

UNITED STATES PATENT OFFICE

2,692,437

FIELD MAP MEASURER

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Application May 4, 1953, Serial No. 352,903

1 Claim. (Cl. 33—138)

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This invention relates generally to measuring devices, and pertains more particularly to a device so constructed and arranged as to provide a convenient and handy measuring device to be utilized in conjunction with military field maps.

A primary object of this invention is to provide an improved form of field map measuring device which utilizes various scales throughout its construction so that it will provide a readily usable and extremely convenient field map measurer, the measurer including a suitably calibrated flexible tape provided at predetermined points therealong with apertures so that the same may be utilized as a compass when desired.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is a perspective view of the improved measurer showing its flexible tape in partially extended position;

Figure 2 is a plan view of the assembly shown in Figure 1 with the top cover removed;

Figure 3 is a plan view of one of the cover members;

Figure 4 is a side view of the assembly showing its tape in partially extended position and showing the relationship of the various scales thereon;

Figure 5 is a plan view of the outer surface of one of the cover members; and

Figures 6 through 8 are views showing portions of tapes provided with some of the scales which may be utilized in conjunction therewith.

Referring now more particularly to Figures 1-4, reference numeral 10 indicates generally the main body portion of the measuring device which takes the form of a rectangle having the side faces 12 in the manner shown. As seen in Figure 2, this main body portion is provided with a centrally disposed circular bore 14 extending between its top and bottom surfaces and is further provided with the elongated rectangular bore 16 extending tangentially of the bore 14 and communicating exteriorly of the main body portion through one of its side faces 12.

A top member 18 and a bottom member 20 are suitably secured to the upper and lower surfaces of the body member in the manner shown, and the guide post 22 is pivotally secured between the top and bottom cover members and concentrically within the bore 14. An elongated

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flexible tape 24 is provided with the laterally bent end 26 received in a corresponding groove in the guide post 22 so that this end of the tape is rigidly secured thereto, the opposite end of the tape terminating in the enlarged tab portion 28. The tape is of such flexible character that it may be pulled outwardly from its spirally wound position within the bore 14 to any desired point and may also be manually pushed back into this bore whereupon it will dispose itself in the spirally wound position shown, the post 22 acting as a guide in winding the tape.

Referring now more particularly to Figure 4, it will be seen that one side of the tape is provided with a scale indicated generally by the reference character 30 while the other side of the tape is provided with another scale 32, and the central portion of the tape is provided with the scale 34. It will be noted that these scales are calibrated in the ratio of 1:25,000 and read in kilometers, yards and miles, respectively, thus corresponding to one standard scale as utilized by the military.

The center of the tape is provided with a plurality of longitudinally spaced holes 36 corresponding to 1,000 yard intervals and provided at the maximum ranges of the various weapons, radio transmitters and vehicles of the combat units, such as infantry and armored battalions, regiments and divisions. The reverse side of the tape 24 is provided with the metric scale 38 and an English scale 40 as shown in Figure 6.

It will be seen that the top and bottom covers 18 and 20 are of larger dimensions than the body member 10 and that their peripheral edges are beveled inwardly to converge with the side faces 12 of this member. The dimension of these top and bottom cover members is such as to be utilized in conjunction with grid coordinates on a field map, and the various beveled edges are provided with scales corresponding to the various standard scales utilized by the military so that either the top or bottom cover may be placed directly on a map so that the correct location of any point thereon may be accurately and rapidly determined.

The opposed adjacent beveled edges 46 and 48 may be provided with measuring scales in the ratio of 1:50,000 as indicated. It is to be pointed out that the bottom cover 20 is provided with measuring scales in the proportion of 1:25,000 on adjacent beveled edges thereof and indicated by the reference characters 50 and 52, and the remaining beveled edges are provided for the grid coordinates of a 1:200,000 field map.

A protractor may be provided on one or both

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of the free faces of the top and bottom covers, see particularly Figures 1 and 5, and the beveled edges 42 and 44 are provided with projections of the protractor lines so that the protractor may be used even though the corresponding cover member is placed face down. It is to be noted that the tap 28 is provided with tapered side edges 54 and is of flat construction so that it will lie flat on a map, not protrude from the device when the tape is coiled inasmuch as the tapered edges will be in engagement with adjacent beveled edges of the top and bottom covers, and still offer a grip by which the tape can be pulled out.

The method of utilizing the holes in the tape is as illustrated in Figure 5, wherein one pencil 56 holds the tape at the index point and serves as a pivot about which the tape can be rotated. A second pencil 58 is inserted at the hole corresponding to the distance or range concerned, and the pencil 58 and the device are rotated in an arc, tracing out concentric arcs or circles to show distances, ranges or areas covered by individual weapons, radios or vehicles.

With reference to Figures 7 and 8, it will be observed that the tapes shown utilize scales calibrated 1:50,000 and 1:200,000, respectively. Since military field maps utilize these particular scales in addition to the 1:25,000 scale shown in Figure 4, it will be desirable to provide tapes with these alternate scales. In any event, it is preferred to provide both faces of the tapes with suitable scales, as related above.

From the foregoing, the construction and operation of the device will be readily understood and further description is believed to be unnecessary. However, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction shown and described, and accordingly, all suitable modifications and equiv-

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alents may be resorted to, falling within the scope of the appended claim.

What is claimed as new is as follows:

A device for measuring maps comprising a rectangular member having a bore therethrough and a recess communicating tangentially of said bore, a top member and a bottom member secured to said rectangular member at opposite faces thereof in covering relation to opposite ends of said bore, a flexible tape disposed in spirally wound relation within said bore and having a free end portion disposed within said recess terminating in an enlarged tab outwardly of said rectangular member, said top and bottom members being of rectangular configuration and of larger dimensions than said rectangular member so that portions thereof project outwardly of the sides of said rectangular member, said portions being beveled and provided with calibrated indicia for measuring distances on a map, said tab having tapered side edges disposed in contiguous relation to said beveled portions such that the free edge of said tab is flush with the edges of said top and bottom members.

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