June 28, 1955 F. HILLIARD 2,711,694

REVOLVING MACHINE GUN UNIT

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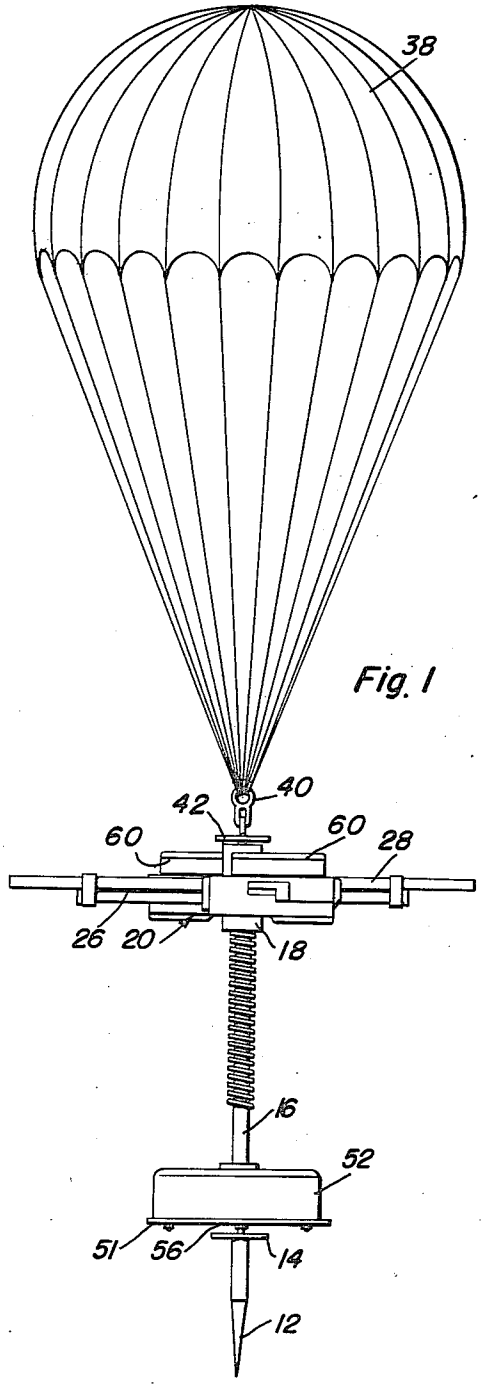


Fig. 1

Fig. 2

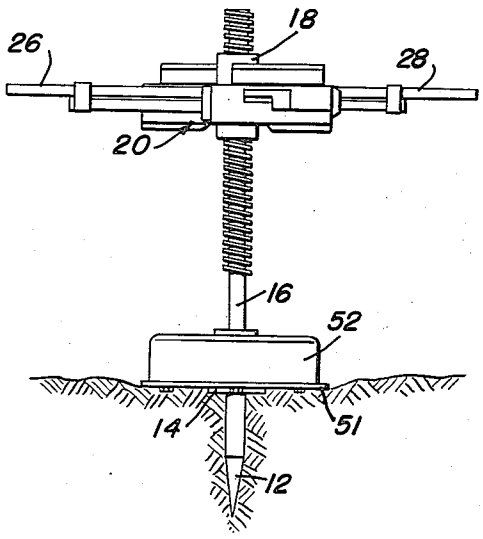
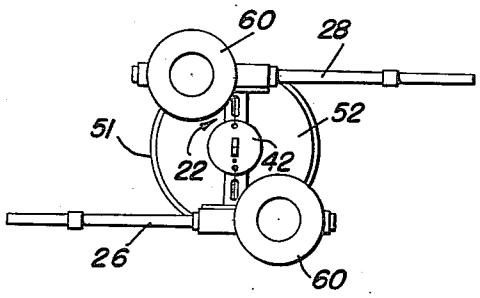


