reciprocating feeding device adapted to feed said bottom can head while the mass is so supported, means for adjusting same to can heads of varying diameters, a carrier for conveying said can head to its destination adapted to be adjusted to convey can heads of varying diameters, and a guide cooperating therewith.

9. A can head feeding device comprising a magazine wherein the bottom can head of the mass is normally in the path of movement of a feeding device, means for adjusting said magazine to can heads of varying heights, reciprocating separators adapted to move the mass away from said bottom can head and to support said mass in such position, and a reciprocating feeding device adapted to feed said bottom can head while the mass is so supported.

10. A can head feeding device comprising a magazine, wherein the lowermost can head of the mass is normally in the path of movement of a feeding device, moving separators adapted to enter between the lowermost can head and the superposed mass and lift said mass away from said lowermost can head and to support the said mass in such position, and a moving feeding device adapted to feed said lowermost can head while the mass is so supported.

11. A can head feeding device comprising a magazine, wherein the lowermost can head of the mass is normally in the path of movement of a feeding device, reciprocating separators adapted to enter between the lowermost can head and the superposed mass and lift said mass away from said lowermost can head and to support the said mass in such position, and a reciprocating feeding device adapted to feed said lowermost can head while the mass is so supported, a carrier adapted to convey said can heads to the point of destination, and a guide cooperating therewith.

12. A can head feeding device comprising a magazine, wherein the lowermost can head of the mass is normally in the path of movement of a feeding device, reciprocating separators adapted to enter between the lowermost can head and the superposed mass and lift said mass away from said lowermost can head and to support the said mass in such position, and a reciprocating feeding device adapted to feed said lower-

most can head while the mass is so supported, a rotary carrier adapted to convey said can heads to the point of destination and a curved guide cooperating with said carrier.

13. A can head feeding device comprising a magazine, wherein the lowermost can head of the mass is normally in the path of movement of a feeding device, separators reciprocating in a plane parallel to the can heads in said magazine and having tips beveled on their upper inner sides, adapted to enter between the lowermost can head and the superposed mass and lift said mass away from said lowermost can head and to support the said mass in such position and a reciprocating feeding device adapted to feed said lowermost can head while the mass is so supported.

14. A can head feeding device comprising a magazine, wherein the lowermost can head of the mass is normally in the path of movement of a feeding device, reciprocating separators adapted to enter between the lowermost can head and the superposed mass and lift said mass away from said lowermost can head and to support the said mass in such position, and a reciprocating feeding device adapted to feed said lowermost can head while the mass is so supported, and a reciprocating carriage adapted to support said separators and said feeding device.

15. A can head feeding device comprising a reciprocating carriage, separators mounted therein which are out of contact with the can heads at the beginning of the feeding movement of the carriage and which have their tips shaped to enter between the end can head and the juxtaposed mass and are adapted on the feeding movement of said carriage to enter the mass between the end can head and the juxtaposed mass and to separate said end can head from the mass and to retain said mass in such separated position, and a feeding device mounted in said carriage and adapted on the same feeding movement to engage and feed said end can head while the mass is so held separated.

16. A can head feeding device, comprising a reciprocating carriage, separators mounted therein having their tips shaped to enter between the lowermost can head and the superposed mass, and adapted on the feeding movement of said carriage to enter the mass immediately above said lowermost can head and to raise said mass above said lowermost can head, and a feeding device mounted in said carriage and adapted on the same feeding movement to engage said lowermost can head while the mass is so supported and feed the same, said feeding device having an overhanging forward edge whereby the said can head is held down as it is fed.

17. A can head feeding device, compris-

ing a reciprocating carriage, separators mounted thereon so as to be laterally adjustable, and having their tips shaped to enter between the lowermost can head and the superposed mass, and adapted to raise said mass above said lowermost can head, and a feeding device mounted in said carriage and longitudinally adjustable therein, and adapted to engage said lowermost can head while the mass is so supported and feed the same.

18. A can head feeding device comprising a magazine, wherein the lowermost can head of the mass is normally in the path of movement of a feeding device, reciprocating separators adapted to enter between the lowermost can head and the superposed mass and lift said mass away from said lowermost can head and to support the said mass in such position, and a reciprocating feeding device adapted to feed said lowermost can head while the mass is so supported, a curved guide bar extending within said magazine and forming a support for the can heads therein, and a rotary carrier adapted in cooperation with said guide bar to receive said fed can head and convey the same to the point of destination.

