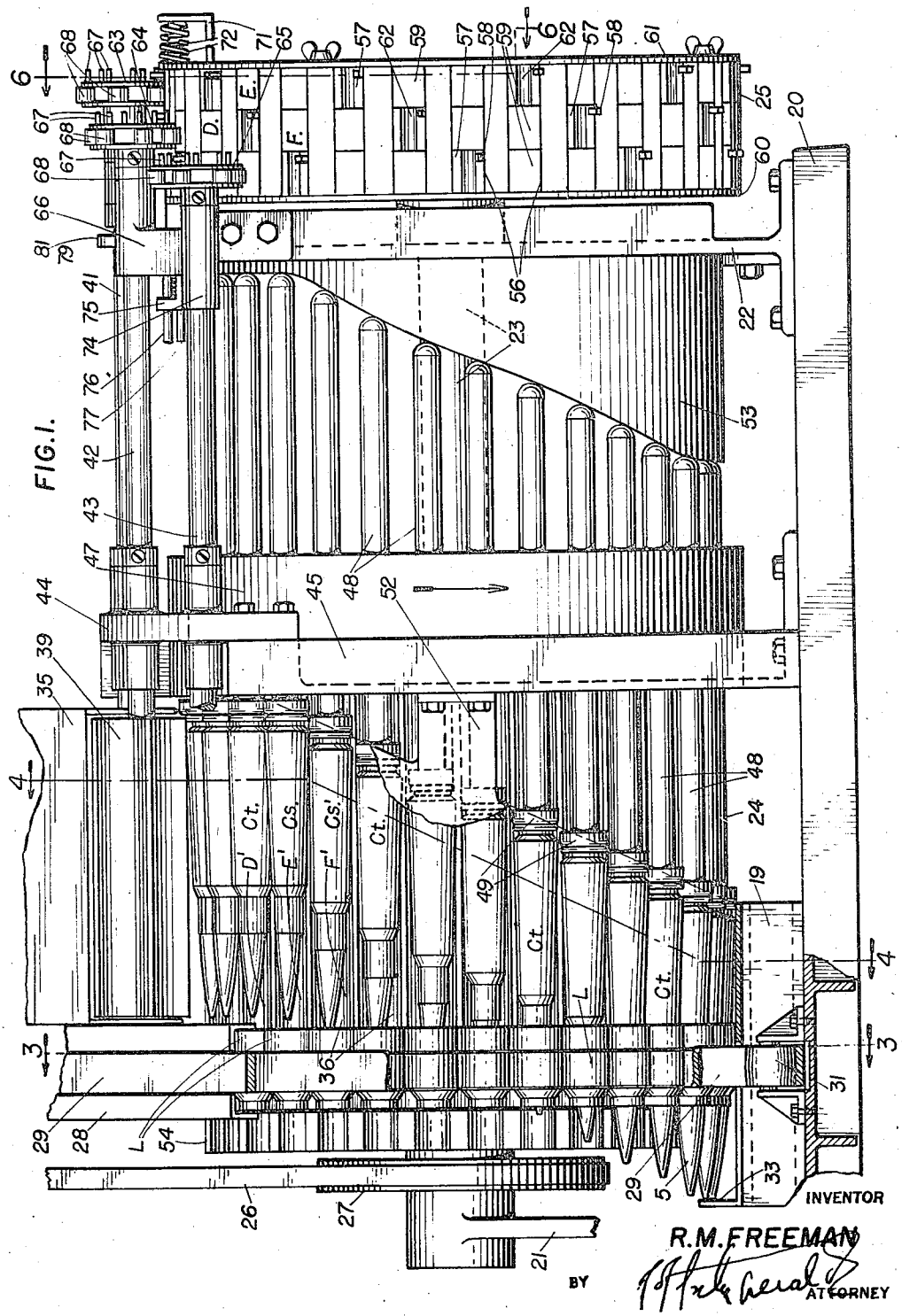
Dec. 31, 1946. R. M. FREEMAN 2,413,316

ROTARY BELT LOADING MACHINE

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Dec. 31, 1946. R. M. FREEMAN 2,413,316