Fig. 3



Fay Hilliard

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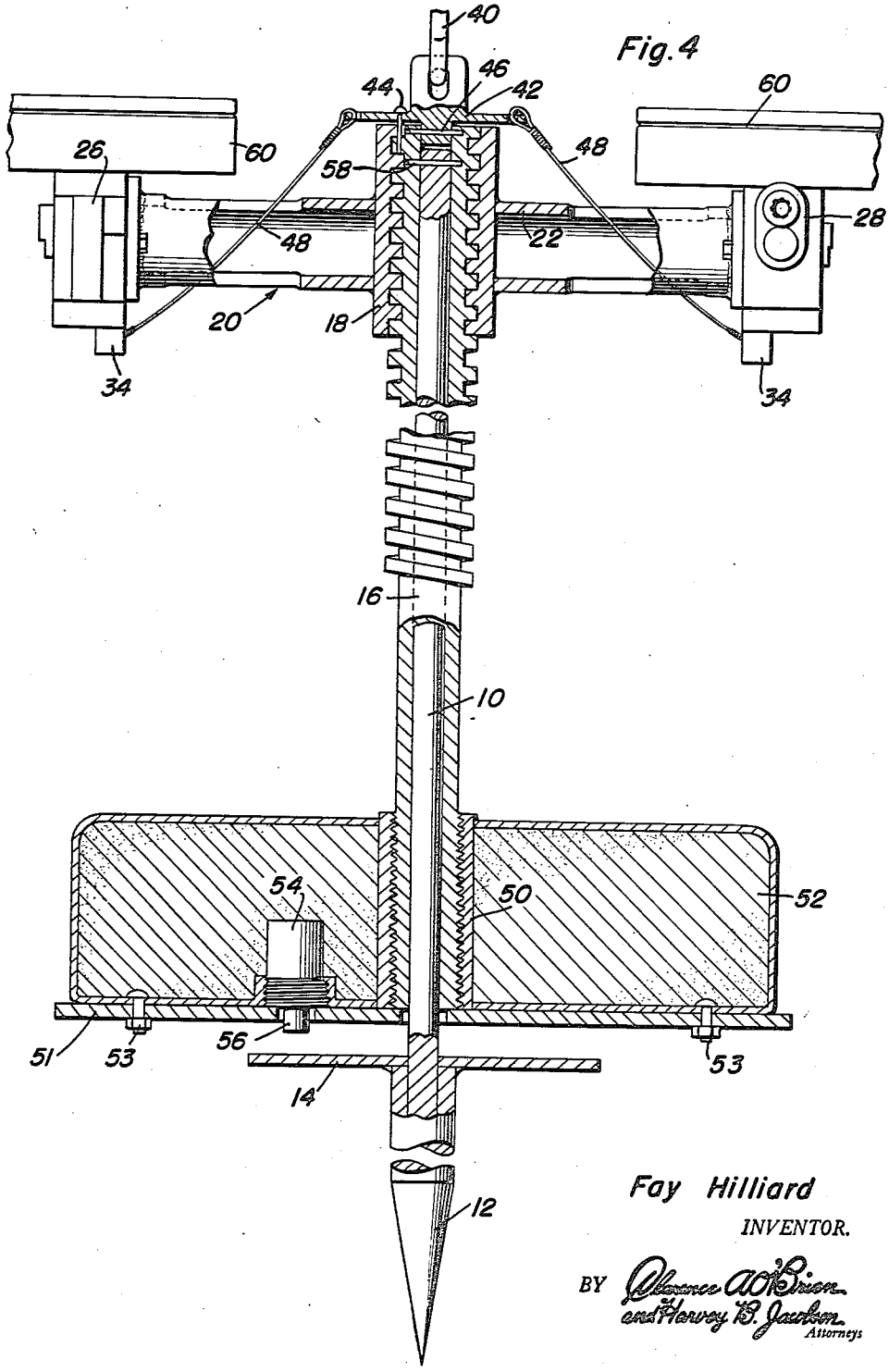
Attorneys

