

Sept. 10, 1946.

J. VESELY

2,407,461

MAGAZINE FOR FIREARMS

Filed July 28, 1942

3 Sheets-Sheet 1

FIG. 1.

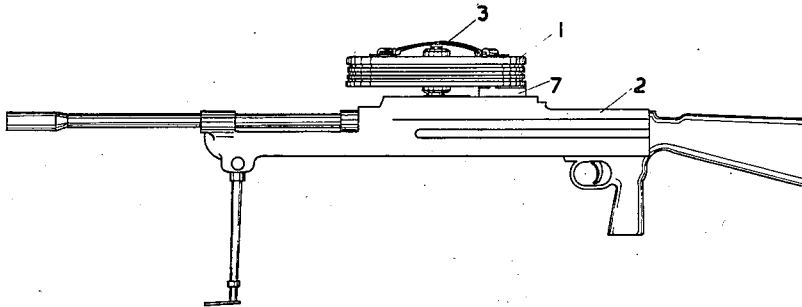
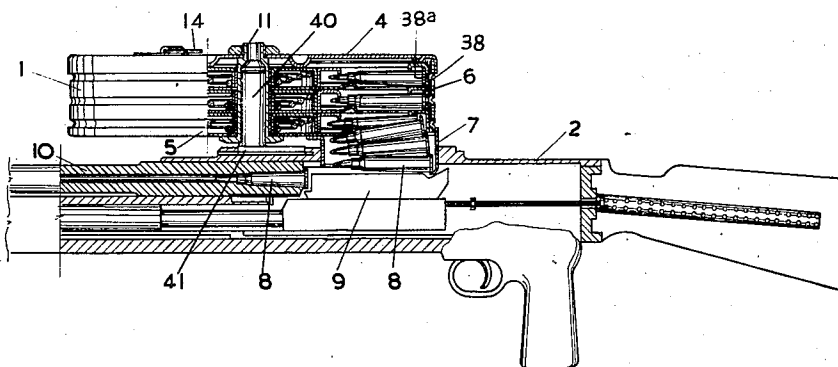


FIG. 2.



INVENTOR

JOSEF VESELY

BY Lucke & Lucke

HIS AGENTS

Sept. 10, 1946.

J. VESELY

2,407,461

MAGAZINE FOR FIREARMS

Filed July 28, 1942

3 Sheets-Sheet 2

FIG. 3.

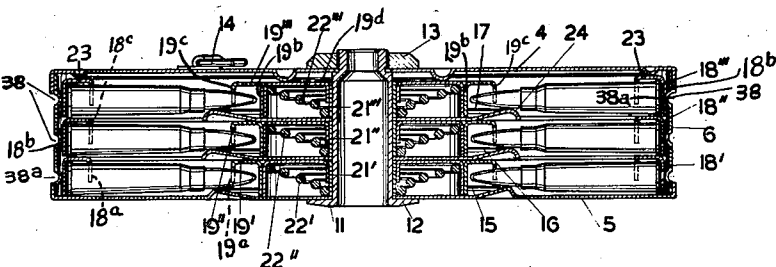


FIG. 4.

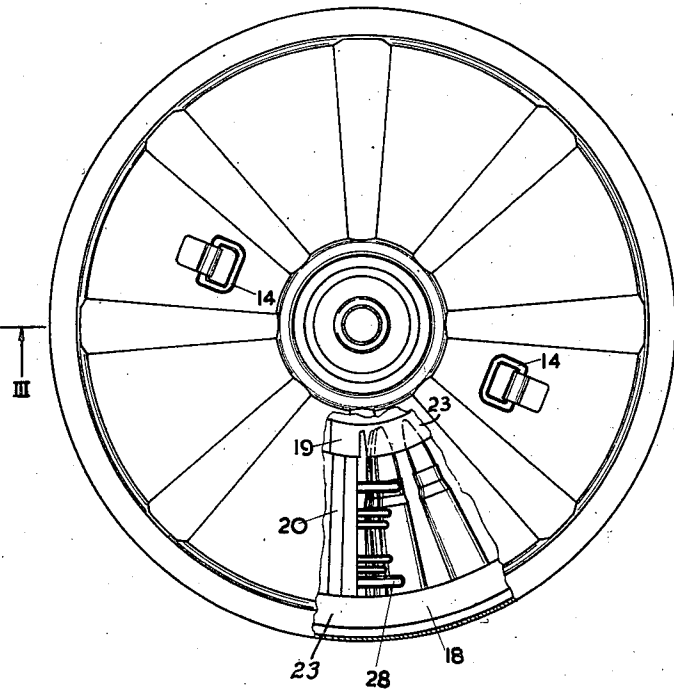
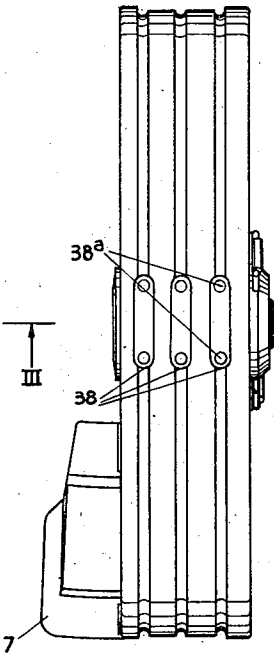