ROTARY BELT LOADING MACHINE

Filed March 20, 1942 6 Sheets-Sheet 2

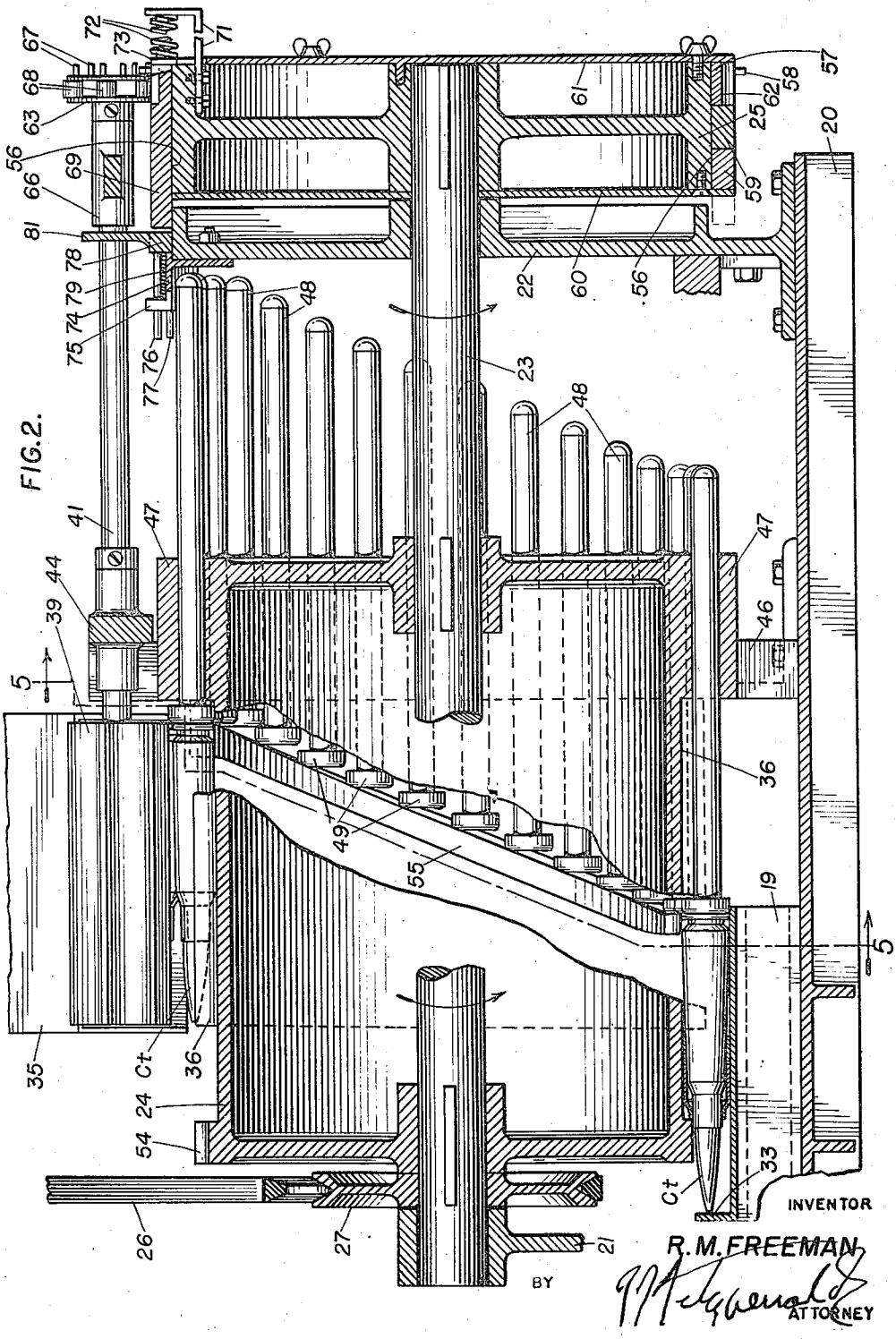


FIG. 2.

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ROTARY BELT LOADING MACHINE

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FIG.7.

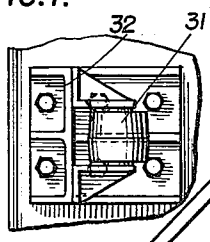
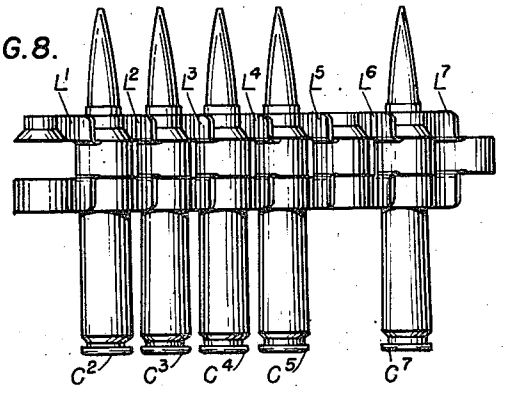


FIG.3.

FIG.8.



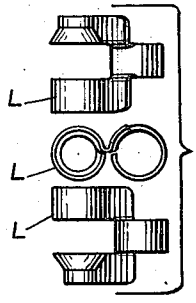


FIG.9.

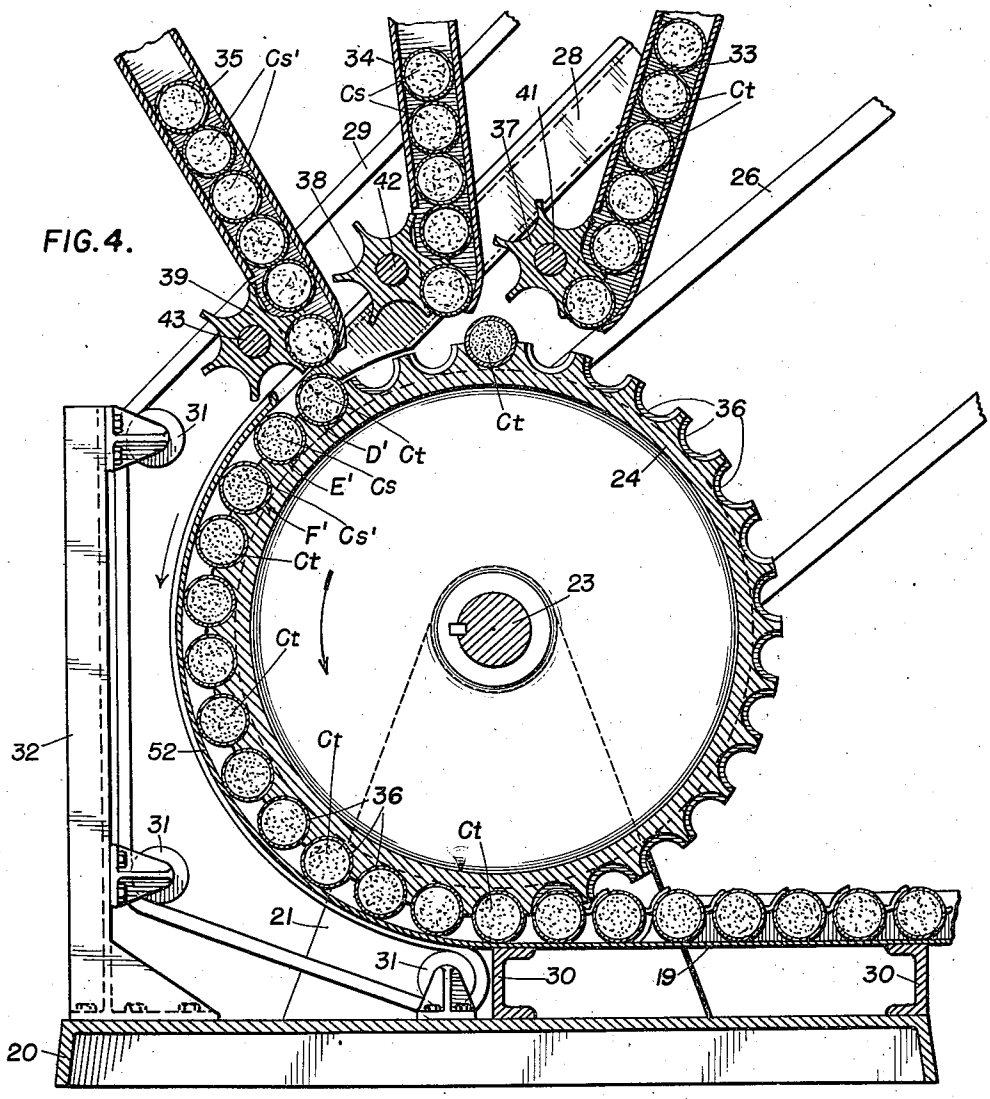
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ROTARY BELT LOADING MACHINE

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FIG. 4.