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Fig. 4



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Fig. 5

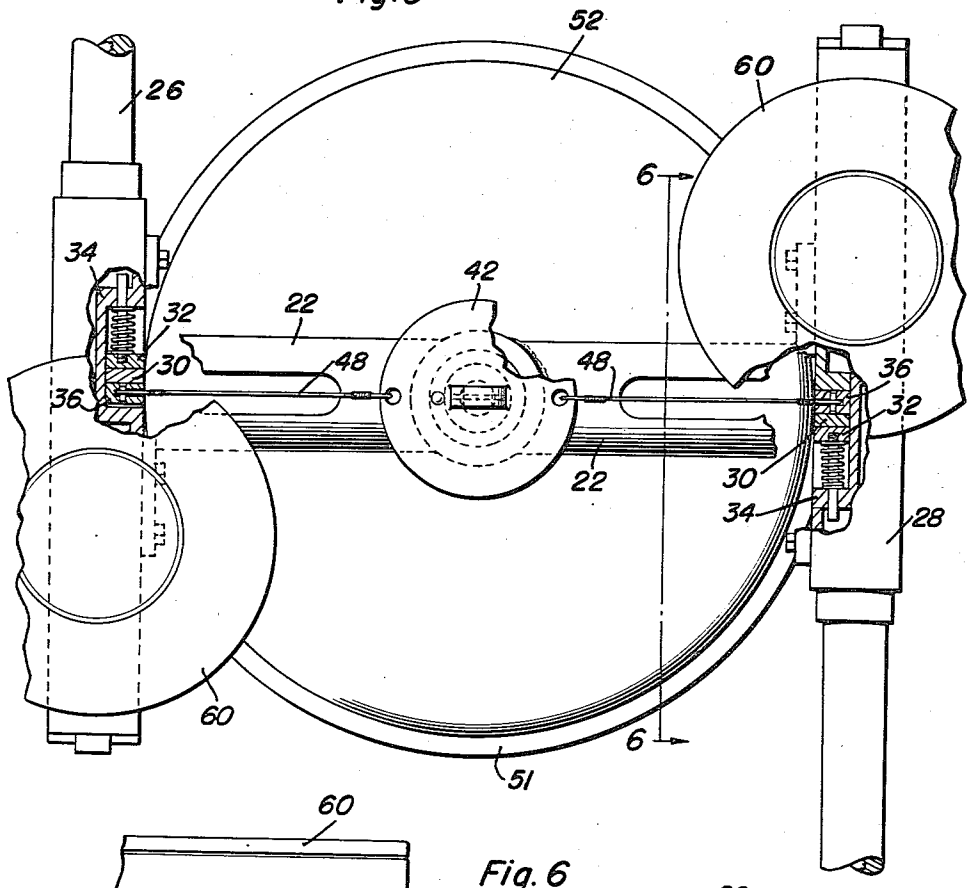


Fig. 6

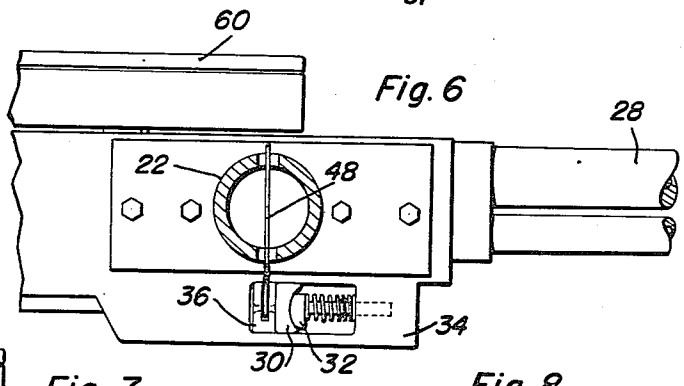


Fig. 7

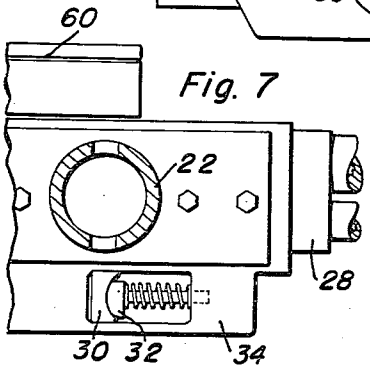
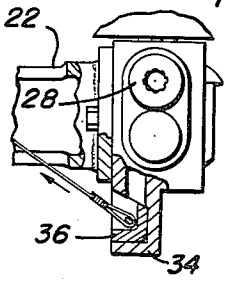


Fig. 8



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United States Patent Office 2,711,694 Patented June 28, 1955

2,711,694

REVOLVING MACHINE GUN UNIT

Fay Hilliard, Houston, Tex.

