

Lowry Field, Colo. Firenze, Jasper
ILLINOIS 9-4477.4

(RESTRICTED)

The Sperry Power Operated Gun Turret

UPPER LOCAL

Operation and Maintenance

Part I - General Operation

Reproduction Dept. L.F. Sept. 1943

*James Williams
Class of 1914*

OFFICIAL FILM STRIP

Williams

Number
1-307

WOODS DEPARTMENT

Sawyer Flossner, — 1943.

An

ARMY AIR

FORCES

Production

The Sperry Power Turret

Upper Local

PART I-D

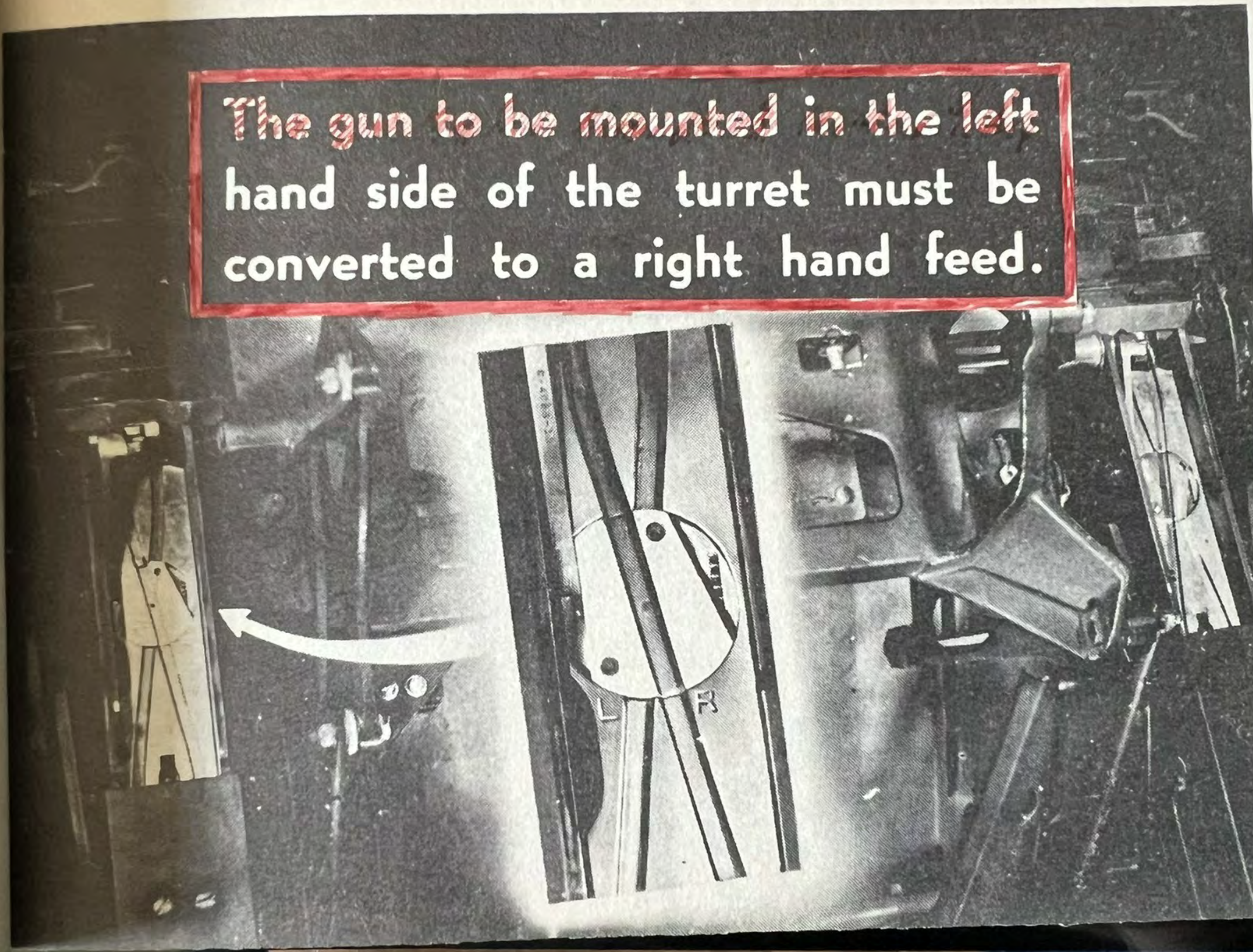
OPERATION AND MAINTENANCE

INSTALLATION OF GUNS AND SIGHT

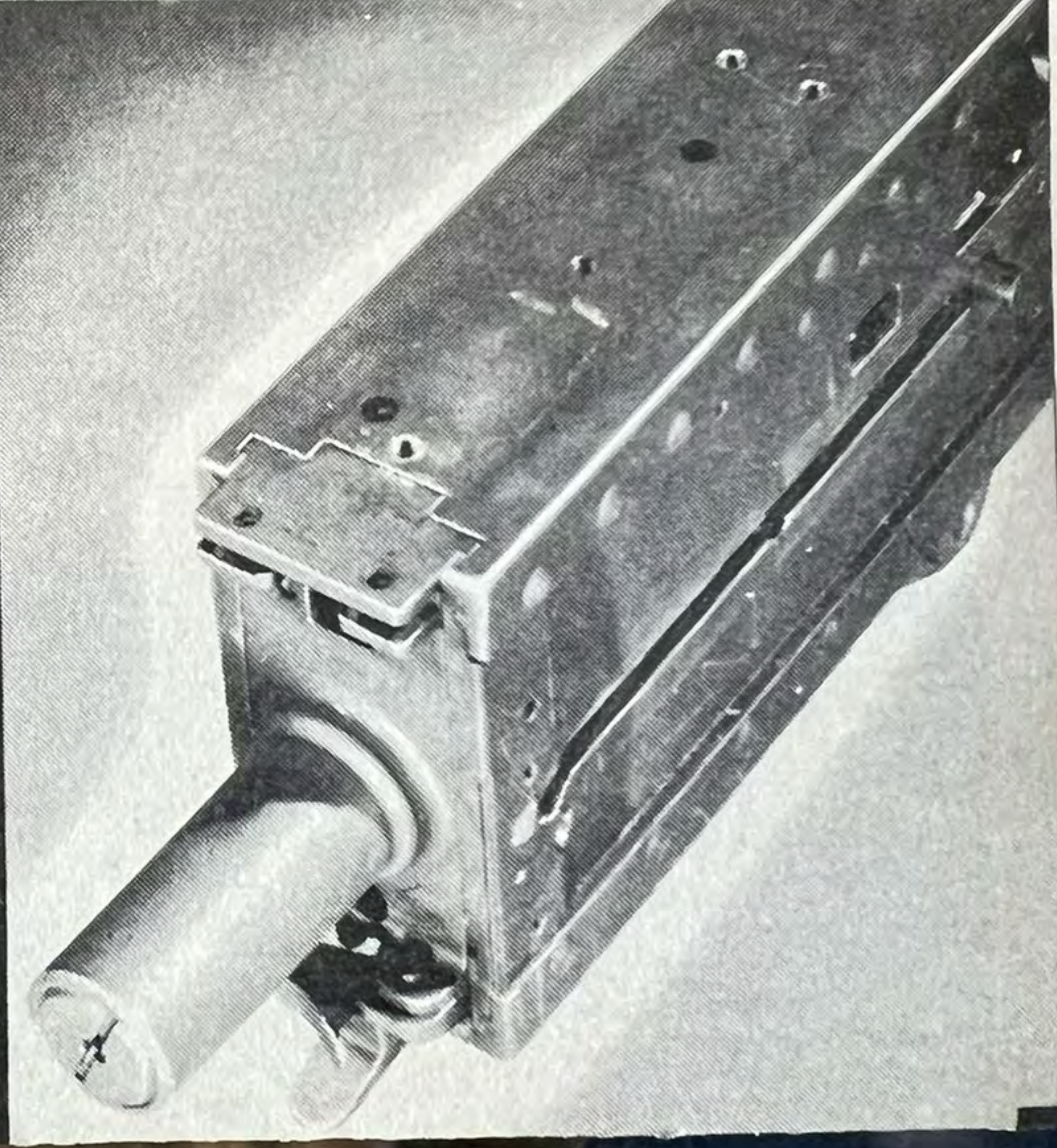
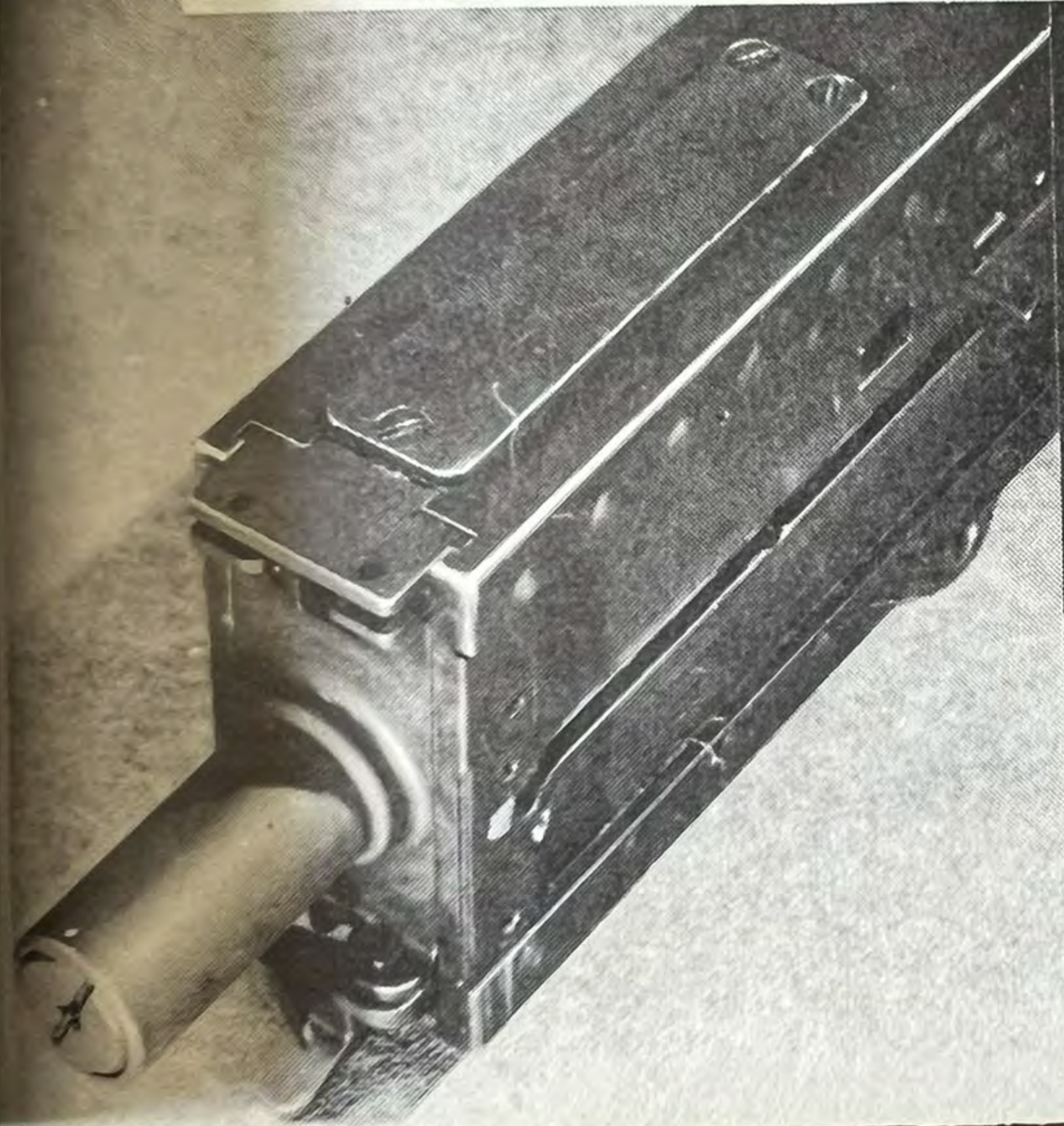
The subject matter
for this film strip
was prepared from
T.O. II-45C-1.

**Installation of
the Guns and
Accessories**

The gun to be mounted in the left hand side of the turret must be converted to a right hand feed.



Remove the receiver top covers of the guns by removing the 3 retainer screws.



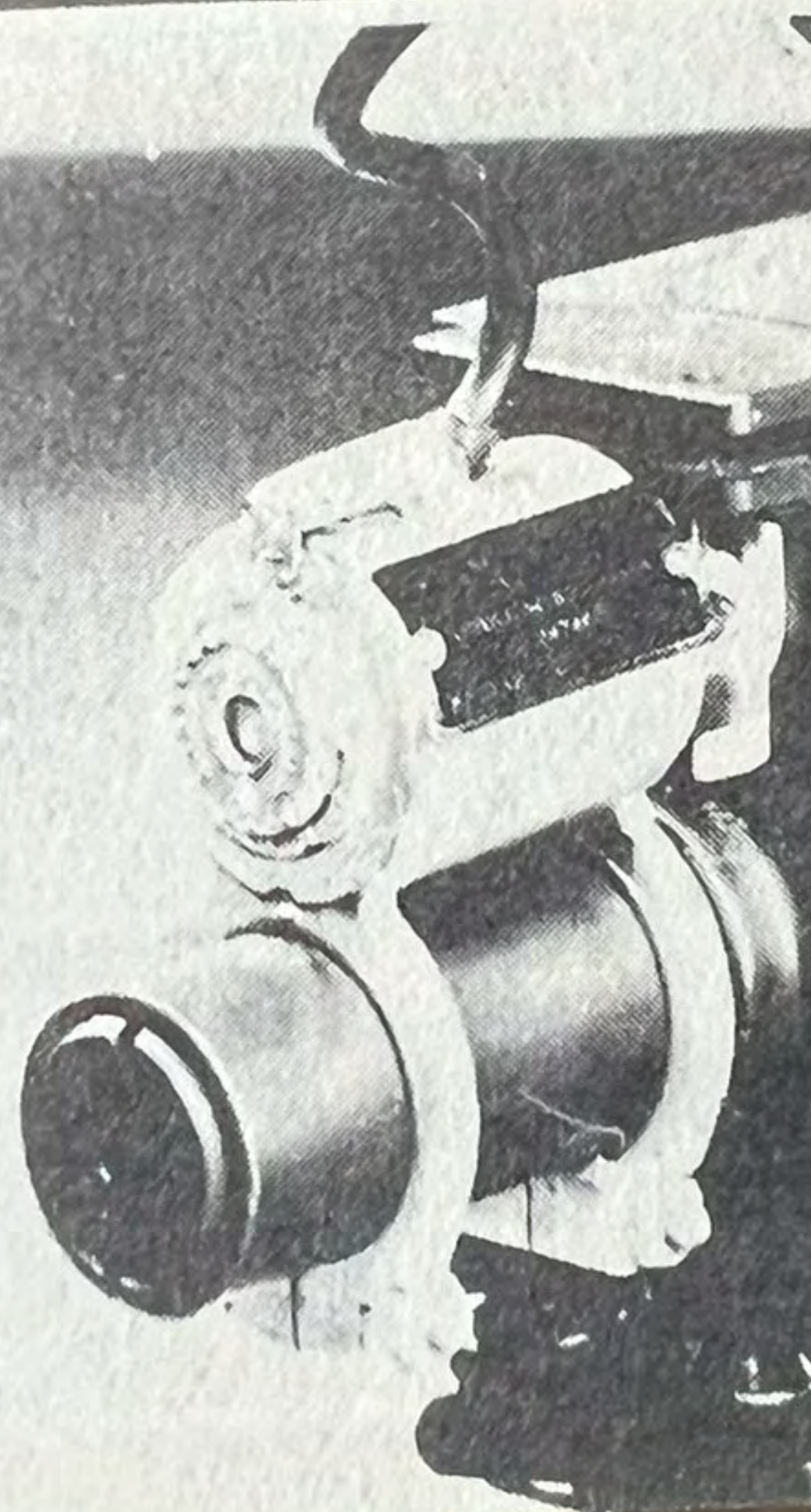
**Mount solenoid cable support
bracket on top plate cover.**



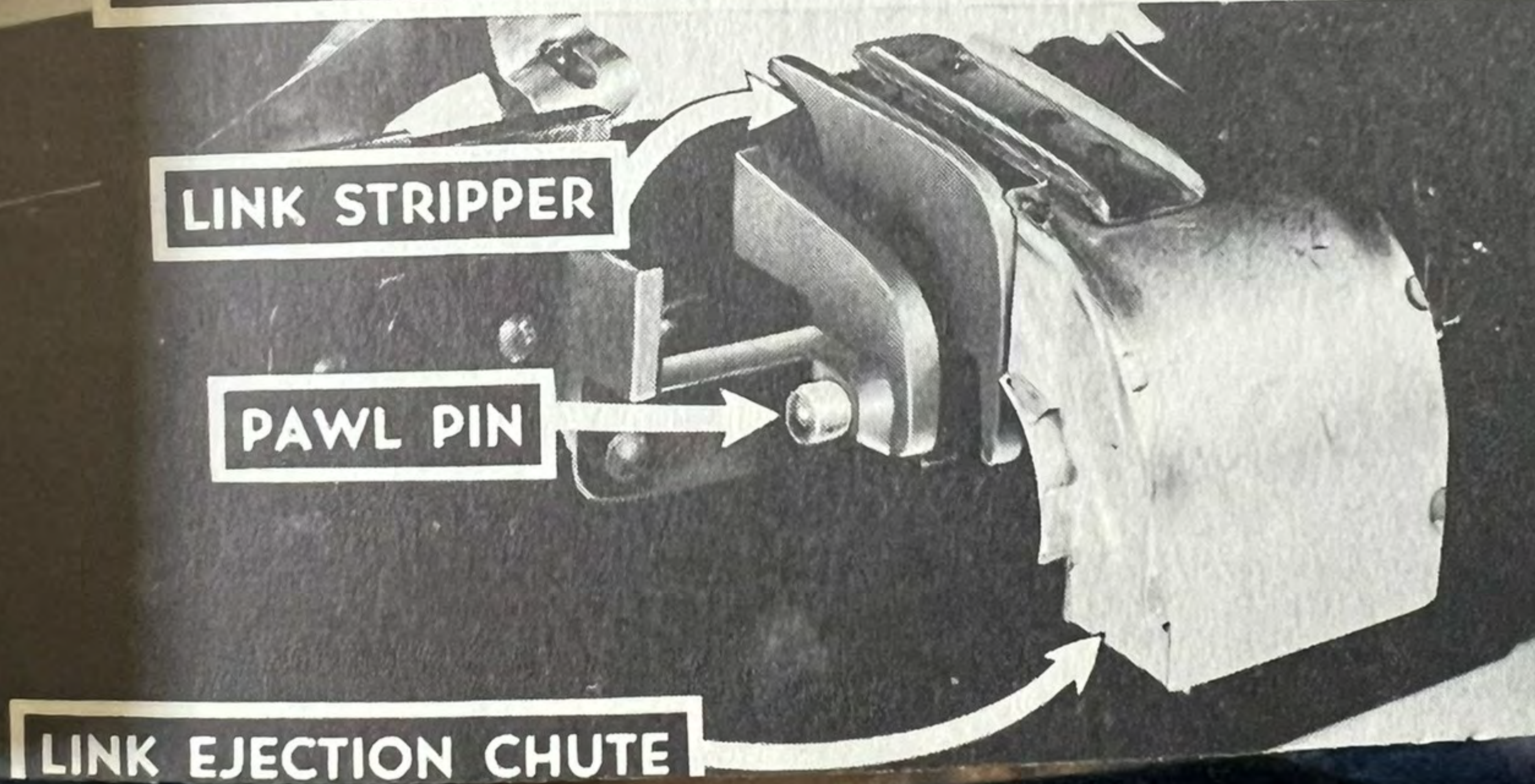
Mount safety latch on back plate.



Place solenoid assembly in proper position on the buffer tube.



Mount the link ejection chute with the tongue forward between link stripper and front ammunition stop. Secure with belt holding pawl pin.