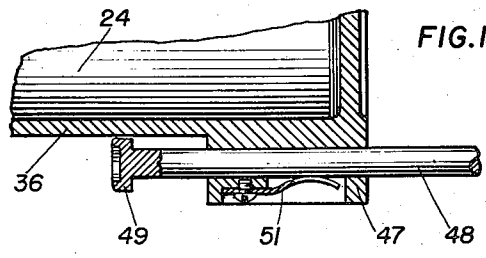


FIG. 15.

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ROTARY BELT LOADING MACHINE

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FIG.5.

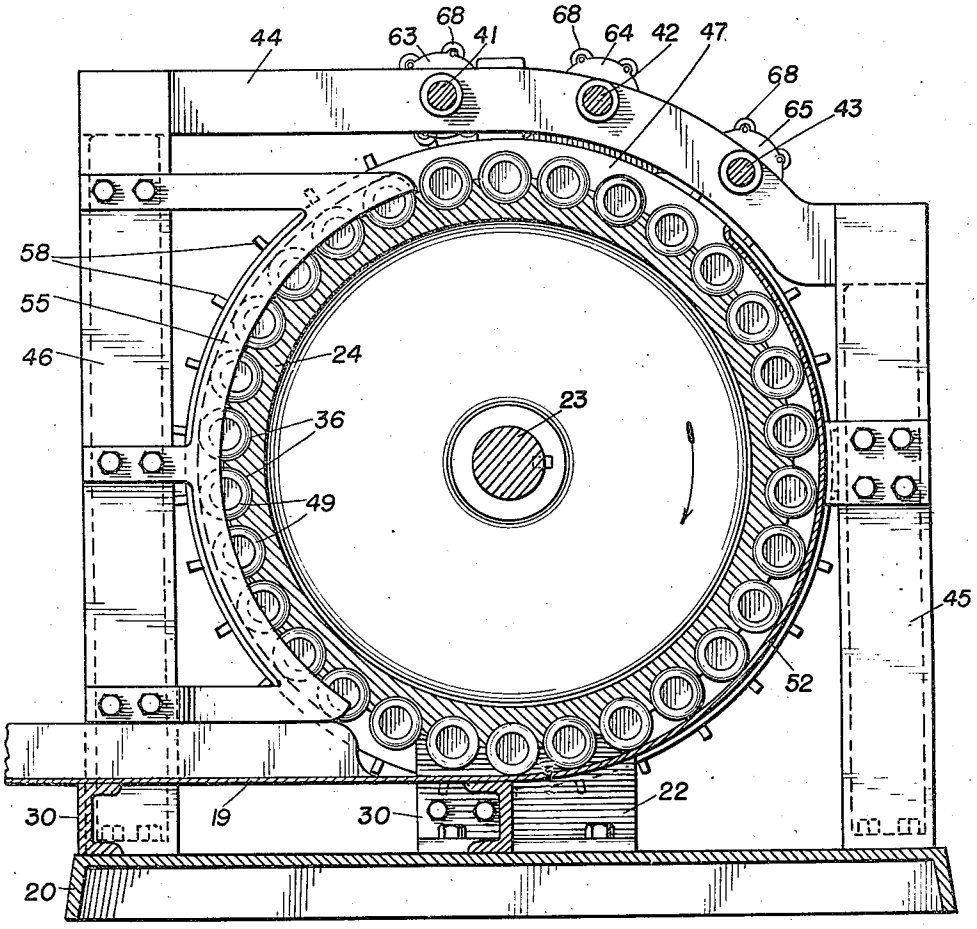


FIG.14.

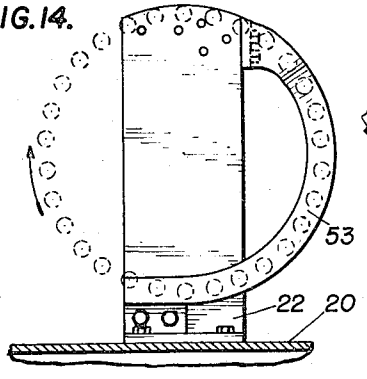
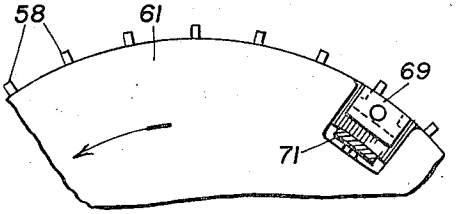


FIG.13.



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ROTARY BELT LOADING MACHINE

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FIG.6.