FIG. 5.



INVENTOR
JOSEF VESELY
BY Lucke & Lucke
HIS AGENTS

Sept. 10, 1946.

J. VESELY

2,407,461

MAGAZINE FOR FIREARMS

Filed July 28, 1942

3 Sheets-Sheet 3

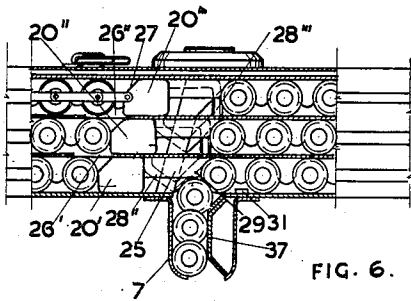


FIG. 6.

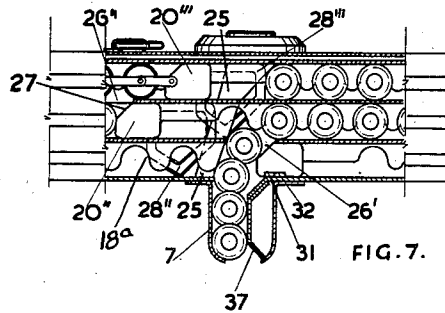


FIG. 7.

FIG. 8.

FIG. 9.

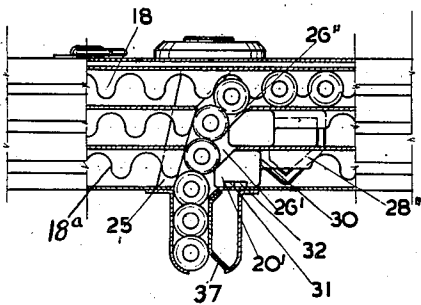
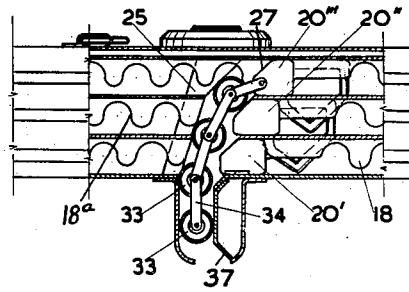
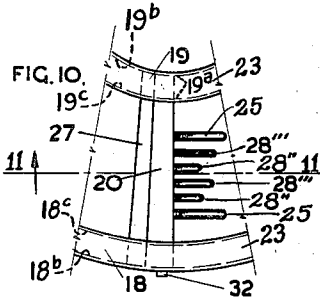


FIG. 10.

FIG. 12.

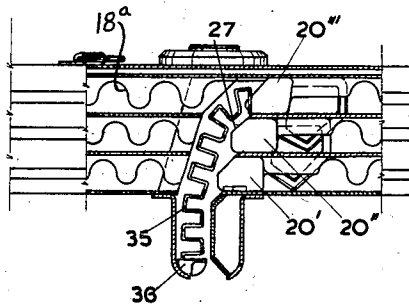
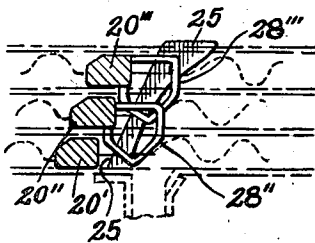


FIG. 11.



