This invention relates to an ammunition clip of the en bloc type arranged to hold a stack of cartridges preferably in double row staggered relation and adapted to be inserted or charged therewith into the receiver of a gun.

In its general aspects, the present clip is of the character shown in my prior applications Serial No. 383,080, filed August 2, 1929, and Serial No. 385,608, filed August 13, 1929; and the present improvement has to do more particularly with features of construction for such a clip whereby it will rest securely in the gun and firmly hold its stack with a small amount of frictional engagement to permit the easy feeding of the cartridges therefrom.

A further feature of importance in the present clip is the provision of means to permit the correct filling of the clip with cartridges so that the higher row of the stack will always be in proper position for feeding with the feeding follower of the gun. This feature of the invention pertains to the double row staggered character of the stack wherein one row stands vertically higher than the other and a stepped follower is employed to feed the cartridges, as shown in my Patent No. 1,737,974, dated December 3, 1929.

Other features of advantage in the present clip will be apparent from the following description and accompanying drawings, in which:

Fig. 1 is a side elevation of the clip;
Fig. 2 is a rear view thereof;
Fig. 3 is a front view, the position of the cartridges to be contained in the clip being diagrammed;
Fig. 4 is a top view of the clip;
Fig. 5 is a sectional view through the upper portion of the clip along line 5—5 of Fig. 1;
Fig. 6 is a section through the mid portion of the clip along the line 6—6 of Fig. 1;
Fig. 7 is a section through an intermediate portion of the clip along line 7—7 of Fig. 1, also showing the same with its cartridges in the receiver, a portion of the walls of which are shown in section;
Fig. 8 is a side elevation of a clip with certain modifications therein over that shown in Fig. 1;
Fig. 9 is a front view partly in section along line 9—9 of Fig. 8.

Referring more particularly to the drawings, the clip is adapted to be made of a single piece of sheet metal stamped and die pressed into shape so that its cost of production will be low. The clip comprises a back plate 1 with forwardly converging side walls 2 and 3 extending from said back plate for a considerable distance so as to engage the cartridges well forward from their bases and to embrace the contained stack. The clip is designed to receive and hold a double row stack of cartridges in staggered relation and the side walls of the clip are preferably of spring metal so as to exert a compressing action on both sides of the stack. The cartridges C are slightly tapered so that the embracing action of the spring sides in combination with the base engagement of the cartridges, as hereinafter described, will hold the double row stack firmly and securely.

The present clip is of the reversible type, that is similarly constructed both at its top and bottom ends so that either end may be introduced downwardly into the receiver of the gun and the other end will serve as the top of the clip for presenting the cartridges to the bolt for loading. Cut out portions 36 and 37 in the back of the clip serve to permit travel of the bolt therethrough in loading the cartridges as described in my Patent 1,737,974. The back plate of the clip has a straight transverse section but is slightly curved vertically, as shown, and it will be understood that the rear wall of the gun receiver will be correspondingly curved for the reception of the clip. Each of the side walls 2 and 3 is formed at its upper and lower end with an intumened portion or ear such as 4, 5, 6 and 7. In the form of clip shown in Figs. 1 to 4, inclusive, the ears 4 and 7 are slightly nearer together in a diagonal direction across the clip than the other ears 5 and 6. Another way of stating this is that each pair of ears (viz., 4 and 6 or 5 and 7) at the same end of the clip have a slight displacement vertically as regards their cartridge engaging portions.
This vertical displacement distance is indicated at $\omega$ on Fig. 2. The diagonal distance between ears 4 and 7 is indicated as $y$ and the diagonal distance between ears 5 and 6 is indicated as $z$. The distance $y$ is slightly less than the distance $z$.

By keeping the vertical displacement distance $\omega$ small as compared with the radius of a circular base, the clip is constructed so that the loading of cartridges from the clip by the bolt may still be effected as described in my Patent 1,737,974. As therein disclosed, the bolt picks off the top cartridge of the stack alternately from each row. While, as shown in Fig. 3 of the present application, cartridges on the right row will rise to a slightly higher position against ear 6 than will cartridges of the left row against ear 4 when fed upwardly by the follower, this difference in height of position will be slight and not sufficient to prevent the bolt from loading cartridges from the left row as effectively as from the right row.

