

INDIRECT AIMING WITH THE HEAVY MACHINE GUN for the MG34 and MG42



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Fig. 31

The Measuring Triangle 34
(see H.Dv. 488/3)

consists of a base ruler (1) with vernier scale (2), the left scale disk (3) with left distance ruler (4), the right scale disk (5) with right distance ruler (6), and the double slider (7). The measuring scale is 1:25,000.

The measuring triangle using the measuring triangle method serves as a sighting device to give the weapon the first bearing on a base direction or target, and for determining the side and distance with pivoting across the base direction on a target or with target change.

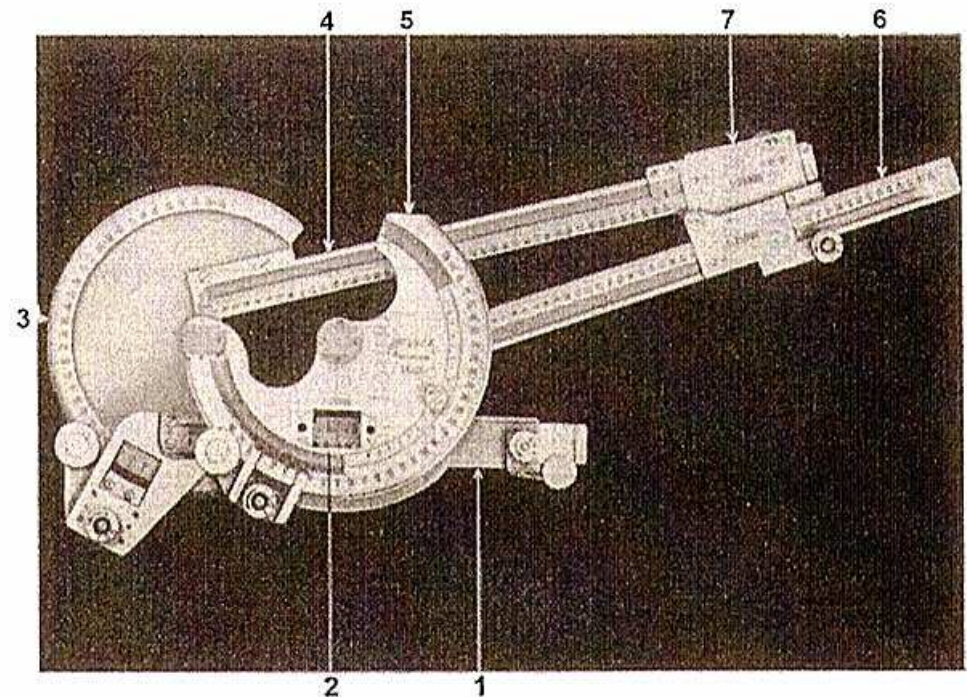


Fig. 32

Example for use of the vernier scale

The distance 238 m shall be set on the base ruler.

Accomplishment: First, with help of the knurled knobs, set the vernier scale to "22" (a) on the "0" line, then align the "18" line of the vernier scale with the next to the right thereunder standing line of the base ruler (b).

Setting or reading the scale disk with the vernier scale occurs accordingly. Align on the next to the right thereabove standing line.

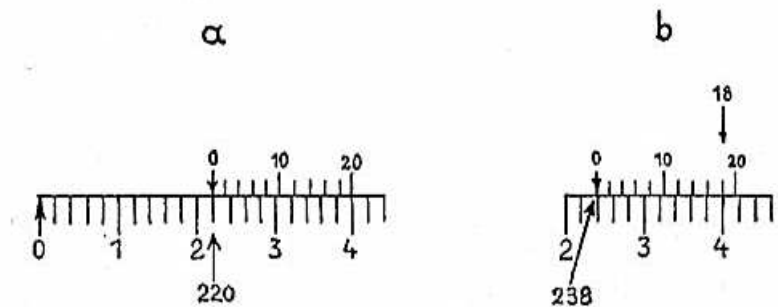


Fig. 33

1. Training example for the drill-like operation of the measuring triangle.

Shooting basics:

- a) Distance from the aiming circle to the telescopic sight
- b) Distance from the aiming circle to the B.M.G. = 140 m
- c) Scale ring
- d) Firing position to the left of the aiming circle.

