

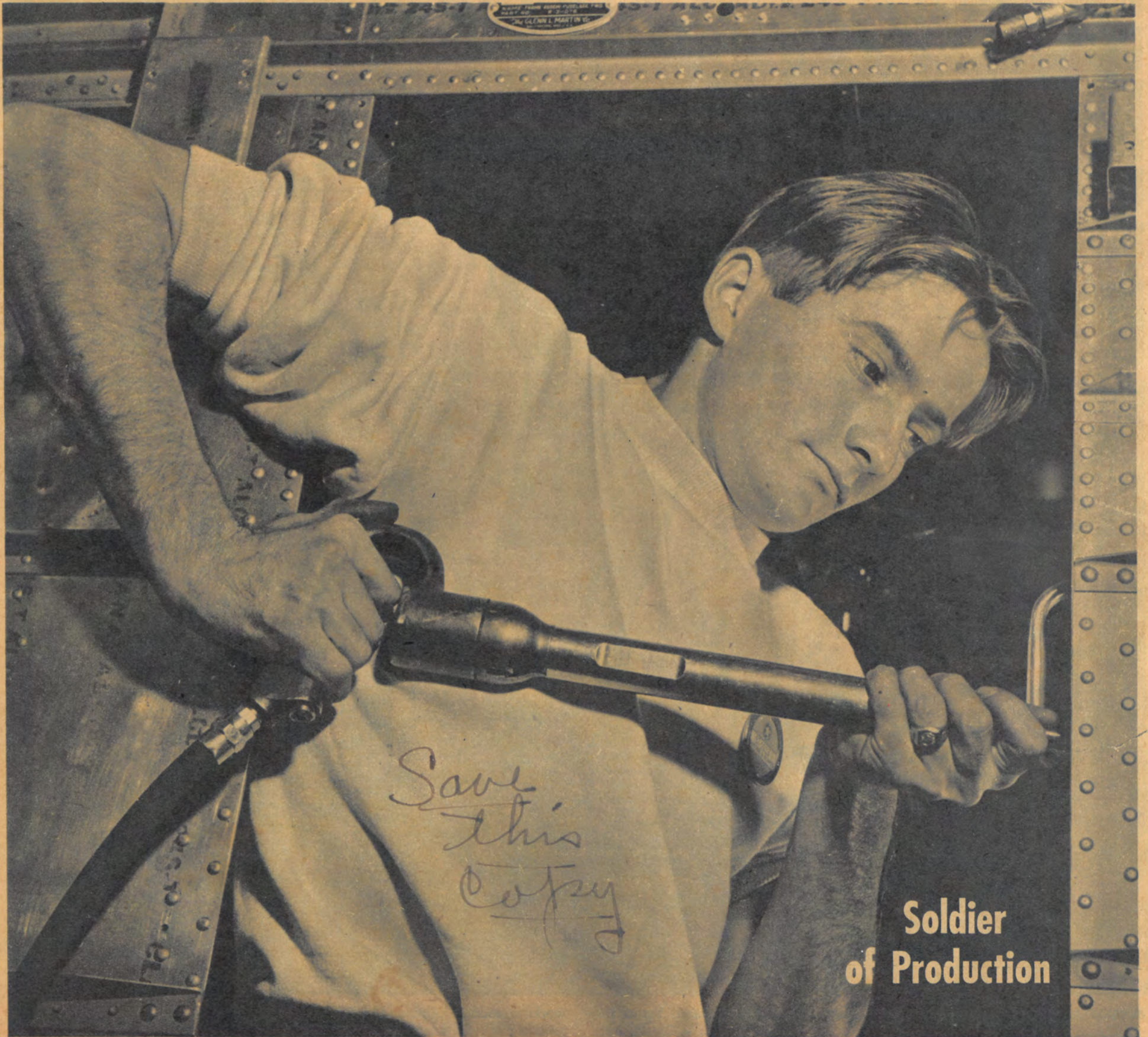
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February 8, 1942

Ray's Picture.

It Takes 44 Trained Soldiers To Aim and Fire a Railroad Gun

THERE'S a lot more to firing one of the Army's big railroad guns than sighting along the barrel and pulling a trigger. It's a highly technical job requiring 44 men, more than half of them working on the aiming. The chart below shows how that is done.

