

[54] **INFANTRY WEAPON AND ITS AMMUNITION**

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Related U.S. Application Data

[63] Continuation-in-part of Ser. No. 847,693, Aug. 5, 1969, abandoned.

[52] U.S. Cl. **89/1.815**, 89/1.814, 89/1.817

[51] Int. Cl. **F41f 3/04**

[58] Field of Search **89/1.815**, 1.814, 89/1.817, 1.819

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[57]

ABSTRACT

The invention concerns an infantry weapon and its ammunition. The weapon includes a stand provided with an aiming device for orientating a movable support on which interchangeable launching tubes are fixed. The ammunition includes packing cases for the transport and storage of shells to be shot by this infantry weapon; these cases include tubes in which the shells are nested, which form simultaneously, when the cases are mounted on the said stand, the launching tubes of the weapon.

4 Claims, 20 Drawing Figures

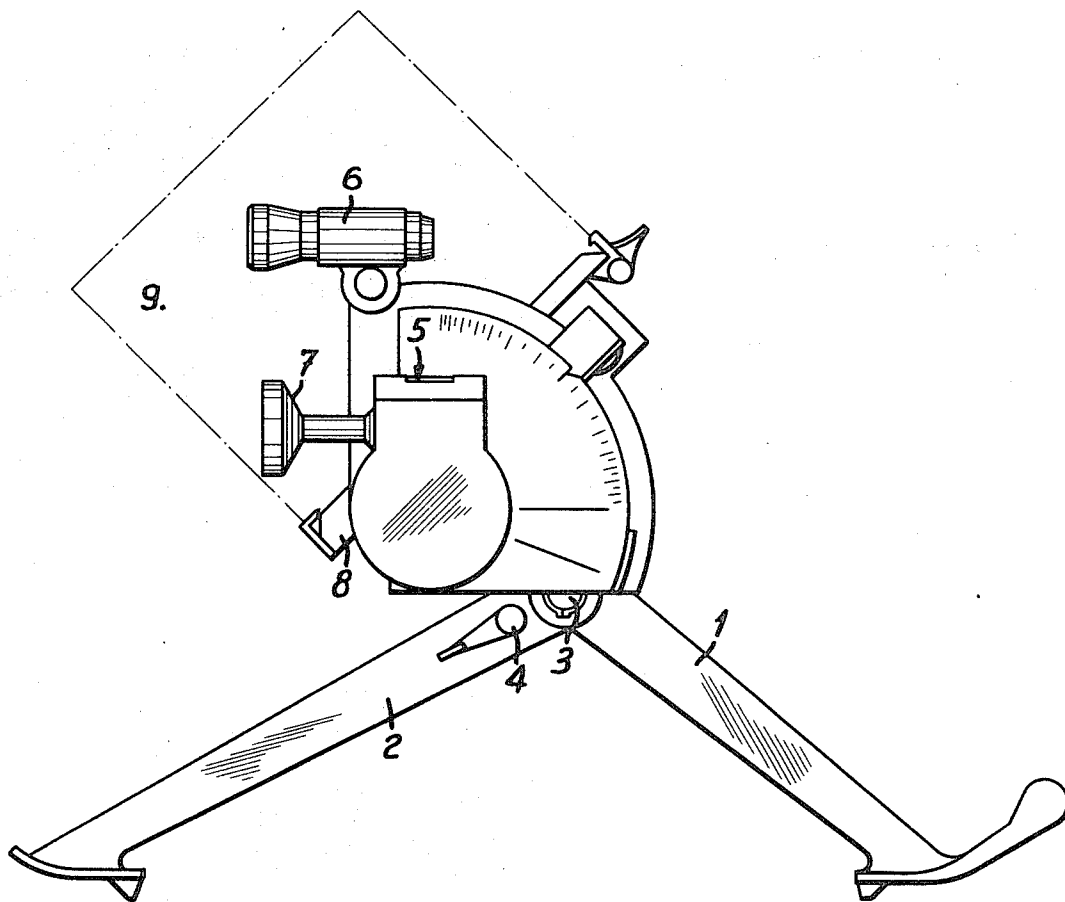


FIG.1

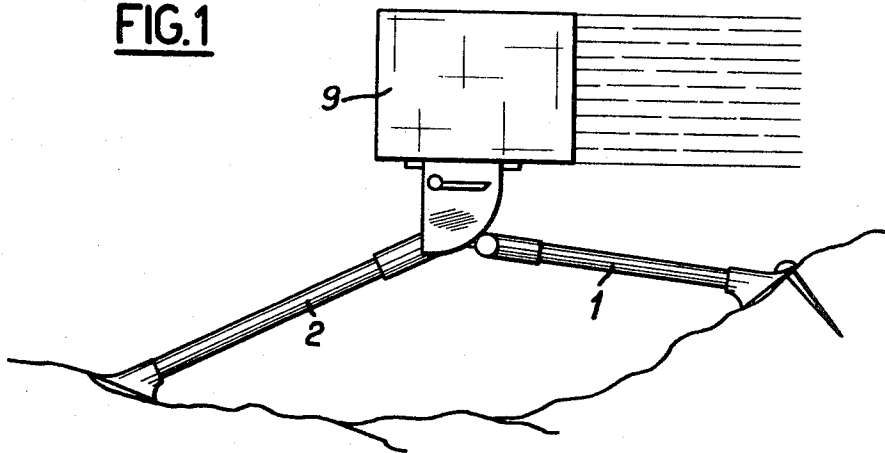
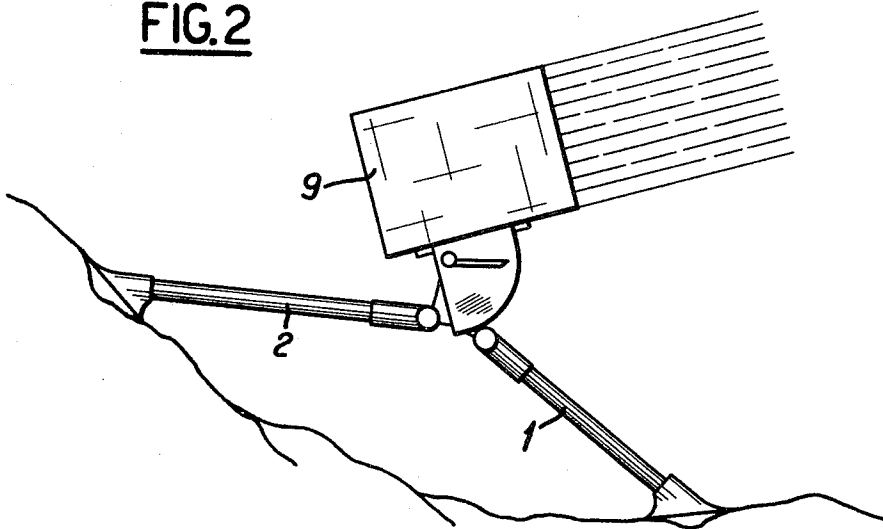