INVENTOR

JOSEF VESELY

BY *Lucke + Lucke*

HIS AGENTS

UNITED STATES PATENT OFFICE

2,407,461

MAGAZINE FOR FIREARMS

Josef Veselý, London N. 21, England

Application July 28, 1942, Serial No. 452,585
In Great Britain July 26, 1941

7 Claims. (Cl. 89—34)

1

The present invention relates to improvements in magazines for firearms and in particular to drum magazines for automatic or semi-automatic firearms of the kind which are fed with cartridges from one or more drum magazines, arranged either above, below or at the side of the breech mechanism.

It is an object of this invention to produce a magazine of large capacity suitable for use with guns having a high rate of fire, and consequently to produce a magazine in which the moving mass at any moment during the feeding of cartridges to the gun is at a very low value equal to only a fraction of the total mass of the magazine. Moreover it is a further object of the invention to utilize the cartridges themselves for the purpose of reducing the resistance offered by friction to the feeding of the cartridges. Thus the invention aims at avoiding those disadvantages of certain known forms of magazine which are not well adapted for use with guns requiring a high rate of cartridge feed owing to the fact that the great mass of the entire cartridge content of the magazine as well as its mechanism has to be brought into rotation by the magazine spring when a cartridge is to be fed into the gun, and wherein, owing to the great inertia of this total mass, the magazine feed spring needs to be very strong for otherwise the required velocity of feed cannot be achieved. In this form of magazine the greater its capacity the greater becomes the inertia or resistance to movement and the less suitable the magazine is for use with high speed guns and it is, of course, just this kind of gun for which magazines of a large capacity are particularly necessary. Moreover, the stronger the springs used in feeding the cartridges the more are the difficulties likely to be encountered since with the increasing of the strength of the springs frictional resistance is rapidly increased and the additional pressure on the cartridges is transmitted as a braking action to the breech block with obvious detrimental results.

Whilst the magazine according to the invention is primarily intended for use with guns in which a high rate of cartridge feed is desired, the magazine also offers advantages when used with drum fed automatic guns intended to operate at the normal or lower rates of fire.

A further object is to provide an arrangement by which proper charging and discharging of the magazine in a simple manner is ensured.

The improved magazine is simple in design and easy to manufacture, and its capacity can be

2

increased as desired by the simple addition of duplicated parts.

According to the invention there is provided a drum magazine for automatic firearms comprising a plurality of substantially similar compartments or frames each adapted to carry cartridges, such compartments or frames being of flat annular or disc-like form, arranged coaxially in a pile within a drum, and adapted to successive independent rotation about the axis of said pile for the purposes of filling and emptying the magazine by way of the discharge mouth of the said drum, and means in the magazine for rotating the said compartments or frames individually in the cartridge discharging direction. Thus the drum magazine may comprise two or more cartridge-carrying compartments or frames movable independently of each other, one compartment or frame only being in action during firing, the other or others remaining at rest; means are provided whereby after the cartridges in one compartment or frame are exhausted during the discharge of cartridges or completely filled during the cartridge filling operation the next compartment or frame is brought into action, whilst the previously emptied or filled compartment or frame or compartments or frames remains or remain at rest relatively to the gun.

The expression "flat annular or disc-like form" is used herein in referring to the cartridge-carrying compartments or frames to distinguish these from the cartridge-carrying members of a certain previously proposed magazine wherein the cartridges (which were to act as friction reducing members) were to be arranged in a plurality of conical rings adapted for successive discharge, these rings of cartridges being disposed concentrically one within the other with the cartridges on end as distinct from the present case where the cartridges are arranged in superposed more or less flat layers; it will, however, be seen from the following description that the compartments or frames of the magazine according to this invention are neither strictly flat nor strictly disc-like but nevertheless approximate to these forms.

In the magazine according to this invention the cartridges themselves may be arranged so as to serve, when in the magazine, to reduce frictional resistance between the moving parts of the magazine. Thus with the improved magazine the resistance to movement of the operative and movable parts of the magazine is reduced to a very low level due, inter alia, to the relatively small mass being moved at any particular time

and to the fact that the cartridges act somewhat in the manner of roller bearings. Hence the use of relatively weak feeding springs is possible with consequent reduction of the undesirable pressure of the cartridges against the breech mechanism, this latter being a most important matter in high speed machine guns.