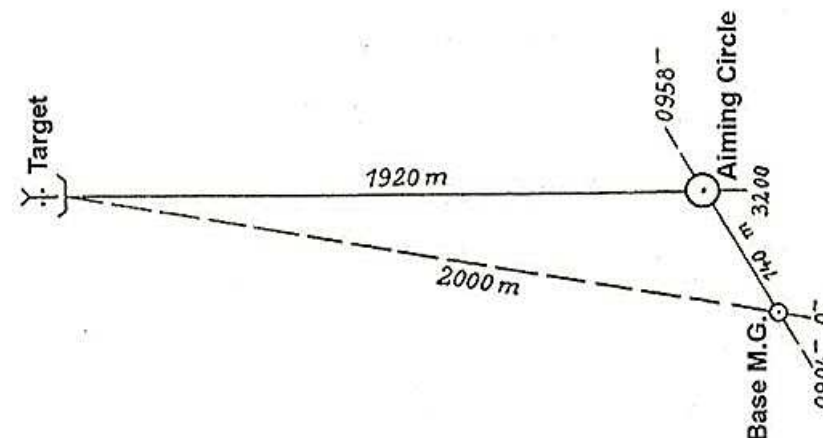


Fig. 34

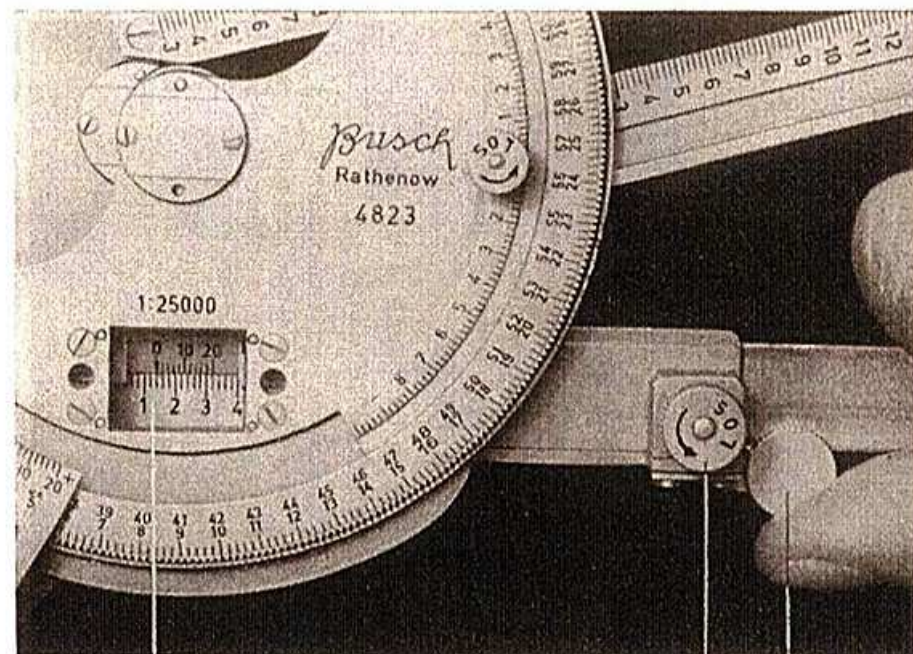
Setting the base ruler.

1. Command: "Distance from the aiming circle to the B.M.G. = 140 m"

Accomplishment:

- a) Loosen the clamp screw,
- b) Set the mark "0" of the vernier scale for the base ruler on the distance "140" with help of the knurled knob.
- c) Tighten the clamp screw for the base ruler.

Note: The base ruler has a scale of 0 to 1,500 m. Each fifth mark is longer and numbered with 0, 1, 2, etc. up to 15. Gap for the short marks = 20 m, the long marks = 100 m. The vernier scale has 10 marks and allows a reading of 2 m (see Fig. 32).



Vernier Scale

Clamp Screw

Knurled Knob

Fig. 35

Setting the scale disk.