FIG.2



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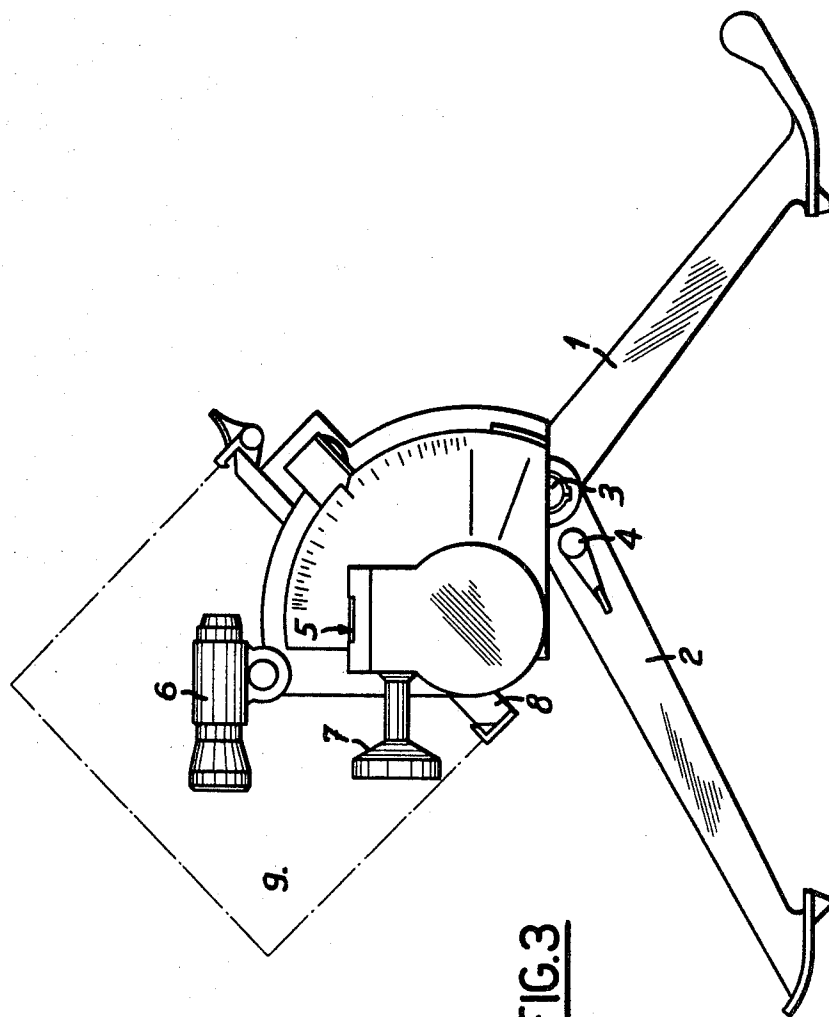


FIG. 3

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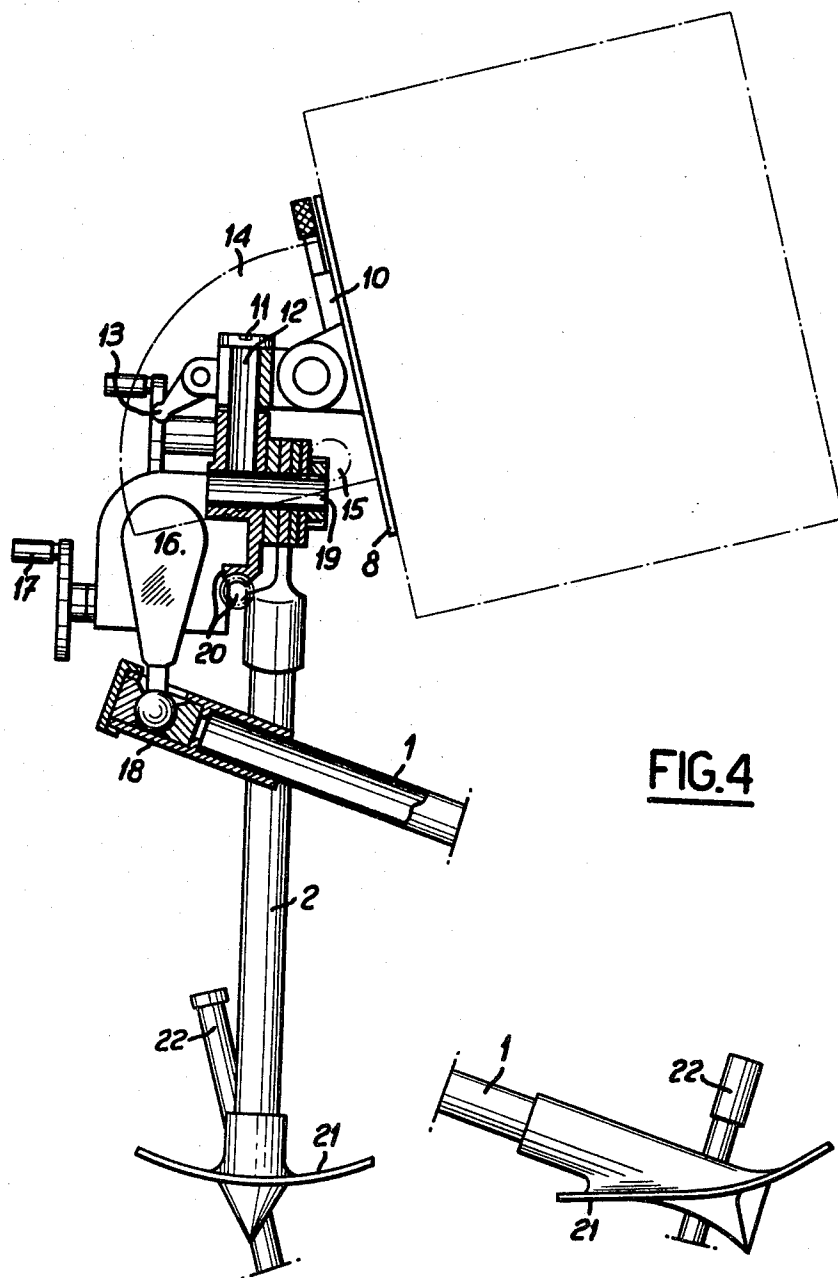
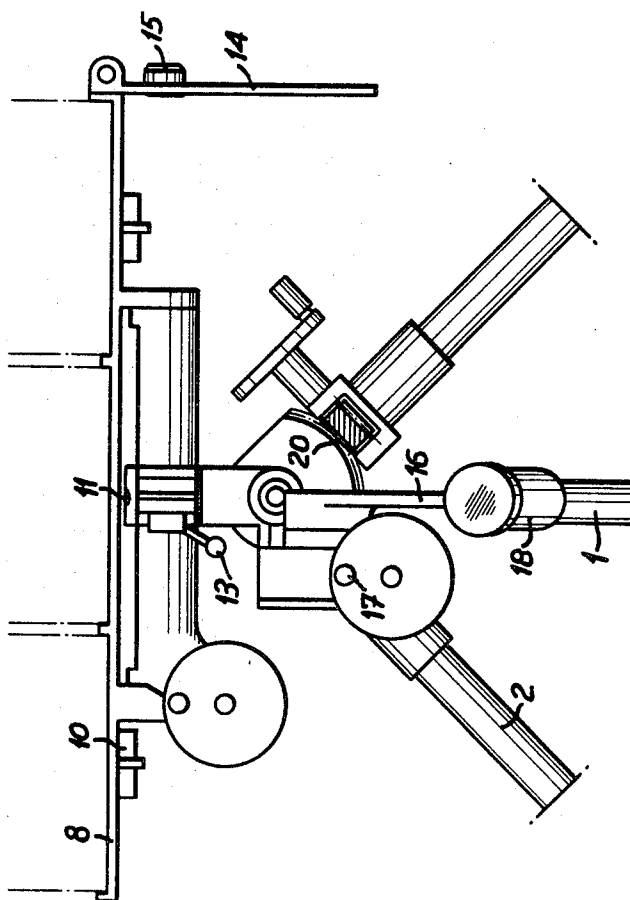


FIG. 4

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FIG. 5



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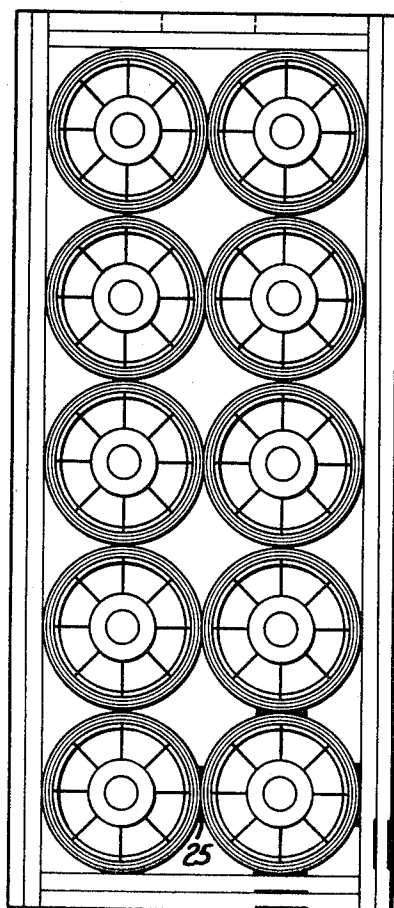
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FIG. 6

