

The Automatic Soldier

By H. GERNSBACK

As science advances, and as all sorts of infernal machines are thrown into a modern war, the men in the front line trenches become less and less anxious to bear the full brunt of high explosive shells, gas attacks, liquid fire and what not. No matter how courageous a body of soldiers, their morale is bound to deteriorate considerably under a murderous mustard gas attack, or under a modern barrage.

As has been so often demonstrated in this war, if the men in the first and second line trenches can be demoralized, the enemy as a rule can tear quite a gap into the lines, and make his assault in strength. If we could devise some sort of a soldier who was bomb and shell proof and who did not mind either liquid fire or the most vicious kind of gas, our front line trenches would be very much more secure than they are now. It would be difficult to storm such trenches.

This is exactly what a Danish engineer has had in mind when he recently obtained patents on a device which he terms an "Automatic Soldier." Trials recently made with a model automatic soldier are reported to have been eminently successful.

Our front cover as well as the accompanying illustration shows the device clearly. The automatic "soldier" briefly consists of a special double steel cylinder made of shell-proof Tungsten steel or the like. There is one outer, stationary cylinder and a second inner cylinder, the latter telescoping into the stationary one. The entire device is set into trenches as shown in our illustration, the contrivance taking the place of a human soldier. These automatons may be spaced from one to three yards apart, and the operation is as follows:

As already mentioned, there are two cylinders—one, the outer, in the form of a can, and the inner one, in can-shape, too, but with a dome at the top. The inner cylinder rises up and down vertically and normally the dome is level with the surrounding land. When the "soldier" goes into action, the inner cylinder rises eighteen inches, which brings it above the parapet of the trench. In other words, the automatic soldier normally is invisible, and only can be seen when the inner cylinder rises. The guns as well as the entire mechanism are entirely controlled by wireless, operated from five or more miles at a distance. If the commander wishes to open battle with his automatons—after the aerial observer has reported the approach of the enemy—he merely notifies his wireless control station, which immediately sends out impulses, and these in a well-known manner operate the automatic soldier.

The first impulse raises the inner cylinder above the trench. The second impulse pushes the machine guns thru the slots of the dome, while a third impulse may rotate the inner cylinder so as to direct the fire. The fourth impulse may set off the machine guns, each of which, according to its inventor, is able to fire four hundred rounds into any given direction.

Our front cover shows the disposition of the aerial wires which encircle the main steel cylinder.

It goes without saying that the fire of the machine gun can be stopped by radio by sending out the correct impulses at any desired moment. The aerial observer flying

over the trench lines containing the automatic soldiers sends back his wireless reports so that the fire of the automatics can be directed where it does the most good. The action of the device is such that the instant the guns stop firing, the inner cylinder immediately sinks into the outer one, thus disappearing from view. It goes without saying that these automatons cannot only be used to pump bullets into the oncoming enemy, but they can be used as well for other purposes—such as to belch forth liquid fire or to let loose a gas attack as depicted in our cover illustration. Perhaps it would not be a bad idea to equip every sixth automatic soldier with a poison gas tank, all of which will certainly tend to stop the most gallant as well as vicious attack of the enemy.

While machines of this kind seem very cumbersome, and perhaps not efficient, because it may be argued that they cannot think, nevertheless they would often be very much more valuable than the average soldier. For one thing, the machine knows no morale—it never retreats. It is not much affected by rifle bullets, and only a direct shell hit during a barrage will put the automaton *hors de combat*.

The automatic soldier is not dependent upon the rear for victuals, as the only thing it eats is munitions with which it can be supplied at night by way of the trenches. It is not affected by shell shock nor mustard gas, and liquid fire has no effect upon it. It never surrenders and never turns traitor. In order to be overcome, the automatics must be destroyed one by one, possibly only by exploding large quantities of T.N.T. against its sides. As long as the ammunition lasts no soldier would care to approach it, as he would never know when the wireless would set it off, which would immediately bring the automaton into action, no doubt killing the attacker.