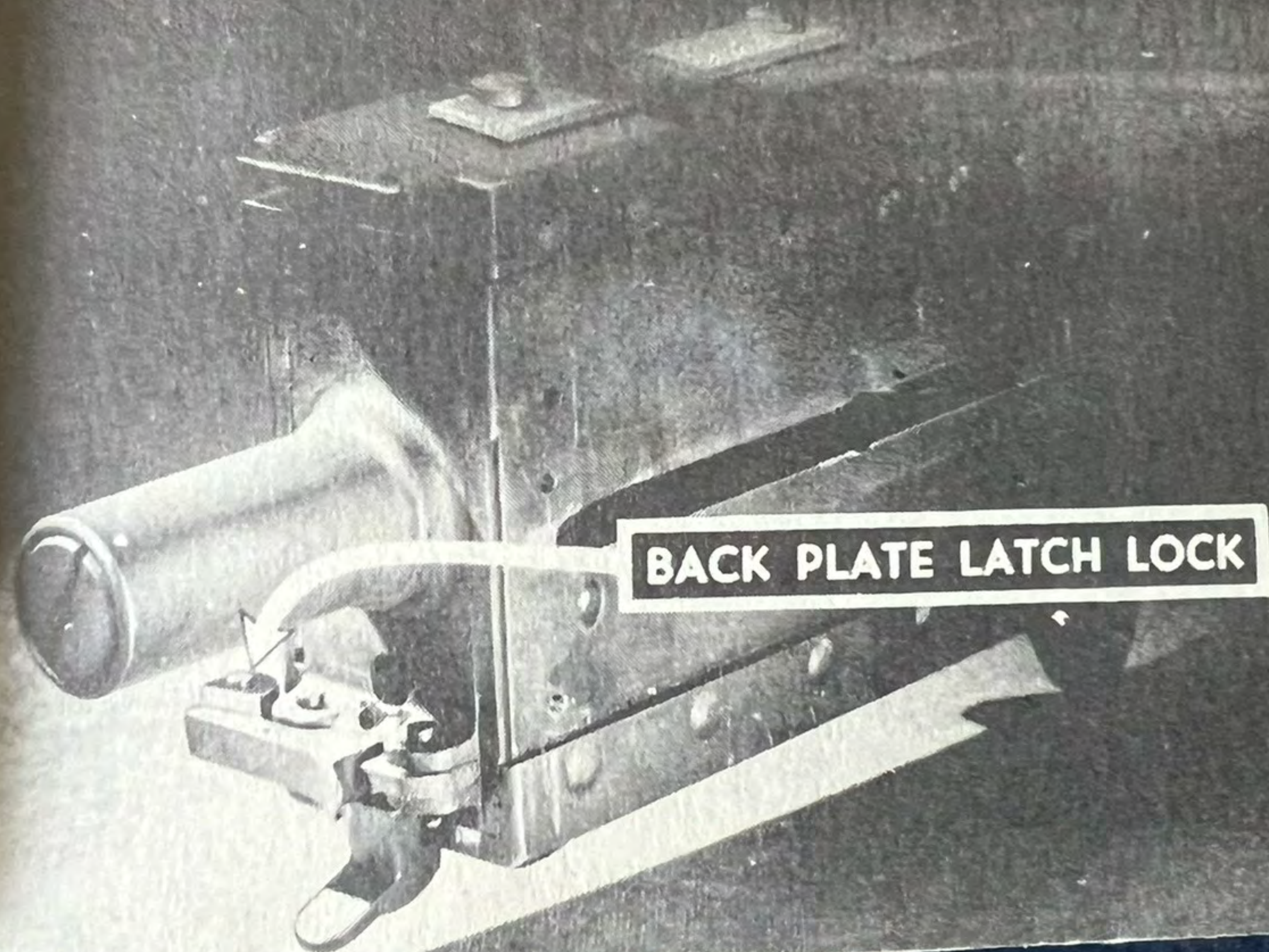


Before mounting the guns, be sure the cover latch operating lever of each gun is towards the inside, and...

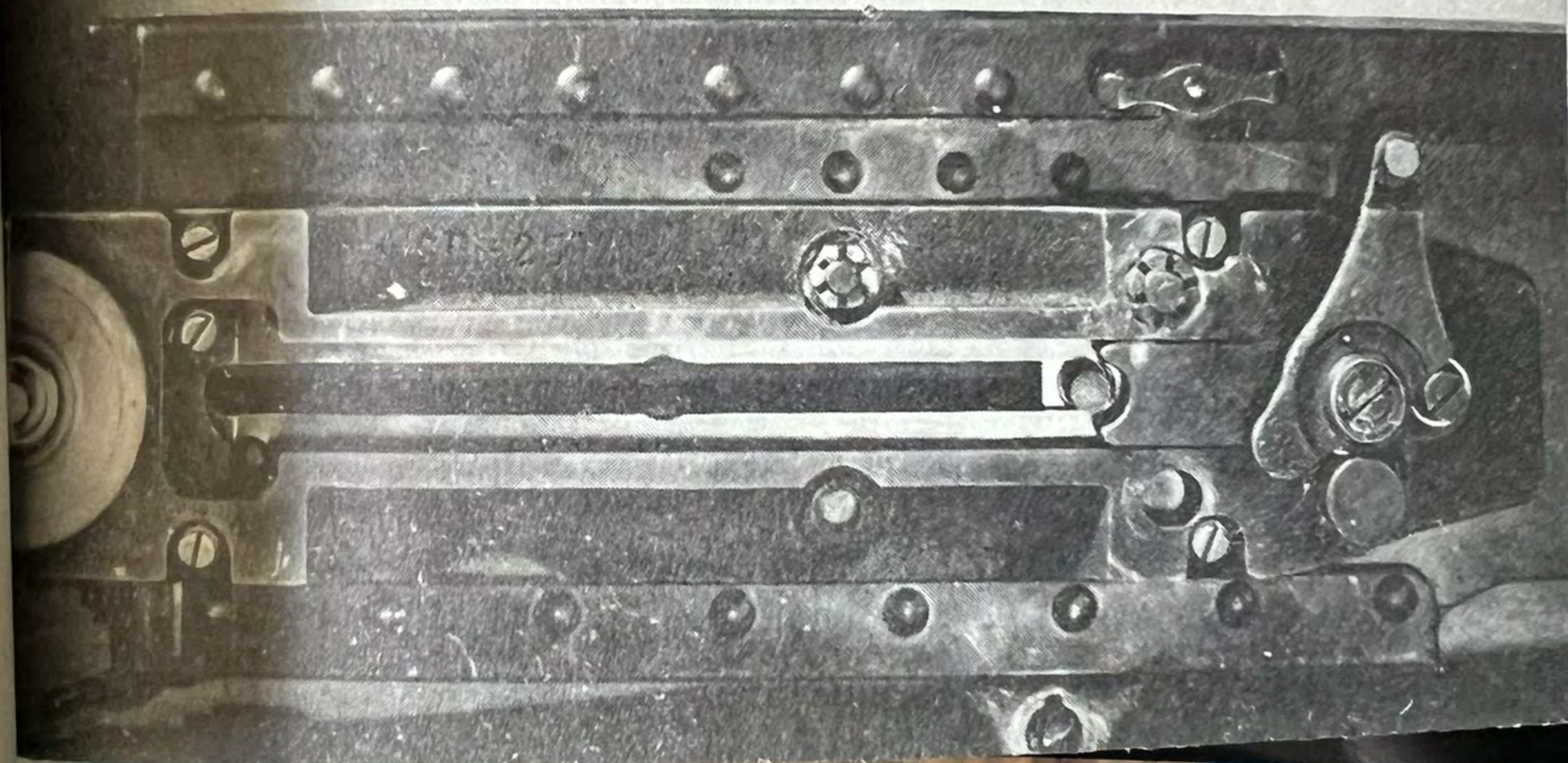


COVER LATCH OPERATING LEVER

...the back plate latch lock of each gun should be to the outside.



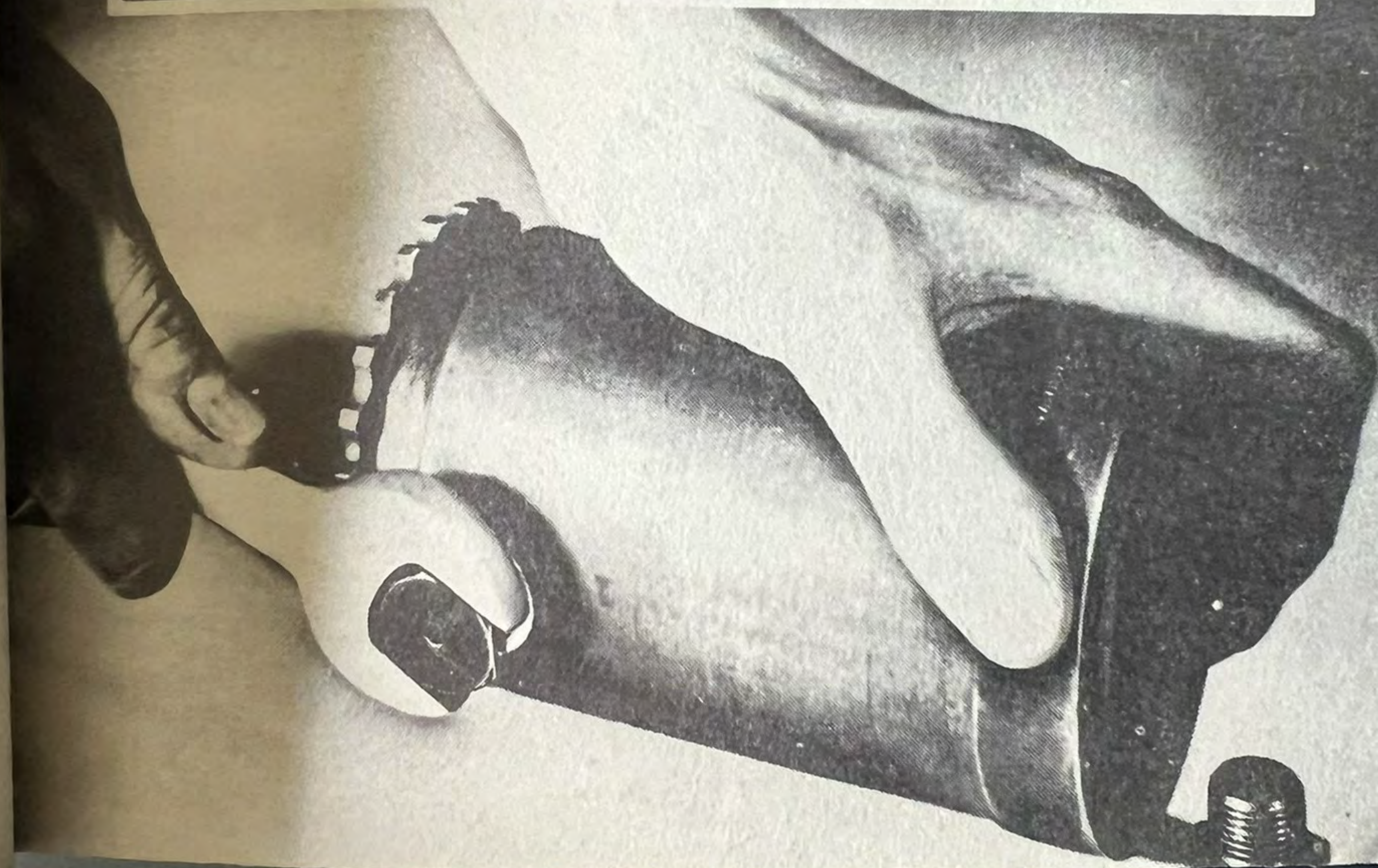
Mount charging bracket on inside of gun.



Unloosen the dome mounting nuts and remove the dome.



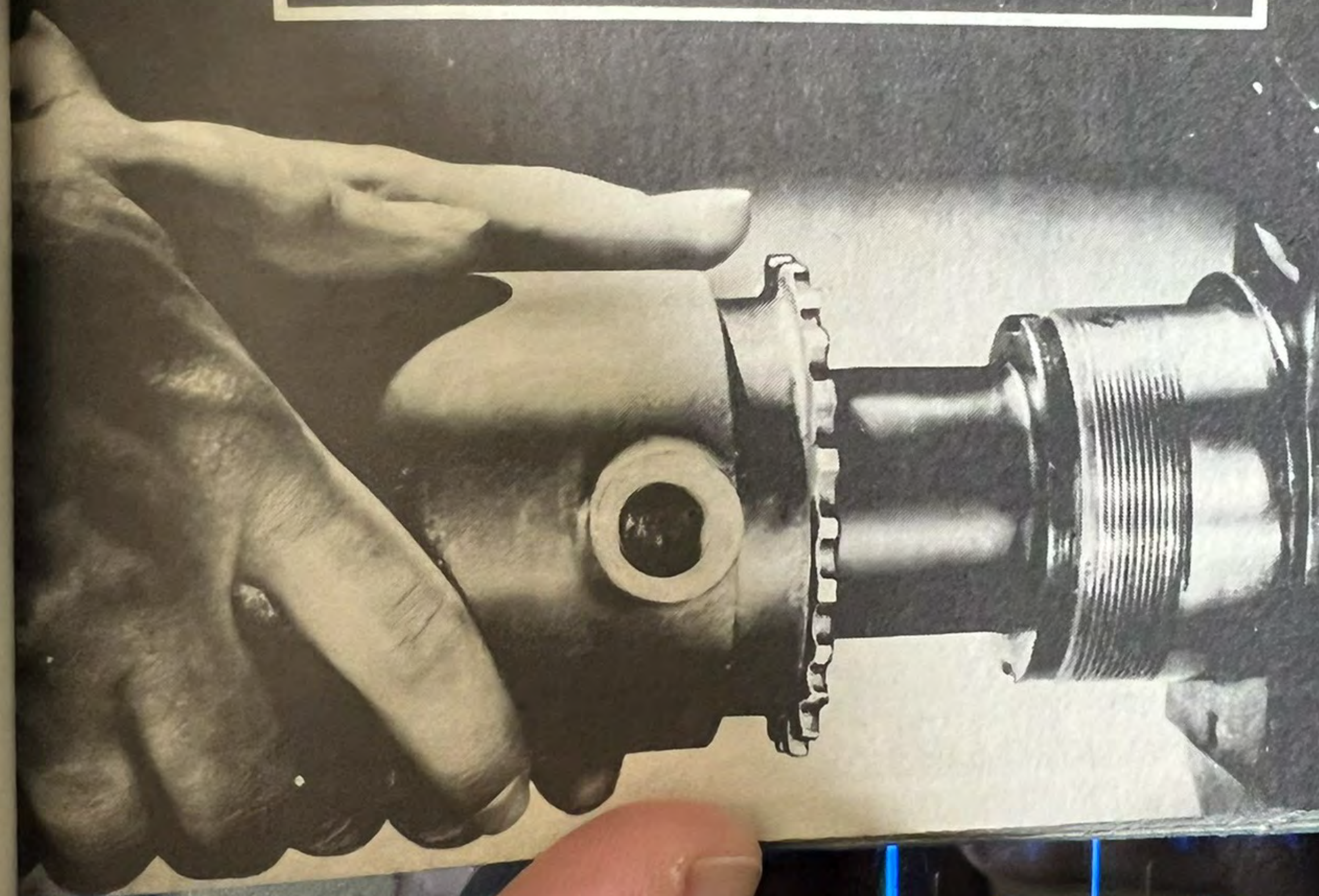
Remove the 2 dog-nose bolts on each side of the Edgewater Adapter.



Front trunnion mount must be removed
before mounting Edgewater Adapter.



Slide the Edgewater Adapter
over the muzzle of the gun.



Ctrl

Windows logo

Alt

B

N

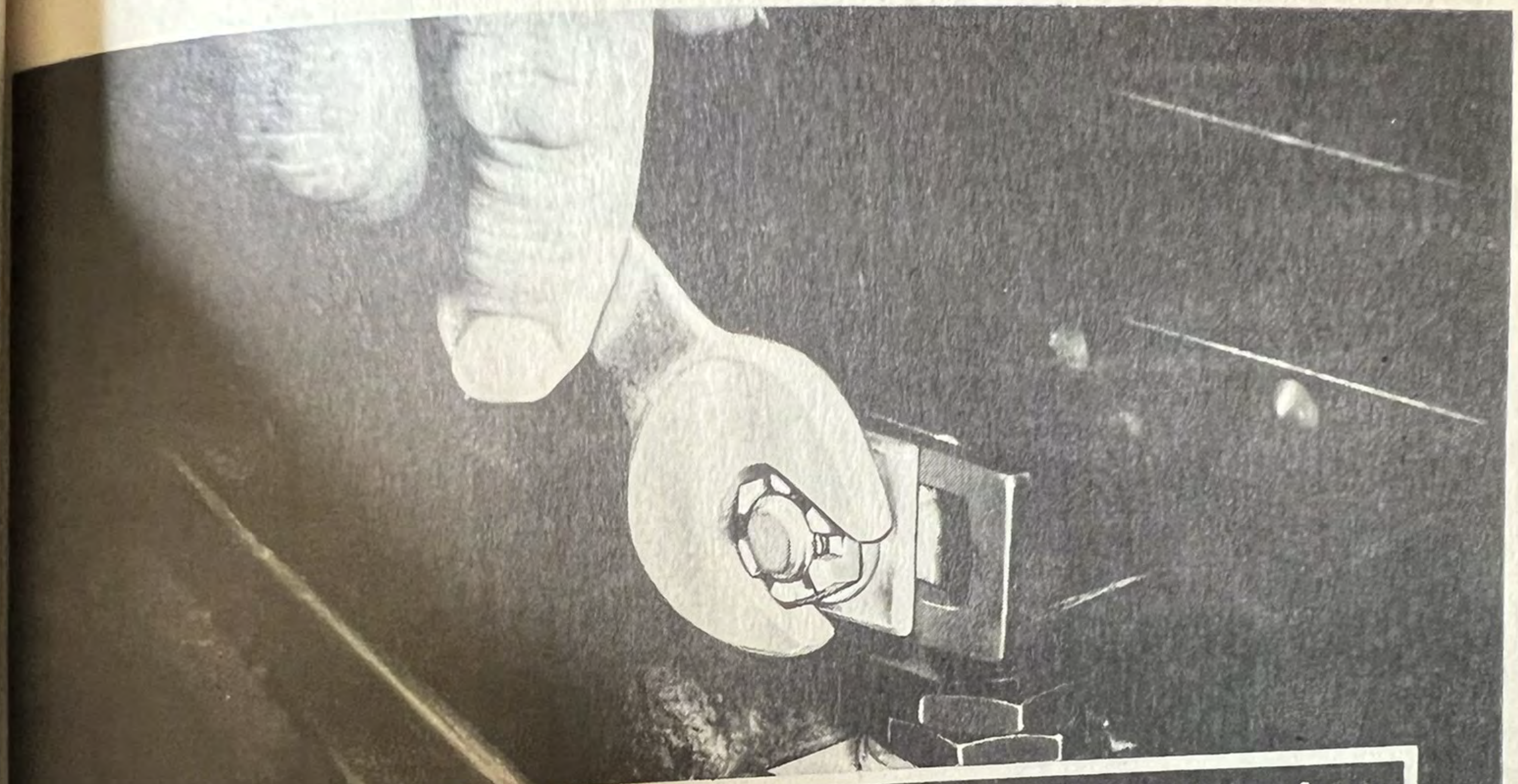
T

Y

6

7

F5



Fasten the rear mounting bracket of the gun to the turret by means of the rear trunnion bolt.



Tighten the dog-nose bolt on each of the Edgewater Adapters.



Ctrl

Alt

N

M

U

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7

8

F6

F5

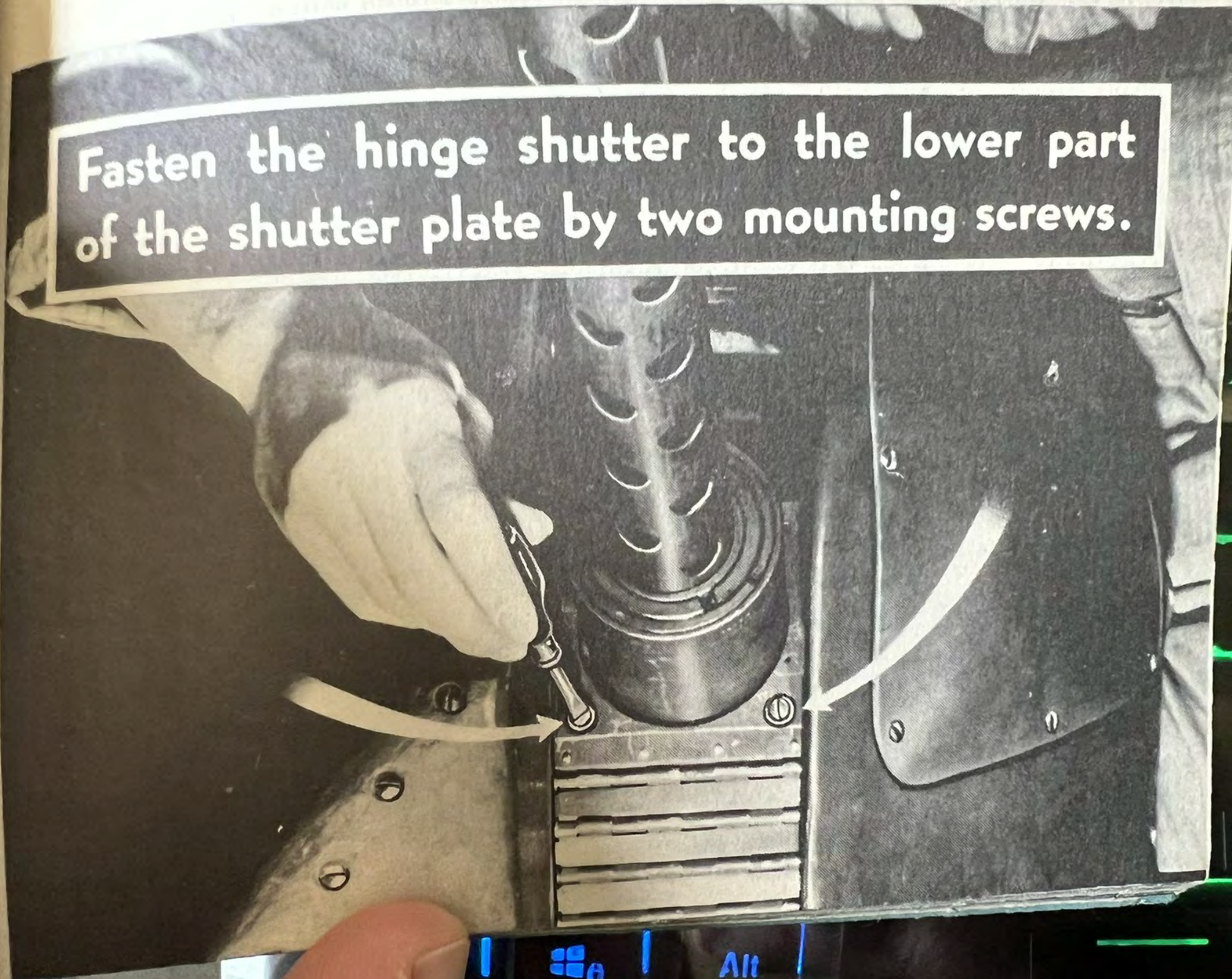
Place the shutter
plate over the
Edgewater Adapter.