2nd command: "Scale ring 0958!"

Accomplishment:

- a) With the clamp screw (1) loosened, set the scale ring number "0958" with help of the indicator mark on the right scale disk (2). Thereto, first set "0940" on the "0" of the vernier scale, then with the knurled knob (3), align "18" on the vernier scale with the nearest mark to the right above it.
- b) Tighten the clamp screw for the right scale disk.

Note: The firing position to the left of the aiming circle = right scale disk. The firing position to the right of the aiming circle = left scale disk.

The left and right scale disks have one scale of 3200 to 6400 or 0 to 3200 mils with a 20" gap from mark to mark. The scales of both scale disks are numbered opposite. The pertaining vernier scale has 10 marks and allows a reading of 2" (see also Fig. 32).

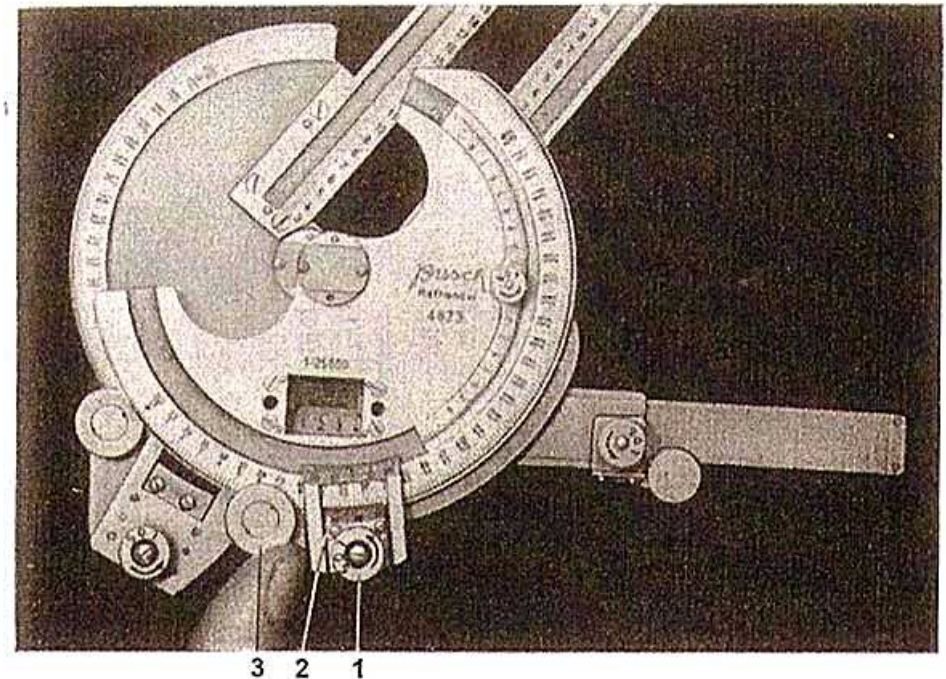


Fig. 36

Setting the distance ruler.

3rd command: "Distance from the aiming circle to the telescopic sight = 1920 m!"

Accomplishment:

- a) With the clamp screw (1) loosened, set the distance "1920" on the right ruler (3) using the double slider (2).
- b) Tighten the clamp screw on the right distance ruler.

Note: The left and right distance rulers have a scale of 300 – 4,500 m. The gap of the marks corresponds to a distance of 20 m. By means of the setting marks of the double slider (4), distances up to 5 m. can be set and read.