Application August 1, 1951, Serial No. 239,733

9 Claims. (Cl. 102—5)

This invention relates to new and useful improvements in small arms particularly for warfare, and the primary object of the present invention is to provide a revolving machine gun unit that is adapted to be dropped from an airplane and which will start firing as the same engages the ground.

Another important object of the present invention is to provide a revolving machine gun unit including a vertical movable rotating support holding a pair or more of oppositely directed machine guns together with an explosive that is time actuated to destroy the guns after the support is moved downwardly and the ammunition is all expended.

A further object of the present invention is to provide a revolving machine gun unit involving a parachute that will be released as the unit engages the ground and which parachute on release will also actuate means for activating the triggers of a pair or more of machine guns supported on the unit.

A still further aim of the present invention is to provide a device of the aforementioned character that is simple and practical in construction, strong and reliable in use, inexpensive to manufacture, and otherwise well adapted for the purposes for which the same is intended.

Other objects and advantages reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is a side elevational view of the present invention descending from an airplane (not shown);

Figure 2 is a side elevational view of the present invention after the same has engaged the ground with the parachute released;

Figure 3 is a plan view of Figure 1 with the parachute only removed;

Figure 4 is an enlarged view of Figure 1 with the parachute removed and with parts broken away for the convenience of explanation;

Figure 5 is a plan view of Figure 4 with the parachute attaching ring removed and with parts broken away to show the trigger actuators;

Figure 6 is a vertical sectional view taken substantially on the plane of section line 6—6 of Figure 5;

Figure 7 is a view similar to Figure 6 but showing the arresting means removed; and,

Figure 8 is an end view of Figure 6 and with parts broken away to show the manner in which the arrestors are released.

Referring now to the drawings in detail, wherein for the purpose of illustration, there is disclosed a preferred embodiment of the pesent invention, the numeral 10 represents a vertical rod the lower end of which supports a ground penetrating element 12 and an abutment 14 that overlies the element 12.

A hollow shaft 16 is slidably received on the rod 10 and its upper end portion is externally threaded to receivably engage the internally threaded hub portion or sleeve 18 of a machine gun support 20. The support 20 includes a pair or more of cylindrical arms 22 that support spaced parallel oppositely directed machine guns 26 and 28. Each of the machine guns is provided with a trigger 30 and a spring urged actuator 32 is provided for each machine gun to urge the triggers to their firing position.

The actuators or trigger actuating mechanisms 32 include guides 34 that are secured to the trigger mechanisms of the machine guns. Arrestors or stops 36 are disposed in the guides 34 behind the triggers 30 and prevent the actuators 32 from urging the triggers 30 to their firing position.

A parachute 38 is provided so that the device may be dropped from an airplane. The cords of the parachute are secured to an attaching ring 40 that extends through the eye portion of a coupling member 42. The coupling member 42 is detachably secured to the shaft 16 by a shear pin 46. To prevent rotation prior to impact, vertical pin 44 extends through coupling member 42, through one thread of sleeve 18 and through one thread of shaft 16. The rod 10 is detachably fixed to shaft 16 by a shear pin 58 which protects time bomb instigator 56 until moment of impact.

The arrestors 36 are secured to the coupling member 42 by flexible connectors 48 which are slidably received in slots in the arms 22 so that when the member 42 is released from sleeve 18, shaft 16 and rod 10 the connectors 48 will remove the arrestors 36 from the guides 34 whereupon the actuators 32 will urge and retain the trigger 30 in their firing position.