The diagonal distance between the ears 5 and 6 is made just sufficient to receive the stack in the disposition shown in Fig. 3. This arrangement predetermines a correct filling of the clip with cartridges when stacked in double row staggered relation, as shown in Fig. 3. The diagonal distance between the ears 4 and 7 being less than that between ears 5 and 6 requires that a full stack of cartridges be filled into the clip with the higher row of the stack always on the right side, looking at the front of the clip as in Fig. 3. A full stack could not be packed in the clip with the high row on the left side without forcibly distorting the clip out of its proper shape because of the insufficient distance between ears 4 and 7. Such forcible distortion of the clip out of shape would be a warning of its incorrect packing even in such cases where it could be accomplished and would ordinarily make the clip of unsuitable shape for insertion in the gun. The desirability of predetermining the aforesaid proper filling of the clip with cartridges is so that it may be conveniently used in its reversible form with a stepped follower in the gun, as shown in my previous Patent No. 1,737,974. However, this particular feature of design in the present clip of having the ears arranged as described may be readily dispensed with and said ears 4 and 7 may be spaced apart equally with the ears 5 and 6 in which case the clip would preferably be used in combination with a follower having a shiftable step of the character shown in my copending application Serial No. 339,916, filed February 14, 1929.

The back plate 1 of the clip is formed with upper and lower outwardly projecting catch portions 8 and 9 adapted to engage with the suitable latch of the gun as shown in my patent referred to for retaining the clip in the receiver. Each side wall 2 and 3 of the clip is similarly formed and only one need be described in detail. As shown more clearly in Fig. 7, the side wall 2 has formed at the junction with the back plate 1 an inwardly projecting rib 10 which is adapted to engage in front of the extending flanges $F$ of the cartridges $C$ which lie against that side of the clip. The other row of cartridges are similarly engaged, as will be understood. As shown in Fig. 1, the inwardly projecting rib 10 extends from near the bottom of the clip to near the top, and conforms in its lengthwise disposition to the curved back plate 1. It should be understood that the upper end of the rib 10 stops short of engaging the flange $F$ of the topmost cartridge in the stack. This is for the purpose of leaving said top cartridge free for easy loading by the bolt of the rifle in the usual manner.

Slightly in front of the rib 10 there is formed an outwardly projecting rib 11 which is adapted to engage behind a shoulder 12 in the receiver wall 13 of the gun. This latter engagement, duplicated as stated at the other side of the clip, serves to guide and position the clip properly in the receiver and also as a stop against any forward throw of the clip in the receiver. At the front edge of the side wall 2 and about midway between top and bottom is formed a forwardly extending lip 14 with an inwardly projecting bump 15 adapted to engage behind an undercut ledge 16 in the gun receiver whereby the clip when in the gun will be prevented from exerting its compressing action upon the stack of cartridges and thereby facilitate a more easy feeding of the cartridges by the follower.