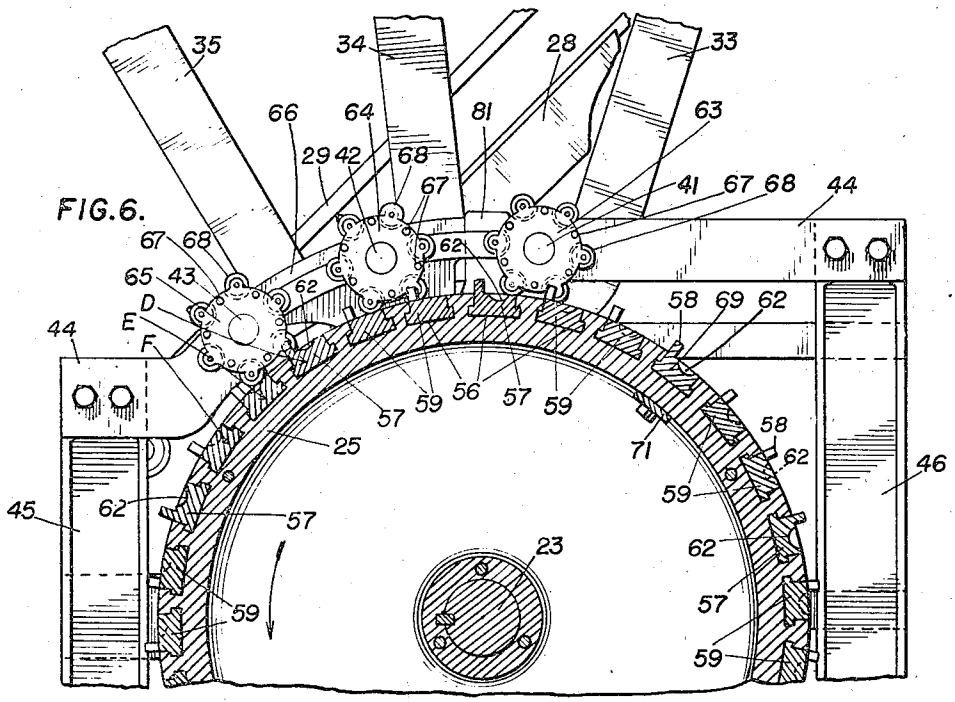


FIG.10.

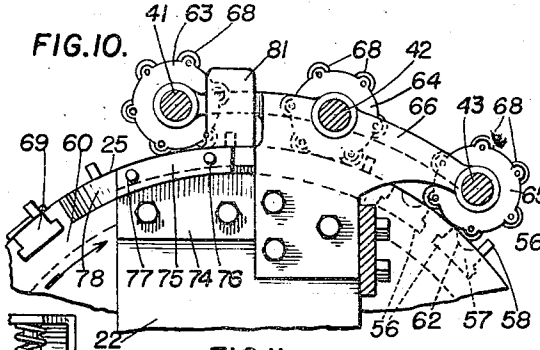


FIG.12.

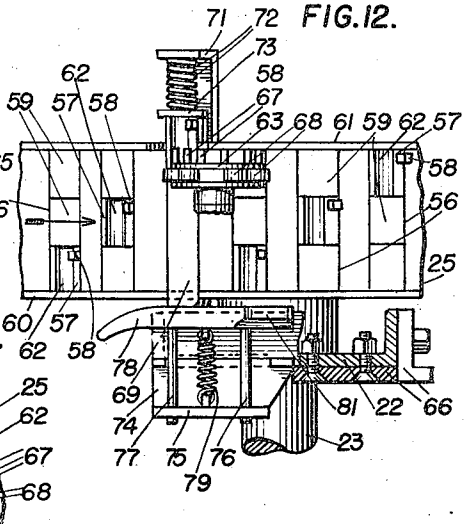
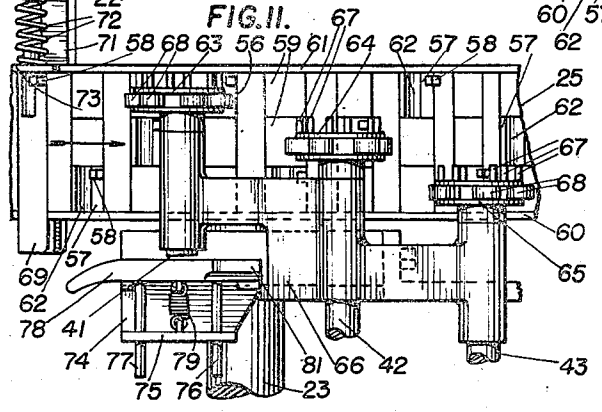


FIG.11.



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Patented Dec. 31, 1946 2,413,316

UNITED STATES PATENT OFFICE

2,413,316

ROTARY BELT LOADING MACHINE

Robert M. Freeman, United States Navy

Application March 20, 1942, Serial No. 435,523

12 Claims. (Cl. 86—48)

(Granted under the act of March 3, 1883, as amended April 30, 1928; 370 O. G. 757)

1

This invention relates to a machine for making ammunition belts, and particularly to that type of belt known as a disintegrating belt, in which the individual rounds of ammunition, together with the clips or links, form a continuous belt which is broken up into its component elements as it passes through the gun in which the ammunition is being fired.

Inasmuch as machine guns can be made to fire at speeds up to 1500 rounds per minute it is evident that to be used in these guns, high speed is necessary in forming the belts or else a disproportionate amount of time will be consumed solely in their preparation.

A device, operated by hand, has been used to form these belts by aligning ten cartridges at a time in position to be rammed into an equal number of clips. It is obvious that a device of this kind is totally inadequate. Other devices have been developed in which cartridges and clips are supplied from appropriate magazines to a reciprocating ramming mechanism. These loaders are much more satisfactory than hand loaders but are still too slow, and thus take up too much of the time of personnel.

In the present invention a plurality of types of ammunition may be fed to a rotating drum by means of an appropriate selector mechanism, after which a plurality of rammers, actuated by a cam, force the cartridges into the belt clips.

One of the objects of this invention is to load rounds of ammunition to belt clips wherein the clips are loaded in considerably less time than heretofore.

Another object of the invention is to load rounds of ammunition of different types to the belt clips.

Another object is to load rounds of ammunition of different types to the belt clips in a predetermined order.

Still another object of the invention is to load rounds of ammunition of different types to the belt clips in a predetermined order wherein the order may be changed as desired.

A further object of the invention is to load rounds of ammunition of the same or different type wherein the belt is "broken" at spaced intervals to provide individual belt clips of a desired length without stopping, slowing down or disrupting the continuous operation of the loading machine.