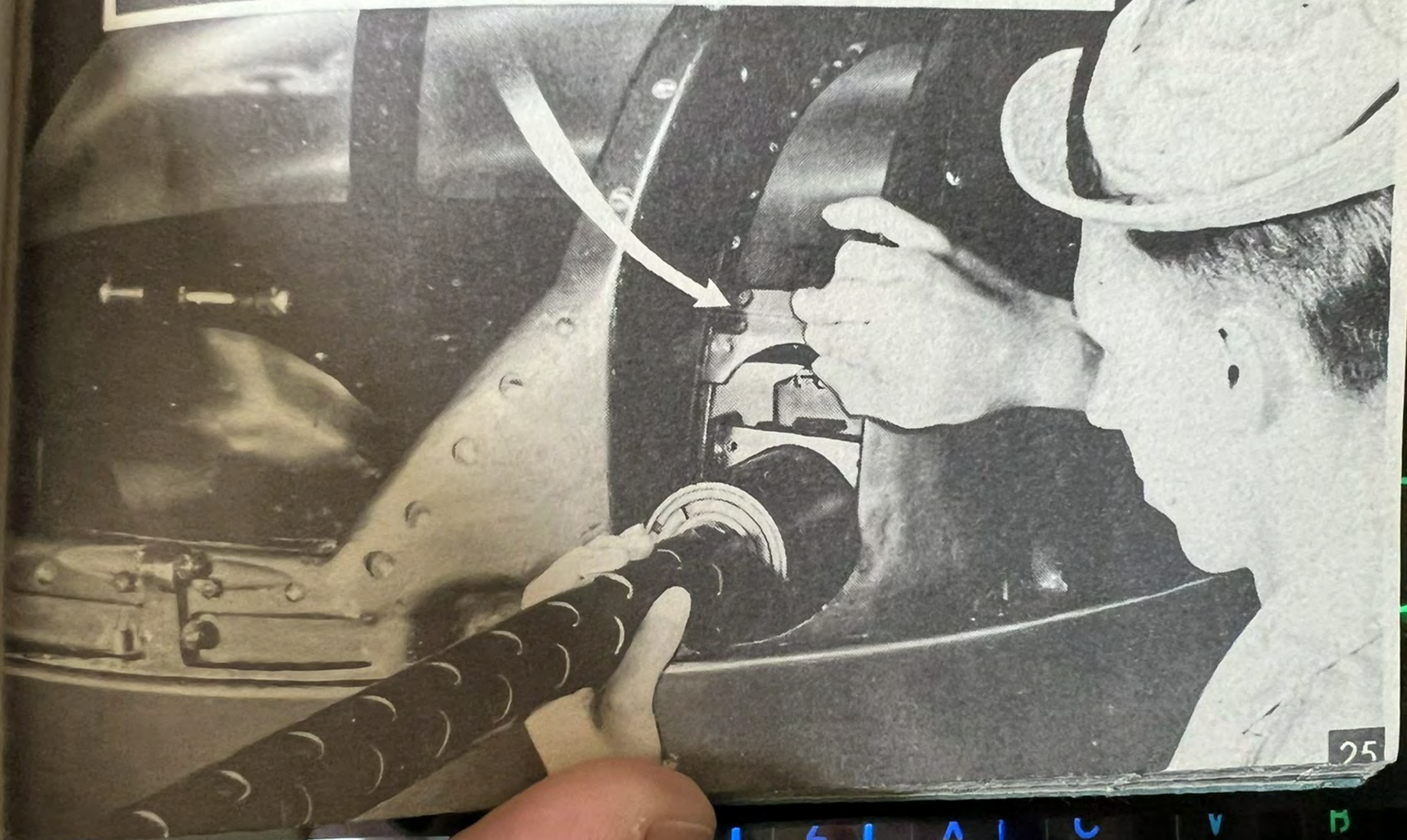
Place the dome on the turret.



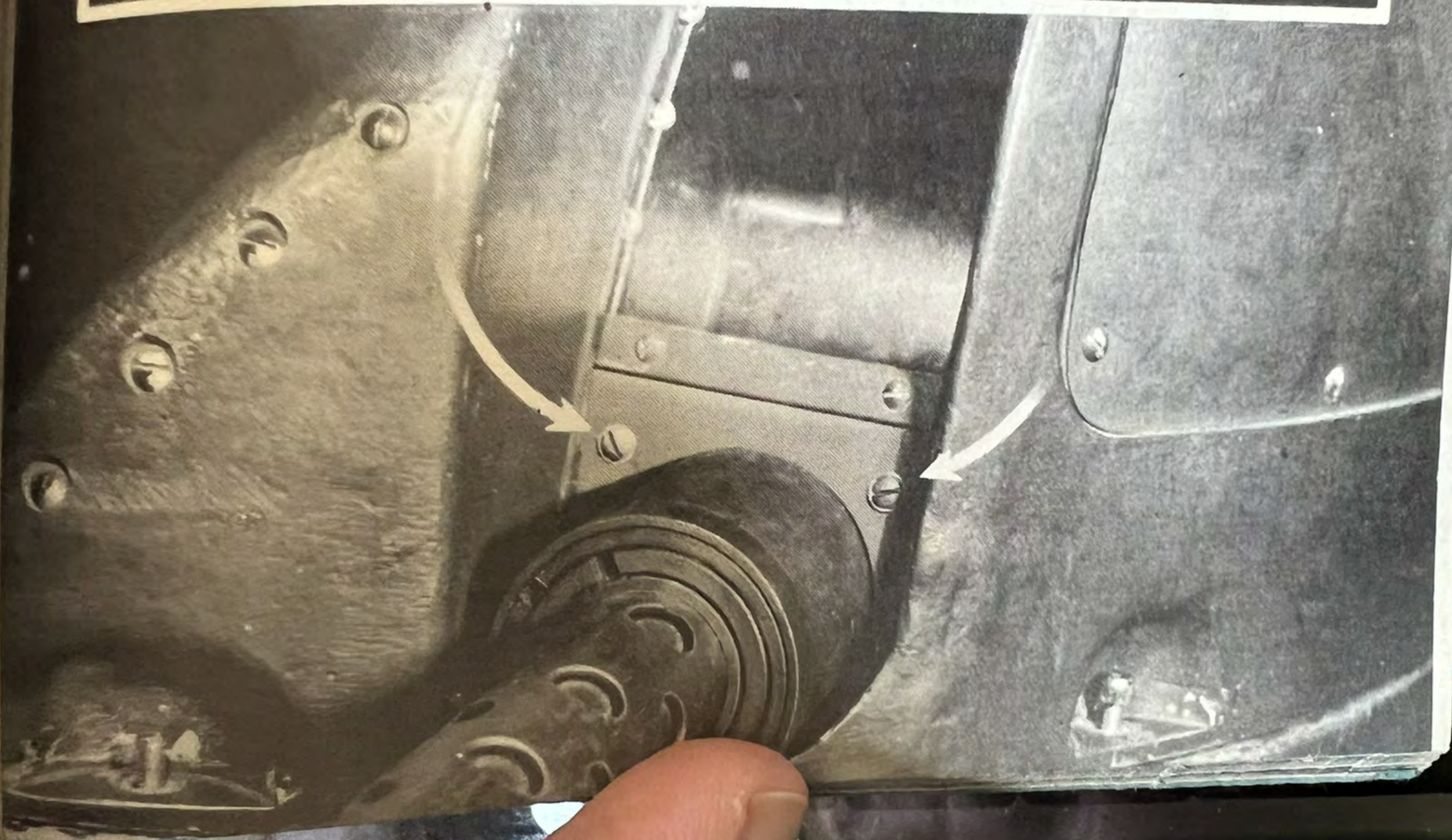
Fasten the hinge shutter to the lower part of the shutter plate by two mounting screws.



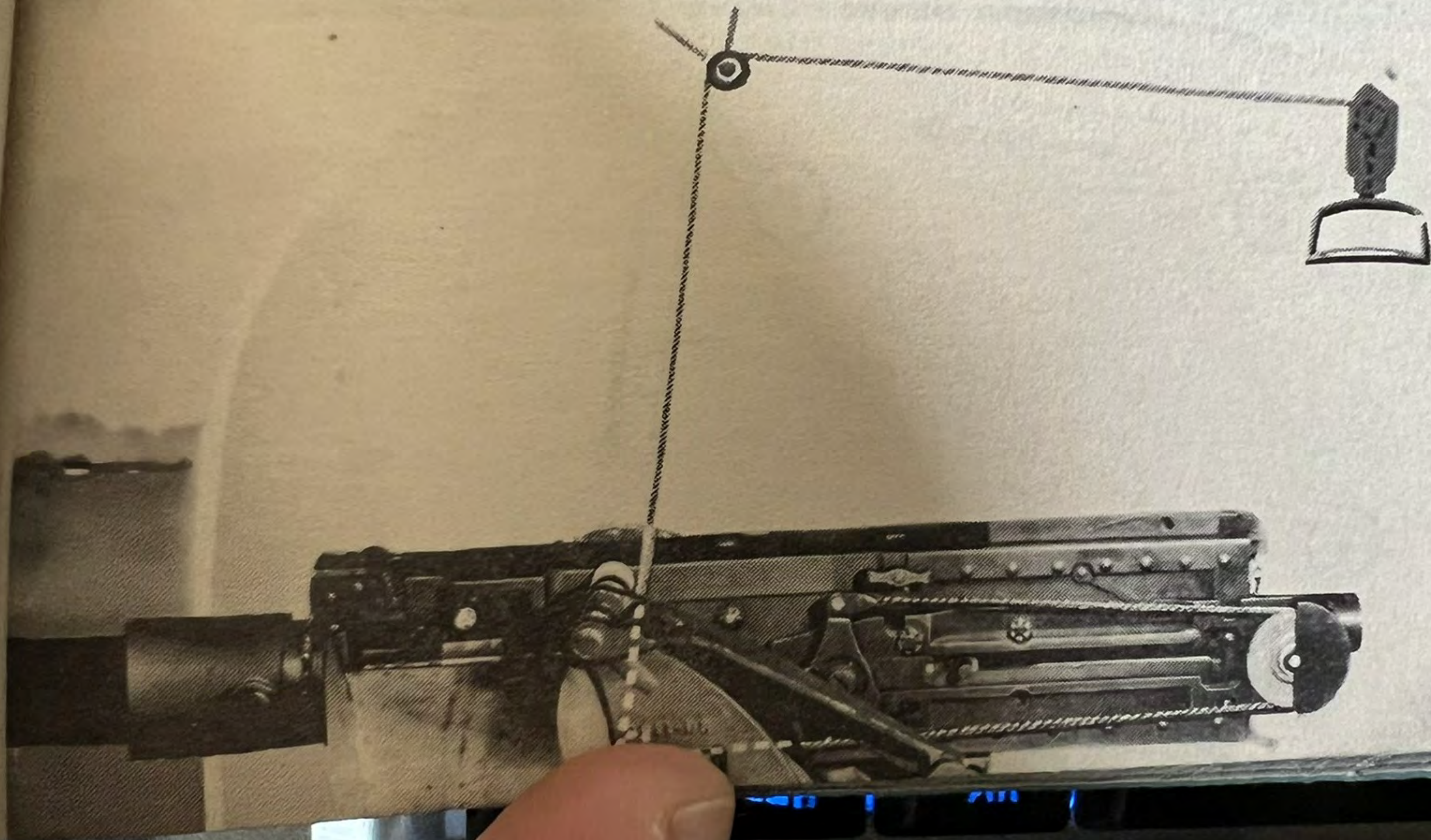
Slide the plexiglas shutter down into the dome slots provided for it.



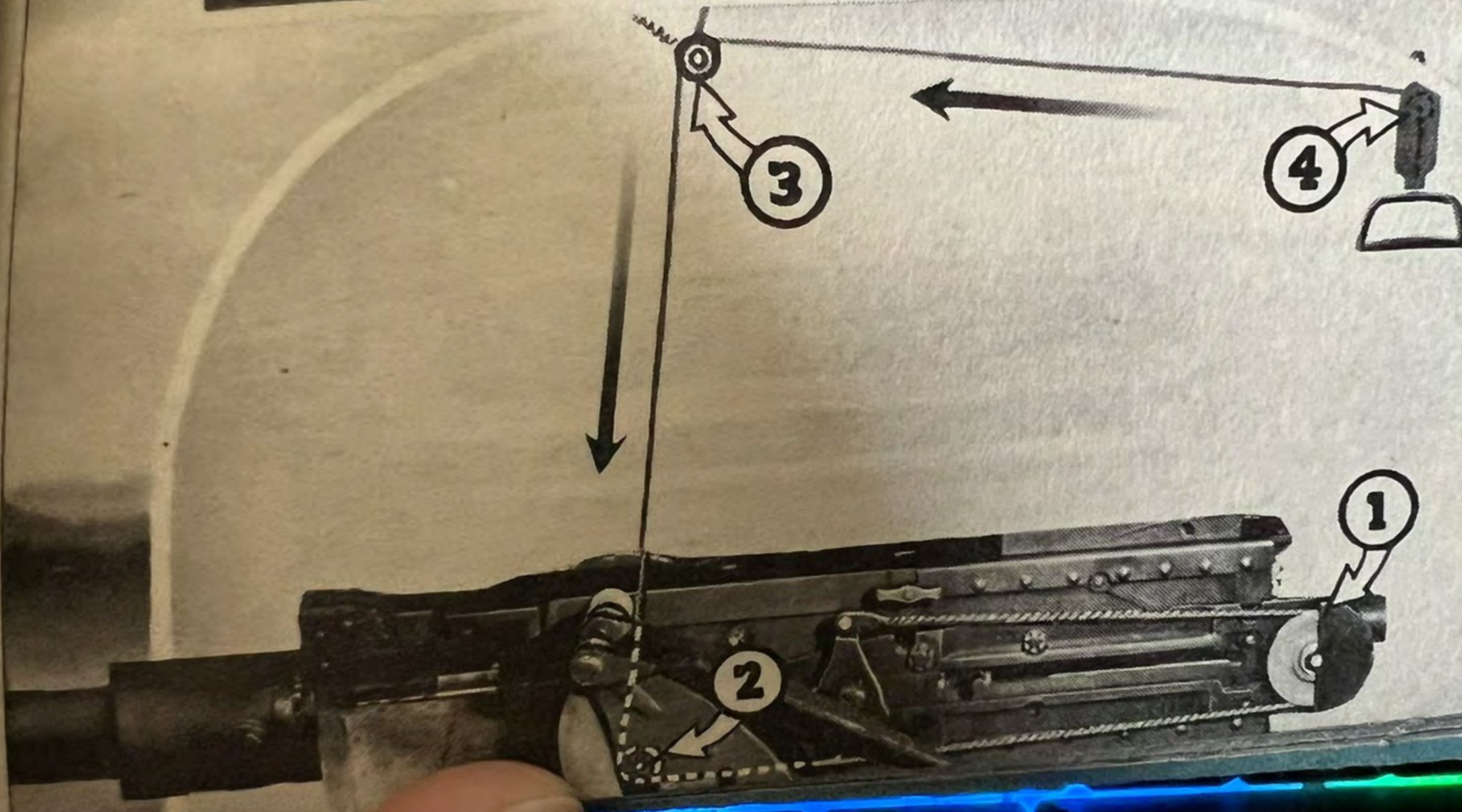
Fasten the plexiglas shutter to the top of the shutter plate by the 2 mounting screws.



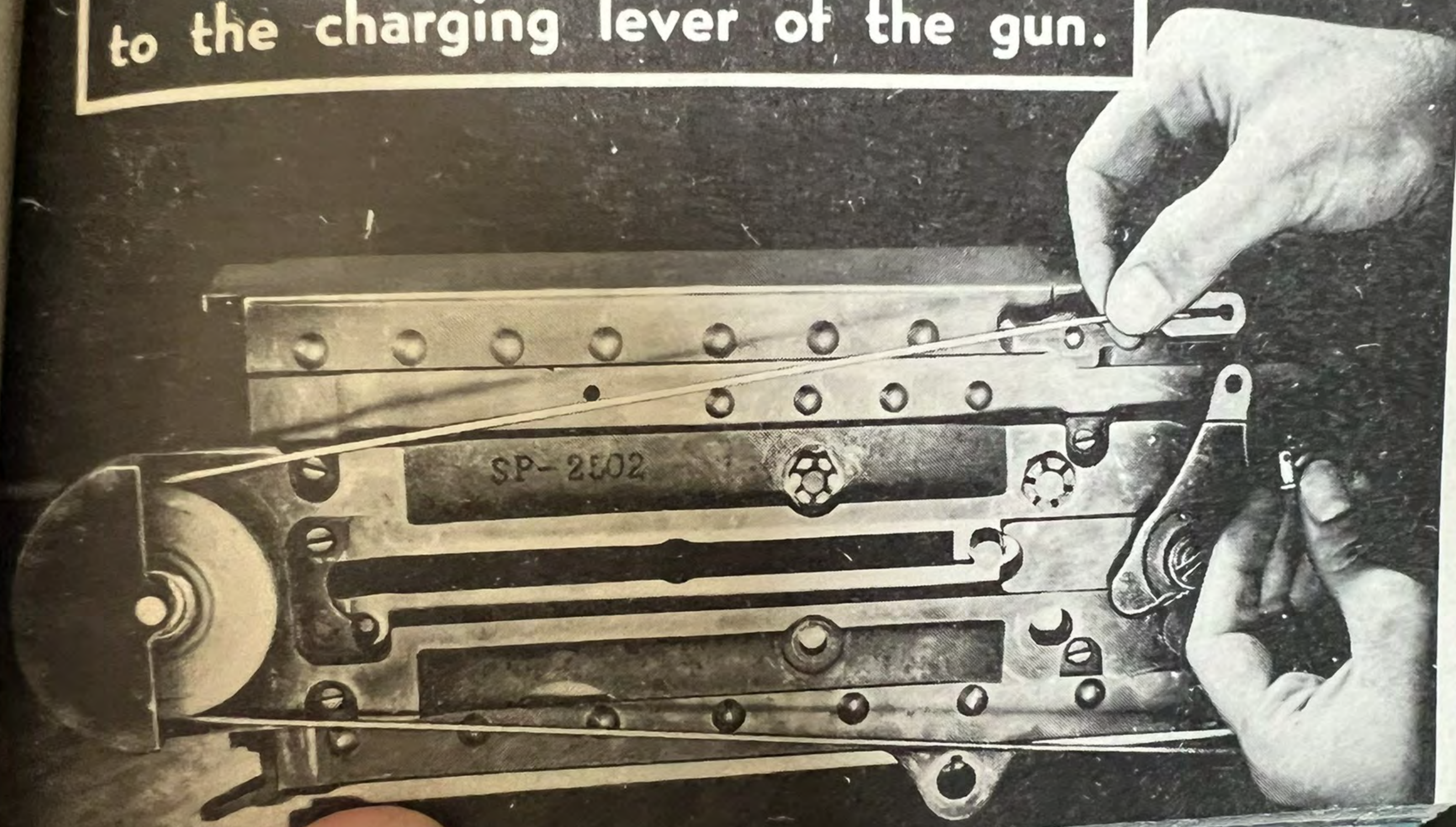
**Install charging cable pulleys
in the dome for each gun.**



Thread the free end of the cable through the four pulleys in this manner...



Connect the other end of the cable to the charging lever of the gun.

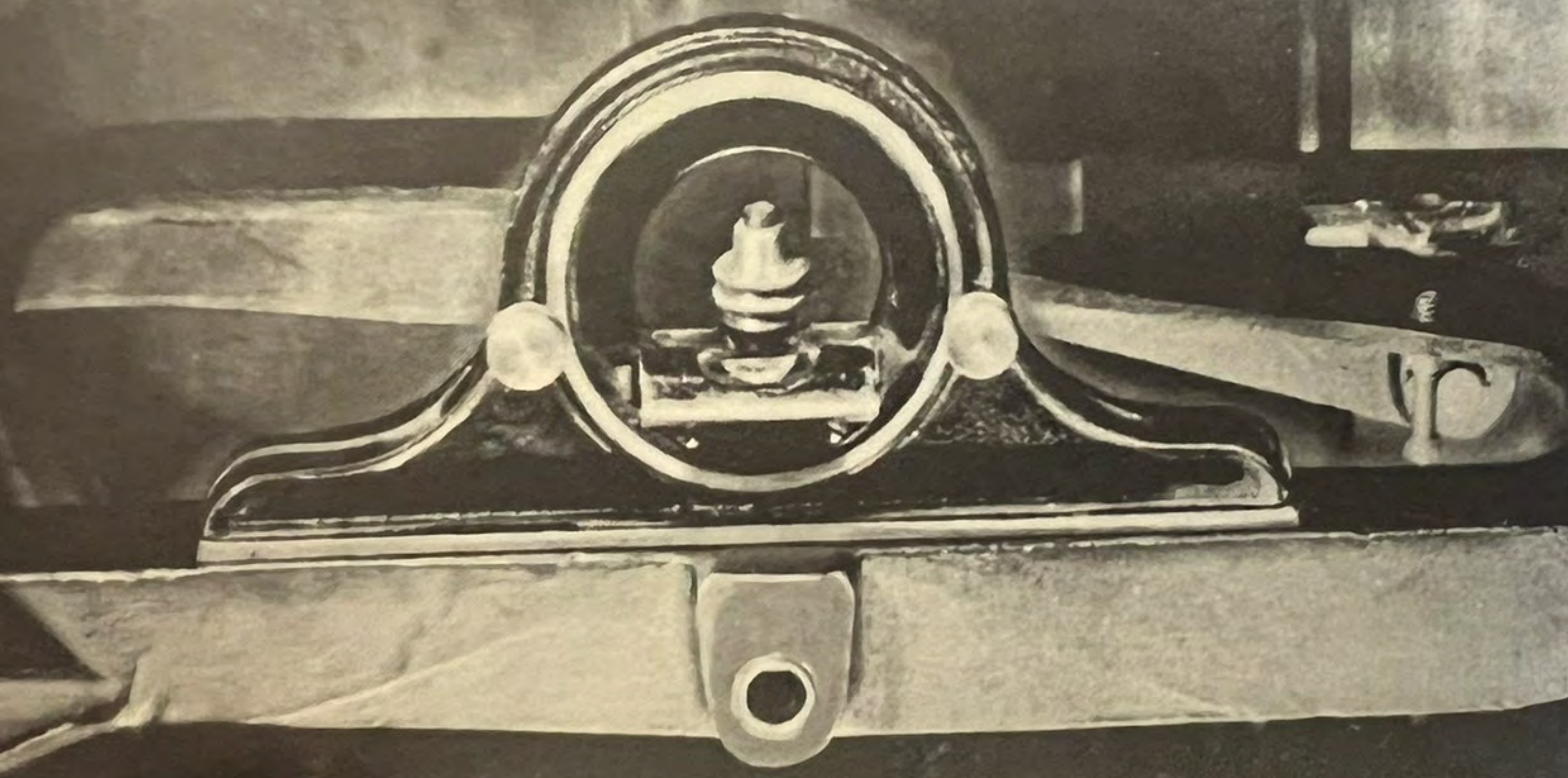


Alignment of the Guns

Note:

Do not place the charging cable around the spool as it breaks the cables when the dome is on.