The internally threaded hub 50 of base plate 51 is threaded on the lower end of shaft 16 and the bottom wall of the explosive body 52 is attached to the base plate 51 by means of bolts 53. The bottom wall of the explosive body 52 is formed with an aperture that receivably engages a pressure time actuated detonating cap 54 of well known construction. The sliding spring urged plunger 56 of the cap 54 is spaced above the abutment 14 and a shear pin 58 secures the rod 10 and shaft 16 together to retain the plunger 56 spaced above the abutment 14 until moment of impact at which time pins 58 and 46 are sheared and pin 44 expelled releasing coupling member 42 and permitting abutment 14 to strike spring urged plunger 56 initiating action within time detonating cap 54.

In practical use of the present invention, the magazine 60 of the machine guns are applied to the machine guns and then the entire device is dropped from an air plane.

As the element 12 penetrates the ground impact on abutment 14 results in shearing of pin 58 that fixed rod 10 to shaft 16, shearing of pin 46 that fixed shaft 16 to coupling member and expulsion of pin 44 along with coupling member 42. Impact causes abutment 14 to depress plunger 56 setting in action time detonating cap 54 of bomb 52.

Expulsion and release of coupling member 42 releases the parachute and the arrestors 36 which are attached to coupling member 42 by flexible couplings 48 will also be released from the guides 34 and the triggers 30 will be actuated by members 32 to firing positions. As the machine guns fire they will impart rotation to the support 20 and sleeve 18 which will travel downwardly on the shaft 16. On reaching the bottom of shaft 16 the machine guns will continue to revolve freely because of the absence of threads until all the ammunition is expended from the machine guns 26 and 28.

After the magazines 60 have been emptied within a short interval of time, demolition bomb 52 will destroy the device and possibly do further damage to the enemy.

Obviously, a pair or more machine guns may be mounted on the support 20. Also, the machine guns may be replaced by flame throwers or other destructive devices.

The entire device is intended to operate but a single short time and is made of inexpensive materials and the machine guns, flame throwers or the like can likewise be of inexpensive materials.

The cover for the bomb is so fabricated and constructed as to disintegrate into shrapnel on explosion of the charge.

Having described the invention, what is claimed as new is:

1. A revolving machine gun unit comprising a shaft having an upper externally threaded end, a support including an internally threaded sleeve receivably engaged on said threaded end, a pair of machine guns on the support to fire in opposite directions, said guns being horizontally offset from the shaft, a pair of trigger actuating mechanisms on the support for urging the triggers of the machine guns on the support to firing position, releasable stop means preventing the mechanisms from urging the triggers to firing position, and means for forcing the stop means to a position whereby the mechanisms may actuate the triggers so that as the guns on the support commence firing the support will rotate on said threaded end and move downwardly on said threaded end.

2. A revolving machine gun unit adapted to be dropped from an airplane and comprising a shaft having an upper externally threaded end, a support including an internally threaded sleeve receivably engaged on said threaded end, a pair of machine guns on the support to fire in opposite directions, said guns being horizontally offset from the shaft, a pair of trigger actuating mechanisms on the support for urging the triggers of the machine guns on the support to firing position, releasable stop means preventing the mechanisms from urging the triggers to firing position, a vertical pin holding the support to the threaded end, a parachute, a shear pin detachably securing said parachute to the shaft and adapted to be released on shear of said shear pin, and means actuated upon release of said parachute from said shaft for releasing said stop means and said vertical pin.

3. A revolving machine gun unit adapted to be dropped from an airplane and comprising a shaft having an upper externally threaded end, a support including an internally threaded sleeve receivably engaged on said threaded end, a pair of machine guns on the support to fire in opposite directions, said guns being horizontally offset from the shaft, a pair of trigger actuating mechanisms on the support for urging the triggers of the machine guns on the support to firing position, releasable stop means preventing the mechanisms from urging the triggers to firing position, a parachute, a coupling member attached to said parachute, a first shear pin securing said coupling member to said shaft, a second vertical pin securing said coupling member to the support, and means connecting said coupling member to said stop means for releasing the stop means when the coupling member is disengaged from the shaft and the support.