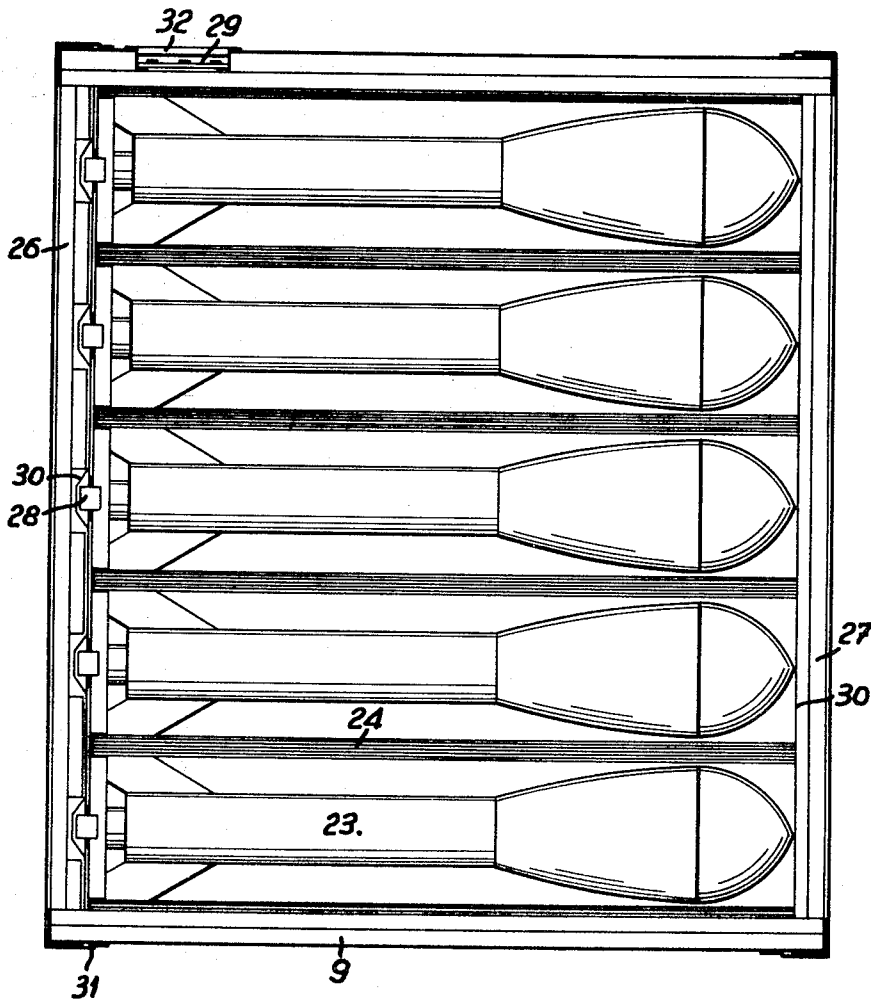


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FIG. 7



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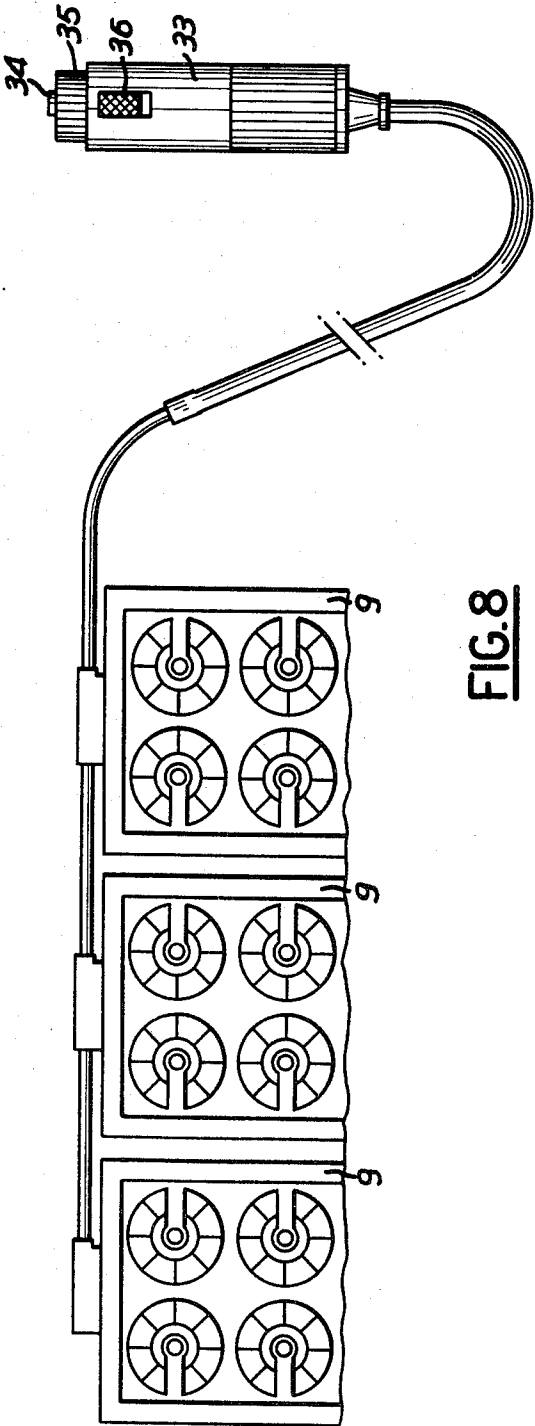
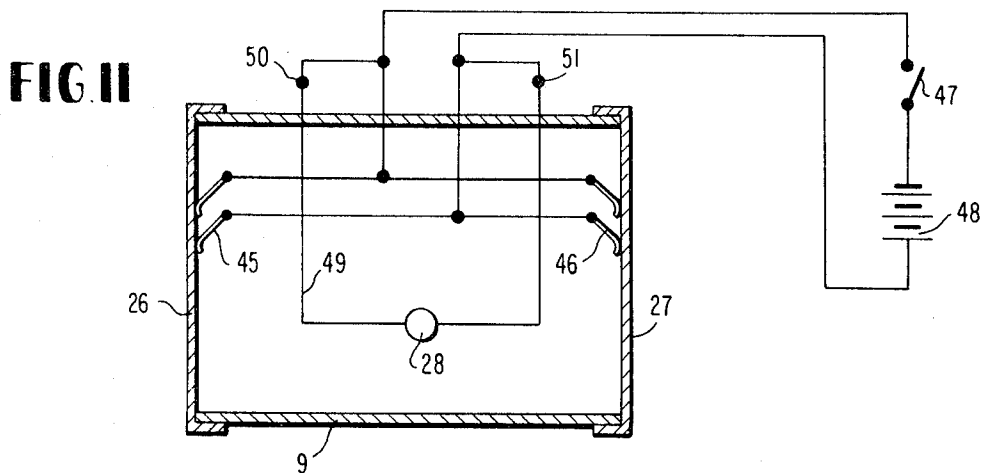