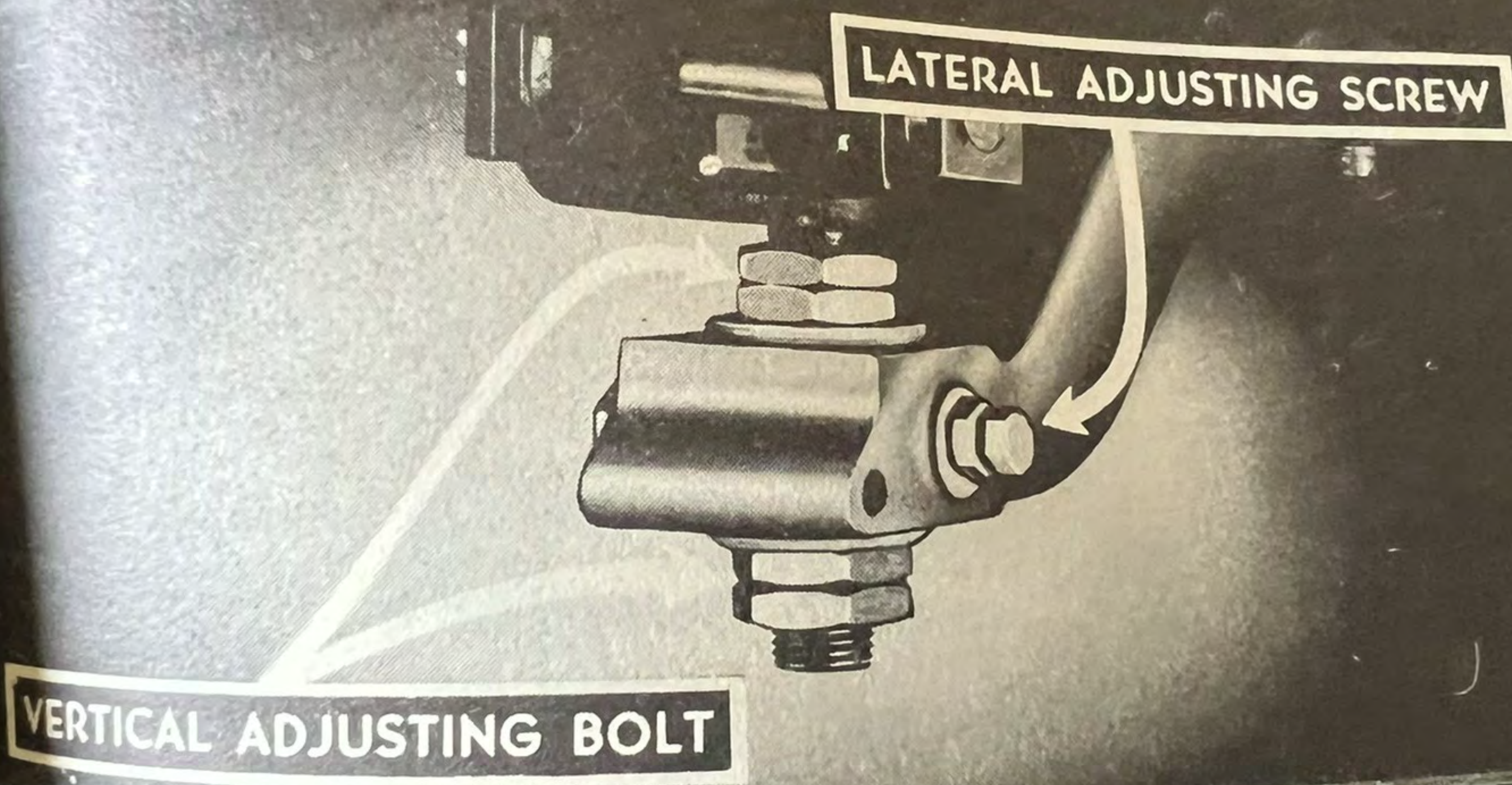
Place a level on sight cradle so that the face of the level is perpendicular to the longitudinal axis of the guns, then...



Rotate the turret 360°, either to the right or left, until the true level is found.

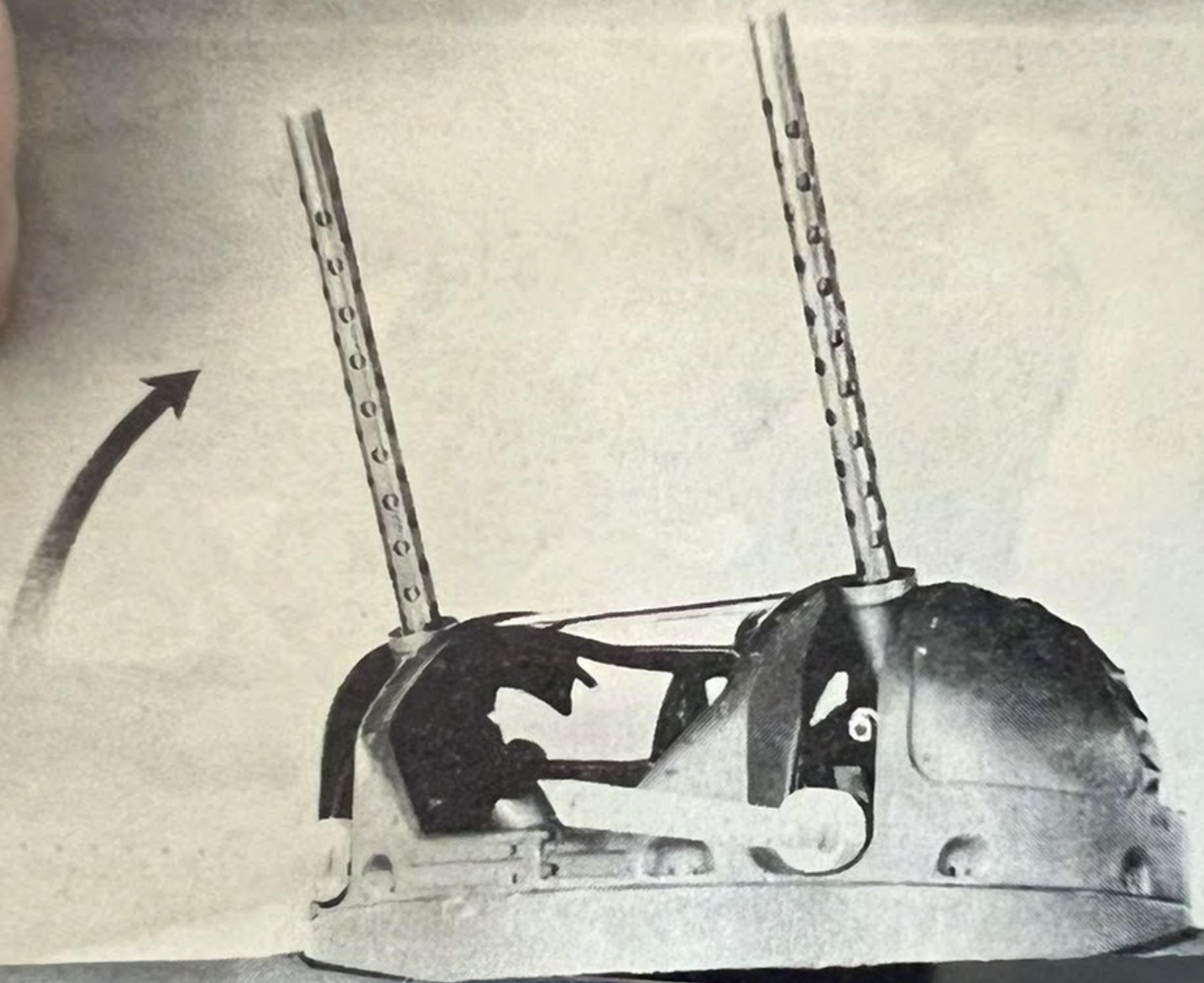


Loosen the vertical adjusting bolt and lateral adjusting screw on the rear trunnion.

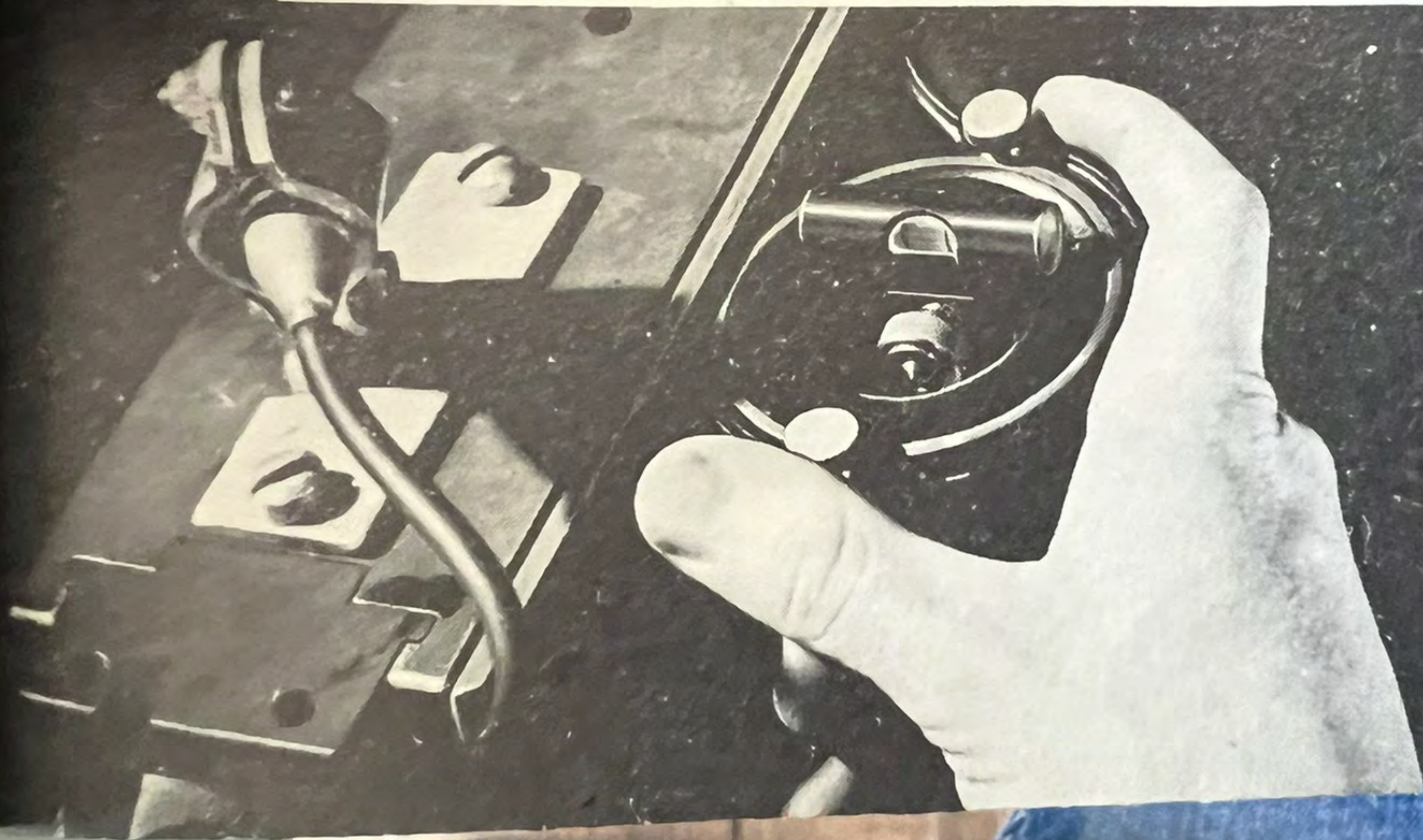


Alt

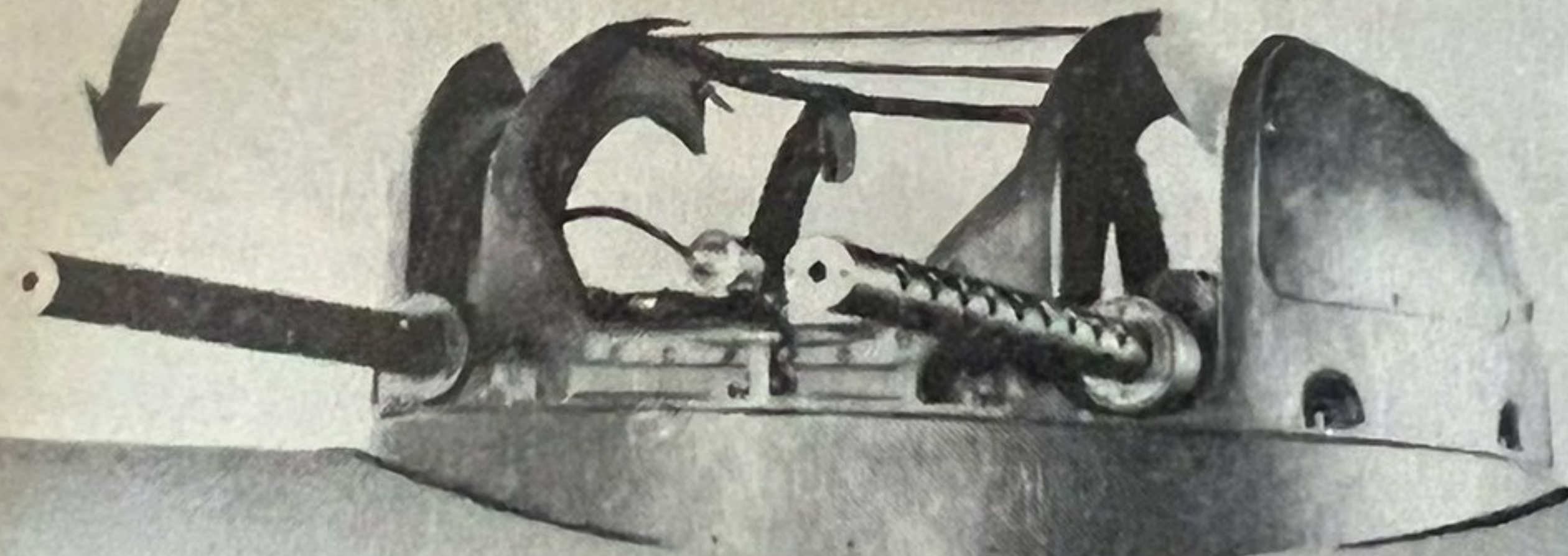
Raise the guns to between 75 and 80 degrees elevation.



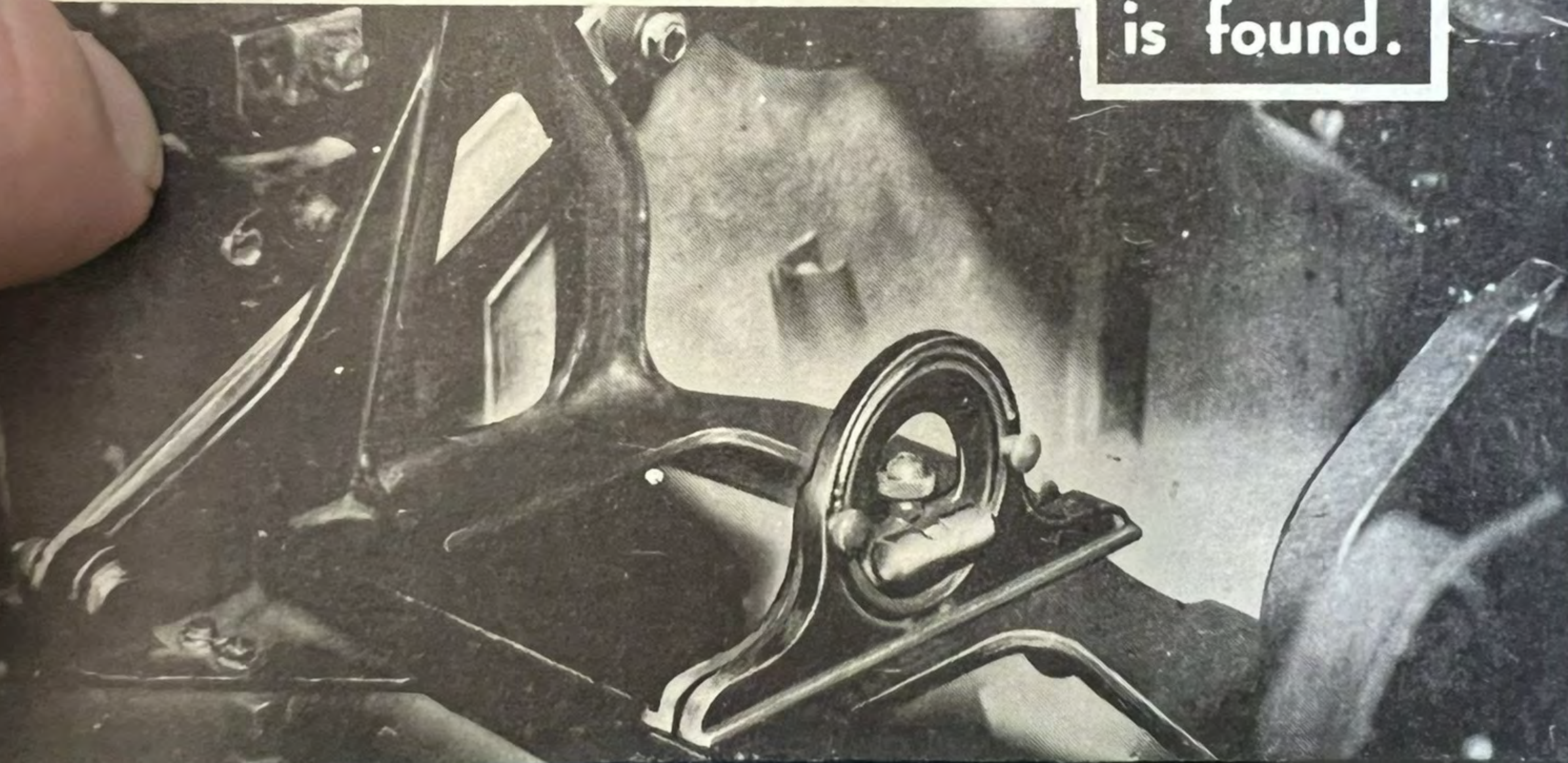
Place the level against side plates of the gun and parallel by means of lateral adjusting studs.



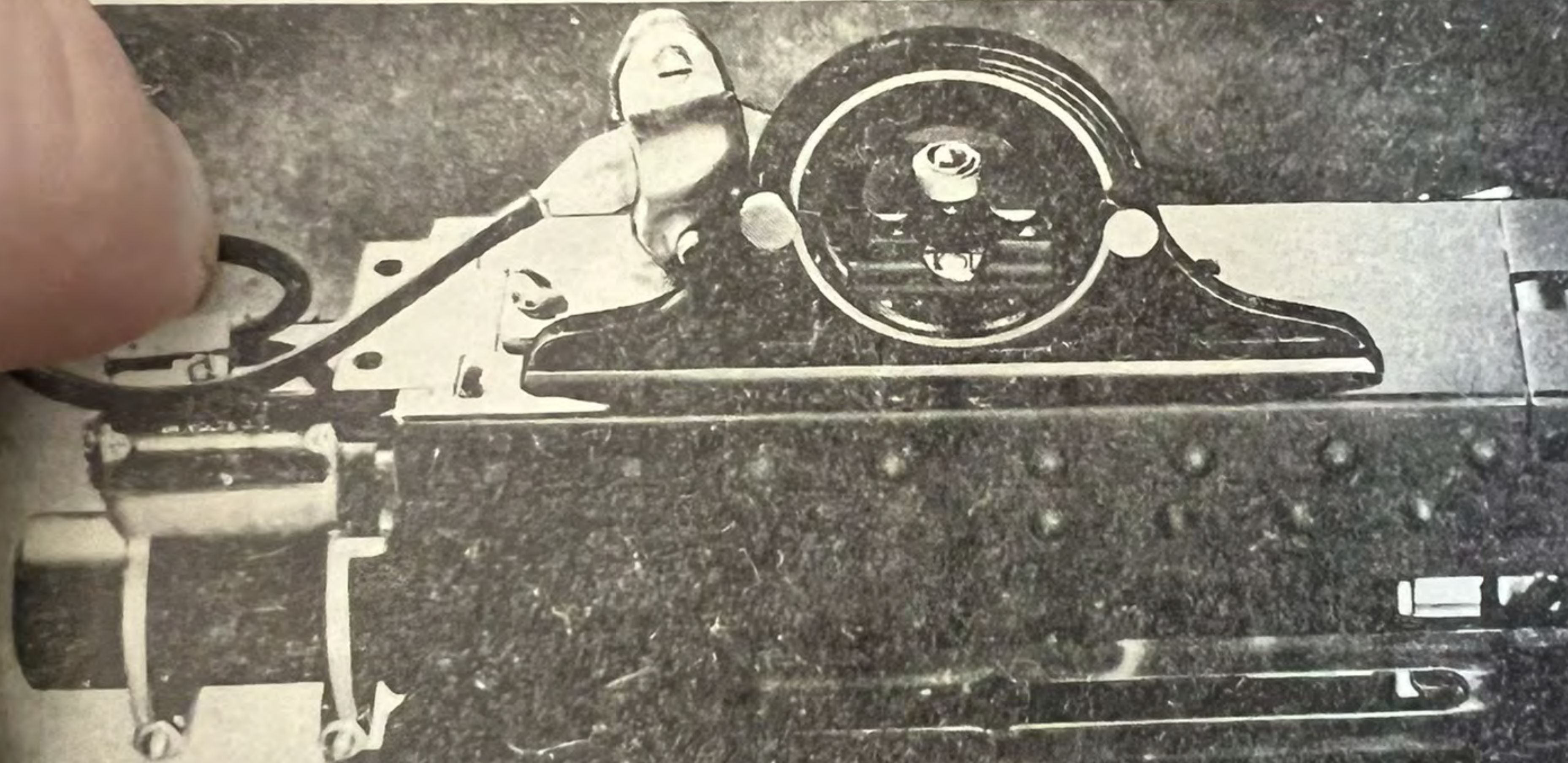
Bring the guns back to zero degrees elevation, then...