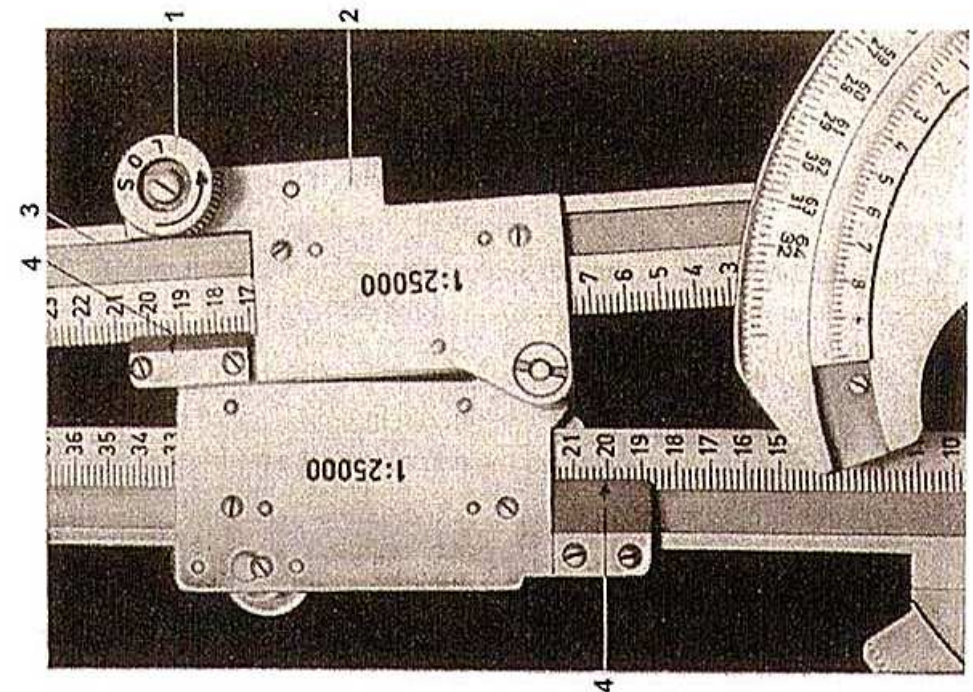


Fig. 37

Reading the determined value.

After setting according to Figs. 34 – 36, determined and able to be read are:

- a) The scale ring number “0904” on the left scale disk (1) (which is the angle of the aiming circle – B.M.G. – target, see Fig. 33).
- b) The distance “2,000 m” (to be exact, “2,005 m” on the left distance ruler (2) (which is the shooting distance of the B.M.G. – target, see Fig. 33).

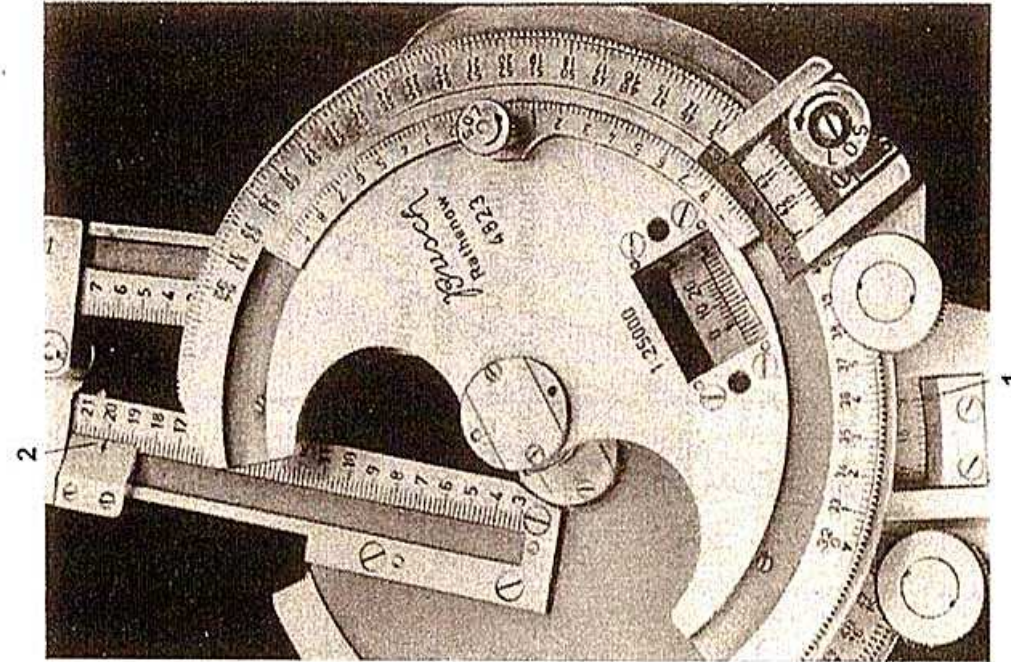


Fig. 38

Target change with the measuring triangle.