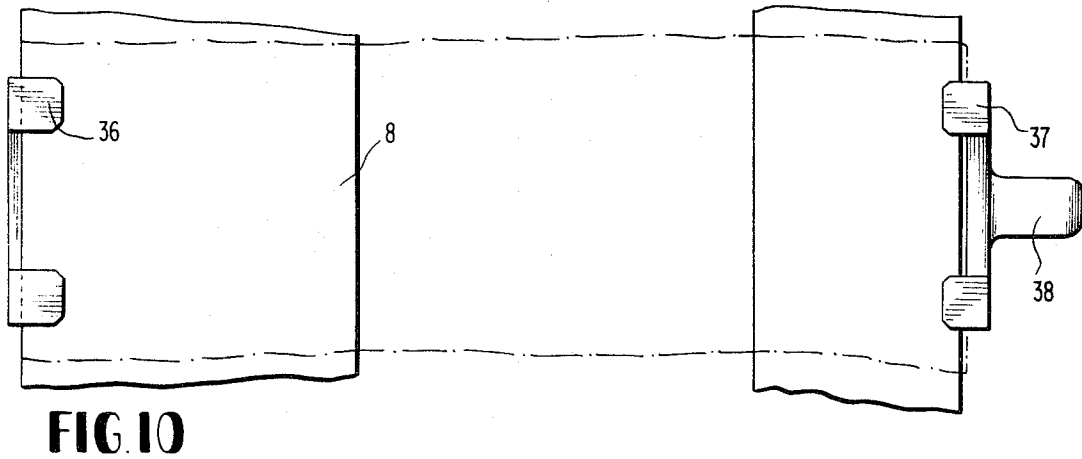
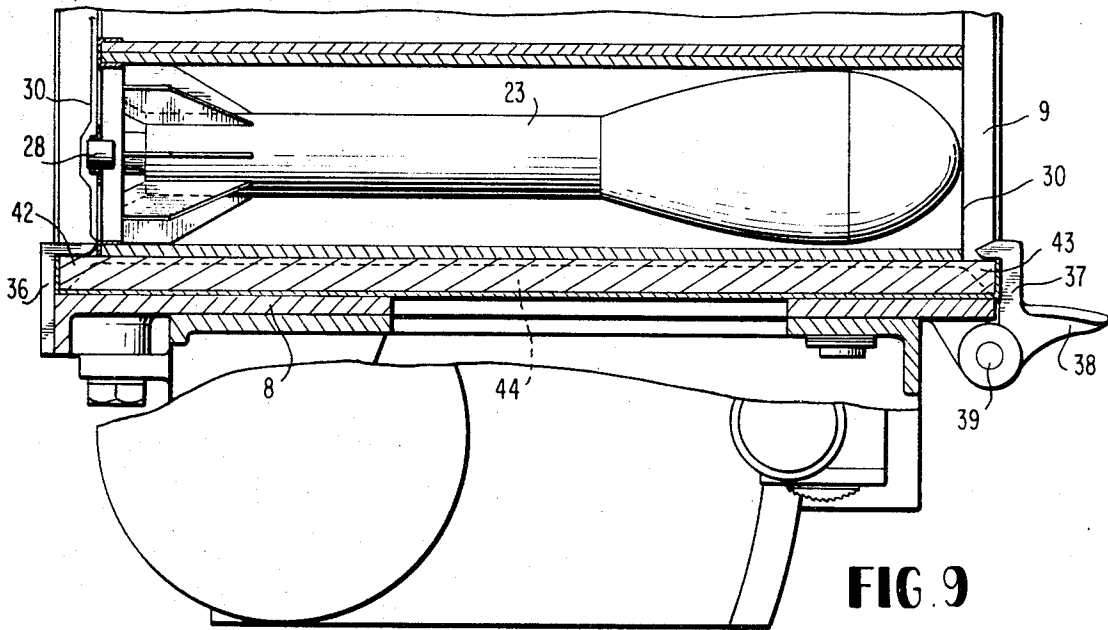
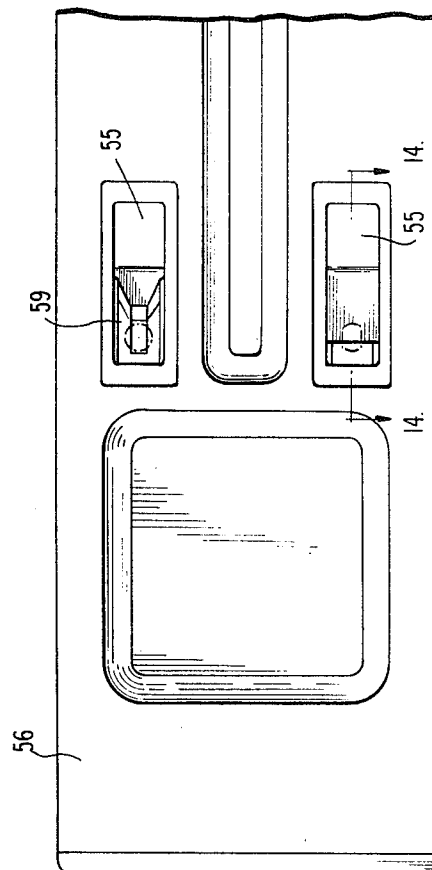
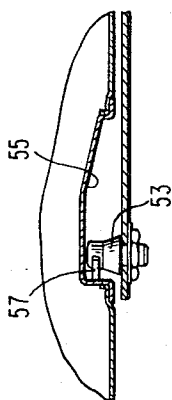
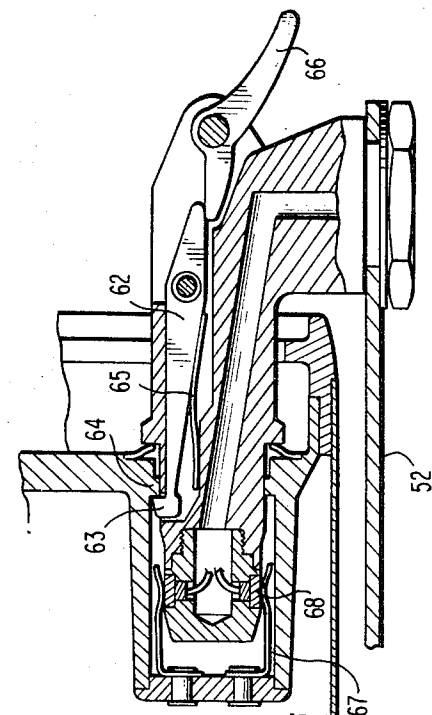
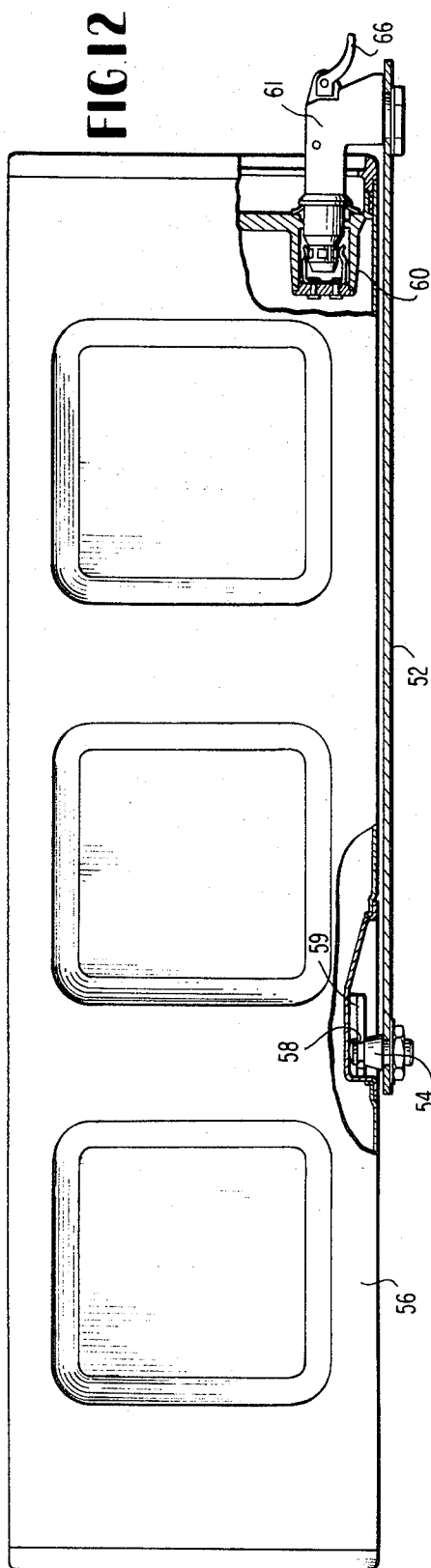