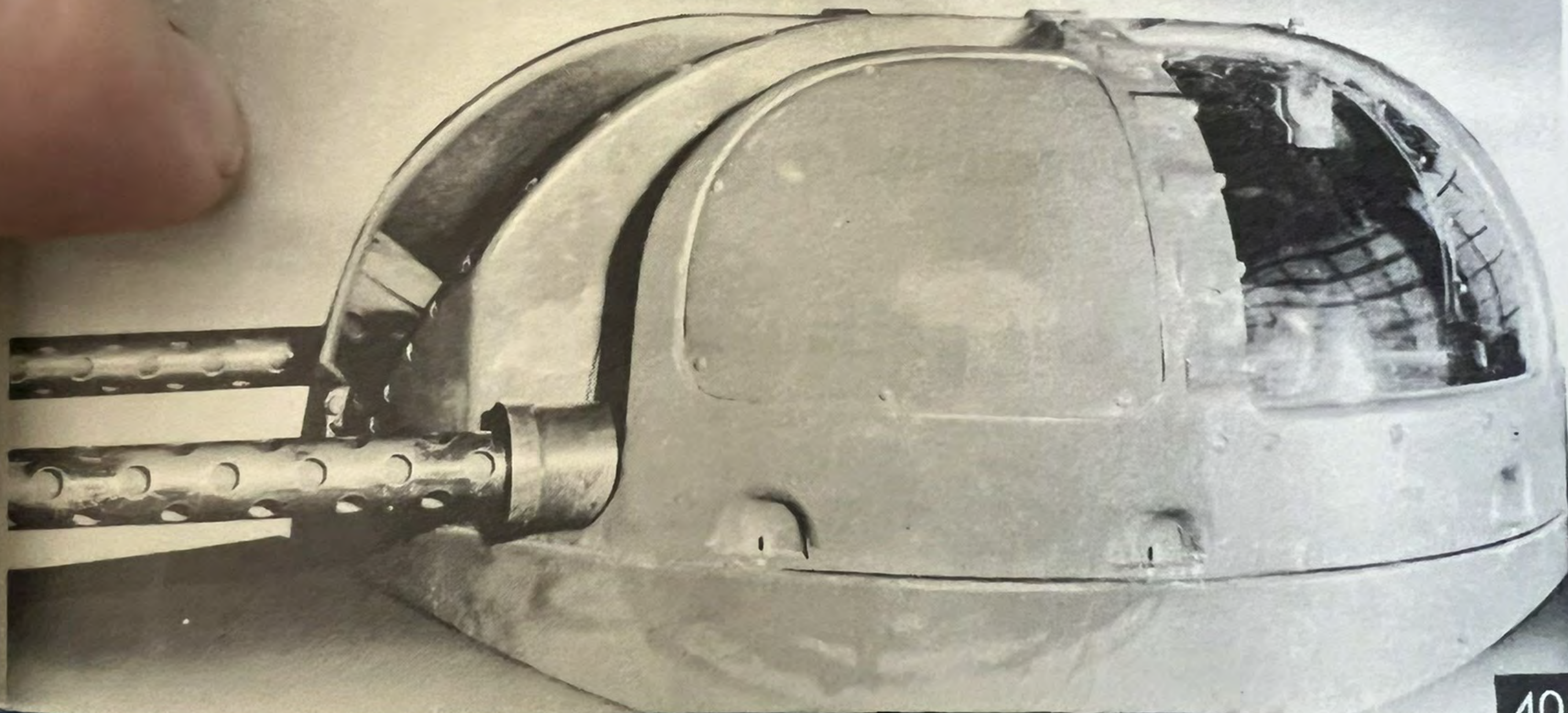
Place level on sight cradle parallel to the longitudinal axis of the guns and rotate turret approximately 90° until true level is found.



Adjust both guns to absolute horizontal level by means of the vertical adjusting bolts, using a spirit level to establish true position.



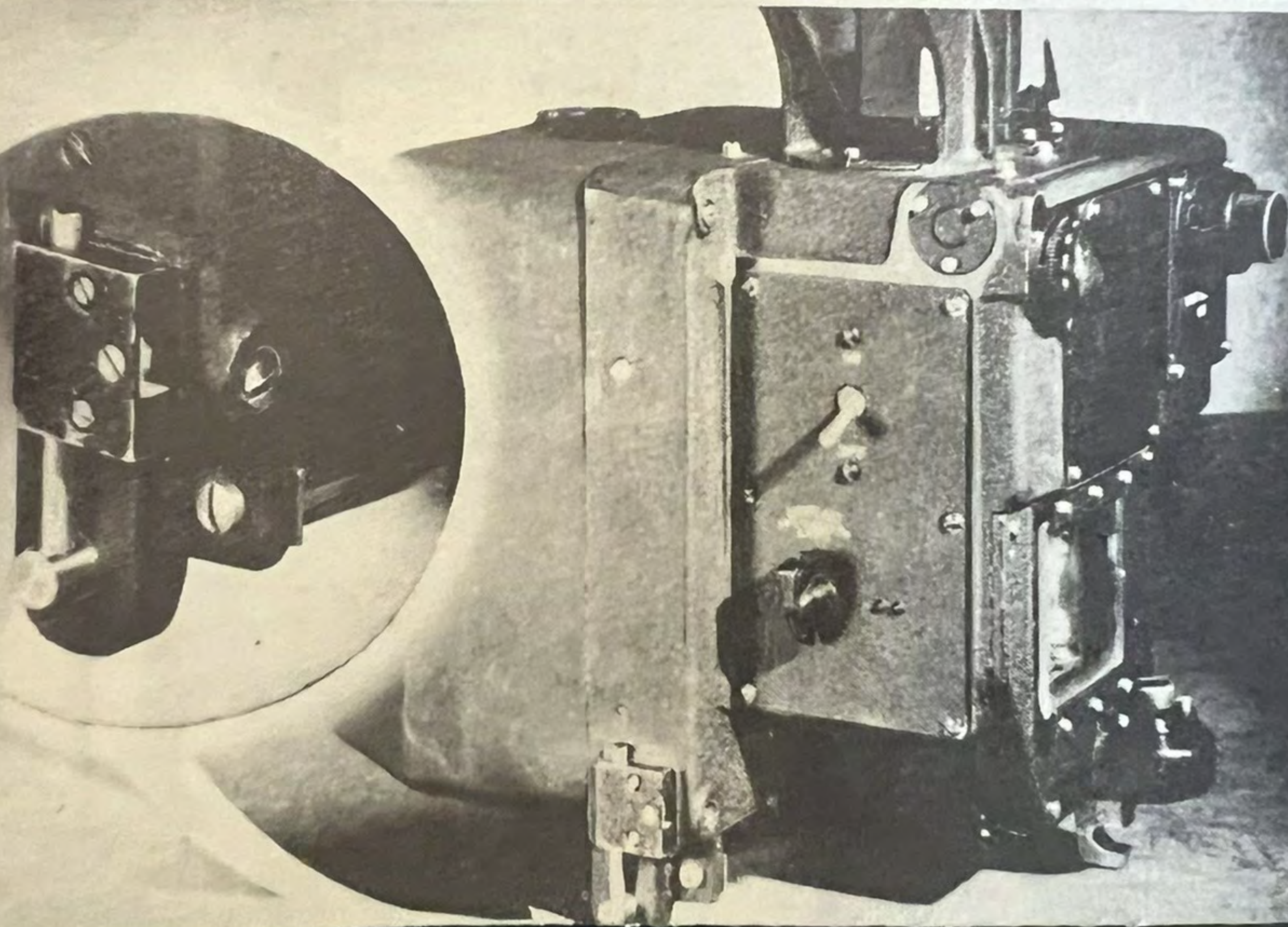
Both guns should clear the bottom of the gun slots $\frac{1}{8}$ of an inch. If not...



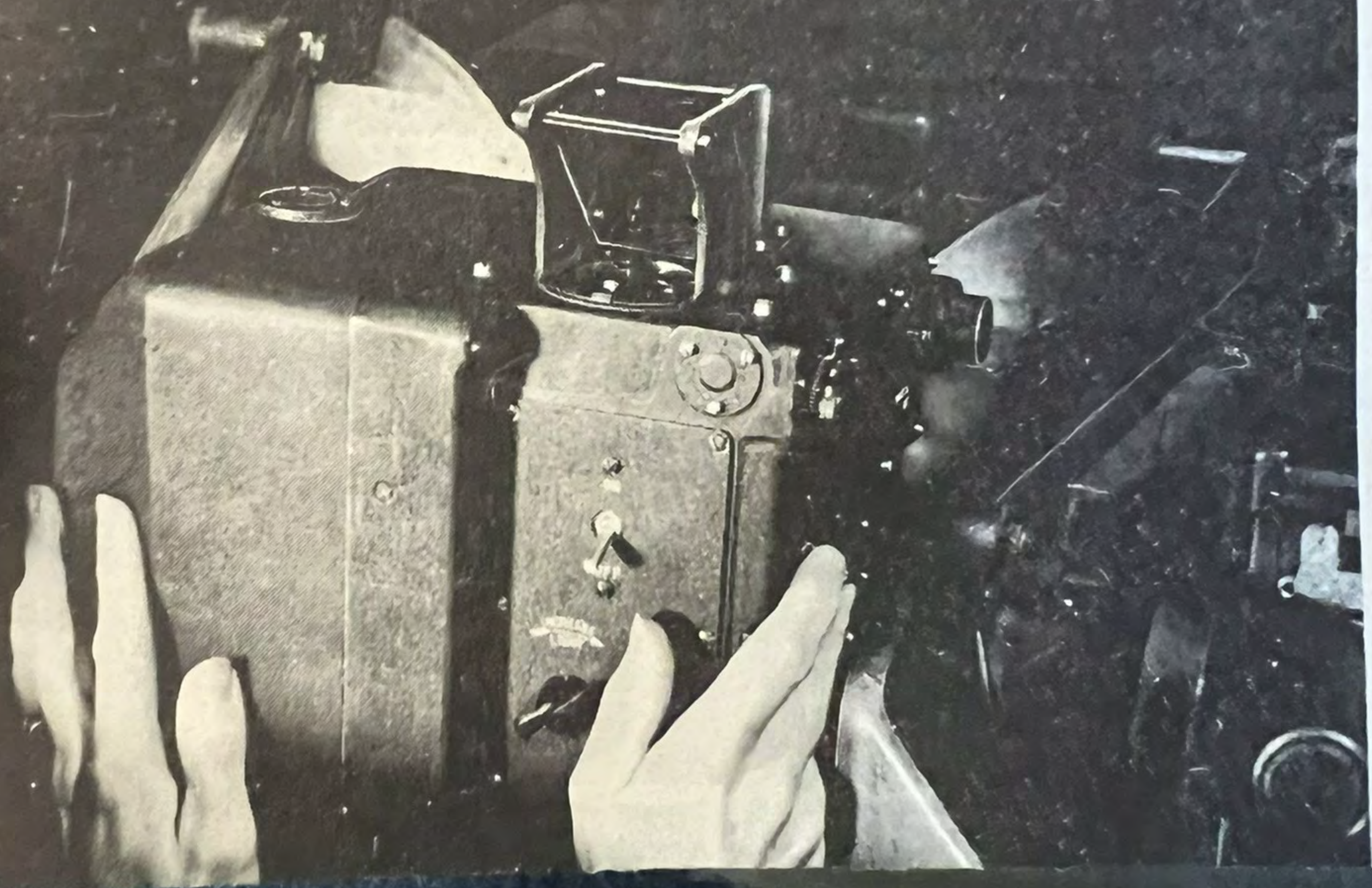
**The guns should be
correctly positioned
by readjusting the
elevation limit stops.**

**Installation and
Harmonization
of the Sperry
K-3 Sight.**

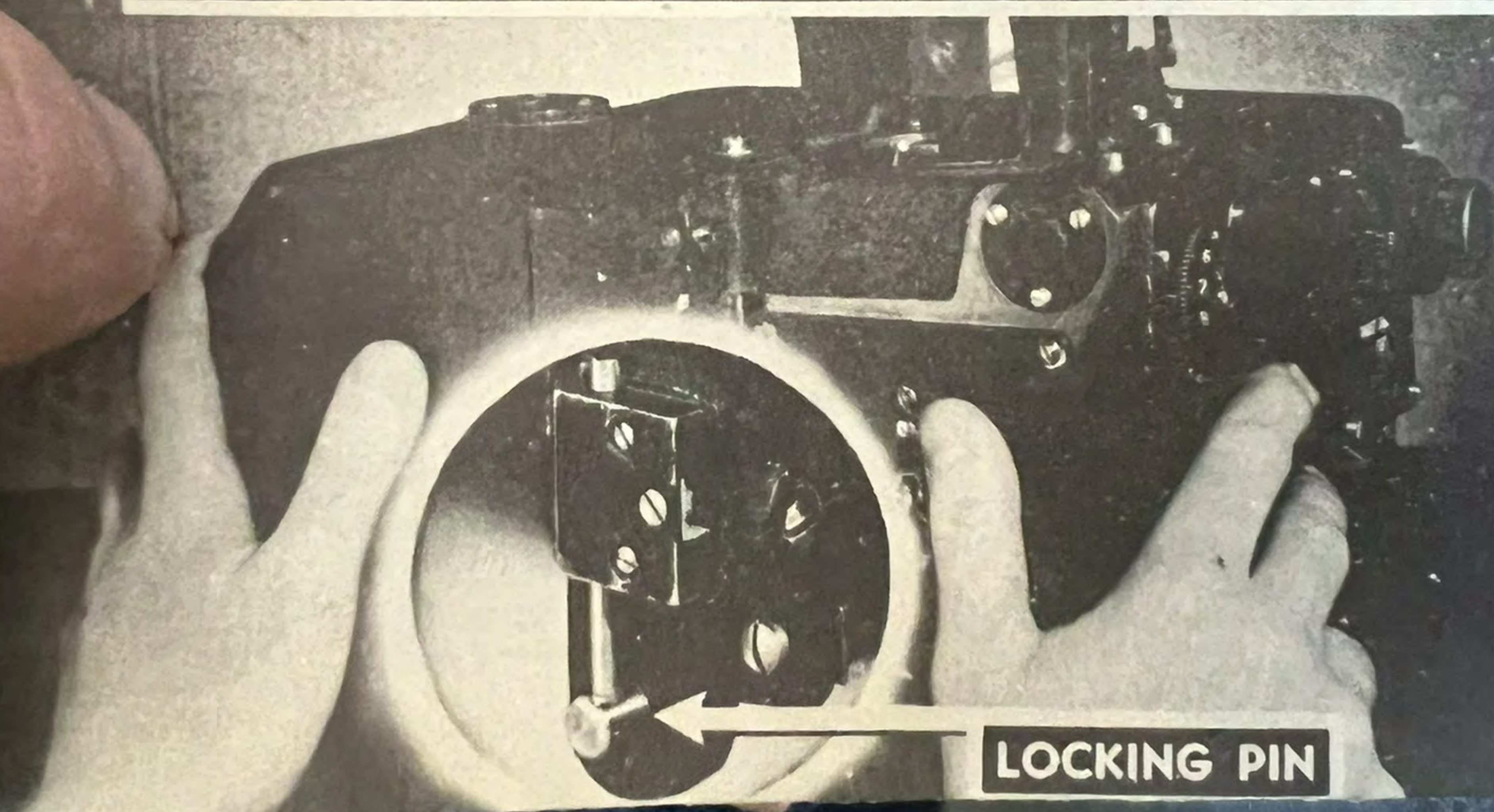
Remove the sight locking pin from the mounting lugs on the bottom of the sight.



Place the sight in position on sight cradle.

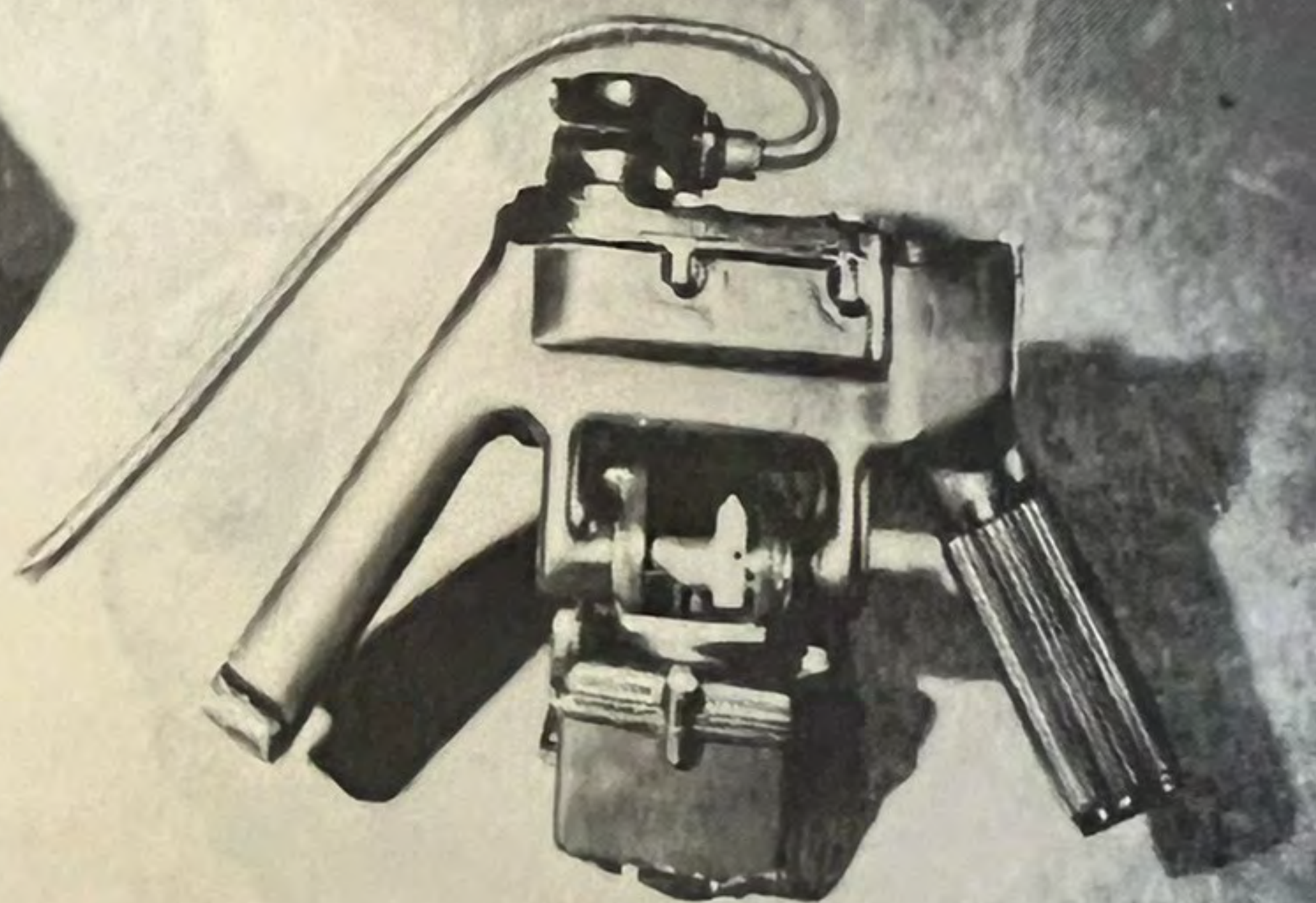
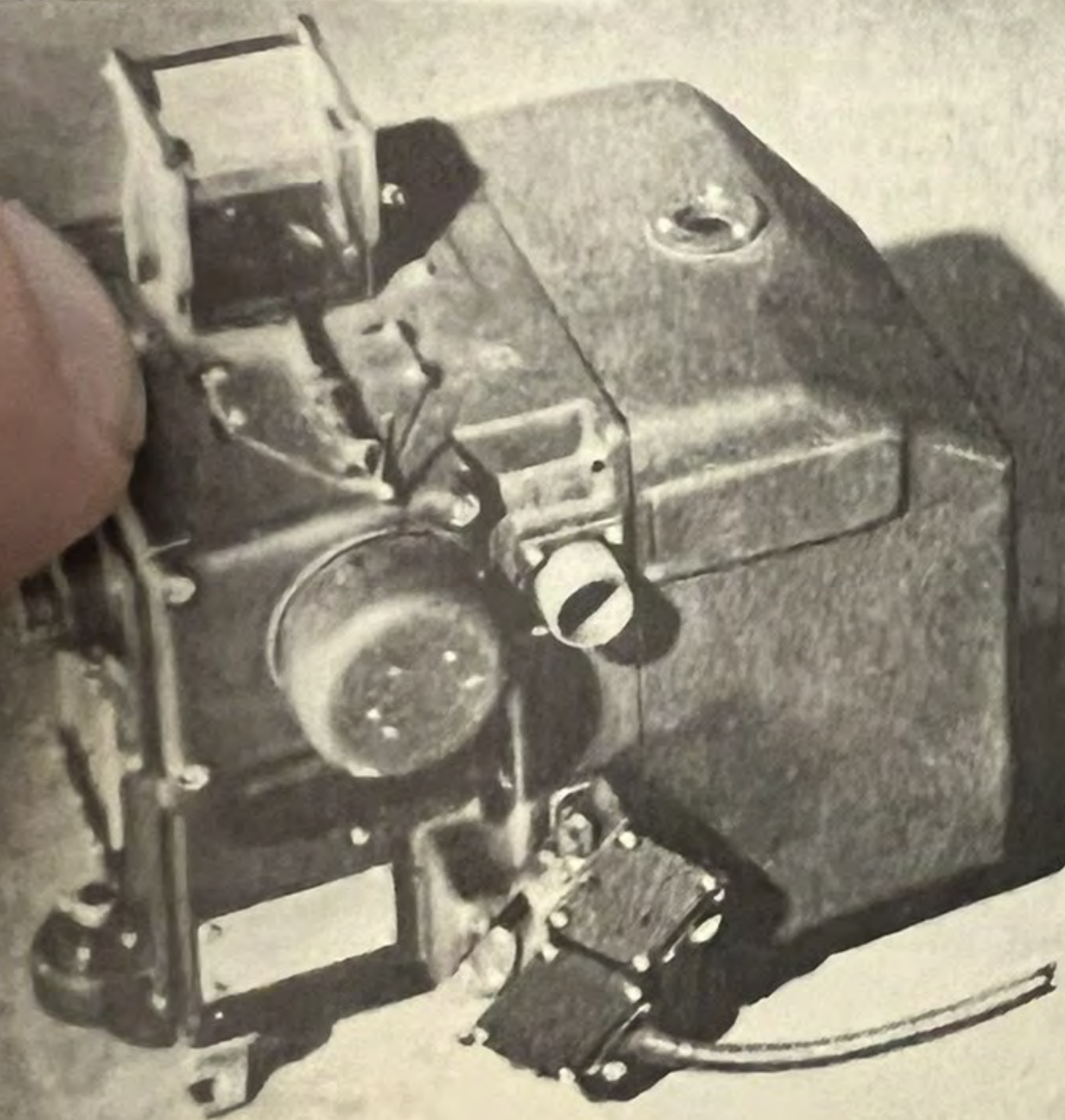