Near the front edge of each side wall, as for instance on side wall 2, there is formed a vertically extending inwardly projecting rib 17 adapted to press against and engage the sides of the cartridges at points well forward of the bases thereof. Near the upper and lower ends respectively of this vertical rib 17 are formed depressed recesses 18 and 19 as shown in Fig. 3 whereby an upper shoulder such as 20 is provided at recess 18 and a lower shoulder 21 at recess 19. Obviously the shoulder 21 will be in upper position and shoulder 20 in lower position when the clip is inverted. The similar recesses of side wall 3 are indicated at 22 and 23 and the corresponding shoulders formed thereby at 24 and 25. The function of these shoulders will be understood from Fig. 3. When a full stack is in the clip the top cartridge $C'$ is in engagement with the ear 6, and the bottom cartridge $C''$ is in engagement with the ear 5. The next to the top cartridge $C''$ which is held spaced from its adjacent ear 4 is in engagement with the shoulder 20 and this engagement is insured by the lateral pressure of the ear 6 against the top cartridge $C'$ which throws it together with the cartridge $C''$.
slightly to the left. This same action takes place at the bottom of the clip as respects cartridges C3 and C4, and thus it will be seen that the diagonally disposed cartridges C3 and C4 at the upper and lower limits of the stack, even though not engaged by the ears 4 and 7 are yet sufficiently engaged by the shoulders 20 and 25 to avoid looseness in the confined stack. Furthermore, the shoulders 24, 21, 24, and 25 when in upper position during a loading and feeding of cartridges act as stops respectively for the rising cartridge of their respective rows and prevent angular movement of dislocation of the cartridge at the top of the lower row.

Referring to Fig. 3, it will be understood that after loading of the top cartridge C by the bolt in the usual manner, the cartridge C will readily pass its shoulder 20 into engagement with the ear 4, (forced upward by the follower) and that cartridge C3 on the right will then rise to engage its shoulder 24. This action is repeated alternately at each side of the clip throughout the loading and feeding of the cartridges.

It is desirable in a clip of this character to reduce its weight and to minimize as far as possible the frictional engagement of the clip walls upon its stack while yet furnishing a firm grip thereon to provide a tight on block packet out of the gun. To this end the side walls 2 and 3 are cut away to a large extent and are formed as shown in Fig. 1 with connecting bars 26, 27, and 28 between the rear and front portions. The bars 26 and 28 are continuations of the ears 4 and 5. The intermediate bar 27 is formed with an outwardly pressed middle portion 29 for stiffening the same and to provide inwardly projecting ribs at each side thereof extending longitudinally of the clip, which furnish little or no contact on the cartridges as they rise vertically in the clip during feeding. The sides of the stack in the clip are firmly engaged near the cartridge bases by the inwardly projecting ribs 10 and near the front by the vertical ribs 17, while sliding friction on intermediate portions of the cartridges during feeding is reduced to a minimum by the cut-away portions of the clip side walls and the depressed portion of the bar 27.

Referring to modification in Figs. 8 and 9, the clip here shown is constructed similarly to that previously described, except that the ears 30, 31 at the top of the clip and the ears 32, 33 at the bottom of the clip are not displaced vertically. These ears are all at the same distance from the symmetrical center of the clip. Furthermore, the ears 30 and 33 are inwardly bent tongue portions 34 and 5 of springy metal arranged as shown to prevent improper filling of the clip with cartridges.

In filling the clip all but the last cartridge may be inserted or laid in rather loosely. The last cartridge to complete the full stack is pushed in from the front and on top of the stack. If an attempt is made to insert the last top cartridge on the left side, (viewing Fig. 9) its base will catch against the spring tongue 34 and make the operation difficult, if not impossible. At least it will indicate to the operator that a wrong filling is being attempted and, therefore, cause a rearrangement of the cartridges in the stack so that the last cartridge may be smoothly inserted on top at the right of the stack—its proper place. The spring tongues 34 and 35 readily yield to the pressure of the rising cartridges in the stack during the feeding thereof by the follower and under such pressure lie in the plane of their respective ear portions.

What I claim is:

1. An ammunition clip for holding a stack of cartridges and adapted to be inserted therewith into the receiver of a gun, said clip comprising a back plate and two forwardly extending spring pressed side walls for embracing said ammunition stack with a compressing action, each side wall having formed therein adjacent its junction with the back plate an inwardly projecting rib for engaging in front of the cartridge extracting rims and also an outwardly projecting rib for engaging behind a shoulder in said receiver so as to position said clip within the receiver.

2. An ammunition clip for holding a stack of cartridges and adapted to be inserted therewith into the receiver of a gun, said clip consisting of an integral member of sheet metal formed into a back plate with two forwardly extending side walls for embracing said ammunition stack, each side wall having die pressed therein adjacent its junction with the back plate an inwardly projecting rib for engaging in front of the cartridge extracting rims and also in front thereof an outwardly projecting rib for engaging behind a shoulder in said receiver so as to position said clip within the receiver.