It is difficult to see how ordinary infantry could overcome these automatics if planted three or four lines deep. Each trench line would have to be won at tremendous odds, and there is not a soldier living who would stand up under the withering fire of such automatons who know no fear.

A device of this kind is, of course, not chimeric, but entirely within the realms of present day science, and we would be very much surprised, indeed, if the automatics would not make their appearance soon at strategical points along the front. Nor are they difficult or expensive in construction, each one of the automatons not necessarily costing more than five or six thousand dollars, which is but the price of a modern torpedo. The wireless apparatus does not take up much room, while the motors which drive the entire mechanism may be readily operated by a 24-volt storage battery placed at the bottom of the large cylinder. All the rest of the mechanism is readily worked by compressed air which can be replenished easily at night after the automatics have gone into action during the day. This is the case also of ammunition, gas or chemicals for liquid fire, all of which can be replenished during the night time by men walking up to the machine thru lateral trenches.

Of course if there was no action during the day, there would be no need for replenishing anything.

It should also be understood that these

automatics can be operated singly or in groups by means of electric cables buried into the trenches, if it is preferable to use this method instead of the not always so reliable wireless.

HISTORY OF THE RELAY WHEN "HUN" MET "YANK."

There is a curious fact connected with the history of the telegraph relay. It could not be patented in Germany, and therefore could not with safety be exposed. In 1848 two young Americans named Charles Robinson and Charles L. Chapin had gone there with Morse apparatus to try their fortunes in building lines. Wheatstone had a dial instrument in use on a short railroad line, but its action was feeble and unsatisfactory. Robinson and Chapin built a line of telegraph from Hamburg to Cuxhaven, a distance of ninety miles, by which to transmit marine news. The magnets, however, were carefully locked up in boxes, just as Alfred Vail did in Washington and Philadelphia. The line worked well. The registers clicked out loud and strong at either end. The German electricians scratched their heads and wondered. Finally, Steinheil was sent to make observations. He was a man of genius and culture and had a sort of telegraph at work in Europe before Morse in America. He looked carefully around, and his keen eyes soon saw the locked boxes. He asked to see their contents. But the view was courteously declined. So he turned and complained that the Yankees kept their secret locked, but that the action was magnificent. When, however, at a later date, he did finally know all, he gave Morse his hand, confess himself beaten, and the two were friends forever after.

HAS ANYBODY HERE SEEN S-P-E-R-R-Y??

Would you believe that "Sperry" was your good old friend the EXPERIMENTER in a new dress? Of course you wouldn't! But then you see it is like this: All is not gold that glitters and everything does not read as it sounds, hence we have EkSPERRY-menter! In other words, "SPERRY" is a new nickname for your good old friend "EXPERIMENTER". Now we admit that in our dull way of thinking, we never had an idea like it, and it had to come all the way from Malvern, which lies in sunny Australia, to put us wise to it. It also appears that the nickname for the "EXPERIMENTER" is "Sperry" in Australia. If you don't believe it, read the following:

Editor, ELECTRICAL EXPERIMENTER:

I have been reading the ELECTRICAL EXPERIMENTER now, for about two years, and I think it is absolutely the finest magazine on Electricity and Wireless. Long Life to "Sperry" as it is called out here. I notice that it is going up in price (for Australia) with the next issue. Well, I'm sure I (and anybody else) don't mind paying double the price that it is going up to, I am, sir.

Yours truly,
(Signed) S. ROBINSON,
87 Dandenong Road,
Malvern, Australia.

THE AUTOMATIC WIRELESS SOLDIER



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The Latest Brilliantly Conceived and Patented Military Weapon is the Bullet-proof "Automatic Soldier." Loaded Up With Triple Machine Guns For Shooting Bullets, Liquid Fire and "Gas," and Finally—Controlled By Radio From a Bomb-proof Dugout—This Death-Dealing Invention Promises to Revolutionize Modern Warfare on Land.