FIG. 8

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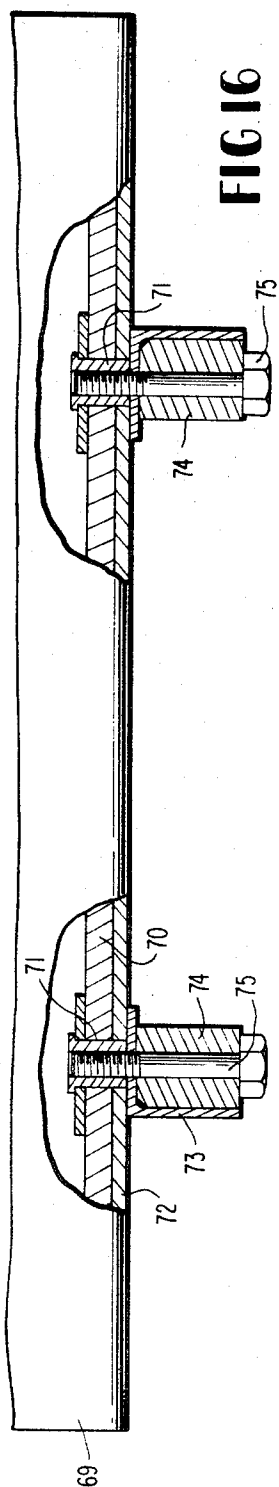


FIG. 16

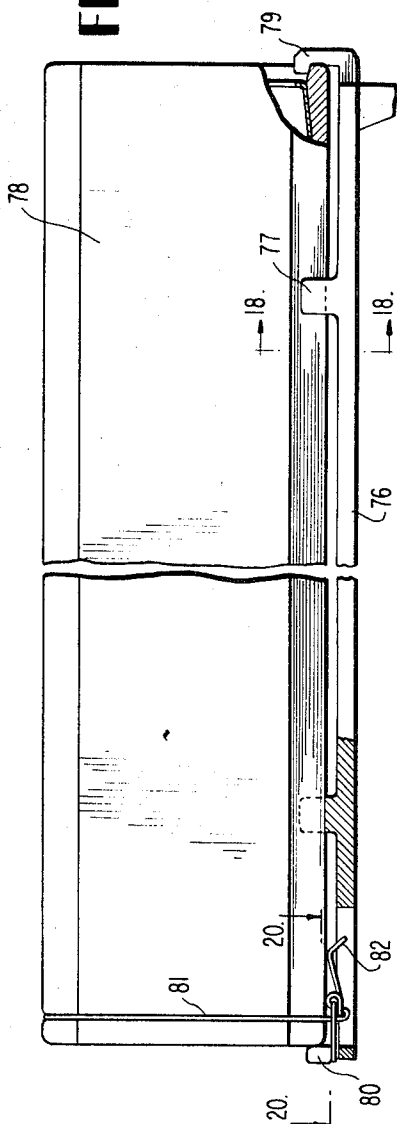


FIG. 17

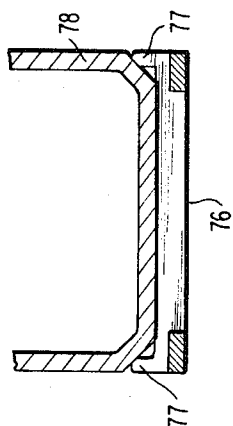


FIG. 18

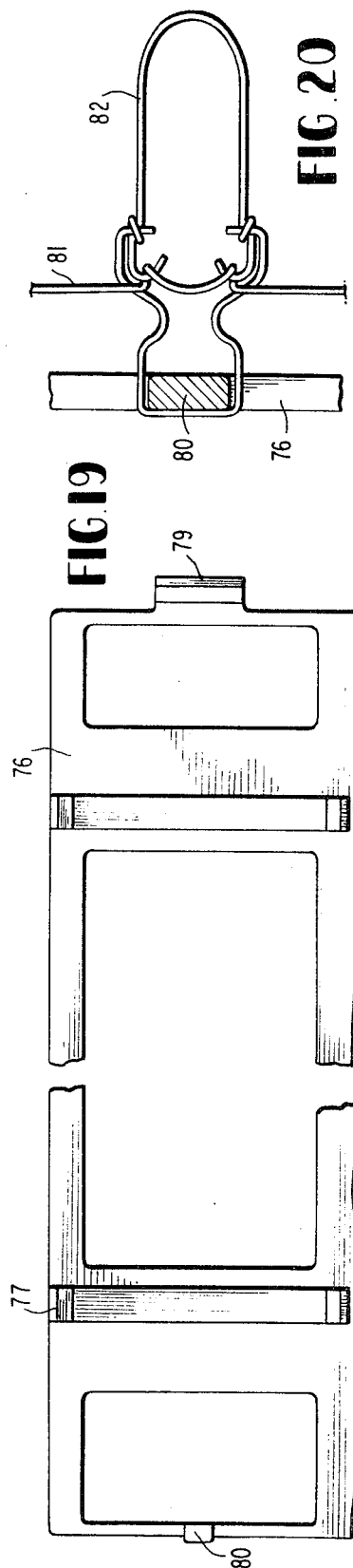


FIG. 19

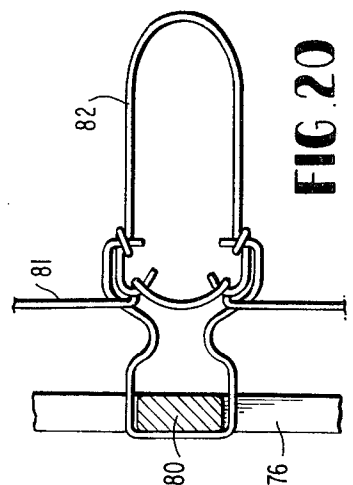


FIG. 20

INFANTRY WEAPON AND ITS AMMUNITION

This is a continuation-in-part of application Ser. No. 847,693, filed Aug. 5, 1969, now abandoned.

The current tendency is to provide the infantry-man or a small group of infantry-men with an increased firing potential without reducing thereby its mobility.

In addition, it is desirable to provide the infantry with a weapon the effectiveness and the potency of which ensure a greater operational autonomy.

The foot-man, in direct contact with its opponent, is in a better position to locate and appreciate the importance of the obstacles which he has to eliminate quickly.

The present gaps in the individual infantry armament lead to the assumption that in order to increase its security and its effectiveness the infantry must increase its approaching distance towards the opponent while increasing its firing power by means remaining always in acceptable limits of handling and transport by one man.

Actually, up to now the infantry-man has no weapon at its disposition which permits to answer this assumption. The arms with explosive shells are most often hand-grenades with a reduced range, rifle-grenades with imprecise shots, mortars of various calibers, heavy and easy to locate due to their succession of individual shots, bazookas of medium range and specialized to fight armour-cars or tanks, non-recoiling guns, which are potent and have an appreciable range but are difficult to transport on a man's back.

The present invention tends to obviate to the above mentioned inconveniences and has for its object an infantry weapon and its ammunition, characterized by the fact that the weapon includes a stand provided with an aiming device for orientating a movable support on which interchangeable launching tubes are fixed and by the fact that the ammunition includes packing cases for the transport and storage of shells to be shot by this infantry weapon, these cases including tubes in which the shells are nested and forming simultaneously, when the cases are mounted on the said stand, the launching tubes.

The attached drawing shows diagrammatically and by way of example an embodiment and various variants of the assembly according to the invention.

FIGS. 1 and 2 illustrate diagrammatically two shooting positions of the assembly.

FIG. 3 illustrates a simplified embodiment of the stand.

FIGS. 4 and 5 are respectively a cross section and a front view of another embodiment of the stand.

FIG. 6 is a cross-sectional view of a packing case.

FIG. 7 is a lengthwise section of a packing case.

FIG. 8 illustrates diagrammatically the firing means.

FIG. 9 is a fragmentary side elevational view, with parts broken away, of a mounting means for an ammunition case according to the present invention.

FIG. 10 is a top plan view of the mounting means of FIG. 9, with the ammunition case removed.

FIG. 11 is a schematic circuit diagram showing the control to prevent firing until both end covers of the ammunition case are removed.

FIG. 12 is a side elevational view, with parts broken away, showing another embodiment of releasable mounting means and electrical connection means for the ammunition case on the base plate.

FIG. 13 is a fragmentary bottom plan view of the ammunition case of the embodiment of FIG. 12.

FIG. 14 is a fragmentary side view taken on the line 14—14 of FIG. 13.

FIG. 15 is an enlarged fragmentary cross-sectional view of the electrical connection and mechanical release of the embodiment of FIGS. 12—14.