The individual compartments or frames may be of skeleton annular or ring formation so as to be of relatively light weight, two or more of the compartments or frames being disposed one above the other or side by side in a pile in axial alignment and arranged for rotation independently of one another around the common axis.

Suitable recesses or like positioning means may be provided in each compartment or frame for separate accommodation of the cartridges.

Each compartment or frame is provided with its own feed spring or springs for rotating the compartment or frame in the direction to feed the cartridges therein towards the mouthpiece of the magazine by which the cartridges are led to the gun and which mouthpiece may be used in securing the magazine to the drum.

Discharge orifices are provided for the passage of cartridges from all compartments or frames to the magazine mouthpiece, these apertures being arranged to be brought into register with one another as successive compartments or frames are exhausted (or filled) to form in effect continuations of the passage through the mouthpiece, and suitable guiding means for the cartridges are provided adjacent said orifices.

These guiding means serve, preferably in conjunction with further normally fixed inclined guides mounted within the magazine to guide the cartridges from the various compartments or frames, as they become successively exhausted, to the mouthpiece leading to the gun, or to guide the cartridges to the various compartments or frames as they are successively filled during recharging. The guide means also serve to maintain certain of the compartments or frames at rest whilst another compartment or frame is rotating, as will be more fully explained hereinafter.

Other parts of the invention reside in the several new or improved features, combinations or arrangements embodied in the preferred forms, which will be described by way of example with reference to the accompanying drawings in order to make the nature of the invention clearer and to show how it may be performed. The aspects of the invention for which a monopoly is desired are set out in the claims.

Referring now to the accompanying drawings:

Figure 1 is a side elevation of a gun fitted with a magazine according to the invention.

Figure 2 is a part sectional view of the magazine and of the relevant parts of the gun.

Figure 3 is a section on line III, Figure 4, and shows the magazine itself, this magazine comprising a body having three superposed compartments or frames which are all shown in a fully loaded condition.

Figure 4 is a plan view of the magazine which is shown partly in section.

Figure 5 is a side view of the magazine.

Figure 6 shows, in diagrammatical sectional elevation showing the magazine in fully loaded condition, a part of the cylindrical outer wall of the magazine body being omitted for the sake of clarity.

Figure 7 is a similar view showing the magazine

after the lowest compartment or frame thereof has been emptied and when the middle compartment or frame is in operation.

Figure 8 is a similar view to Figure 6 but shows the lowest and the middle compartments or frames both exhausted and the upper compartment in operation.

Figure 9 shows the same parts of the magazine as Figures 6 to 8 inclusive, but with all the compartments or frames exhausted, this figure additionally showing the string of dummy cartridges which serve as the final feeding or expelling means for the last few cartridges in the magazine.

Figure 10 is a plan view of a part of the magazine and shows in particular feeding means for the cartridges.

Figure 11 is a detail sectional view on line II-II of Figure 10, and

Figure 12 shows an embodiment of the invention wherein a modified form of cartridge expelling means is used.

Figures 2 to 12 are all drawn on a larger scale than Figure 1.

Referring to the drawings, in particular to Figures 1 and 2, it will be seen that the reference numeral 1 represents the magazine as a whole. This magazine is adapted to be mounted in any suitable manner on an automatic gun 2 which may be of any design which is adapted to be supplied by cartridges from a magazine of the kind with which this invention is concerned.

The magazine 1 shown in the drawings has three compartments or frames (hereinafter more fully described), but it should be understood that the invention is not limited to this number of compartments and any desired number of compartments greater than one may be used.

The magazine consists of a body or casing which is formed of an upper disc 4, a lower disc 5 and cylindrical envelope or rim 6 spacing and connecting the discs 4 and 5. These parts may be made either integral or be connected together in any desired manner to form a rigid body for the mechanism of the magazine.

A mouthpiece 7 (Figure 2) is arranged in the lower disc 5 and serves to secure the magazine on to the gun 2 and also to lead cartridges 8 discharged from the magazine through a radial discharge aperture in the bottom of the latter (as will be more fully described later) into the path of the gun feeding member, e. g. the breech-block 9, which during its forward movement pushes the lowermost cartridge 8 into the gun barrel 10.