A Coast Artillery railroad battery usually consists of four guns, two ammunition cars per gun, one plotting car where the calculating is done and portable lookout towers. To carry all its equipment and personnel, a railroad gun regiment of six batteries needs three trains, 117 cars.

The sighting towers at a permanent base are more than four miles apart. Each tower is called a *base end* in Coast Artillery lingo. The imaginary line connecting them is the *base line*. Men on each tower sight at the enemy ship under fire. They figure out the azimuths (angles) from due south around to the direction of the target ship and telephone the information to the plotting car. There, men mark these angles off on a chart to find the direction of the target from the guns and the range.

That's only the beginning. Next the plotters correct for barometric pressure, tide, altitude of the gun's emplacement, temperature of the air and powder, wind velocities at different altitudes and the drift caused by the spin of the shell itself.

Even that isn't all. Because the target ship is usually moving, the lookouts must take new readings at regular intervals and the plotters must figure out from them the ship's course and speed and aim the gun ahead. Then, when the shell lands where it's going, the ship will have moved forward and, if everything goes right, they'll meet—with a bang.

If the shell misses, lookouts sight on the splash and plotters figure out the necessary correction in aim.

Naturally all this isn't possible in bad weather when the target is hidden. Then the Coast Artillery uses what it calls interdiction fire—it keeps up a steady hail of shells on the small, unmined channel that ships must follow to get into a harbor without being blown up by undersea explosives.



TARGET IS SIGHTED from permanent lookout tower by soldier at left. Army also has portable, collapsible towers that can be extended to a height of six stories.



PLOTTING BOARD, housed in plotting car, is used to calculate direction, range of gun. Location of the target is charted from the lookout towers' telephone data.

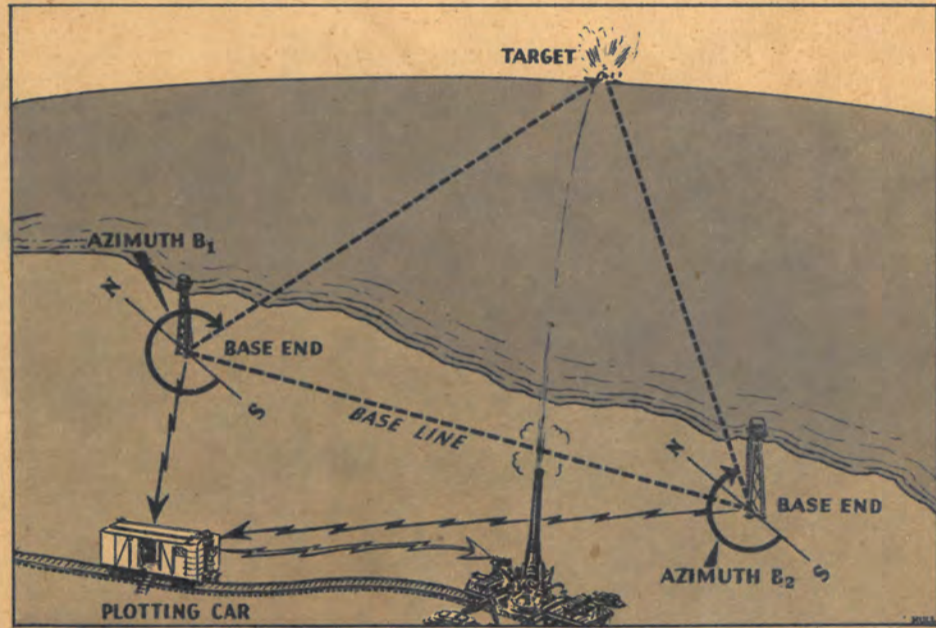


DIAGRAM SHOWING HOW railroad gun is aimed is explained above. Lookout towers sight the target, telephone data to plotting car where range is determined.



DEFLECTION BOARD is used in correcting aim for drift, windage. Each regiment has a weather crew.



SLIDE RULE IS used to convert range and direction from feet and degrees to numerical readings for gun dials.



SIDE VIEW of this railroad gun shows how high its barrel must be elevated for all long-range shooting.