FIG. 16 is a fragmentary side elevational view with parts broken away, showing another embodiment of interconnection between the ammunition case and the base plate.

FIG. 17 is a side elevational view, with parts broken away, of an ammunition case mounted on the base plate according to still another embodiment of the present invention.

FIG. 18 is a fragmentary cross-sectional view taken on the line 18—18 of FIG. 17.

FIG. 19 is a fragmentary top plan view of the base plate of the embodiment of FIGS. 17 and 18, with the ammunition case removed.

FIG. 20 is an enlarged fragmentary cross-sectional view taken on the line 20—20 of FIG. 17.

This assembly is a light non-recoiling supporting weapon, taking very little place, which may be set up very close to the ground, being less high than a kneeling man (approximately 800 mm), provided with an appreciable firing potency and a maximum range, variable according to the type of shells, between 500 and 5,000 metres, capable of incurred shots (from 0° to 80°) or stretched shots or shots with a negative inclination of less than 20° for shooting downward.

This weapon of reduced volume and weight, easy to handle, easily readied, permits to the infantry to fulfil by its own means the following tasks:

- to stop a tentative progression (leaps forward)
- to prepare by itself an approach or a penetration in woods, village, etc.
- to finish up on the spot a preparation which was already done by heavier supporting units
- to clean up supposedly occupied area (under covers, camouflage, etc.)
- to ensure with greater ease the defence of a narrow path, a confined stronghold, and to close up a bottle neck, etc.

Moreover, this weapon permits to spray instantaneously, with a good precision, a limited area with explosive shots automatically controlled or not.

By instantaneously, it is meant that the shots are launched practically at the same time with a fraction of a second difference so that they have reached practically simultaneously the objective and this for several advantageous reasons:

- a. Take the enemy by surprise without letting him have the possibility to take cover by reflex since there is no warning from nor any possibility to spot the first shot.
- b. Through crossing of the simultaneous explosions, the whole area is covered at the same time, which results in increased efficiency.
- c. During the course of the volley, the servant may hide up and reduce the risk which he takes when firing shot after shot. Consequently, he may be less easily spotted.

This arrangement includes two elements, one of which is the package of the shots themselves; this throw-away package, being a necessity anyway, is pro-

vided to be used as a rocket launcher with electrical ignition.

The other element is a light and non-embarrassing stand provided with an aiming means, if possible recoverable, which permits to orientate the cases with respect to range and direction. If necessary and without important changes, namely with respect to dimension, the stand may be used with different types of cases.

Apart from the possibility to fire shot after shot, one fires normally one full case of 10 shots for example followed by two more full cases, that is 30 shots per stand within a minute. A battery of three stands, firing three cases each for example, may fire 180 shots within a minute. During this minute, the actual shooting time represents about three seconds. The remainder of the time is used for setting up the cases and possibly to change the aiming.

FIG. 1 shows diagrammatically the setting up of the weapon for direct shooting. The stand may be easily adapted to the ground and the cases of ammunition on this stand serve as launching tubes.

FIG. 2 shows the use of this infantry weapon for indirect incurred shots.

The concept of this weapon is to provide in a small volume the equivalent of a 60 mm mortar. In addition, it is easy to handle and easy to transport since it includes a light stand weighing approximately 5 kilos and ammunition cases capable of containing each several shots, the number of which may vary according to the calibre (from 1 to 24 for example) and the weight of which is for example of 5 to 10 kilos. Thus, each element, the aiming stand and each ammunition case may be easily transported by a single man. This means that this is a real infantry weapon to be served by a small group of infantry-men namely for the transport, but may be handled by a single man.

FIG. 3 illustrates a very plain stand including a forward leg 1 and two back legs 2 which, in plane view, form a V to ensure the stability of the stand thus formed. An aiming device is mounted on an axis 3 secured to these legs and may be blocked thereon by a locking device 4. This aiming device includes a water level 5 permitting horizontal adjustment before locking it to the legs and an optical aiming device 6 to ensure the direction of the shooting which may be adjusted either by moving the legs 1, 2 or usually by an angular displacement in a horizontal plane of the aiming device with respect to these legs.

In a variant, the optical aiming device may be provided simply by the edge of the cases mounted on the stand.

Finally, the aiming device includes further a device 7 for controlling the range, permitting to modify the inclination, with respect to a horizontal plane, of a base plate 8 provided for supporting the ammunition cases 9 (not represented).

It is clear that this stand could be made differently, in a more elaborated way, and include for example controlling devices, such as an endless screw for adjusting not only the range and the direction of the shot, but also its inclination, as well as the horizontal adjustment of the aiming device.

The extremities, shoes or skids of the legs of the stand have an adequate surface to ensure a good footing of the stand and may be provided with anchoring nails avoiding that they be moved as an effect of the shot. In addition, buffers made of rubber or anchor resilient

material may be provided between the head of the anchoring nails and the top face of the shoes of the legs to avoid any vibration of the aiming stand while shooting and to ensure its automatic return to the operating position which was determined when aiming.

FIGS. 4 and 5 illustrate an alternative and more elaborated embodiment of the stand in which 8 is the base plate for the case 9, 10 is an electric plug secured to the base plate which has the double function of locking mechanically the case 9 onto the base plate 8 and to connect it electrically to the ignition device, and may for example be as disclosed in U.S. Pat. No. 3,389,637, June 25, 1968. 11 is a circular water gauge for adjusting horizontally the aiming device, 12 is the vertical direction axis and 13 the locking device of the direction. 14 is the aiming sector graduated in metres and 15 the aiming index while 16a is the control by means of an endless screw of the range. 16 is a ball-and-socket lever for adjusting the vertical position of the direction axis 12 the control 17 of which is a wheel and an endless screw. 18 is a locking device of the ball of lever 16. 19 is the axis of the leg and simultaneously of the inclination while 20 is the control by wheel and endless screw of the inclination.

The forward leg 1 and the two back legs 2 are provided at their ends with supporting soles or shoes 21 and ground pegs 22 are provided for securing them to the ground.

FIGS. 6 and 7 illustrate the second element of the assembly which includes a case or pack with a number of shots and which, once positioned on the base plate of the stand constitutes with the latter the launching ramp. This launching ramp is a multiple one, since each case 9 contains several self-propelled shots.

Each shot 23 is placed in the case 9 inside a launching tube 24 extending from the bottom to the top of case 9. Gluing areas 25 secure the tubes one to the other and inside the case 9 so that it is possible to take off the bottom 26 and the cover 27 of the case without modifying the position of these launching tubes 24.

These packs or cases 9 are fixed either alone or in a group of several ones onto the base plate of the stand so that one of their side-walls is flush against this base plate. The securing of these cases may be ensured by any adequate means and especially combined with the feeding means for electrical current of the case provided for the ignition of the electrical primings for firing the various shots 23. These electrical primings are secured to an ignition plate provided immediately behind the launching tubes or for example on the nozzles of the propellers or sidewise on the shot. A proper electrical circuit connects these electrical primings 28 to a plug 29 provided on a side-wall of case 9. This plug may be provided with a bayonet joint and cooperate with a movable male part mounted on the base plate of the aiming stand so as to ensure simultaneously the electrical connection of the primings 28 with the ignition means and the mechanical securing of the case to the base plate, or again may be as in the above-mentioned U.S. patent.

The electrical ignition circuit is such that the electrical primings 28 may be each lighted independently from the others so as to permit a shot by shot ignition or a volley depending on the gunner's requirements.

Tight films 30 normally close the launching tubes 24 to ensure perfect tightness of the packing of the shots 23. The tightening film 30 at the bottom of the launch-

ing tubes 24 includes the electrical primings 28 inside the protected enclosure.

The cover 27 and the bottom 26 are fixed in an adequate manner but may be taken off the case 9 and tightening tapes 31 are provided to obtain the best possible closure and conservation of the cases.

The electrical plug 29 is also provided with a tight cover 32.