A sleeve 11, as is very clearly seen from Figure 3, is arranged in the axis of the magazine 1. This sleeve has at its lower end a flange 12 which abuts against the lower disc 5 of the body of the magazine and is provided at its upper end with a reduced screw-threaded part for receiving a nut 13 which, when screwed into position, abuts against the upper disc 4 of the said body so rendering the whole structure rigid and sturdy. It is, of course, obvious that any other way of mounting the sleeve 11 may be used. The sleeve 11 serves as the axis of rotation of the rotatable parts to be subsequently described and fits upon a pin 40 projecting from a bracket 41 carried by the gun as shown in Figure 2, for example.

Means, such as a strap 3 or the like, may be provided on the magazine to permit of a convenient manipulation thereof. Loops 14, 14 (see Fig. 4) may be provided on the upper disc 4 for

securing the ends of the strap 3 to the magazine body.

The magazine shown in the drawings comprises three independently rotatable cartridge-carrying frames or compartments 15, 16 and 17, 5 mounted for rotation about the sleeve 11. Each compartment or frame is of annular form and the design may be the same for all the compartments or frames. Each frame or compartment is of a skeleton nature and consists of an outer ring 18 and inner ring 19 rigidly connected together by a radial arm 20 (see Figures 4, 10 and 11), and a hollow drum 19^a fixed within the inner ring 19.

In the following description the parts 15, 16 and 17 will, for the sake of clarity, be referred to as "frames," and the parts associated with the lowermost frame will be distinguished by a single prime thus "15'"; those of the middle compartment by two primes thus "16''"; and those of the upper compartment by three primes thus "17''", but only when it is necessary to refer to a particular frame or its associated parts as distinct from the frames and associated parts in general. On other occasions the common reference character without the distinguishing primes will be used in describing the parts.

A separate angularly adjustable collar 21 for each of the said frames is rigidly mounted on the central sleeve 11, one collar being disposed in each compartment of the magazine 1. Each collar has one end of a spiral feed spring 22 fastened thereto, and the other end of such spring is secured to the inner ring 19^a of the frame corresponding to the collar to which the spring is attached so that by rotating the frame in one direction the spring becomes tensioned and so tends to rotate the frame, and indeed does rotate the frame, when this is released, in the opposite direction. More than one spring 22 may be used in each compartment if required or desired.

The outer ring 18 and the inner ring 19 are each of inverted channel shape in cross-section, and the horizontal parts of the outer rings (which parts are disposed between the inner and outer dependent peripheral flanges 18^b, 18^c of the ring 18) form a bearing surface 23, whilst the downwardly extending inner peripheral flanges 18^c, 19^c of the rings 18 and 19 respectively, are provided with peripherally equally spaced semi-circular recesses 18^a, 19^a open on the side towards the gun, such recesses being provided for accommodating and positioning cartridges radially in their frame (see Figures 3, and 4 and Figures 6 to 9). The rim of each cartridge in the middle and upper frames 16 and 17 rests at its lower side against the bearing surface 23 of the ring 18 of the compartment next below the compartment carrying the cartridge, whilst the lower sides of the cartridges in the lower frame 15 bear upon the bottom 5 of the magazine body 1. The upper side of the rim of each cartridge bears against the undersurface of the bearing surface 23 of its own ring 18, so that the cartridge, when moved by the frame in which it is carried, rolls between two bearing surfaces like a roller in a roller bearing. This arrangement reduces to a low level frictional resistance between the parts. At the sides nearer the gun each of the said frames is provided with an annular bullet supporting surface 24 over which the bullets may roll as the cartridges rotate during rotation of the frame carrying them.

Two or more inclined radially aligned guides

25 (at least one for the rear and one other for the front part of the cartridges) are fixed in the body of the magazine adjacent to the discharge opening in the bottom of the latter, said guides extending through all the said frames and serving to guide the cartridges into their particular frames upon loading the magazine, and also guiding the cartridges out of their frames into the mouthpiece 7 during the operation of the gun, as will be described hereinafter. As will be seen, for example from Figure 6, the guiding portions of the guides 25 in the upper compartment 17 are at a greater inclined angle to the vertical than are the remaining parts of the guides. In fact these upper guiding parts are parallel to the guiding surfaces 29 of the yokes 28 subsequently described.

