Dec. 29, 1953 T. W. LEPKOWSKI 2,663,936

COMBINED BALL-POINT MARKING COMPASS, DIVIDERS AND SCRIBER

Filed Aug. 17, 1951

Fig. 1.

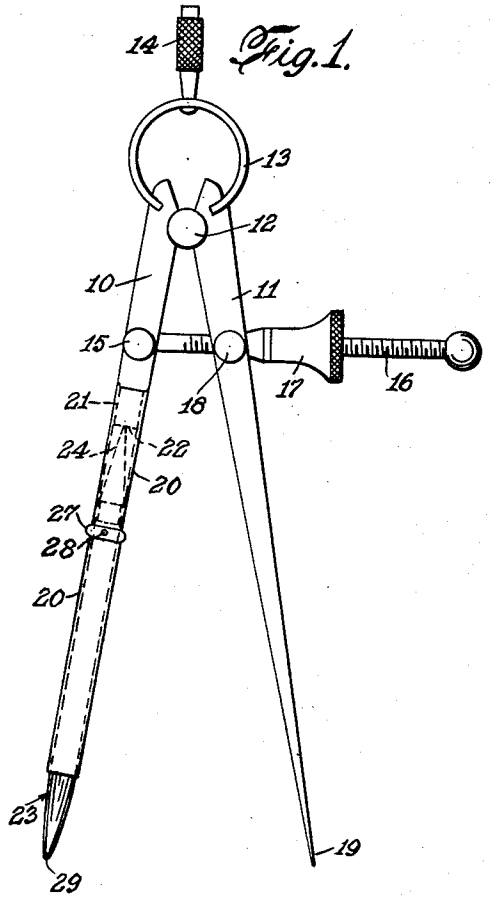


Fig. 2.

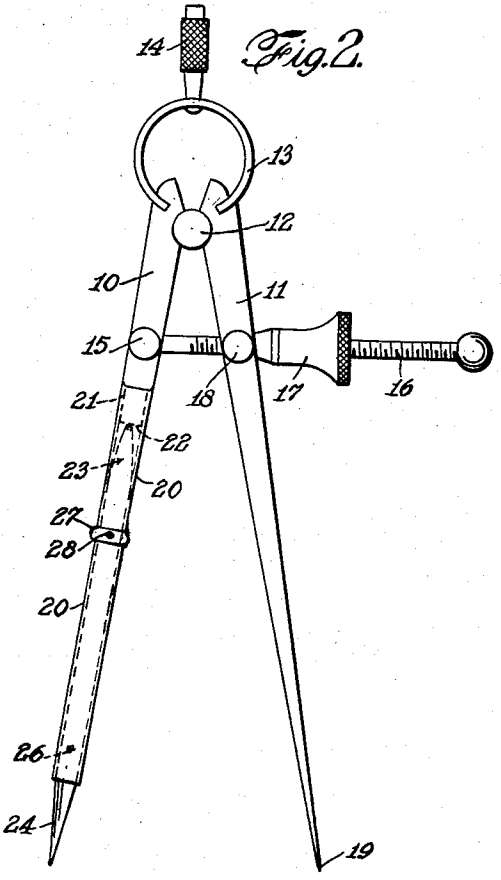
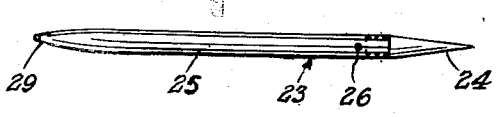


Fig. 3.



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COMBINED BALL-POINT MARKING COMPASS, DIVIDERS, AND SCRIBER

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1 Claim. (Cl. 33—27)

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The invention relates to drawing, divider and scriber instruments, more particularly one embodying an ink marking element.

The present type of ink-drawing compass operates upon the principle of capillary attraction in contacting fairly absorbent materials such as drawing paper, but is generally unsuitable for drawing circles therewith on other materials such as of low absorptive power, for example glass, plastic, metal and like materials. The generally utilized ink-drawing compasses, moreover, are ineffective on highly absorbent materials such as cloth, wood and the like which afford a too-great capillary attraction at the drawing point for the ink. Thus the non-absorbent group of materials may not be satisfactorily marked by the conventional ink-drawing compass and the highly absorbent group prevents the drawing of a sharp line therewith on such materials.

It is an object of the present invention to provide a compass suitable for drawing both on ink absorptive materials and non-absorptive materials, and one by which drawings in different colors may readily be effected through substitution of relatively inexpensive ballpoint marking members.

Another object of the invention is to provide an ink-drawing compass constructed such that the marking fluid will not spill out of the compass and is of a nature to be blot-proof.

Still another object of the invention is to so modify the marking element that it will serve, if desired, also as a divider point, scribing element and ballpoint pen adapted to draw a curve, when used as a compass, by rolling over a surface rather than sliding thereover as in a conventional compass.