The ignition means are diagrammatically illustrated on FIG. 8. In this embodiment the cases 9 are secured by adequate means onto the base plate of the stand and the electrical plug 29 of each case are connected to contacts which are electrically connected to a hand operated control means. This manual control means 33 includes an ignition button 34 and a selection wheel 35. This wheel 35 permits to select an electrical circuit corresponding to a given shot amongst those contained in the case 9 while the ignition button 34 permits to energize the electrical circuit chosen and ignite the corresponding shot. Thus, a firing shot after shot may be achieved.

Alternatively a spring loaded mechanism or an electrical motor may be provided to drive the wheel 35 in continuous rotation, which permits the successive selection at short time intervals of all the electrical circuits of one case. Thus, a continuous pression on the ignition button 34 during the automatical rotation of wheel 35 permits fast successive ignition, for example in a 3-second time span of all the shots in one case and thus a volley shooting.

The manual command 33 includes further a case selection switch 36 permitting to select one or the other of the cases placed on the ground plate of the aiming stand in order to ignite its shots.

The handling of this new assembly is extremely easy. The stand is put in position and the aiming performed. The shots containing cases are placed and secured onto the base plate of this aiming stand and the bottoms and covers of these cases are taken off. Each case is connected to the manual ignition control and the gunner may then fire shot by shot or in volleys.

This new assembly avoids the use of weapons which are not appropriate and not very effective. It has been conceived so as to complement advantageously and efficiently the individual equipment of the fighter.

This weapon is non recoiling, of small volume and weight, easy to handle and rapidly set up for operation. In view of its handiness it permits to cover instantaneously with a large amount of explosive shots a ground occupied by the opponent. This weapon which has a considerable firing power, may for instance be used for reducing the enemy's resistance or to break its offensive preparation.

The stand, sturdy and foldable, is as light as an ordinary rifle, not bulky at all in transport, and may handle for example three cases, easy to open, and containing each an important number of shots. The shooting may be controlled to occur shot after shot or in volleys. With boxes containing 15 shots each, the gunner may, therefore, with a single aiming stand perform 45 shots within a second.

The ammunitions are self-propelled and fast burning. A stabilizing fin permits to shoot at any angle. The shot includes a steel body possibly with a prepared fragmentation. The explosive load may be provided in compressed cakes.

The electrical ignition may be controlled from a distance.

The user may set up instantaneously on its stand either one or several cases and may also unload them rapidly if required. A range of 50° is provided with an aiming means including angular marks, a water gauge, control and adjustment means and inclination means. The arrangement permits to make a straight or an incurved shooting up to the largest angles.

No manipulation of the ammunitions is required before shooting. The assembly is ready for shooting as soon as the covers of the cases secured to the stand are open.

A transport handle permits to move easily the assembly from one place to another even if the stand is completely loaded with ammunition cases. It may be carried by means of a shoulder strap or like a suit-case. The total weight depends on the number of cases and the calibre of the shots, but it always remains portable.

The effects of the new assembly cannot be compared with those of gun grenades which are launched one by one at very low sequencies and with rather poor aiming means especially for incurved shots (the stability of the rifle is not very accurate at the time of launching).

The new weapon fills actually an important gap and permits to achieve, thanks to its exceptional firing density and its speedy intervention, results which no other known weapon is capable to achieve, especially in order to reduce the resistance opposed by an entrenched enemy. This weapon is well adapted for shooting on filing past objectives. It permits to the infantry-man to cover instantaneously the chosen area of ground with a multitude of shots in order to reach the selected objective.

The high efficiency of this assembly results from its speediness of intervention, from the concentration and the intensity of its fire on a given area. The volley of shots permits to beat the chosen area with excellent results.

This individual supporting assembly which constitutes a real missile launching device of reduced size, permits to the infantry-man, who is in the front line, to reach by himself and potently the enemies' position and to reduce its resistance. With this assembly, the height of which above the ground is comparable to the one of a mortar of 60 mm, the infantry-man is in a position to spray over the opponent volleys shot straight or on an incurved course with much more chances of success than with the means available up to now.

During fights, it is recognized that by shooting one single explosive shot it is exceptional that an adverse position may be reduced to silence. It is also well known that the sequence of shooting is frequently determinant to obtain the expected results. Moreover, on the ground, very few places are favourable for shooting (lack of sheltering means, of visibility, of supply, etc.). It is, therefore, logical to provide arms with a large shooting capacity and to set them up in the best places, which are relatively few, from which an intense shooting may be performed.

This new portable supporting assembly provides the infantry-man with means to neutralize or to disorganize by himself, in a very short span of time, an enemy position or to stop an assault by armour-cars. Moreover, it permits to reach, with much more chances of success than by using conventional means, an objective the lo-

cation of which on the ground is not defined with certitude.

The assembly permits to perform at a beforehand chosen time an intense shooting of the enemy during strategic withdrawals so as to cover the retreating units. The results obtained by this assembly are outstanding. It represents a new means at the disposition of the infantry-man which avoids the need to call on other arms of the arsenal of a division for solving more advantageously and more efficiently by means of an intense shooting important cases which have been badly solved up to now.

This assembly corresponds to the current development of armament which seeks to provide a plurality of impacts. It permits to satisfy the requirements of troops at a time when a man alone on the ground must be in a position to solve multiple eventualities during his mission.

The great efficiency of the assembly for attacking and destroying convoys must also be pointed out. The opponent riddled with shots is left no time to dig in, recover and possibly reorganize for a riposte.

Moreover, by using ammunitions with a hollow load namely for incurved or indirect shooting, this assembly is effective against tanks in view of the large number of shots which are dropped simultaneously onto the target area. Moreover, tanks are more vulnerable from above, their armour being lighter there. The shots may, therefore, dive on the horizontal, poorly protected parts of the tanks.

Many variants may be visualized within the frame of the claimed protection. The stand as well as the ammunition cases may be modified.

The legs may be angularly adjustable. The base plate provided to support the cases may have a V or a cross shape depending on the number of cases which ought to be secured thereon. The cases may be of different length while remaining adaptable to the same base plates.

The ignition control may be partly fixed on the base plate or incorporated in the electrical plug provided simultaneously for mechanically securing the cases onto the base plate and connecting them electrically to the ignition control. Thus, the ignition control could include only the button 34, the other means of this control means being provided on the stand. This solution has the advantage to reduce the crowding of the manual control 33 and thereby require only a cable with two lines between this hand control means and the base plate of the stand.

With respect to the ammunition cases, those may include different numbers of shots depending on their calibre. Moreover, to increase the efficiency of the volleys, the launching tubes 24 may be set up in a slightly divergent manner between the end plates provided for positioning their front and back openings.

In order to increase the area covered by the shooting, one may also orientate each case separately on the base plate of the stand, for example by means of eccentrics permitting to control the dispersion of the shooting with respect to range and direction, which permits to variate jointly the density of the shots, the shape and the surface of the target area.

It is evident that the type of self-propelled shots used may variate according to the requirements of the attack to be performed so that, in fact, a great variety of possibilities is provided.

In order to guarantee the security of the crew of such an assembly, it is possible to provide various means avoiding a premature or inadvertent ignition of the ammunition cases either during their transport or when they are already positioned on the stand. The ignition circuit may be interrupted with a part made of insulating material, plastic material for example, separating the contacts of a switch when the cover or the bottom is in position on the ammunition case. If these contacts, connected in series in the ignition circuit, are subjected at each shot to a blast, their shape should be such that under the influence of this blast, they tend to be closed in order to maintain the ignition circuit in operation.

Such safeguards may include in addition to the interruption of the ignition circuit, the short circuiting of the electrical ignition primers as long as the bottom and the cover of the ammunition case are secured thereon. These safeguards are cut off only by taking off the bottom and the cover of the case. This permits to dissipate parasitic currents. Such security means may include metal plates secured to the inside of the bottom wall and are applied, when the bottom is put on the case, on the terminal of the electric primers of each shot or on contacts connected to these terminals. It is evident that the electric primers may be installed either axially as shown or sidewise close to the side-wall of a shot.

It is also evident that the shots ought to be maintained accurately in their position inside their respective launching tube even though the bottom and the cover of the ammunition case are taken off. This retention of the shots is made for example by means of tongues secured to the launching tubes or to a part of the structure of the case in locations which are as far as possible not exposed to the blast of the shots.