The rings 18 and 19 of each of the frames, except, if desired, the upper one, are each provided in the horizontally extending annular part thereof with a radial discharge aperture 26 adjacent to the arm 20, the said apertures permitting the cartridges to pass from one frame to the next as the frames come into their final positions and the said aperture 26 of one frame is aligned with that of the next frame. Although apertures 26 are not necessary in the upper frame of the magazine they may nevertheless be provided if it is desired to standardize the form of the frames so that they are all alike.

The arm 20 (see Figures 6-11) of each frame has one face provided with an inclined gliding surface 27 and, except for the arm 20' of the lowermost frame 15, the arms 20 are provided on their trailing edges with two or more radially spaced yokes 28 rigidly connected to or made integrally with the arm 20. Each yoke 28 projects from its own frame into the next lower frame (see Figures 6-9), and has an inclined surface 29 (see Figure 11) adapted to guide cartridges into the discharge aperture leading to the mouthpiece 7 or to the next frame. Each yoke also has an abutting face 30 (Figure 11) adapted for co-operation with the vertical trailing surface of the arm 20 of the next lower frame.

The arm 20 of the bottom compartment has a projection 32 (Figures 8, 10 and 11) near its lower face, which projection is adapted for co-operation with an abutment 31 fixed to the part of the body of the magazine 1. The arms 20 and their yokes 28 serve as feeding members for transmitting motion to the cartridges of the particular frames in which the arms are disposed as will be described later.

To ensure proper feeding of the last few cartridges from the magazine, expelling means are provided and are adapted to push these cartridges through the channel formed by the discharge apertures 26 and the various guide members and through the mouthpiece 7. Such expelling means comprises a string of dummy cartridges 33 linked together by links 34, such dummy cartridges normally being disposed in the upper frame 17 and fixed to the uppermost arm 20'', the length of the string being such as to be capable of reaching in its final position as far as the discharge opening of the mouthpiece 7 as shown in Figure 9.

In Figure 12 a modified form of expelling means has been shown. In this case an expeller spring 35 is used instead of the string of dummy cartridges 33 for pushing out the last cartridges from the uppermost frame 17. The spring may be provided at its end with an expeller cap 36 for proper engagement with the last cartridge

7

and to prevent the spring from protruding into the path of the breech block of the gun. This modification makes it possible further to increase the capacity of the magazine, because the spring, when compressed by the incoming cartridges, occupies less space than the string of dummy cartridges previously described.

The magazine above described and shown in the accompanying drawings operates as follows:

First let it be assumed that the magazine has been loaded with cartridges to capacity. This condition is shown in Figure 6, wherein all three compartments as well as the mouthpiece 7 are filled with cartridges.

If cartridges are removed from the discharge opening of the mouthpiece, e. g. by the breech block of the gun during firing operation, the lower frame 15 comprising rings 18', 19' and arm 20' are set in motion by the spring 22' and brings further cartridges into the mouthpiece 7. The other frames 16 and 17 do not take part in this motion. The cartridges leaving frame 15 slide along the inclined surface 29 of the yoke 28'', which acts as a guide for the cartridges.

This discharging of cartridges from the frame 15 continues until the frame is exhausted. In this latter condition the position of the parts is as shown in Figure 7. The arm 20 has reached its final position in which its abutment 32 engages against the stop 31 and the arm 20' and its frame have come to rest; in this position of the parts the apertures 26' in the rings 18', 19' of the lower frame 15 occupy a position enabling cartridges from the middle frame 16 to be discharged along the inclined surface 29 of the yoke 28'' and the guide 25 into the mouthpiece 7 under the influence of the feed spring 22''. Until this stage is reached the middle frame 16 cannot rotate under the action of its spring 22'' since the frame is locked against rotation by the guide members 25 engaging the first cartridge in the frame. Also the upper frame 17 is similarly prevented from rotating by the engagement of its foremost cartridge with the guide members 25 and cannot rotate to discharge cartridges until the middle compartment is empty and the cartridges from the upper compartment can pass to the middle one.

The discharging operation of the frame 16 is similar to that of the bottom frame 15 and once started may continue until there are no cartridges left in that frame, whereupon the abutting face 30 on the yoke 28'' rests against the corresponding wall of the arm 20' of the frame 15, as shown in Figure 8. In this way the inclined surface 27 of the arm 20'' is positioned appropriately with respect to the inclined guide member 25 and a guide channel is formed for the passage of cartridges from the uppermost frame through the middle and bottom frames and along the inclined guide 25 into the mouthpiece 7. The last few cartridges from the uppermost frame are discharged by the string of dummy cartridges 33 which pass down the said guide channel as is illustrated in Figure 9. Alternatively the last few cartridges are expelled by the spring 35 as illustrated in Figure 12.