In general:

On both the back side of the left scale disk and on the front side of the right scale disk, an adjustable circle ring piece (1) is located, which is provided with an additional scale of $\pm 800''$ for changing the target. By the applicable vernier scale (2), up to 2 mils can be read or set. (For setting the vernier scale, see Fig. 32).

Pictured is the circle ring piece on the rear side of the left scale disk.

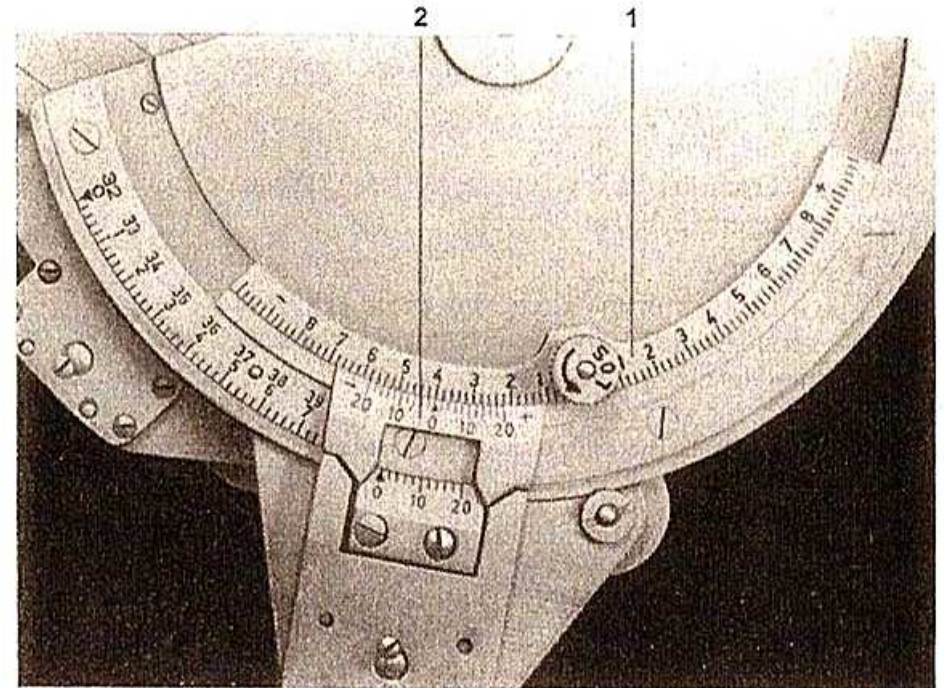


Fig. 39

2nd training example for a target change.

Shooting basics:

- a) Distance from the aiming circle position to target 2 = 2,200.
- b) Offset from target 1 to target 2 = 80° less (see also Fig. 33).

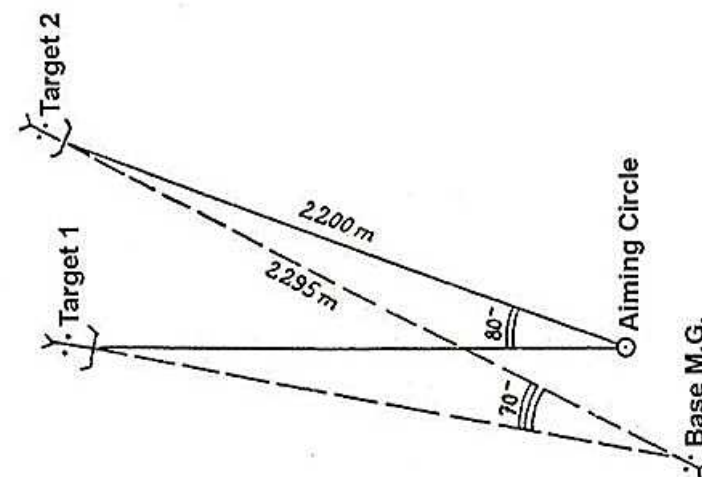


Fig. 40

Command: "From the base reference 80 less! Distance from the aim point to the target = 2,200 m!"