Position sight until mounting holes on sight and turret coincide and insert locking pin, locking it with a half turn.



LOCKING PIN

To harmonize the sight, first place the flexible range shaft in the azimuth input of the sight.

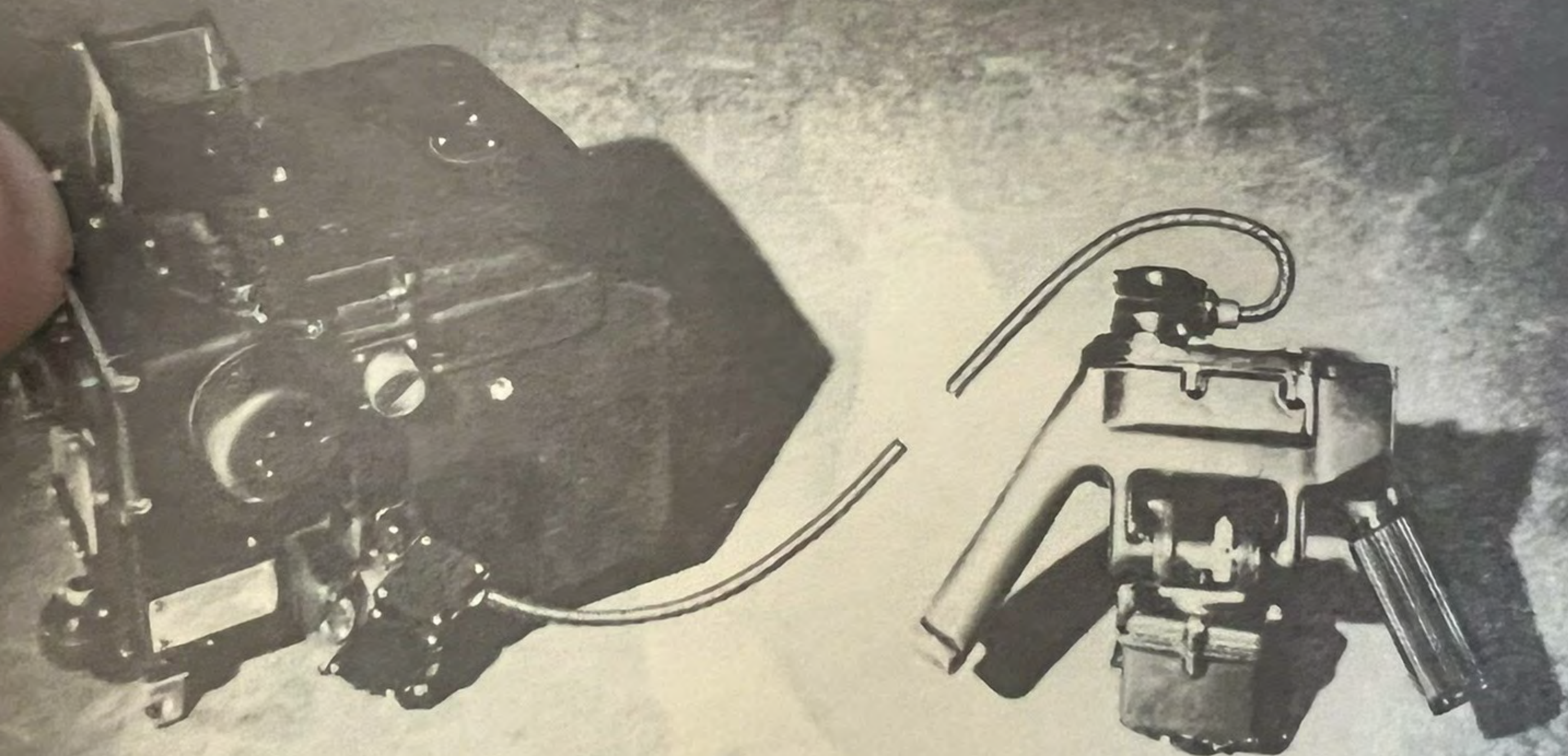


Turn range knob on the right hand grip to set the azimuth deflection dial at 0 mils.

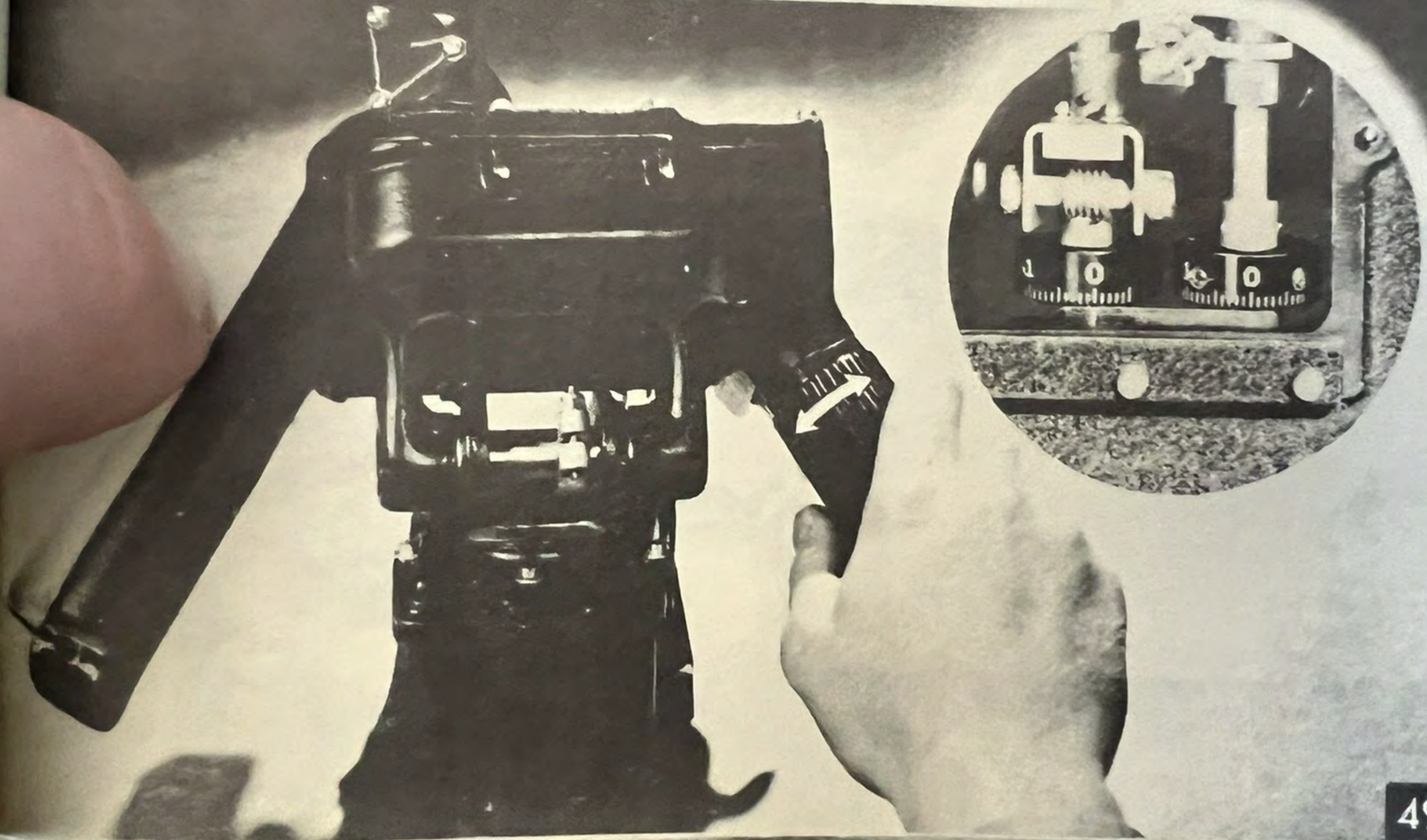


Shift

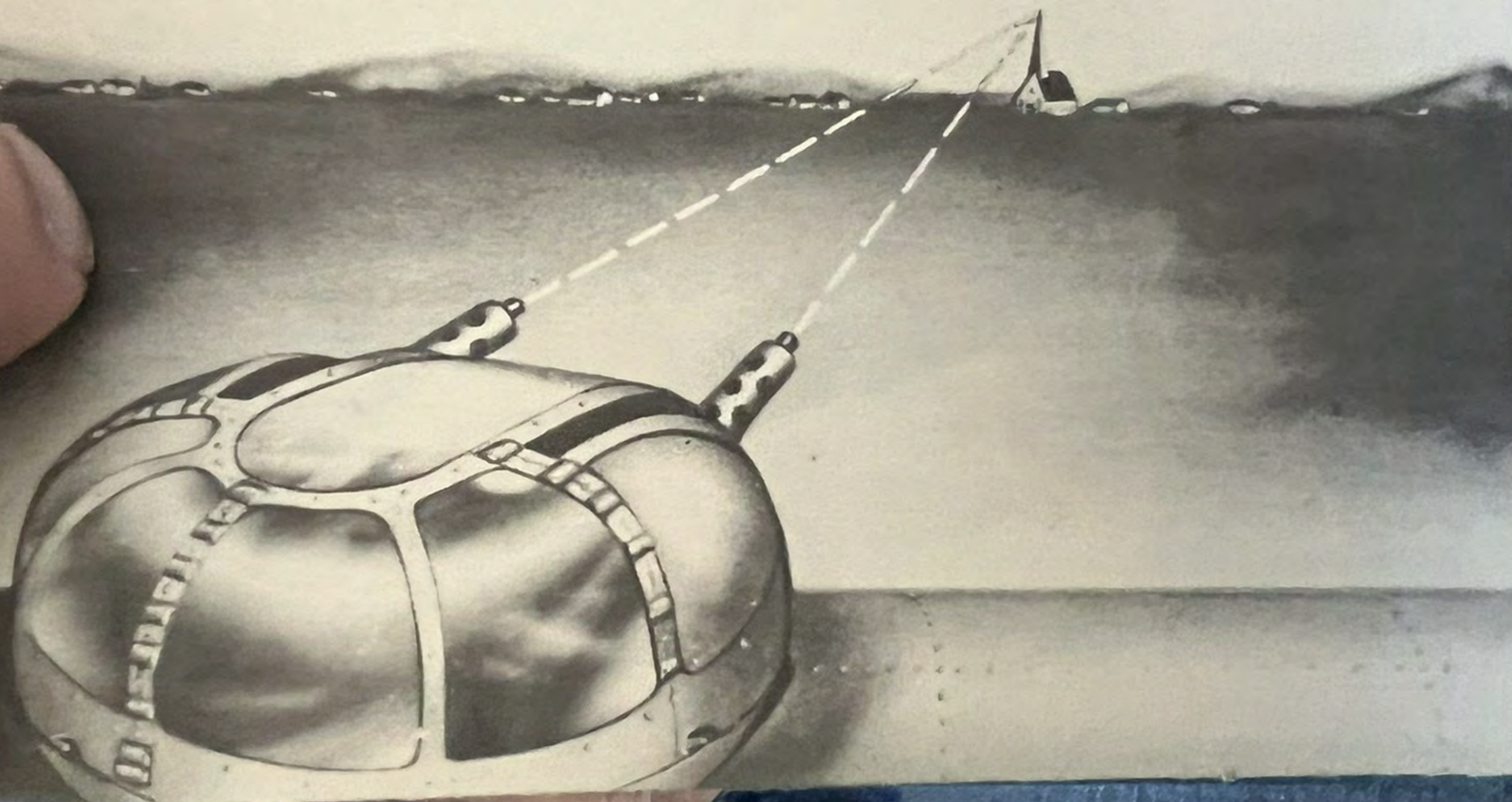
**Remove the range shaft and place
it in the elevation input of the sight.**



Set the elevation deflection dial at 0 by means of the range knob.

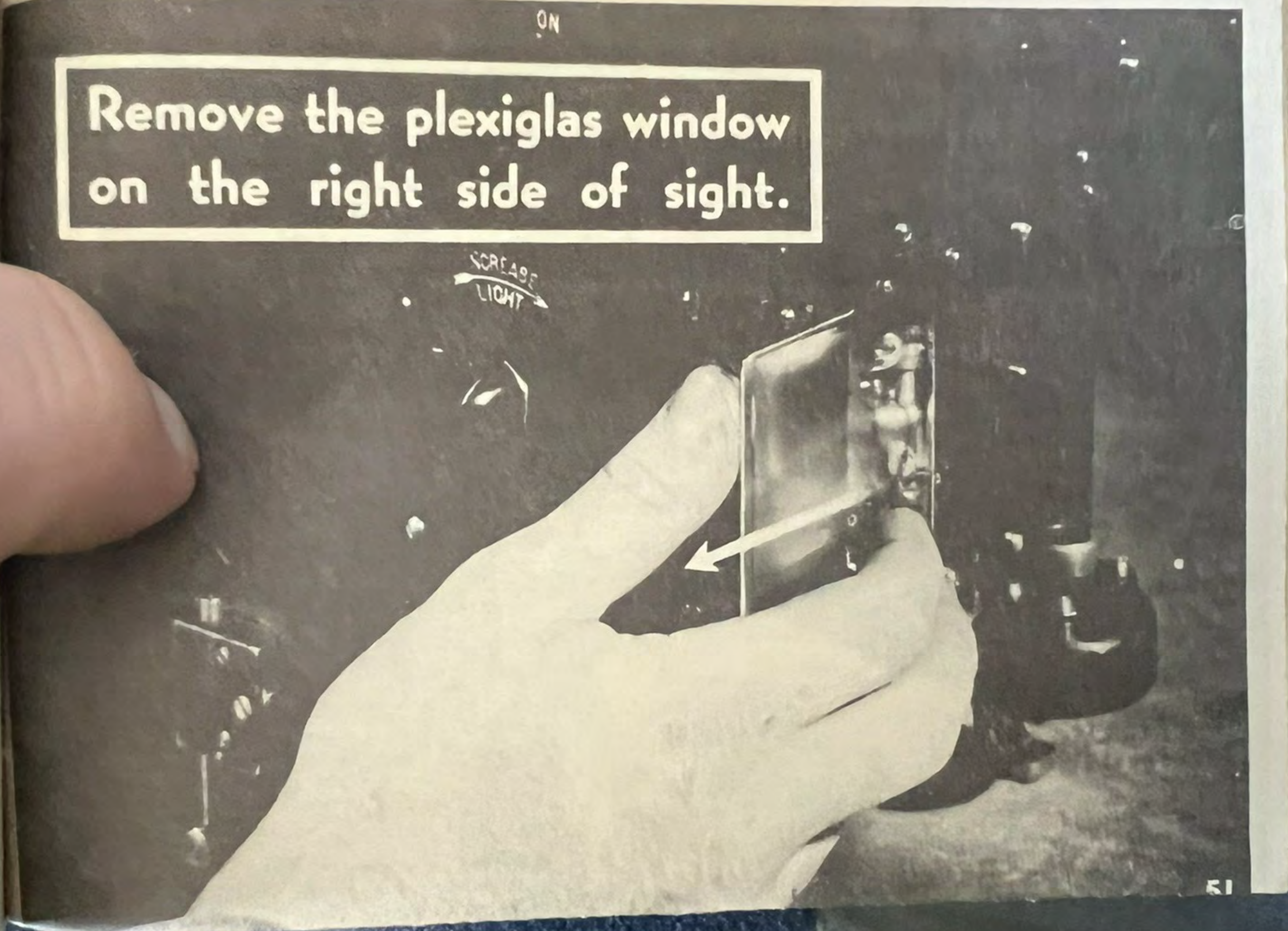


Bore-sight both the guns on a target 1000 yards away, or over.