4. The combination of claim 1, and an explosive carried by said shaft and including a time detonating cap, said shaft being hollow, a rod received in said shaft and slidably supporting the shaft, and an abutment on said rod for actuating said cap upon downward sliding movement of said shaft on said rod.

5. A revolving machine gun unit adapted to be dropped from an airplane and comprising a vertical rod having a ground penetrating element at one end, a hollow shaft slidably received on said rod and including an upper externally threaded end, a support mounted for rotation on said shaft and including an internally threaded sleeve receivably engaged on the upper threaded end of said shaft, a pair of machine guns on the support to fire in opposite directions and being horizontally offset from the shaft, a vertical pin securing said shaft to said member, a parachute, a coupling member attached to said parachute, a shear pin securing said coupling member to said shaft, and a trigger actuator mechanism for each gun actuated in response to release of said coupling member from said shaft and said support whereby the support will rotate and descend on said threaded end.

6. A revolving machine gun unit adapted to be dropped from an airplane and comprising a vertical rod having a ground penetrating element at one end, a hollow shaft slidably received on said rod and including an upper externally threaded end, a support mounted for rotation on said shaft and including an internally threaded sleeve receivably engaged on the upper threaded end of said shaft, a vertical pin securing said shaft to said member, a parachute, a coupling member attached to said parachute, a shear pin securing said coupling member to said shaft, a pair of parallel relatively oppositely directed machine guns mounted on said support and horizontally offset from the shaft, trigger actuator mechanism on said support for each gun for urging the triggers on the guns to their firing position, means holding the mechanisms inactive, and connectors between the holding means and the coupling member for releasing the holding means as the coupling member is disengaged from the shaft and the support.

7. The combination of claim 5, and an explosive supported on said shaft including a time detonating cap, a shear pin securing said rod to said shaft, an abutment on said rod to apply force to said rod on impact to shear the pin securing said rod to said shaft also to shear the pin securing said shaft to said sleeve also to expel the vertical pin securing said sleeve to said coupling member attached to said parachute, and an abutment on said rod also for engaging a plunger setting in action said time detonating cap of said explosive.

8. A revolving machine gun unit adapted to be dropped from an airplane and comprising a vertical rod having a ground penetrating element at its lower end, a hollow shaft slidably mounted on the rod and including an upper externally threaded end, a support vertically rotatable on said threaded end and including an internally threaded sleeve receivably engaged on said threaded end, a pair of parallel oppositely directed machine guns mounted on said support and horizontally offset from the shaft, actuator means on said support for urging the triggers of said machine guns to firing position, removable means retaining the triggers in non-firing position against actuation of said actuator means, a parachute, a coupling member attached to said parachute, a vertical pin securing said member to said sleeve and said shaft, a first shear pin securing said coupling member to said shaft, a second shear pin securing said shaft to said rod, and connectors between said removable means and said member for releasing said removable means upon release of said coupling member from said shaft and said support through shearing of said shear pins and expulsion of said vertical pin by said rod on impact.

9. A revolving machine gun unit adapted to be dropped from an airplane and comprising a vertical rod having a ground penetrating element at its lower end, a hollow shaft slidably mounted on the rod and including an upper externally threaded end, a support vertically rotatable on said threaded end and including an internally threaded sleeve receivably engaged on said threaded end, a pair of parallel oppositely directed machine guns mounted on said support and horizontally offset from the shaft, actuator means on said support for urging the triggers of said machine guns to firing position, removable means retaining the triggers in non-firing position against action of said actuator means, a parachute, a coupling member attached to said parachute, a vertical shear pin securing said member to said sleeve and said shaft, a first shear pin securing said coupling member to said shaft, a second shear pin securing said shaft to said rod, connectors between said removable means and said member for releasing said removable means upon release of said coupling member from said shaft and said support through shearing of said shear pins and expulsion of said vertical pin by said rod on impact,

an explosive mounted on the lower end of said shaft and including a depending plunger actuated time detonating cap, an abutment on the rod underlying the cap, said abutment on said rod for implying force on impact for shearing and expulsion of said pins and to impress plunger of time detonating cap of said explosive.

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