Accomplishment:

- a) The zero mark of the circle ring piece (1) is set on mark "0" of the vernier scale (2) for the circle ring of the scale disk.
- b) Tighten the clamp screw (3) for the circle ring of the scale disk.

Note: Pictured is only the circle ring on the back side of the left scale disk.

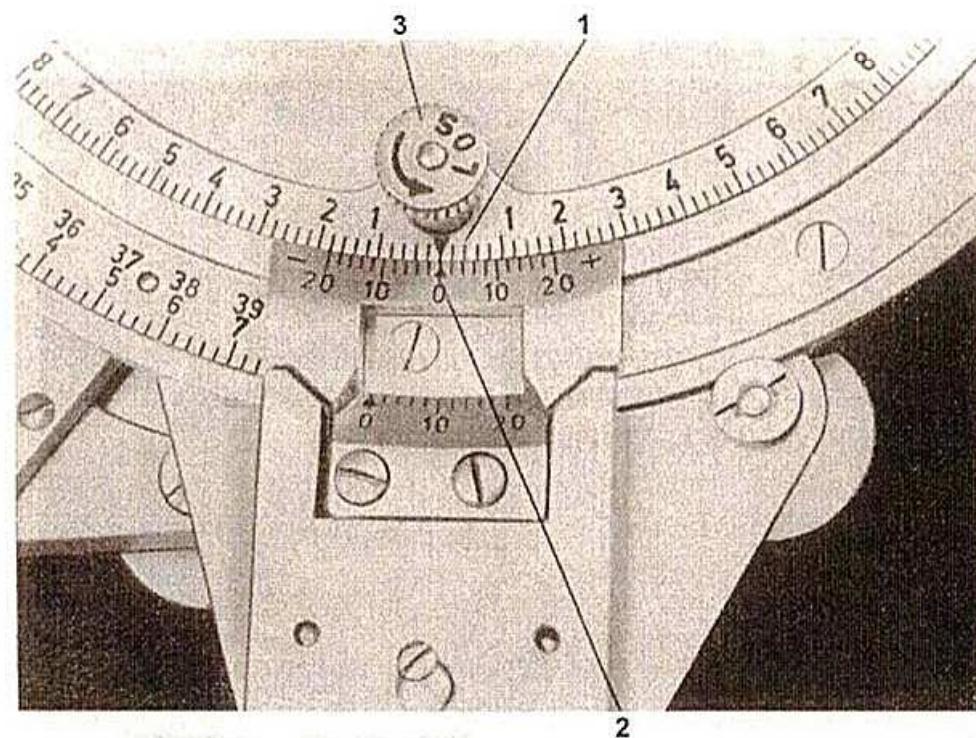


Fig. 41

- c) Loosen the clamp screw (1) on both scale disks (2) and on both double sliders. (The clamp screw on the base ruler and the clamp screw for the circle ring piece of the scale disk remain tight.
- d) Set the mark "0" of the vernier scale of the circle ring piece of the right disk on "-80" of the tightly screwed circle ring piece for the right scale disk.
- e) Tighten the clamp screw for the right scale disk.