ON

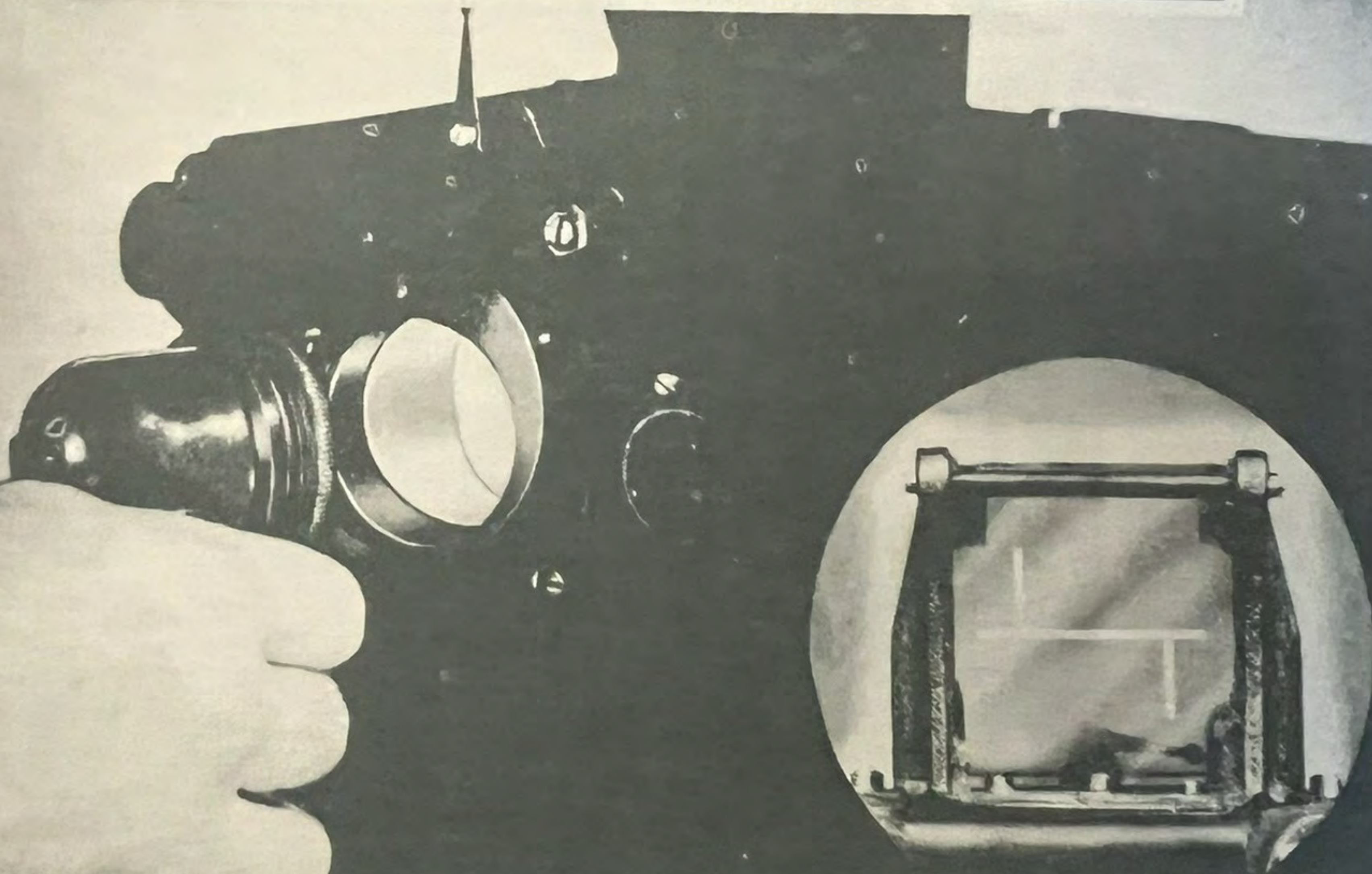
**Remove the plexiglas window
on the right side of sight.**



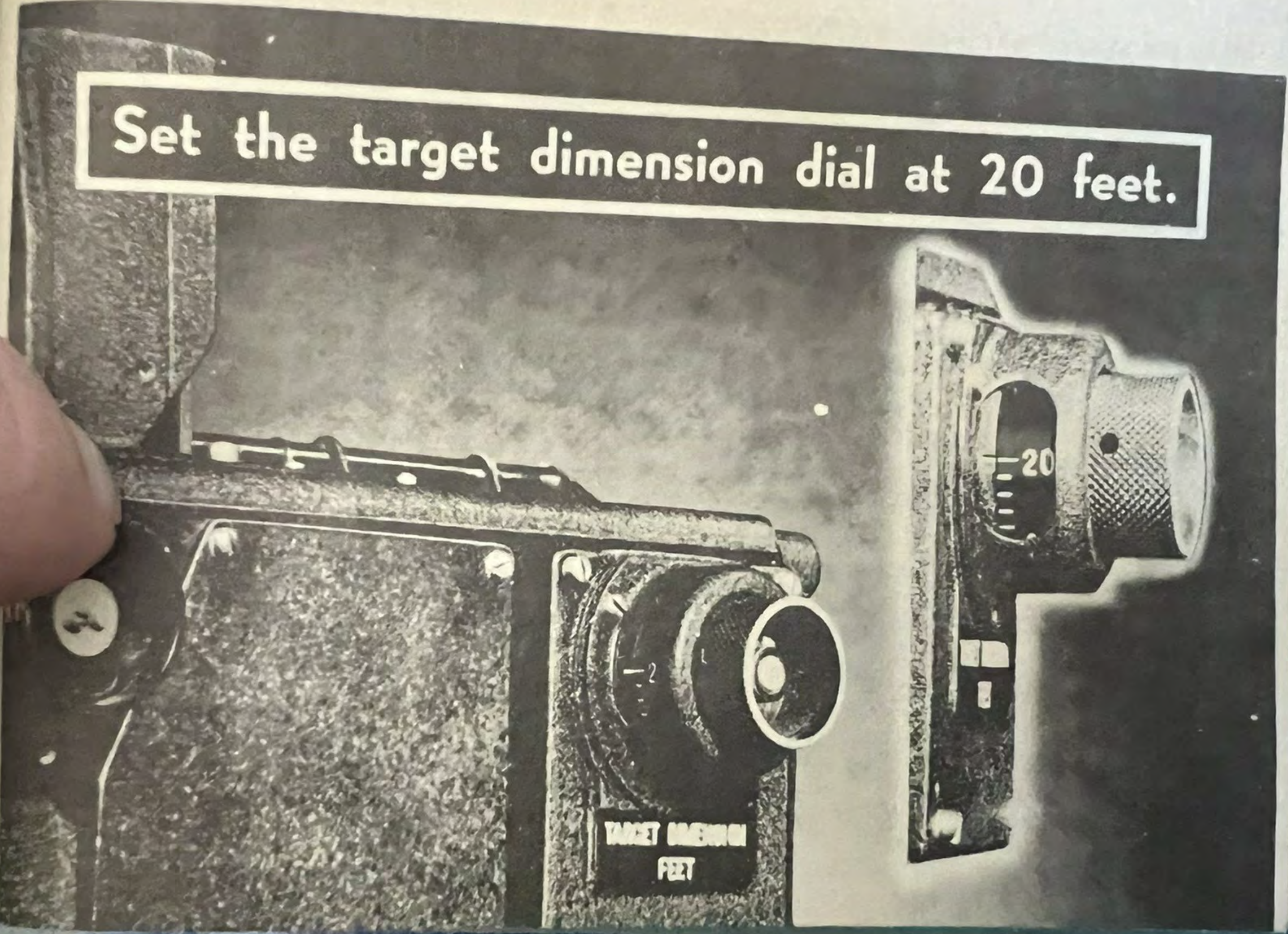
Remove the lamp housing cover
and the sight lamp, and...



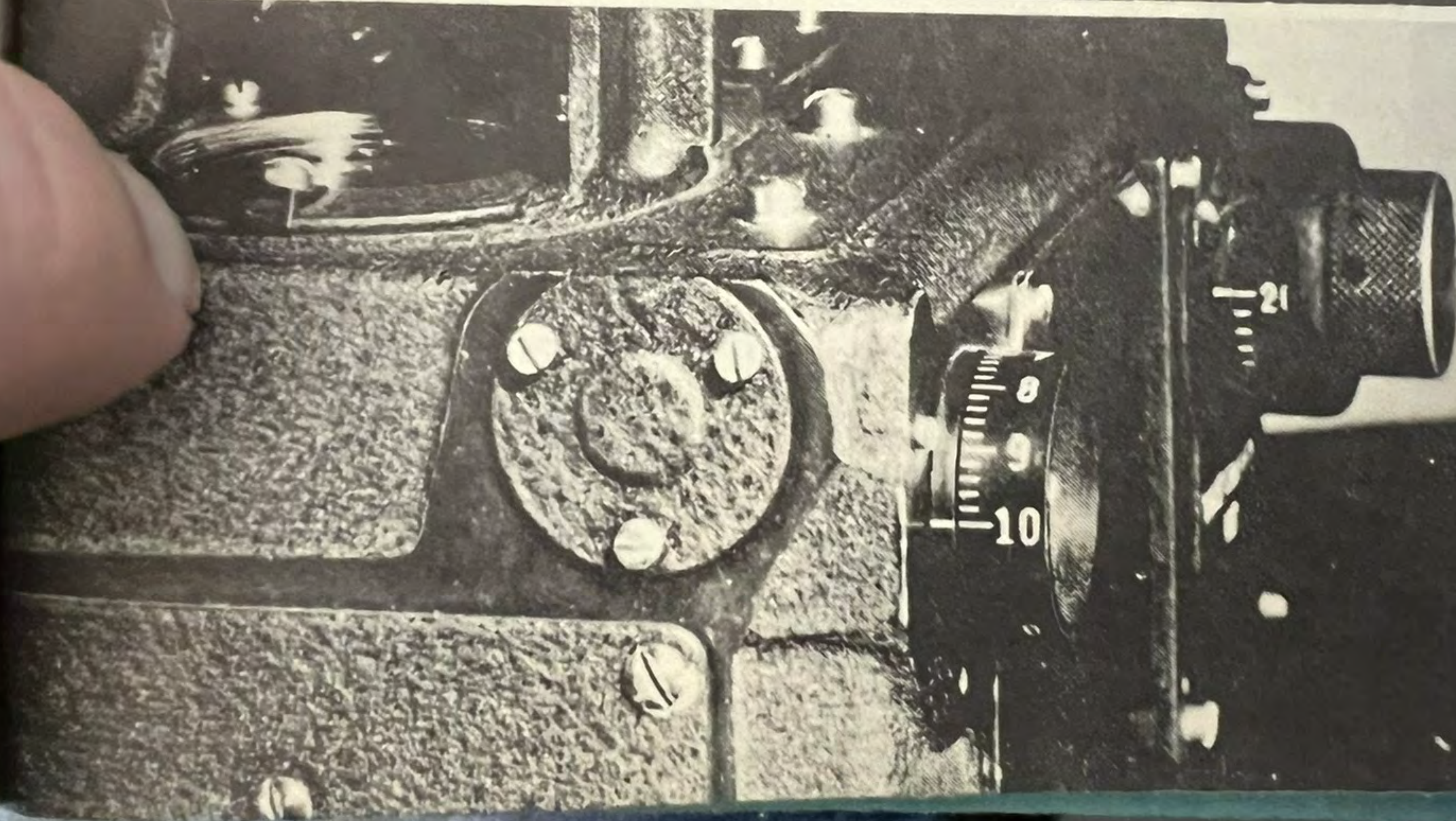
Direct a light into the lamp housing
so that the reticles can be seen.



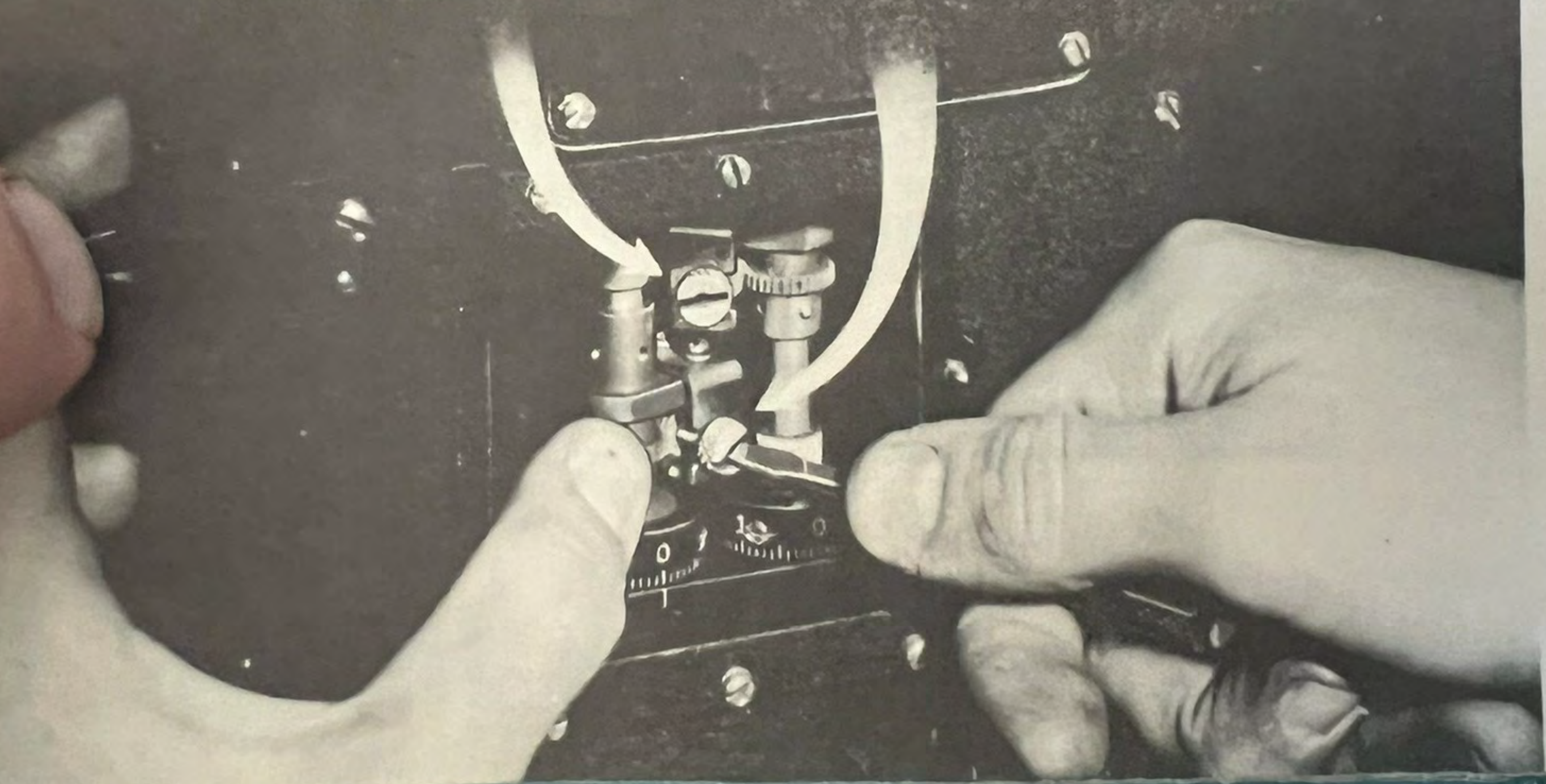
Set the target dimension dial at 20 feet.



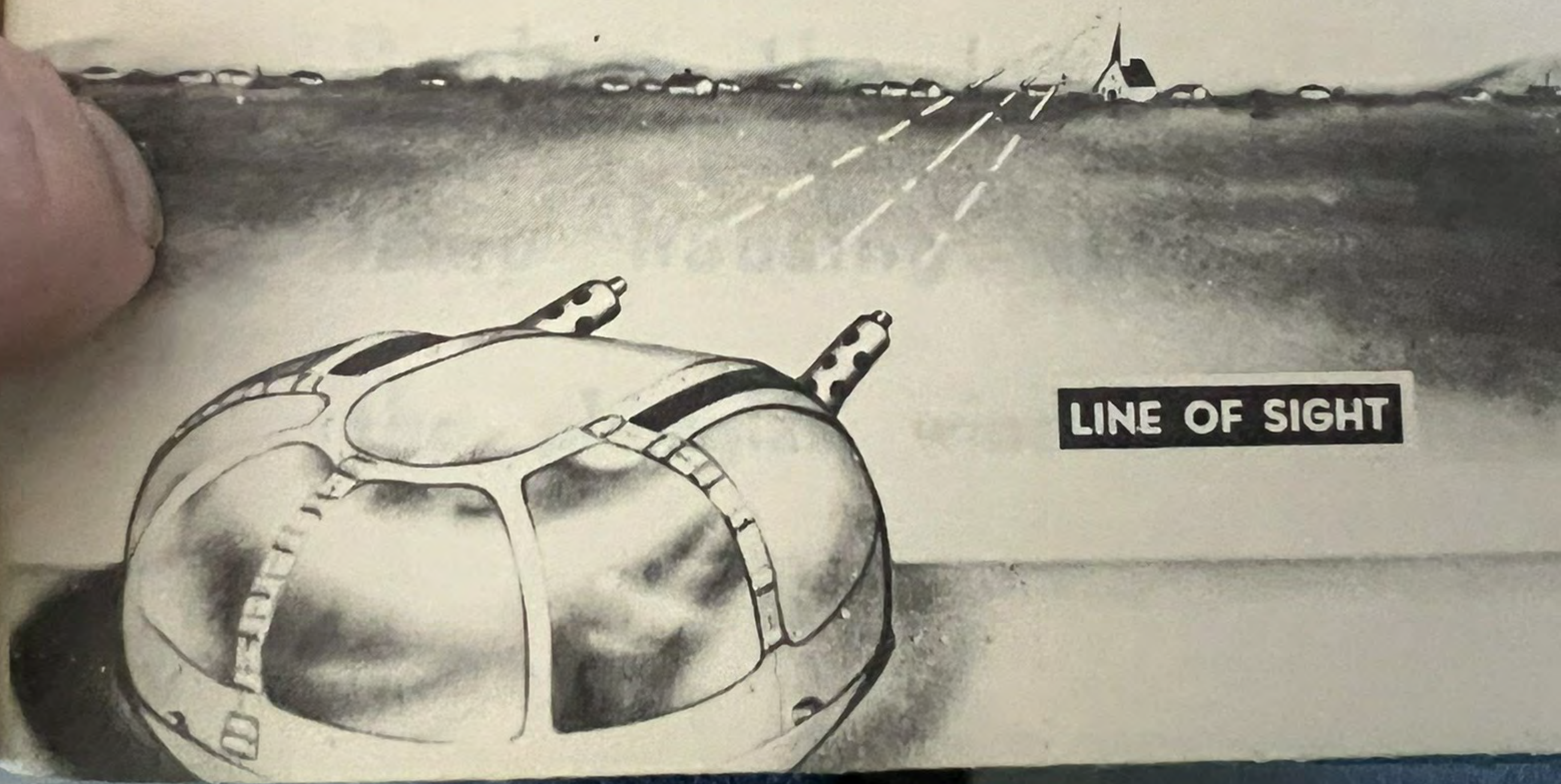
Connect flexible shaft to range input,
then set range dial at 1000 yds.
by the rotation of the range knob.



Hold the 2 deflection dials on 0
mils and adjust the thumb screws...



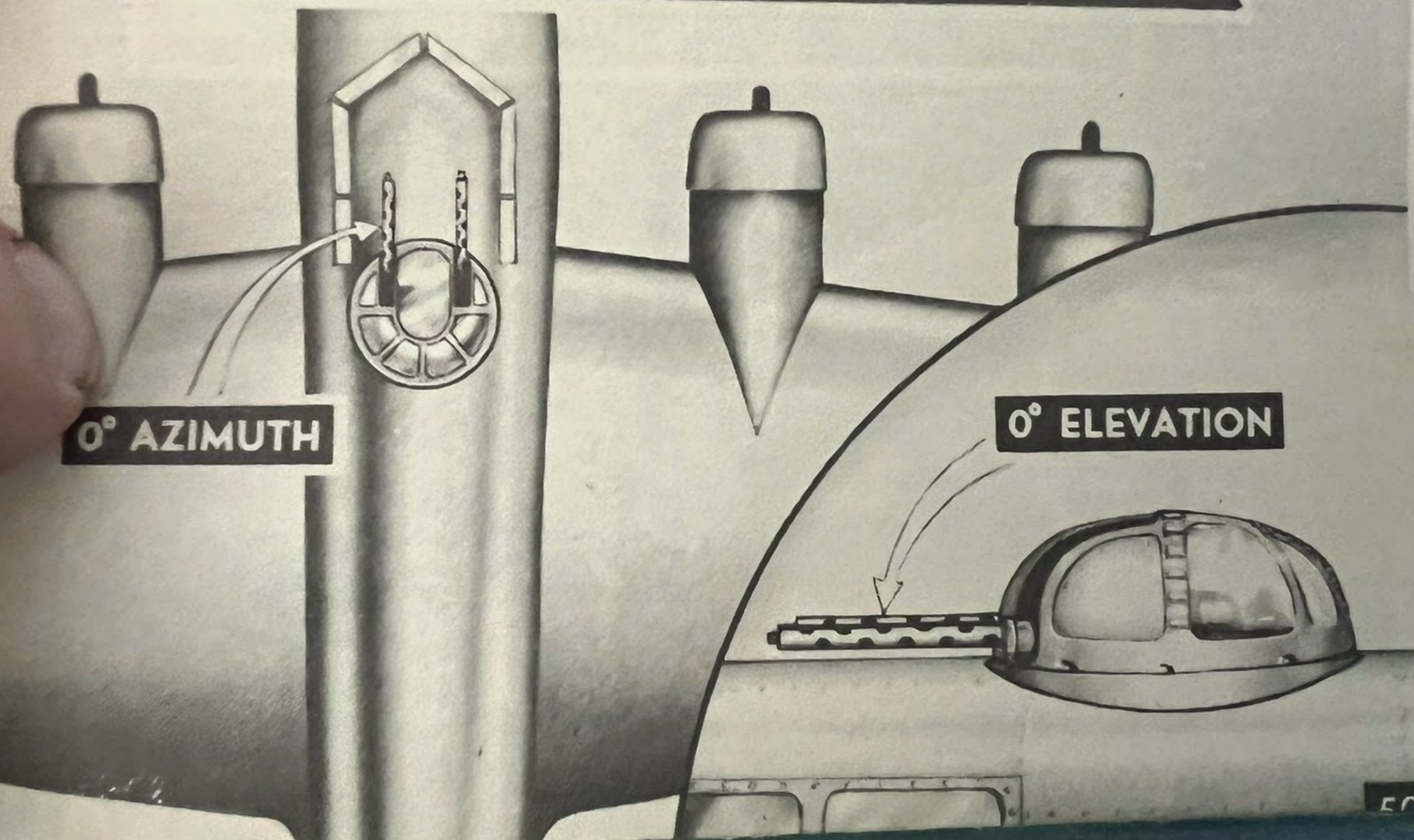
**...until the reticle image
bears on the target.**



LINE OF SIGHT

Replace the lamp,
lamp housing and
the plexiglas window.

To connect the sight, position the turret in 0° azimuth and 0° elevation.



Place the range flexible shaft in the azimuth input of the sight.