The loading of the magazine is performed by a reverse sequence of operations to that above described. Thus, assuming the parts to be in the condition shown in Figure 9, the first cartridges inserted into the mouthpiece 7 push back the string of dummy cartridges 33 or the spring 35 and then travel along the guide 25 into the uppermost frame 17 which is thus rotated to tension its

8

feed spring 22''. After this frame has been filled the yokes 28'' of the arm 20'' (frame 17) deflect the further incoming cartridges to the middle frame 16 which rotates and tensions its feed spring 22''. After the frame 16 has been filled its yokes 28'' deflect the next cartridges into the lower frame 15 which, under the pressure of the incoming cartridges, rotates and tensions its feed spring 22'. Thus the magazine is charged, the feed springs tensioned, and the whole drum is ready for use.

Embodiments of the invention have been described above in the case of a gun in which the magazine is disposed horizontally (i. e. with the axis about which the said frames rotate disposed vertically) but it should be understood that drum magazines constructed in accordance with this invention may be used with success in other positions.

The mouthpiece 7 has been shown in the drawings with a partition wall 37 so that the cartridges are fed into the gun in a single row. It is, of course, evident that in cases in which the gun is adapted to be fed by a double row of cartridges this partition wall 37 may be omitted and the cartridges accommodated in the mouthpiece in a double row.

Peripheral parallel axially spaced slots 38 are provided in the outer wall of the cylindrical rim 6 of the magazine body, the slots 38 being arranged one above the other and one opposite each of the rings 18 of the cartridge carrying frames. Opposite the slots 38 each cartridge carrying frame is provided in the outer peripheral wall of its outer ring 18 with a series of peripherally spaced equidistant small holes 38^a, one of these holes being opposite the outer end of each cartridge so that the holes are spaced apart by a peripheral distance equal to the pitch between the centres of the outer ends of the cartridges. The peripheral length of the slots 38 is rather greater than the peripheral distance between the adjacent holes 38^a. It is thus possible to introduce a pointed or similar tool, or even the tip of a bullet through a slot 38 in the magazine wall and into one of the holes 38^a in the cartridge carrying frame opposite the slot, and then by exerting pressure on the tool or the inserted cartridge to rotate the cartridge carrying frame for a limited distance equal to approximately the distance between the outer ends of two cartridges whilst at the same time urging a cartridge into the magazine through the mouth 7 thereof. Thus, as the cartridge is placed into the magazine, the frame being loaded is moved in the loading direction so that the cartridge can enter into its proper position in the frame. It will be appreciated that the tool is inserted successively in all the holes 38^a in each frame 18, and the cartridge carrying frame is turned through one space as each cartridge is loaded. Thus it is possible to operate the frames from the outside of the magazine casing during loading without dismantling the magazine at all.

The magazine according to the invention has a number of important advantages over any of the known types. It is very simple in operation and is simple to manufacture because nearly all components may be made by pressing. The number of components is relatively small and all movable parts are housed within the magazine body or casing and are not exposed to mechanical damage. As already pointed out, an outstanding feature of the new magazine is that at no time is there more than one compartment in

operation so that the feed springs work against only slight resistance and the inertia of the moving mass is reduced to a minimum value, rendering the operation of the magazine reliable and speedy. Resistance against movement is further reduced by the rims of the cartridges acting as rollers similar to the rollers of a roller bearing. The loading of the magazine is easy and reliable because the individual frames are charged and discharged in succession and the initiation of charging or discharging of any one frame is dependent upon the complete charging or discharging of another. All these advantages render the magazine according to the invention particularly suitable for guns with the highest rate of fire.

I claim:

1. A cartridge magazine comprising a receptacle, a discharge outlet therein, a plurality of substantially flat, individually-rotatable cartridge-holding members disposed in said receptacle in superposed relation, and each including a pair of concentric annular sections connected together in spaced relation, said annular sections engaging the opposite ends of a circular series of cartridges to retain the same radially in each holding member, means for severally rotating said cartridge-holding members, means for discharging cartridges therefrom and for guiding the discharged cartridges to said discharge outlet, means carried by the magazine for preventing the discharge of cartridges from an upper cartridge-holding member until the next lower cartridge-holding member is completely discharged, and means on each lowerly disposed cartridge-holding member arranged to engage with its next superposed cartridge-holding member for arresting the rotary movement of such superposed cartridge-holding member.