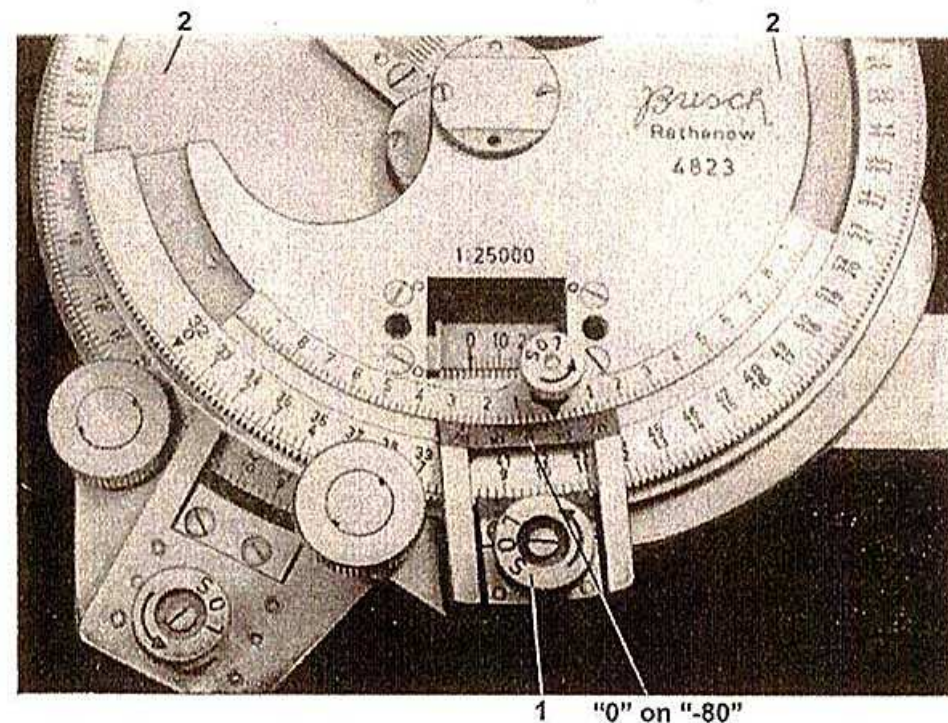


Fig. 42

- f) Set the mark on the double slider (1) on the right distance ruler with distance "2,200".
- g) Tighten the clamp screw (2) for the right distance ruler.
- h) Read the distance B.M.G. – telescope on the left distance ruler = "2,295 m" (For h, see: Fig. 39).

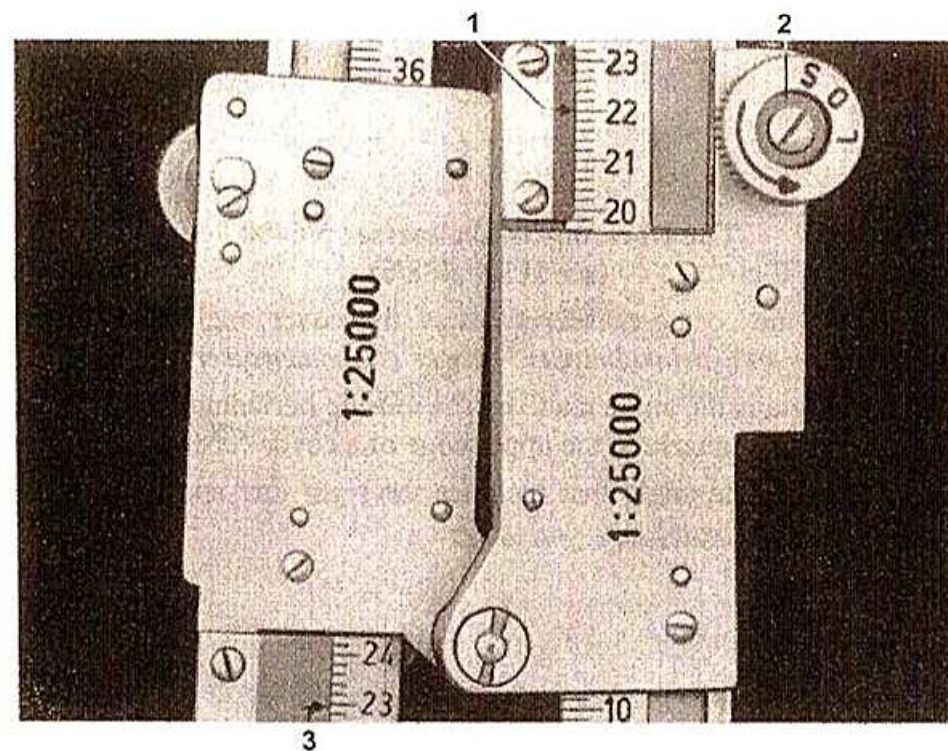


Fig. 43

- i) Read the side angle from target 1 to target 2 for the B.M.G. on the left scale disk (back side) = “-72”.