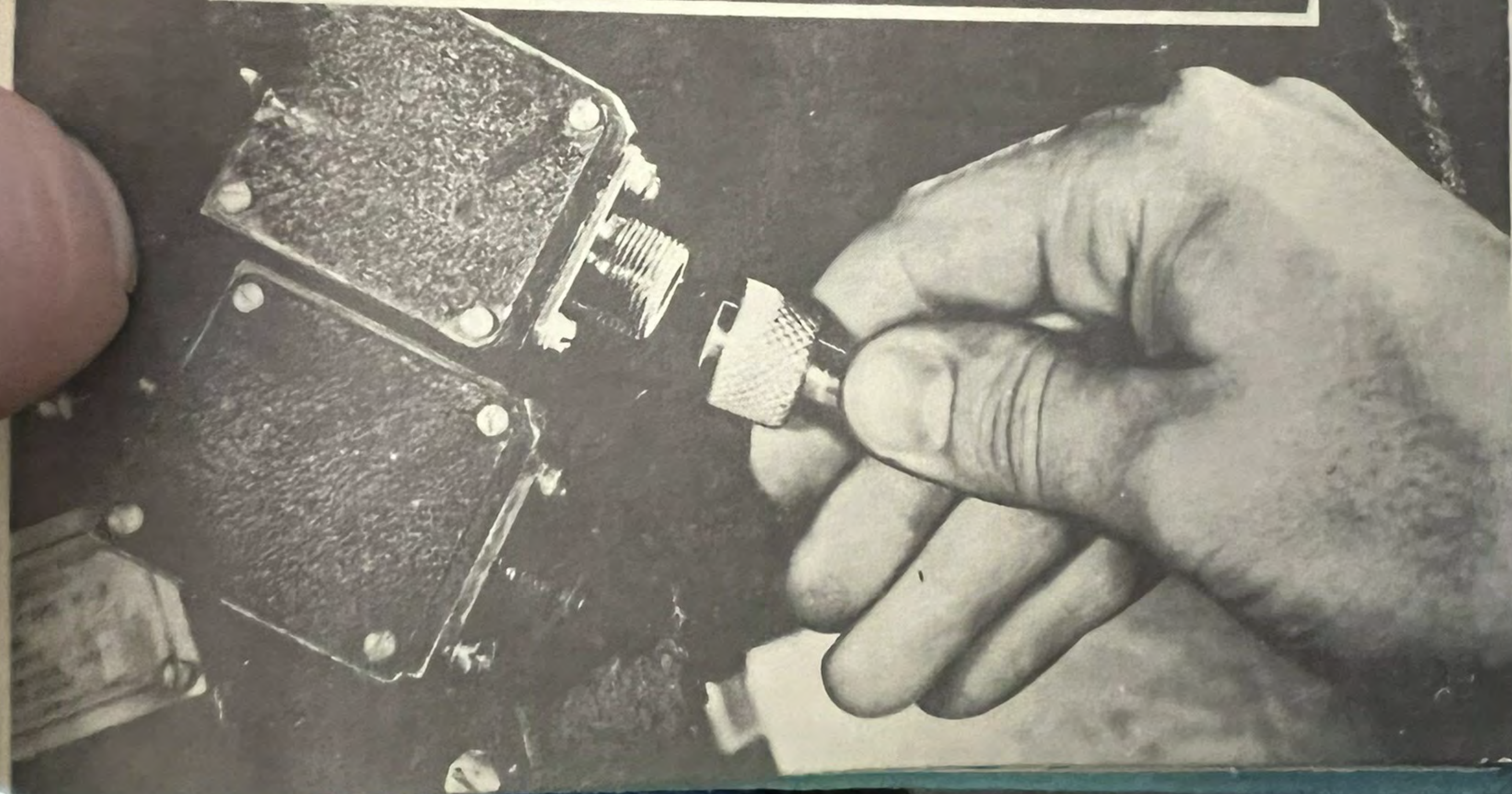
AZIMUTH
INPUT



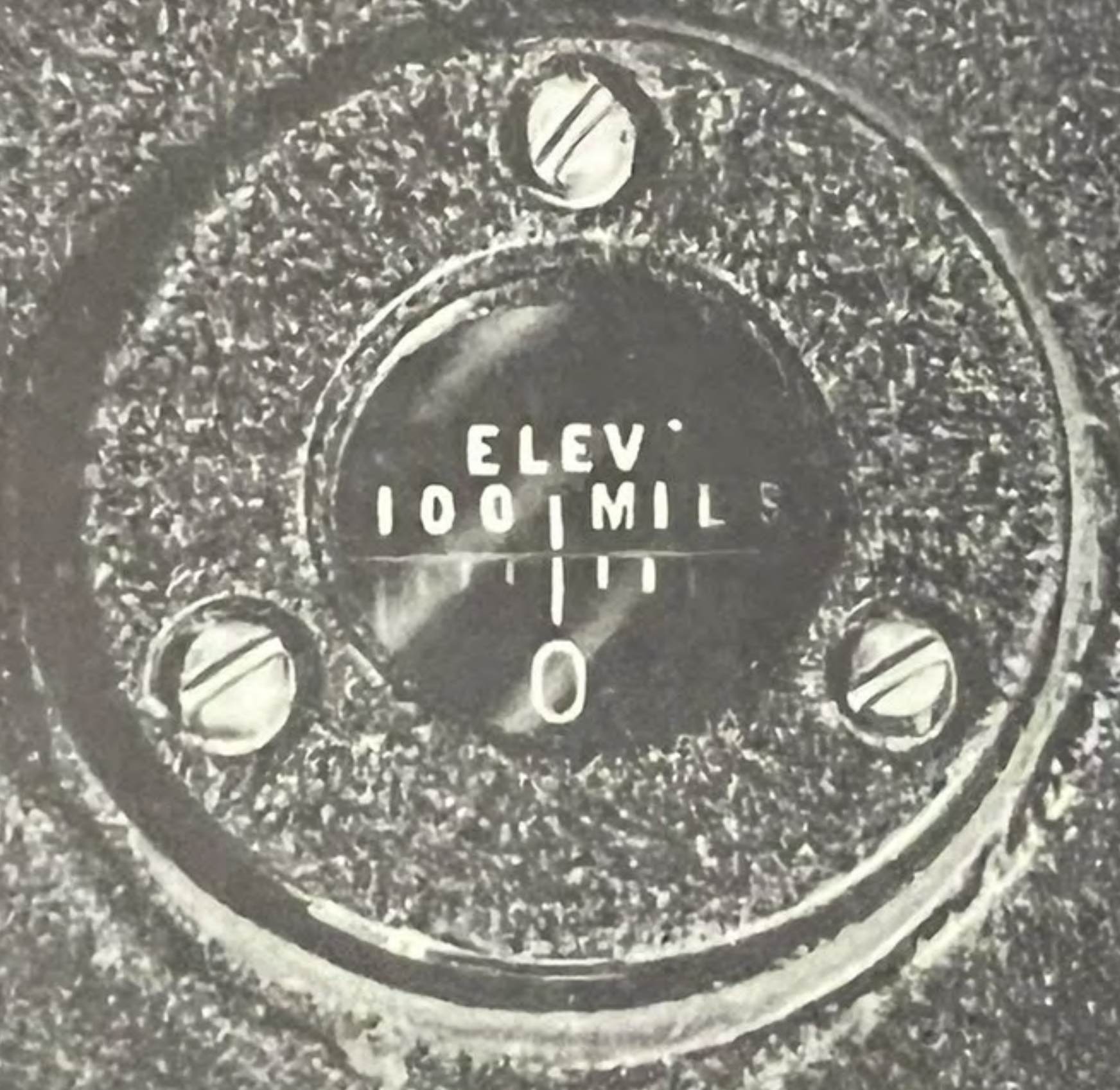
Place the azimuth dial at 0 mils
by means of the range knob.



Remove the range flexible shaft from the azimuth input and place it in the elevation input of the sight.



Use the range knob to set the elevation dial at 0 mils.



Scr
Lk

Home

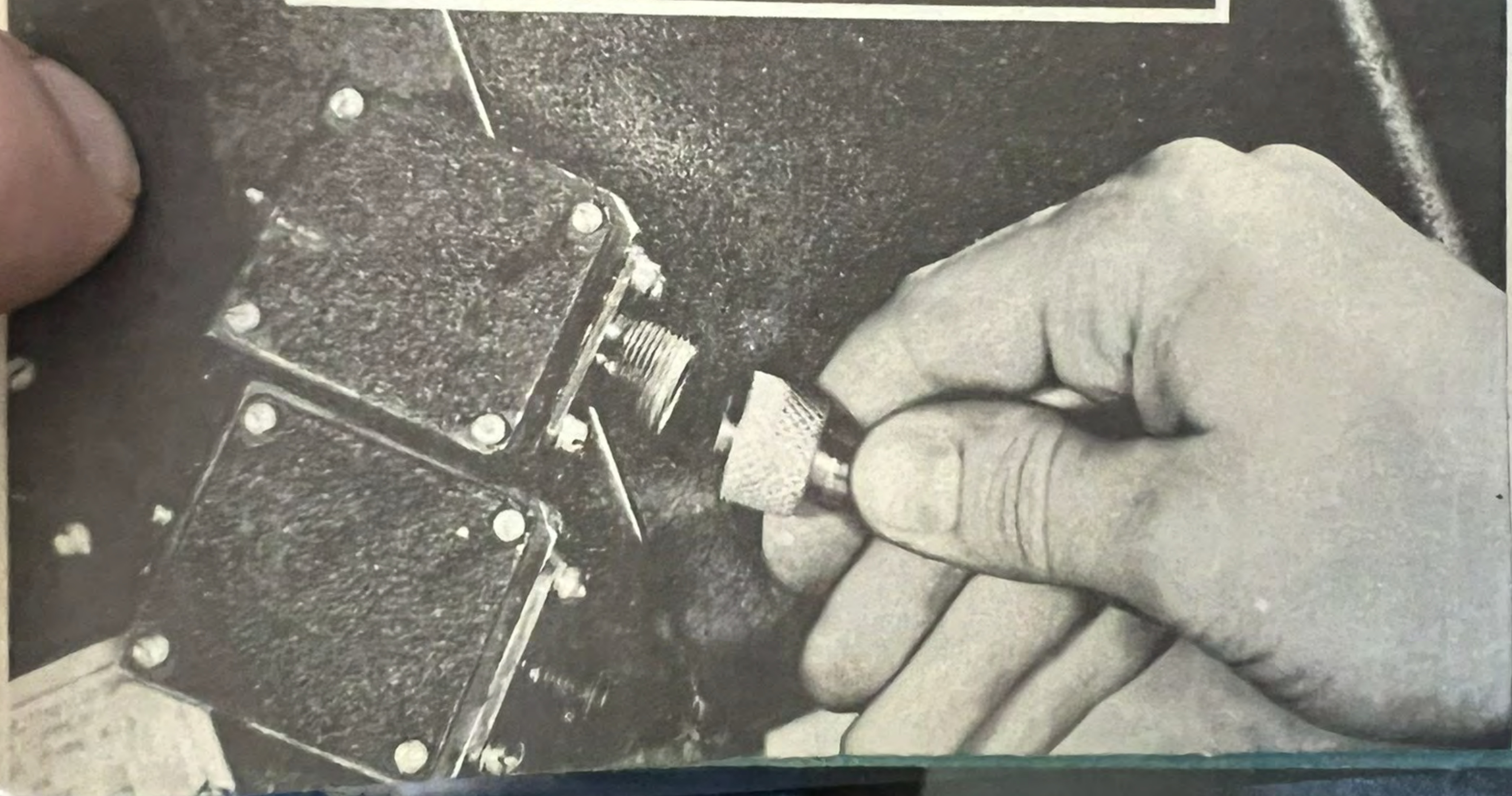
End

ps
Dr

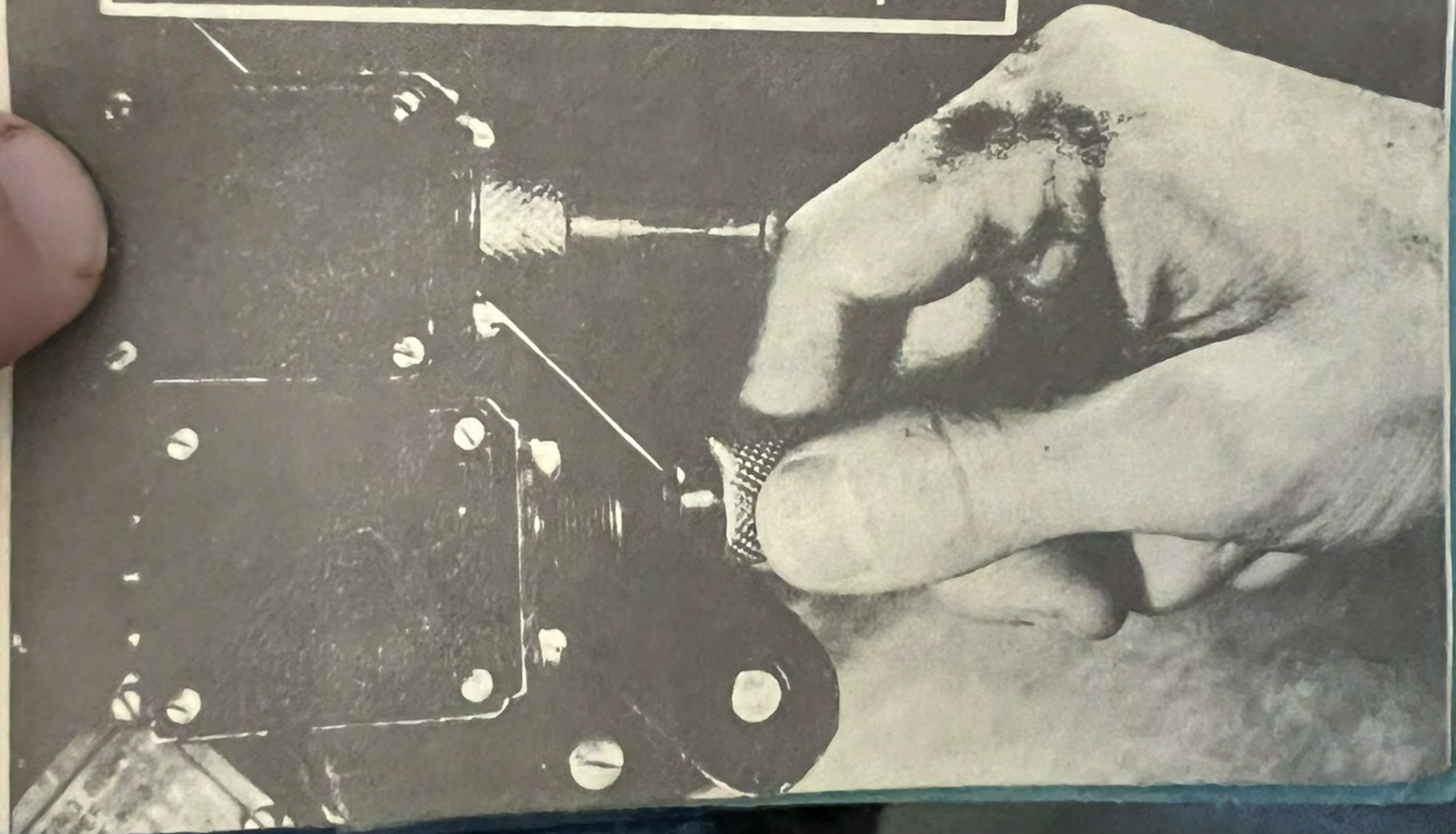
Remove the range flexible shaft
from the elevation input and
connect it to the range input.



Connect the elevation flexible shaft to the elevation input.



Connect the azimuth flexible shaft to the azimuth input.

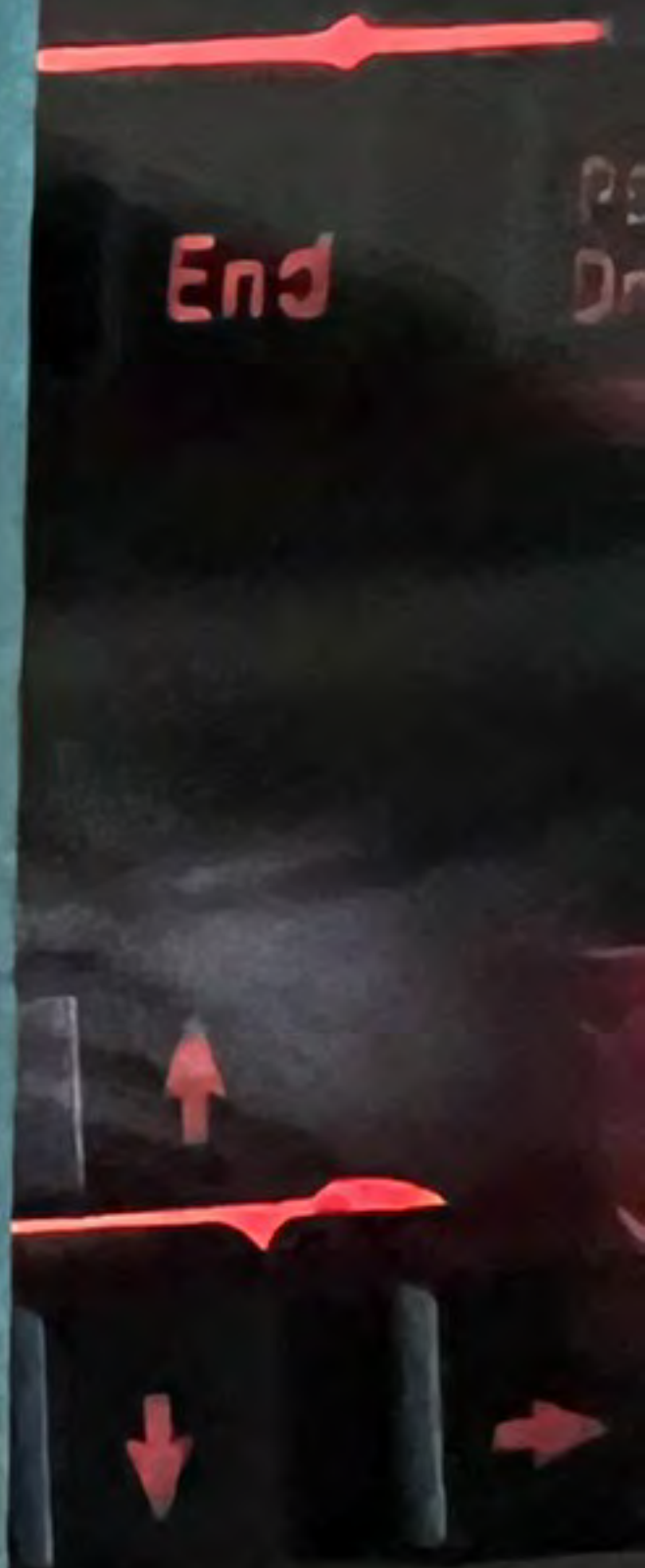


Set
LF

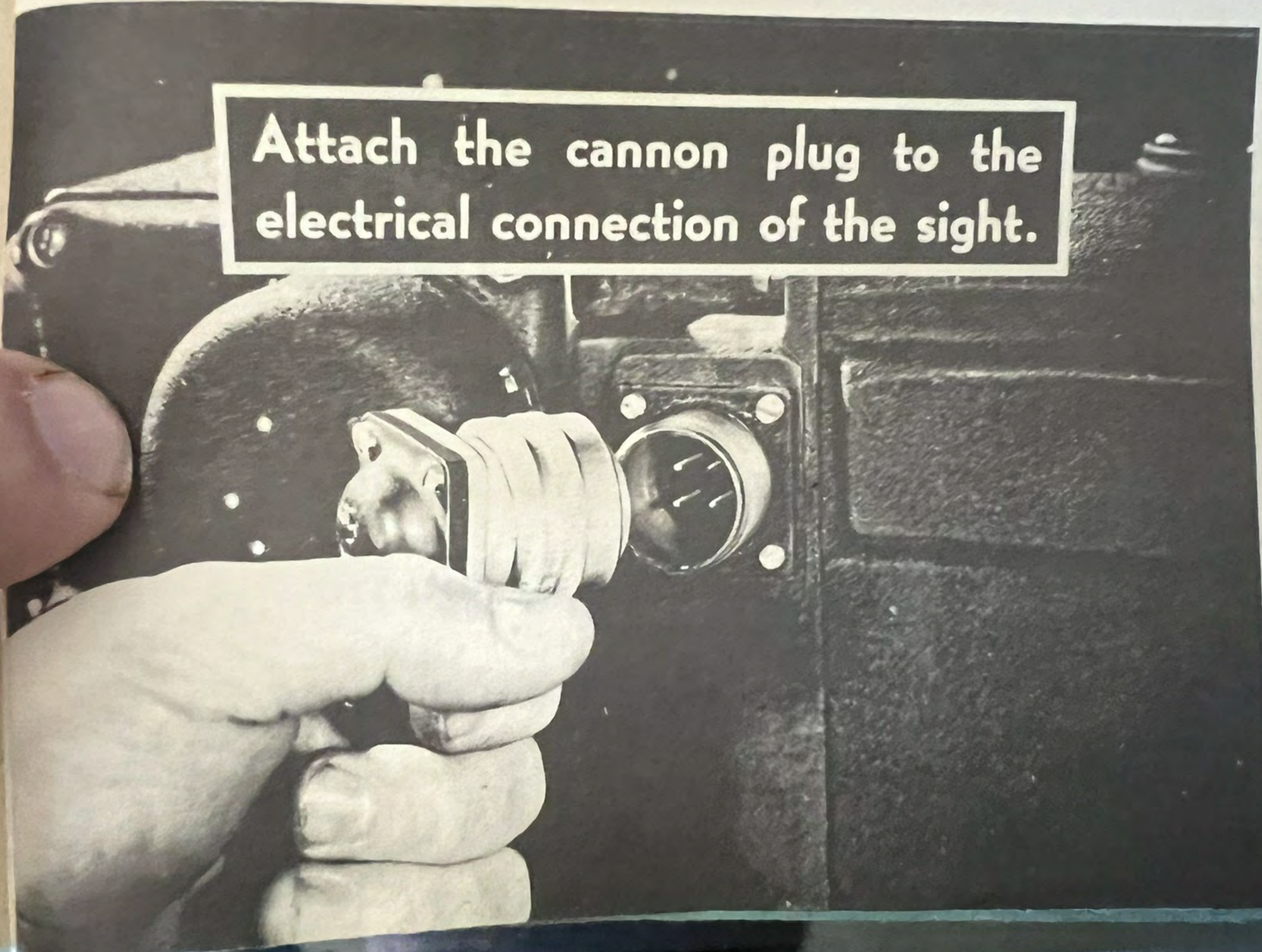
Home

End

PE
Dr



Attach the cannon plug to the electrical connection of the sight.



Caution:

Be sure that all flexible shafts are connected in proper position or serious damage will result.

The
END