Still further objects, advantages, and improvements will be apparent from the following description of the invention taken in connection with the accompanying drawings, of which:

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Figure 1 is a front elevation of the device, some of the parts being broken away and others in section, the cover for the cartridge carrying drum being removed.

Figure 2 is a longitudinal sectional view through the machine with the drum and shaft broken away to show the returning cam for the rammers.

Figure 3 is a vertical sectional view taken on the line 3—3 of Fig. 1 showing the clip, or link, receiving end of the drum.

Figure 4 is a vertical sectional view of the cartridge carrying drum, taken on the line 4—4 of Fig. 1.

Figure 5 is a vertical sectional view taken on the line 5—5 of Fig. 2 with the cartridges removed to show details of the rammer returning cam.

Figure 6 is a vertical cross-sectional view taken on the line 6—6 of Fig. 1 showing the cartridge selecting drum in detail.

Figure 7 is a detail view of a supporting bracket for the link supporting belt.

Figure 8 is a detail view of a portion of a loaded belt, one of the cartridges being left out to show a "break" in the belt.

Figure 9 is a view showing a top plan, side elevation, and bottom plan of one of the belt clips, or links.

Figure 10 is a detail view, with parts in section, of the selecting drum and the operating block for "breaking" the belt.

Figure 11 is a top plan view of the parts shown in Fig. 10, the operating block cam being in the inoperative position.

Figure 12 is a view similar to that of Fig. 11 with some of the parts removed and some in section to show the cam in its operative position.

Figure 13 is a detail rear elevation of the selecting drum showing the removable plate and operating block.

Figure 14 is a detail face view of the rammer projecting cam on a reduced scale.

Figure 15 is a detail sectional view of a portion of the rammer receiving end of a modified form of drum showing a means for frictionally engaging the rammer.

Referring now to the drawings, on which like numerals of reference are employed to designate like parts throughout the several views, and more particularly to Figs. 1 and 2, there is shown therein a form of the device mounted upon a base member 20, which supports the upright members 21 and 22. A shaft 23 rotates in suitable bearings provided in the upright supporting members 21 and 22. A drum 24, which may be called the

cartridge carrying drum, is supported on the shaft 23 and is fixed to rotate with it by means of keys or other suitable means. Another cylindrically shaped member, or drum 25, which may be called the selector drum, is also attached to rotate with the shaft 23 by means of keys or other suitable attaching means. Power to turn the shaft is supplied from a source not shown which operates a belt 26 running on the pulley 27, which in turn is fixed to the shaft 23 by a suitable means such as a key or set screw.

A chute 28 for the belt links L is supported by any appropriate means (not shown) so as to feed the links to the receiving portion of the cartridge carrying drum 24. The chute 28 is open along the top central section of its entire length to allow a space in which the flexible belt 29 runs, as may be seen in Figs. 1 and 3. This belt is supported on idler pulleys 31 (shown in detail in Fig. 7) attached to the base 20 and to a bracket 32 in such a way that it bears against the links L and holds them in place on the cartridge carrying drum during the time that they are traveling from the link chute 28 to the delivery tray 33 supported on base 20 by the member 30. The belt 29 may be driven from the same source which drives the shaft 23, or from a source (not shown) independently therefrom, but in either event, the driving source is preferably arranged so that the belt travels at a slightly greater linear speed than the peripheral speed of the drum 24, so as to tend to crowd the links L close together while being fed to, and around, the drum.

A plurality of cartridge magazines 33, 34, and 35, (see Fig. 4) supported by any suitable means (not shown), are provided for the purpose of feeding cartridges to the channels 36 on the cartridge carrying drum. There may be any number of these magazines according to the limitations of the machine, or there may be only one. In some instances it may be desirable to load the belt with different types of ammunition, such as tracers, service ammunition, dummy cartridges, etc., in a predetermined order. In such event, the use of a plurality of cartridge magazines will facilitate loading of the belt in the selected order. Obviously, however, the same type of ammunition could be loaded into each magazine, if desired. Furthermore, when more than one type of ammunition is used, it is not necessary to limit each type to a single magazine, but one or more types may be placed in a plurality of magazines in a selected order to enable wider variations in the loading order of the different types of ammunition, as well as distributing the load on the moving parts of the machine. Also, if desired, different types of ammunition may be placed in each one or all of the magazines to give wider variations in the order of loading. A retarding means, such as the star wheels 37, 38 and 39, are provided at the lower ends of the magazines, the arms of the star wheels projecting into the magazine to control the feeding of the cartridges. The star wheels are fixed to the shafts 41, 42, and 43 respectively, which rotate in suitable bearings provided in the cross bar 44 (Fig. 5) supported on brackets 45 and 46, brackets 45 and 46 being attached to the base member 20. Operation of any of the retarding means (by apparatus to be later described) will permit a cartridge in the magazine to which the retarding means is attached to drop in the adjacent channel 36 in the cartridge carrying drum.

Around the periphery of one end of the cartridge carrying drum there is an extended portion 47 (see Fig. 2) of larger diameter than the main section of the drum. This portion is provided with a plurality of holes longitudinally disposed in alignment with the channels 36 in the main portion of the drum, there being one hole for each channel. Push rods, or rammers, 48 slide within these holes. The rammers 48 have enlarged heads 49 which engage the bases of the cartridges and these heads preferably are dished out in the center so as to avoid any possibility of setting off the primers. This construction is shown in detail in Figure 15 in which modification the enlarged portion 47 of the drum is cut away to expose a portion of the rammer 48. Friction elements 51 may be attached to the drum so as to press against the rammers 48 and prevent idle motion.