Finally, to avoid an additional handling before ignition, the bottom and the cover of each case may be ejected automatically before ignition of the first shot of the case under consideration. This automatic ejection may be controlled by the ignition means and constitute the first sequence of the control of the ignition of each case.

This ejection of the bottom and the cover may be achieved by pyrotechnical means combined or not with a mechanical action. For example a pyrotechnical cord may be inserted between the bottom and the case as well as between the cover and the case and the ignition of this pyrotechnical cord may produce the rupture of the fastening means of the bottom and the cover of a case and the ejection of this bottom and cover at a distance sufficient for not interfering with the shooting.

In other embodiments of this invention, pyrotechnical means may be used in the form of a small explosive load, to release a mechanical means of fastening the bottom and the cover. The actual ejection of the bottom and the cover may then be achieved either mechanically by means of springs or directly by means of the aforementioned load or else by a combination of these means.

An anti-dust tilt may be provided to avoid the formation of clouds which may be seen by the enemy during shooting. This tilt is laid on the ground and may be fastened to the stand. By loading this tilt with various materials, it may help to maintain the stand fixed to the ground.

In a variant, the base plate or support of the stand may be fixed on the latter by means of buffers, for ex-

ample silent blocks, provided for absorbing the trepidations resulting from the firing of the shots.

A first embodiment of means for releasably securing the ammunition case 9 to the base plate 8 is shown in FIG. 9, in the same general environment as is seen in FIG. 3. To the rear of the base plate, hooks 36 are fixedly secured; while to the forward end of the base plate, a pivotal latch 37 having a finger piece 38 is mounted for vertical swinging movement about a horizontal pivot 39.

Ammunition case 9, with its bottom 26 and cover 27 removed, is mounted on base plate 8 by slipping the rear flange 42 under hooks 36. Then, by depressing finger piece 38, latch 37 is swung about pivot 39 to permit latch 37 upon its release to grasp forward flange 43 of case 9 under the influence of a spring (not shown). With the electrical connections (not shown) for firing the rockets 23 connected in a manner which will be clear from the subsequent figures of the drawings, the ammunition is ready for firing.

As many cases may be aligned side by side as the width of base plate 8 will permit, appropriate parallel ribs 44 being provided on base plate 8 for appropriately positioning the plural cases 9. There will also be as many hooks 36 and latches 37 as needed. Alternatively, only a single case 9 may be mounted on base plate 8.

FIG. 11 shows very schematically the diagram of the control circuit which ensures that no priming 28 can be fired when the electrically conductive bottom 26 and cover 27 of case 9 are in place. When 26 and 27 are in place, the blades of switches 45 and 46 are conductively interconnected, so that upon closing switch 47, the poles of the battery 48 are short circuited and current will not flow through any priming 28. It is only when both 26 and 27 are removed and both 45 and 46 are open that there is the possibility of establishing a flow of current through any priming 28. It will of course be appreciated that there is a priming 28 for each rocket 23, the illustrated branch 49 of the circuit being only one of many branches in parallel each of which is individual to a rocket 43. Of course, for simultaneous or groupwise firing, some or all of the primings 28 can be in series. The various branches 49 with their primings 28 are connected at jacks 50 and 51 for simultaneous or sequential or groupwise firing of the primings 28 and are controlled by conventional firing mechanism (not shown) or by that of FIG. 8.

Another embodiment of mechanical and electrical connection means for the case on the base plate is shown in FIGS. 12-15. In this embodiment, the base plate 52 carries at one end upstanding studs 53 and 54, stud 53 being received in a recess 55 and the bottom of ammunition case 56, in which recess it is positioned by a yoke 57. Stud 54 is provided with a circumferential groove 58 in which are received the opposite edges of a slot in a U-shaped member 59 for precisely locating stud 54.

At the forward end of case 56 is provided a socket 60 for the reception of a plug-type electrical and mechanical connector 61 on base plate 52. Mechanical connection is effected through a latch 62 pivotally mounted in connector 61 and having a sear 63 at its rear end that is depressed by the margins of socket 60 when entering socket 60 and then springs up behind a marginal flange 64 that borders socket 60 thereby releasably to retain the parts of the assembled position of FIGS. 12 and 15. A spring 65 releasably retains sear 63 in its raised posi-

tion, while a finger piece 66 bears against the end of latch 62 opposite sear 63 for the purpose of depressing latch 62 against the action of spring 65 to permit removal of case 56 from base plate 52.

Connector 61 also includes a plug-type electrical connection, indicated diagrammatically by spring contacts 67 mounted in insulated relation to each other in socket 60 and having slidable contact with the electrical contacts 68 on connector 61, it being understood that there can be as many contacts 67, 68 about the periphery of the plug and socket assembly as are needed to establish the various conductive paths involved. The connections of the assembly 60, 61 to the individual primings 28 for selective or simultaneous firing of the ammunition may be conventional and are not shown.

It will of course be understood that when connector 61 is fully seated in socket 60, the studs 53 and 54 will be fully seated in their respective recesses 55 and case 56 will be parallel to the base plate 52.

When there are plural cases 56 in side-by-side relation, there will of course be as many connectors 61 and studs 53 and 54 as needed.

FIG. 16 shows still another embodiment of means for releasably securing the ammunition case to the base plate. In FIG. 16, the case 69 has a bottom wall 70 which is traversed by a screw-threaded bushing 71 that forms a permanent part of the case 69. The base plate 72 of the weapon has channel members 73 secured to its underside, with bushes 74 spaced therealong. Bolts 75 are inserted through bushes 74 from below and screw-threadedly received in bushings 71 thereby releasably to retain the case 69 on the base plate 72.

A still further embodiment of the means for releasably securing the ammunition case on the base plate is shown in FIGS. 17-20. As is there shown, the base plate 76 is provided with upstanding guides 77 for correctly laterally positioning the ammunition case 78. At its forward end, base plate 76 carries a fixed hook 79 for receiving the forward flange of case 78; while at its rear end, base plate 76 carries a post 80 which anchors a wire fastening 81 that loops over and secures the rear end of case 78, the rear flange of case 78 also abutting post 80. Wire fastening 81 is of generally conventional construction, including as it does a finger piece 82 which when swung vertically to a lower position (not shown) releases fastening 81 and which when swung to the position shown in FIGS. 17 and 20, tightens fastening 81 about case 78.

To assemble the case 78 to base plate 76 in the embodiment of FIGS. 17-20, the rear loop of the wire fastening 81 is hooked about the post 80 and with the finger piece 82 in its lowermost position, the loop 81 is positioned so that it will be out of the way of the case 88. The case 88 is then inserted with its forward flange in hook 79 and its rear end is brought down to the FIG. 17 position. Fastening 81 is then swung up to the FIG. 17 position and the finger piece 82 is similarly swung up to the FIG. 17 position, which tightens fastening 81 about case 78 in the position shown. After firing, the finger piece 82 is pulled down and fastening 81 disengaged from case 78, after which case 78 can be removed in the direction opposite that in which it was inserted.

Of course, the various electrical controls are used individually or in any desired combination, in connection with all of the embodiments described above.

I claim:

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1. An infantry weapon comprising a stand having a sighting device thereon, a flat base plate, means mounting said base plate on said stand for adjustment in a plurality of directions relative to said stand, a plurality of ammunition cases on said base plate in side-by-side relation, spaced parallel upstanding ribs extending in the firing direction and comprising guides on said base plate for positioning said cases relative to each other on said base plate, a plurality of rockets in each said case, an electrical primer for each said rocket, said cases having electrical plugs in circuit with said primers, and means on said base plates for electrically connecting said plugs to an ignition device and for releasably securing said cases to said base plate, said cases being open at at least one end, said releasably securing means

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comprising hook means carried by said base plate and engaging over said at least one open end of said case and means mounted on said plate releasably holding the other end of the case to said base plate.

2. An infantry weapon as claimed in claim 1, both ends of said case being open and said hook means engaging over both ends of said cases.

3. An infantry weapon as claimed in claim 1, said hook means comprising latch means pivotally mounted on said base plate.

4. An infantry weapon as claimed in claim 1, said hook means comprising said electrically connecting means.

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