3. An ammunition clip for holding a stack of cartridges and adapted to be inserted therewith into the receiver of a gun, said clip being formed symmetrically above and below its longitudinal axis so as to be reversible for insertion into said gun and comprising an arcuate-shaped back plate and two forwardly extending side walls for embracing said ammunition stack, each side wall having formed therein adjacent its junction with the back plate an inwardly projecting rib for engaging in front of the cartridge extracting rims and also in front thereof an outwardly projecting rib for engaging behind a shoulder in said receiver so as to position said clip within the receiver.

4. An ammunition clip for holding a double row stack of cartridges in staggered relation and adapted to be inserted therewith into the receiver of a gun, said clip
comprising a back plate and two forwardly extending spring pressed side walls for embracing said ammunition stack with a compressing action, said side walls having inturned portions at their upper and lower ends, each side wall having formed therein adjacent its junction with the back plate an inwardly projecting rib for engaging in front of the cartridge extracting rims and also an outwardly projecting rib for engaging behind a shoulder in said receiver so as to position said clip within the receiver.

5. An ammunition clip for holding a double row stack of cartridges in staggered relation and adapted to be inserted therewith into the receiver of a gun, said clip comprising a back plate and two forwardly converging side walls extending from said back plate for embracing said ammunition stack, said side walls having inturned portions at their upper and lower ends, two inturned portions at diagonally opposite upper and lower ends of the clip, each having a stop shoulder formed therein to predetermine the filling of the clip with the higher row of the stack always at the same side.

6. An ammunition clip for holding a double row stack of cartridges in staggered relation and adapted to be inserted therewith into the receiver of a gun, said clip comprising a back plate and two forwardly converging side walls extending from said back plate for embracing said ammunition stack, said side walls having inturned portions at their upper and lower ends, two inturned portions at diagonally opposite upper and lower ends of the clip, each having an inwardly projecting spring-pressed tongue formed therein to predetermine the filling of the clip with the higher row of the stack always at the same side.

7. An ammunition clip for holding a double row stack of cartridges in staggered relation and adapted to be inserted therewith into the receiver of a gun, said clip comprising a back plate and two forwardly spring pressed side walls extending from said back plate for embracing said ammunition stack with a compressing action, said side walls having inturned portions at their upper and lower ends, the inturned portions at the same end of the clip being displaced vertically relative to one another by a slight distance, said displacement distance being substantially less than the radius of a cartridge base.

8. An ammunition clip for holding a double row stack of cartridges in staggered relation and adapted to be inserted therewith into the receiver of a gun, said clip comprising a back plate and two forwardly spring pressed side walls extending from said back plate for embracing said ammunition stack with a compressing action, said side walls having inturned portions at their upper and lower ends, two inturned portions at diagonally opposite upper and lower ends of the clip being at just sufficient distance apart to receive a full stack with the top and bottom cartridges of the stack in engagement therewith, and the other two diagonally opposite inturned portions at the upper and lower ends of the clip being at an insufficient distance apart to receive a full stack with the top and bottom cartridges of the stack in engagement therewith.

In testimony whereof I have affixed my signature.

JOHN D. PEDERSEN.
DISCLAIMER


Hereby enters this disclaimer to claim 4 in said specification which is in the following words, to wit:

"4. An ammunition clip for holding a double row stack of cartridges in staggered relation and adapted to be inserted therewith into the receiver of a gun, said clip comprising a back plate and two forwardly extending spring pressed side walls for embracing said ammunition stack with a compressing action, said side walls having turned portions at their upper and lower ends, each side wall having formed therein adjacent its junction with the back plate an inwardly projecting rib for engaging in front of the cartridge extracting rims and also an outwardly projecting rib for engaging behind a shoulder in said receiver so as to position said clip within the receiver."