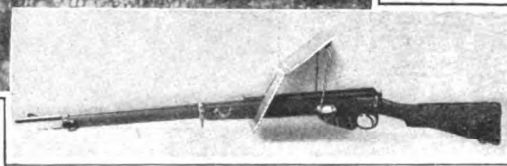




American Army rifle with the bullet-proof shield in position and ready to shield the marksman



This side-view shows how the shield is adjusted on an ordinary American rifle

depend on the distance at which it was expected successfully to withstand rifle fire. Although it is probably too heavy to be carried by the individual soldier on long marches, provision is nevertheless made whereby it can readily be attached to the cartridge belt. The contrivance is believed to give full protection against rifle fire at five hundred and fifty to six hundred feet. If it is not too cumbersome for the soldier, already loaded down, there may be a chance for its adoption by the army.

### Bullet-Proof Shield to Protect Riflemen in the Field

THE bullet-proof shield shown in the accompanying illustrations is the invention of Samuel J. Winn, Jr., of New York city. It is intended to give a fair degree of protection to riflemen firing from the trenches or in open territory, where natural covers are lacking. It may also be adapted for use with machine-guns.

The shield is made of an alloy of chrome and vanadium steel, with drop-forged rivets and other accessories. It consists of an upper and a lower part, which, when applied over the muzzle of the rifle, is shifted rearwards to a point near the lock and held there in an oblique position by the upper edge of the port resting on the lock's casing and supporting the shield. There is also a second port above the first on the lower half of the shield and in line with the sight of the rifle, so that the user will be shielded while aiming the rifle.

The total weight of the shield, with its lower part of a thickness of three and its upper part of four millimetres thickness, is seven and three-quarter pounds. The weight of the shield naturally would

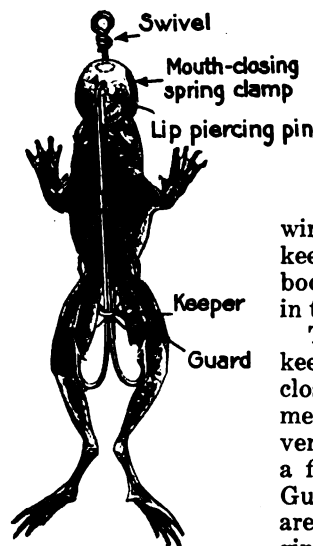
### Keeping Live Bait Alive on the Newly Devised Hook

FISHING without bait is a hopeless undertaking. Certain kinds of fish are so fastidious in their tastes that they can be tempted only by live bait. But, fishing with live bait, as practiced heretofore, besides being unnecessarily cruel to the bait, presented many difficulties. One of the greatest difficulties was to keep the bait alive. This difficulty is overcome by a device recently invented. A flexible

clamp at the swivel is used to hold the bait by the mouth, while a pin passes through the holes in the clamp and through the lips of the bait, and is then bent downward and held in place by a keeper. A

wire loop, also held by the keeper, may pass around the body of the bait as indicated in the illustration on the left.

The clamp is useful also in keeping the bait's mouth closed during rapid movement through the water, preventing drowning, for even a fish or a frog can drown. Guards for the hook points are useful in preventing clogging by weeds. They also serve to balance the bait and keep it in a natural position.



How live bait is held to keep it alive