A cover 52 (see Fig. 4) fits over that portion of the cartridge carrying drum between the magazines and the delivery tray 33 for the purpose of keeping the cartridges secure in the channels 36. An operating cam 53 (see Figs. 1 and 14) is attached to the support 22 so as to engage the rear ends of the rammers 48. Thus, when the drum 24 rotates in the direction shown by the arrows the rammers are progressively pushed forward to force the cartridges into engagement with the belt links L. The contour of the cam 53 may be such that the rate of advance of the rammers is comparatively rapid during the first part of the stroke until the cartridges begin to firmly engage the links, after which point the rate of advance of the rammers will be reduced to provide more power and to securely seat the cartridges in the links L. A band or enlargement 54 (see Figs. 1 and 2) is provided around the forward periphery of the cartridge carrying drum 24. This band is provided to serve as an abutment for the belt links L to hold them against lateral displacement when the cartridges are rammed into place. Another cam surface 55, (see Figs. 2 and 5), attached to the support 46 by any suitable means, is provided to return the rammers 48 to their retracted position after they have rammed the cartridges into the links. The cam surfaces 53 and 55 need not be constructed specifically as shown, but any desired modification or other suitable means may be employed which will advance the rammers and cartridges forward during the travel from the magazines to the delivery tray and return the rammers to their retracted positions during movement from the delivery tray to the magazines. A single continuous cam surface, or groove located in the cylindrical area surrounding the rammers might be employed, in which case the individual rammers could be provided with suitable means to engage this groove, or cam surface.

The mechanism for selecting the ammunition from the various magazines to determine the order and ratio in which it will appear in the loaded belt will now be described (see Figs. 6, 10, 11, and 12). The selector drum 25 rotates with the shaft 23 as previously described. The drum is provided with a plurality of laterally extending guideways or grooves 56 as shown in cross-section in Fig. 6, there being as many guideways on the selector drum 25 as there are channels 36 on the cartridge carrying drum 24, although they are not necessarily in alignment. A number of sliding blocks 57 and 59 are to be inserted in these guideways, and, therefore, it is essential that the sides of the guideways be undercut in any suitable manner, or that some other provision be made, so that these blocks will be retained in the

guideways during rotation of the selector drum. In order to restrict lateral movement of the blocks a suitable means may be provided such as the plate 60 attached to the rear of the selector drum. Another plate 61 may be secured to the front face of the selector drum in such a manner as to be quickly removable in order to change the positions of the blocks 57 and 59. The blocks 59 are by-passing blocks and serve the purpose only of providing a smooth surface on the outer periphery of the selector drum as well as to properly position the operating blocks 57 in their respective guideways. The operating blocks 57 are each provided with trips 58 and depressions 62.

As previously stated, the star wheels 37, 38 and 39 are attached to and rotate with the shafts 41, 42, and 43 respectively to control the dropping of the cartridges from the magazines to the cartridge carrying drum. These shafts are operated by intermittent motion mechanisms 63, 64, and 65 attached to the ends of shafts 41, 42, and 43 respectively, opposite to the ends on which the star wheels are fixed. The shafts are supported near the intermittent motion mechanisms in suitable bearings provided in a bracket 66 held by the upright 22. In the form of mechanism shown the intermittent motion devices comprises circular discs provided with pins 67 protruding from one face of each of the discs. These pins are engaged by the trips 58 on the operating blocks 47 by virtue of which engagement movement will be imparted to the intermittent motion mechanisms. There are as many pins 67 on each of the intermittent motion devices as there are arms on the star wheel connected to that device. A plurality of stops 68 are provided on the periphery of the discs. These stops engage the depressions 62 in the operating blocks 57 when the intermittent motion device is being turned by the engagement of pins 67 with trip 58, whereas at all other times the stops engage the smooth surface presented by the by-passing blocks 59 which lie flush with the cylinder surface of the selector drum 25, thus preventing rotation of the star wheels. The stops may be merely projections of the discs, or may take the form of small rollers pivotally attached to the periphery of the discs.

Normally, there will be an operating block 57 in each of the guideways 56 which will engage at least one of the intermittent motion devices. The intermittent motion devices are placed so as to lie in different lateral planes with respect to the axis of rotation of the selector drum. The particular device to be operated will depend upon the lateral position of the operating block in the guideway, it being apparent that the intermittent motion device will only be operated by a block which lies in the same operational plane. In the form shown in the drawings, it will be noted that there are two by-passing blocks and one operating block in each guideway but it will be understood that the number of by-passing blocks will depend upon the number of intermittent motion mechanisms there are on the machine, the purpose of the by-passing blocks being to fix the operating block in place and fill up the space in the guideway. On the other hand operating blocks could be employed which comprised a single piece filling up the entire guideway, it being necessary then to locate the trip 58 on the block at the time of manufacture. Furthermore, the entire selector drum, instead of being formed by a built-up construction, could be formed in a single piece, all of the trips 58 and depressions 62 being located at the time of manufacture. Obviously the advantage of the present construction, as shown in the drawings, rests in the fact that it provides interchangeability and flexibility of operation.

A short section of a loaded cartridge belt is illustrated in Fig. 8, in which the cartridges C2, C3, C4, and C5 have been rammed into links L1, L2, L3, L4, and L5 thereby joining them. Between C5 and C7 it was desired to "break" the belt, that is, to end one belt and begin another. One manner of accomplishing this is to omit a single cartridge, as has been done between the links L5 and L6 thereby destroying the connection between the links. A new belt begins with cartridge C7, connecting the links L6 and L7.

A special means has been provided on the machine for omitting a single cartridge while the machine is in operation, which permits the belts to be "broken" without stopping the machine. This device is illustrated particularly in Figs. 10, 11, and 12. In one of the guideways 56 there is located an operating block 69, which is a little longer than the width of the selector drum 25 and extends through cut-out openings provided in the plates 60 and 61. A bracket 71 is attached to the under side of the periphery of the selector drum and extends out from the front face of the drum opposite the block 69. A spring 72, held in place by small bosses on the block and bracket tends to push the block 69 inwardly. A plate 73 attached to the front end of the block 69, extends around the edges of the block and serves as a stop to limit the lateral movement of the block in response to the pressure from the spring 72. A bracket 74 is attached by any suitable means to the upright support 22, alongside one of the intermittent motion devices. This bracket has an upturned flange 75 into which are drilled suitable holes which provide a sliding fit for the pins 76 and 77. These pins are attached to and support a cam 78 adjacent the inner edge of the selector drum 25. A spring 79 is attached to the cam 78 and the flange 75 under a slight tension so as normally to hold the cam away from the selector drum as in Fig. 11. A finger piece 81 is provided on the cam 78 to permit the cam to be conveniently moved on the pins 76 and 77. Pressure on the finger piece 81 will move the cam 78 in toward the selector drum, in which position the cam will engage the inner end of the block 69 to force it outwardly, as shown in Fig. 12, when the motion of the selector drum brings the block opposite the cam. By this means the operating block 69 will be carried past the mechanism 68 in a position such that its trip 58 will not operate the mechanism, which normally it would do. As a result, there will be an empty channel in the cartridge carrying drum.