19. A can head feeding machine for feeding nested can heads, comprising a magazine, the walls of which are radially adjustable to accommodate varying diameters of can heads and which has a feeding space at the bottom which may be increased or diminished in height to accommodate varying heights of can heads by longitudinal adjustment of the magazine, means for separating said nested can heads comprising a pair of reciprocating separators adapted to enter between the bottom can head and the mass and to raise the said mass of can heads and support the same, and a reciprocating feeding device adapted to feed said lowermost can head while the mass is so supported.

20. A can head feeding machine for feeding nested can heads, comprising a magazine, the walls of which are radially adjustable to accommodate varying diameters of can heads and which has a feeding space at the bottom which may be increased or diminished in height to accommodate varying heights of can heads by longitudinal adjustment of the magazine, means for separating said nested can heads comprising a pair of reciprocating separators adapted to enter between the bottom can head and the mass, and to raise the said mass of can heads and support the same, and a reciprocating feeding device adapted to feed said lowermost can head while the mass is so supported, and a reciprocating carriage wherein said separators and said feed bar are mounted, and means for adjusting them respectively to accommodate varying diameters of can heads.

21. A can head feeding machine compris-

ing a magazine, consisting of a plurality of posts, means for adjusting said posts toward and from the can heads, means for adjusting the posts longitudinally, and means for feeding said can heads out of said magazine.

22. A can head feeding machine comprising a magazine, consisting of a plurality of posts, means for adjusting said posts, comprising a swinging bracket adapted to support each post and to adjust it toward or from the can heads, and means for securing said bracket in adjusted position, and means for feeding said can heads out of said magazine.

23. A can head feeding machine comprising a magazine, consisting of a plurality of posts, means for adjusting said posts, comprising a swinging bracket adapted to support each post and to adjust it toward or from the can heads, means for securing said bracket in adjusted position, each of said posts being adjustable longitudinally upon its bracket, and means for feeding said can heads out of said magazine.

24. A can head feeding machine comprising a magazine wherein the lowermost can head is normally in the path of a feeding device, provided with a lower feed opening adapted to pass a single can head, a pair of oppositely disposed reciprocating separators having their tips beveled toward their inner corners, adapted to free the lowermost can head by engaging under the flange of a can head and lifting the superposed can heads, and supporting the same, and a rigid reciprocating feed bar having an overhanging engaging edge and acting in conjunction with said separators, and adapted as said separators raise the superposed can heads to feed said lowermost can head.

25. A can head feeding machine comprising an adjustable magazine provided with a lower feed opening adapted to pass a single can head, a pair of oppositely disposed reciprocating separators having their tips beveled toward their inner corners adapted to free the lowermost can head by engaging under the flange of a can head and lifting the superposed can heads, a reciprocating feed bar having an overhanging engaging edge, and a reciprocating carriage supporting said separators and said feed bar and slotted connections between said carriage and each of said supported parts whereby said separators are adapted for lateral adjustment to suit varying diameters of can heads and said feed bar is adapted for longitudinal adjustment for the same purpose.

26. In a can head feeding machine, a carrier having peripheral carrying recesses, the walls of which are adjustable to vary the sizes of said recesses to accommodate can heads of varying sizes.

27. In a can head feeding machine, a rotary carrier having peripheral carrying re-

cesses, the walls of which are adjustable to vary the sizes of said recesses to accommodate can heads of varying sizes, and a guide bar having a guiding face concentric with said carrier and adapted to cooperate therewith in conveying can heads.

28. A can head feeding device comprising a magazine, wherein an end can head of the mass is normally in the path of movement of a feeding device, moving separators adapted to enter between said end can head and the juxtaposed mass and move said mass

away from said end can head and to hold the said mass in such position, and a moving feeding device adapted to feed said end can head while the mass is so held.

In witness whereof, I have hereunto signed my name in the presence of two subscribing witnesses.

PETER KRUSE.

Witnesses:

W. B. BAILEY,
F. C. FLADD.