The invention has for an object, also, to provide a combination of the aforesaid nature which may be constructed inexpensively and wherein the marking and divider element may be discarded for replacement after exhausting the writing fluid supply.

In carrying out the invention, a conventional form of divider construction embodying a pair of pivoted leg members, preferably provided with means for mechanically separating the same, is utilized; but the same is modified to the extent that one of the leg members is made shorter than the companion leg member to include a tubular element portion designed to receive slidably a ballpoint marking member. The latter is also of novel construction in that the usual pen tube with writing-fluid-receiving reservoir is sealed at its end opposite the ballpoint writing element

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of the member. This is effected by a second divider point element which, when the marking member is reversed from its writing location in the tubular element, will provide a companion point for that of the other leg member and thus convert the combination into a conventional divider. The length of the ballpoint and divider point combination is so designed with respect to a stop of the tubular element leg that when the second divider point engages said stop, the ballpoint and the first-named divider point cooperate as a compass. Similarly, when the combination is reversed the ballpoint will engage the stop and the two divider points cooperate as a divider or scriber. By withdrawing the ballpoint and divider member from its tubular element, it may be utilized independently as a conventional ballpoint pen or, at the opposite end, as a scriber.

The nature of the invention, however, will best be understood when described in connection with the accompanying drawings, in which:

Figs. 1 and 2 are front elevations illustrating the novel compass-divider-scriber combination, the former figure showing the same set for use as a compass and the latter, as a divider and/or scriber.

Fig. 3 is an elevational view of the novel replaceable insert ballpoint and divider point member, suitable also for use independently as a scriber or ballpoint pen.

Referring to the drawings, 10 and 11 designate respectively the leg members of a conventional compass construction, the same being pivoted to each other at their respective upper ends, as is indicated at 12, being held together by a body spring 13 to which is attached the operating handle 14. The degree of separation may be manually controlled by mechanical means such as the bearing block 15 pivoted to leg 10, said block carrying an adjustable screw 16 upon which is threaded an adjusting nut 17. Screw 16 passes through a further bearing block 18 pivoted on leg 11—all of which is well understood and forms no part of the present invention. The one leg 10 is made somewhat shorter than the leg 11, which latter terminates in a divider point 19.

In accordance with the invention, the leg 10 is constructed to receive a modified form of ballpoint member, for example, it may be made tubular throughout; or, as is indicated, a tubular element portion 20 may be fixedly secured to the stub portion 21 of leg 10. The latter may serve then as a stop 22, for the purpose hereinafter set forth; or the stop may be provided in the tubular element by indenting the same. The effective

length of the tube is such as to accommodate the ballpoint cartridge 23 to allow of exposing a part thereof sufficient to be grasped when reversing or replacing a cartridge.

Tubular element 20 is designed to receive with slidable fit the modified ballpoint member or cartridge 23 in one of two positions, the stop 22 in both instances serving to position the ballpoint member such that the combined length of the leg 10 and inserted ballpoint member is the same as that of leg 11.

Aside from utilizing a ballpoint type member, which will permit of marking on a non-absorptive surface as well as on the usual absorptive surface, the ballpoint member is modified to admit of its use in an inverted position in the tubular element and with a second divider point attached for cooperation then with the point 19. Thus, a divider point 24 is attached to the usually open end of the writing-fluid-retaining tube portion 25 of the ballpoint cartridge, sealing the same thereat. However, a vent opening 26 is provided in tube 25, preferably in proximity to the junction of point 24 therewith. A hollow bead 27 is provided in the tubular element having an opening 28 to the external atmosphere, and the location of this bead along the tube is such that when the divider point 24 engages stop 22, vent opening 26 is caused to register with the interior of the bead. When the member 23 is reversely located in the tubular element (Fig. 2) with the ball point engaging stop 22, this vent opening is sealed off from external air communication by the inner wall of the tubular element which is constructed of suitable length, to this end. The divider point 24 will then protrude; and it location in the said tubular element will make leg 10 of the same length as the leg 11 so that the instrument may then be used as a divider, or as a scriber if the material of one of the points is of

sufficient hardness. Moreover, the cartridge may be entirely withdrawn and used independently at one end 29 as a conventional ballpoint pen or at the opposite end 24 for scribing purposes.

I claim:

In a compass-divider-scriber combination, comprising two compass leg members pivotally connected at one end thereof, the one leg member terminating in a divider point and the other leg member being shorter than the first-named leg and including a tubular element: a stop provided internally intermediate the ends of the tubular element; a hollow bead provided circumferentially of the tubular element between its outer end and said stop and having a vent to the external atmosphere; and a ballpoint writing member terminating at its end opposite the writing point in a second divider point, said ballpoint member being adapted for a slidable fit within the tubular element and for engagement with the stop alternatively by the writing end or by the divider point end of said ballpoint member to position properly the same for operation and having a vent intermediate said ends adapted for registry with the bead interior when engagement of the ball point member divider point is with said stop and to be sealed off in the reverse position by said tubular element.

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