The operation of the belt loading machine as a whole will now be explained. The link belt chute 28 must be filled with belt links L and kept filled while the machine is in operation. Cartridges must also be loaded in the magazines 33, 34, and 35 and continually supplied during operation. The choice of cartridges for each magazine will depend on the character of the belt it is desired to form. For the purposes of illustration we will assume that the belt is to be composed of tracers and service ammunition in the ratio of one tracer to two service rounds. In this instance then it would be desirable to load the magazine 33 with tracer cartridges Ct, while magazines 34, and 35 could contain service ammunition Cs and Cs1.

The operating blocks 57 will then be placed

in position in the channels or slots 56 by removal of the cover 61 as described, so that as the selector drum 25 rotates, in the direction shown by the arrows, the trips 58 on the operating blocks will engage the pins 67 on the intermittent motion mechanisms in consecutive order. For example, it will be seen in Fig. 1 that the control station D on the selector drum will determine the placement of a cartridge in the channel D^1 on the cartridge carrying drum. Similarly for control station E and channel E^1, and control station F and channel F^1. Inasmuch as the operating block 57 in control station D is placed in the same operating plane as the mechanism 63, which controls the displacement of cartridges from magazine 33, it follows that a cartridge from that magazine will drop into channel D^1 when the entire mechanism is rotated in the direction shown by the arrow. The next channel to be filled is E^1 which is controlled by control station E. The operating block in this station is placed so as to actuate the intermittent motion mechanism 64 connected to magazine 34 which is the magazine from which channel E^1 will be filled. The operating block in control station F is located in the plane which corresponds to that of mechanism 65 which controls the release of cartridges from magazine 35, and from which magazine the channel F^1 will therefore be filled. The arrangement just described may be varied so that any sequence of operation can be performed. Furthermore, it is not necessary that all of the magazines be used; if desired, the operating blocks could all be arranged in the same operating plane so as to fill all of the channels with cartridges from the same magazine. In this fashion any number of the magazines may be utilized, either singly or in combination, depending upon the disposition of the operating blocks. When they have been placed in position in the channels 56 the cover 61 will be replaced as described.

As the entire device rotates the cartridge carrying drum 24 takes the cartridges, retaining them in the order in which they were delivered to the drum, from the magazines through approximately half a revolution to the delivery tray 33. At the same time the drum carries the links from the link chute 28 to the delivery tray, the links being retained in alignment with the cartridges as described. During the cycle of this half revolution of the drum the individual rammers 48, actuated by the cam 53 as previously described, will act against the bases of the cartridges to force them into the links L thus creating the completed cartridge belt which issues from the delivery tray 33.

When it is desired to "break" the belt by omitting a cartridge from one of the links as previously explained, all that is necessary is to press the finger piece 81 so as to move the cam 78 in close to the edge of the selector drum until the operating block 69 passes by, after which the finger piece is released. As shown, operation of the finger piece 81 is performed by hand. The inward movement of the finger piece 81 will laterally shift the operating block 69 so that it will not operate the mechanism 65 and the equivalent channel on the cartridge carrying drum will not contain a cartridge, thereby leaving a blank space in the links L. Consequently, the completed belt will be separated at this point as it comes off the delivery tray. Normally, the block 69 is arranged to operate the intermittent motion mechanism adjacent the cam 78. As shown in the drawings, this mechanism is the one closest

to the outside edge of the selector drum, but the trip 58 on the block 69 could be placed in any position suitable to operate any one of the intermittent motion devices. Because of the fact that only one operating block on the selector drum is arranged to be displaced, it follows that the belt can be "broken" only at some multiple of the number of stations on the drum, which, in this case, is thirty. Inasmuch as the length of cartridge belts varies from 125 to 250 rounds it is apparent that it will not be usually necessary to provide for making a "break" in the belt at a multiple of a lower frequency. However, it is evident that any number of the operating blocks might be constructed in the same manner as 69, if it is desirable.

While the invention has been described with reference to certain preferred examples thereof which give satisfactory results, it will be understood by those skilled in the art to which the invention pertains, after understanding the invention, that various changes and modifications may be made without departing from the spirit and scope of the invention, and it is my intention, therefore, to cover in the appended claims all such changes and modifications.

The invention herein described may be manufactured and used by or for the Government of the United States of America for governmental purposes without the payment of any royalties thereon or therefor.

What is claimed as new and desired to be secured by Letters Patent of the United States is:

1. Apparatus for selectively depositing cartridges on a moving conveyor comprising in combination, a plurality of magazines for cartridges, a selector mechanism, feeding means for each of said magazines for feeding individual cartridges from the magazines to the conveyor, means for operating said selector mechanism in synchronism with said moving conveyor, an intermittent motion mechanism for each of said feeding means located adjacent said selector mechanism including a plurality of tripping means on said selector mechanism for momentarily engaging said intermittent motion mechanisms for feeding a single cartridge from one of the magazines during a single engagement.

2. Apparatus for selectively depositing cartridges on a moving conveyor comprising in combination, a plurality of magazines for cartridges, a selector mechanism, feeding means for each of said magazines for feeding individual cartridges from the magazines to the moving conveyor, means for operating said selector mechanism in synchronism with said moving conveyor, a rotatable shaft for each of said feeding means extending into proximity with said selector mechanism, said shafts having a plurality of projecting pins at their free ends, a plurality of tripping means on said selector mechanism for momentarily engaging said pins for feeding a single cartridge from one of the magazines during a single engagement.