2. A cartridge magazine comprising a receptacle, a discharge outlet in the base thereof, a plurality of flat, individually-rotatable cartridge-holding members disposed in said receptacle in superposed relation, means for retaining a circular series of cartridges radially in each of said cartridge-holding members, guide means on each cartridge-holding member registering with the guide means on the other of said cartridge-holding members and jointly forming a delivery passage for the cartridges, said guide means serving to arrest the rotary movement of each cartridge-holding member, in turn, as the same become empty and feeding the cartridges from the loaded cartridge-holding members through the empty cartridge-holding members, and means severally actuating said cartridge-holding members to feed the cartridges from each loaded cartridge-holding member, in succession, to said discharge passage and outlet.

3. A cartridge magazine comprising a receptacle having a discharge outlet in the base thereof, a plurality of substantially flat, individually-rotatable cartridge-holding members disposed in said receptacle in superposed, axially-aligned relation, means for retaining a circular series of cartridges radially in each of said cartridge-holding members, guide means on an upper cartridge-holding member adapted to register with the guide means on the lowermost of said cartridge-holding members to form therewith a delivery passage for the cartridges, said guide means serving to arrest the rotary movement of each cartridge-holding member, in turn, as the same becomes empty and to guide the cartridges from the loaded cartridge-holding members through the

empty cartridge-holding members, a sleeve located centrally within the magazine and adapted to receive a pin for supporting the magazine on a firearm, and means severally actuating said cartridge-holding members to feed the cartridges from each loaded cartridge-holding member, in succession, to said discharge passage and said outlet.

4. A cartridge magazine comprising a receptacle having a discharge outlet in the base thereof, a plurality of substantially flat, individually-rotatable cartridge-holding members disposed in said receptacle in superposed, axially-aligned relation, means for retaining a circular series of cartridges radially in each of said cartridge-holding members, guide means on an upper cartridge-holding member adapted to register with the guide means on the lowermost of said cartridge-holding members to form therewith a delivery passage for the cartridges, said guide means serving to arrest the rotary movement of each cartridge-holding member, in turn, as the same becomes empty and to guide the cartridges from the loaded cartridge-holding members through the empty cartridge-holding members, a sleeve located centrally within the magazine and adapted to receive a pin for supporting the magazine on a firearm, a hollow collar disposed between each of said cartridge-holding members and said sleeve, and a coiled spring in each of said hollow collars, each said spring being secured at one end to its respective cartridge-holding member and at the other end to said sleeve and serving to rotate said respective cartridge-holding member to feed cartridges therefrom to said discharge passage and outlet.

5. A cartridge magazine comprising a receptacle having a discharge outlet in the base thereof, a plurality of substantially flat, individually-rotatable cartridge-holding members disposed in said receptacle in superposed, axially-aligned relation, each cartridge-holding member comprising a pair of spaced, concentric rings connected together by a radial arm, said arm being shaped at one side to form part of a delivery passage for cartridges from an upper cartridge-holding member to the said discharge outlet, means on said arm for engaging the corresponding radial arm of the cartridge-holding member next below it to arrest the rotary movement of said first-mentioned arm when its respective cartridge-holding member is empty, means on said concentric rings for supporting a circular series of cartridges radially in said cartridge-holding members, a sleeve located centrally within the magazine and adapted to receive a pin for supporting the magazine on a firearm, a hollow collar disposed between each of said cartridge-holding members and said sleeve, and a coiled spring in each of said hollow collars, said spring being secured at one of its respective cartridge-holding member and at the other end to said sleeve and serving to rotate said respective cartridge-holding member to feed cartridges therefrom to said discharge passage and outlet.

6. A cartridge magazine according to claim 5, wherein the uppermost cartridge-holding member is provided with a flexible-cartridge-expelling device.

7. A cartridge magazine according to claim 5, wherein the said receptacle is provided with peripheral slots to enable a tool to be inserted from the exterior of the receptacle and engaged with the respective cartridge-holding members for loading purposes.

JOSEF VESELÝ.