3. Apparatus for selectively depositing cartridges on a moving conveyor comprising in combination, a plurality of magazines for cartridges, a selector mechanism, feeding means for each of said magazines for feeding individual cartridges from the magazines to the conveyor, means for operating said selector mechanism in synchronism with said moving conveyor, a rotating shaft for each of said feeding means extending into proximity with the surface of said selector mechanism, said shafts having a plurality of

projecting pins at their free ends, a plurality of tripping means on said selector mechanism for momentarily engaging said pins for feeding a single cartridge from one of the magazines during a single engagement, the free ends of each of said shafts terminating in different planes with respect to the axis of said selecting mechanism.

4. Apparatus for depositing cartridges on a moving conveyor comprising in combination, a plurality of magazines for cartridges, a selector mechanism, a star wheel for each of said magazines for feeding individual cartridges from the magazines to the conveyor, means for operating said selector mechanism in synchronism with said moving conveyor, a rotating shaft for each of said star wheels extending into proximity with the selector mechanism, said shafts having a plurality of projecting pins at their free ends, a plurality of tripping means on said selector mechanism for momentarily engaging said pins for rotating the shafts and star wheels thereby feeding a single cartridge from one of the magazines during a single engagement, the free ends of each of said shafts terminating in different planes with respect to the axis of said selecting mechanism.

5. Apparatus for selectively depositing cartridges on a moving conveyor comprising in combination, a plurality of magazines for cartridges, a rotatable selector drum, feeding means for each of said magazines for feeding individual cartridges from the magazines to the conveyor, means for operating said selector drum in synchronism with said moving conveyor, an intermittent motion mechanism for each of said feeding means located near said selector drum including a plurality of tripping means detachably secured to the periphery of said selector drum for momentarily engaging said intermittent motion mechanisms for feeding a single cartridge from one of said magazines during a single engagement, each of said intermittent motion mechanisms being positioned in different planes with respect to the axis of said selecting drum.

6. Apparatus for depositing cartridges on a moving conveyor comprising in combination, a plurality of magazines for cartridges, a traveling selector drum, feeding means for each of said magazines for feeding individual cartridges from the magazines to the conveyor, means for operating said selector drum in synchronism with said moving conveyor, a rotatable shaft for each of said feeding means extending into proximity with the surface of said selector drum, said shafts having a plurality of projecting pins at their free ends, a plurality of tripping means slidably attached to the periphery of said selector drum for momentarily engaging said pins for feeding a single cartridge from one of the magazines during a single engagement, the free ends of each of said shafts terminating in different planes with respect to the axis of said selecting drum.

7. An apparatus for selectively depositing cartridges on a moving conveyor comprising a plurality of cartridge magazines and means for feeding the cartridges from the magazines to the conveyor, said cartridge feeding means including a selector mechanism, means for operating said selector mechanism in synchronism with said moving conveyor, an intermittent motion mechanism located adjacent to said selector mechanism, a plurality of tripping means on said selector mechanism for momentarily engaging said intermittent motion mechanism for feeding a single cartridge from one of said magazines during a single engagement.

8. In an apparatus for loading ammunition belts including a cartridge magazine, a moving conveyor for belt links and cartridges, means for feeding the cartridges from the magazine to the conveyor, and means in operative connection with the conveyor for inserting the cartridges into the links, said feeding means including a rotary member for transferring the cartridges from the magazine to the conveyor, a selector drum operatively connected to said conveyor, a mechanism having a plurality of lugs for driving said rotary member from said selector drum, tripping means mounted on said selector drum and normally positioned thereon for engaging said lugs, and means on said drum for normally maintaining said tripping means in the aforesaid position.

9. In an apparatus for loading ammunition belts including a plurality of cartridge magazines, a moving conveyor for belt links and cartridges, means for feeding the cartridges from the magazine to the conveyor, and means in operative connection with the conveyor for inserting the cartridges into the links, said feeding means including a rotary member for each of said magazines for transferring the cartridges from each magazine to the conveyor, a selector drum operatively connected to said conveyor, a plurality of mechanisms each having a plurality of lugs for driving each of said rotary members from said selector drum, tripping means slidably mounted on said selector drum and normally positioned thereon for engaging said lugs, and spring means on said drum for normally maintaining said tripping means in the aforesaid position.

10. In an apparatus for loading ammunition belts including a magazine, a moving conveyor for belt links and cartridges, means for feeding the cartridges from the magazine to said conveyor, and means in operative connection with the conveyor for inserting the cartridges into the links, said feeding means including a rotary member for transferring the cartridges from the magazine to the conveyor, a selector drum operatively connected to said conveyor, a mechanism having a plurality of lugs for driving said rotary member from said selector drum, tripping means mounted on said selector drum extending beyond the surface of said selector drum and normally positioned thereon for engaging said lugs, and a camming mechanism mounted adjacent to said selector drum for displacing said tripping means to prevent engagement of the tripping means with said lugs.

11. In an apparatus for loading ammunition belts including a cartridge magazine, a moving conveyor for belt links and cartridges, means for feeding the cartridges from the magazine to the conveyor, and means in operative connection with the conveyor for inserting the cartridges into the links, said feeding means including a rotary member for transferring the cartridges from the magazine to the conveyor, a selector drum operatively connected to said conveyor to be driven thereby, a mechanism having a plurality of lugs for driving said rotary member from said selector drum, tripping means slidably mounted on the periphery of said selector drum and extending beyond the surface thereof and normally positioned thereon for engaging said lugs, spring means on said drum for normally maintaining said tripping means in a position for engaging said lugs, and a camming mechanism mounted adjacent to said selector drum for displacing said

tripping means to prevent the same from engaging said lugs.

12. A machine for selectively arranging a plurality of dissimilar articles in predetermined sequence comprising article conveying means; a plurality of means for feeding dissimilar articles onto said conveying means; substantially identical article retaining means associated with each

feeding means; and successive sets of article selecting members carried by said conveying means, each selecting member of one set being constructed and arranged to actuate the article retaining means of one only of said feed means to release an article so selected from the respective feed means onto said conveying means.

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