April 1, 1924. 1,488,875

A. FRANKLIN ET AL

COMBINATION INSTRUMENT

Filed Feb. 8, 1922

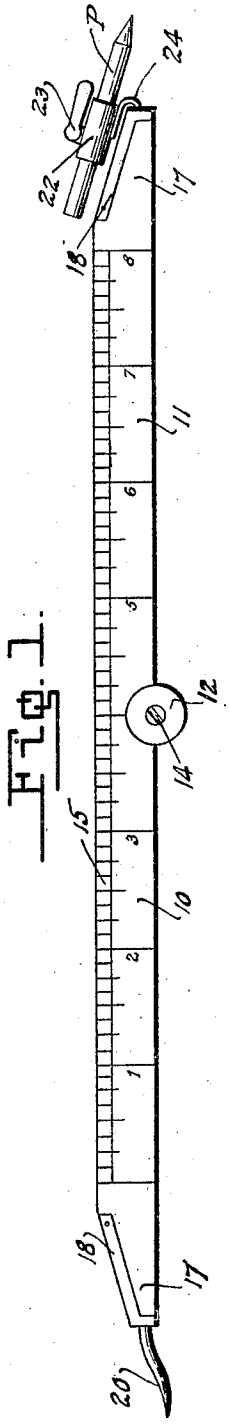


Fig. 1.

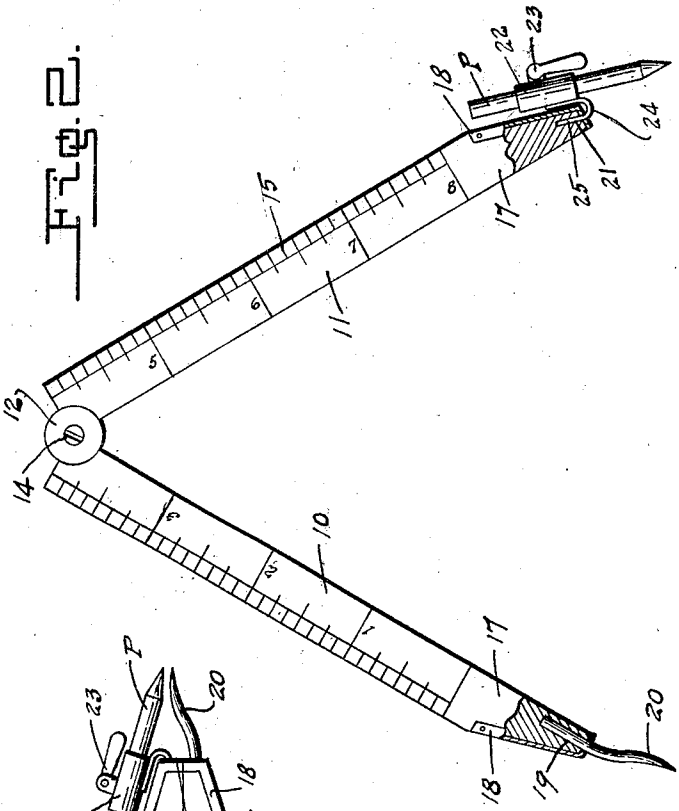


Fig. 2.

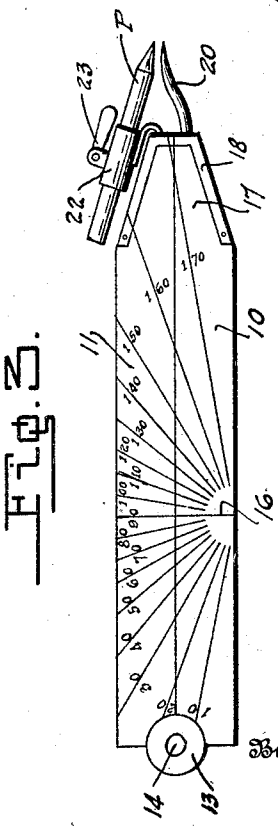


Fig. 3.

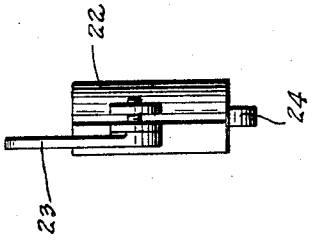


Fig. 4.

Inventors

Anna Franklin

James F. Hunley

By Watson E. Coleman

Attorney

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UNITED STATES PATENT OFFICE.

ANNA FRANKLIN AND JAMES F. HUNLEY, OF LEXINGTON, KENTUCKY.

COMBINATION INSTRUMENT.

Application filed February 8, 1922. Serial No. 534,977.

To all whom it may concern:

Be it known that we, ANNA FRANKLIN and JAMES FRANCIS HUNLEY, citizens of the United States, residing at Lexington, in the county of Fayette and State of Kentucky, have invented certain new and useful Improvements in Combination Instruments, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to combination instruments, and more particularly to an instrument comprising the combination of a compass, rule and protractor, the compass embodying a separable pencil which may be employed in conjunction with the rule and protractor.

An important object of the invention is to provide means whereby the above instruments may be combined to provide a practicable device, eliminating the necessity of providing these instruments separately.

It is well known in the study of geometrical problems and in their application to problems in practical devices the use of the above named instruments is necessary and it is often inconvenient to provide the necessary space for carrying such a number of articles. It is accordingly an object of this invention to provide a device which may be employed for laying a device off correctly to scale and having correct angles and curves without the necessity of the provision of separate instruments therefor.

Other objects and advantages of the invention will become apparent throughout the course of the following description.

In the accompanying drawings, wherein for the purpose of illustration is shown a preferred embodiment of our invention and wherein like reference characters designate like parts throughout;

Figure 1 is a side elevation of a combination instrument constructed in accordance with our invention showing the same in use as a rule;

Figure 2 is a similar view showing the instrument in use as a compass;

Figure 3 is a view showing the obverse of the instrument, the instrument being in use as a protractor; and

Figure 4 is a side elevation of the pencil clamp employed.

Referring now more particularly to the drawings, the numerals 10 and 11 designate compass sections having pivot portions 12 and 13, respectively, which are adapted to be secured together by a binding screw 14 which likewise forms a pivot so that the sections 10 and 11 may be arranged at any desired angle and secured in such desired angle, the necessary pressure for maintaining the same in adjusted position being obtained by the frictional engagement of the coacting faces of the pivot portions 12 and 13.

The pivotal connection of the sections 10 and 11 is such that the sections may be arranged in a straight line, and the sections are provided upon corresponding sides thereof and at sides of the corresponding sides which are aligned when the compass sections 10 and 11 are in alignment, with graduations 15 forming a rule for laying off a desired distance.

At the ends of the sections remote from the pivotal connection thereof beyond the ends of the scales, the sections are provided with tapered extensions 17 which are reinforced by a metal ferrule 18. The end of one of the sections is provided with a socket 19 adapted for the reception of a prick point 20 of the compass and the end of the other section is provided with a socket 21 for the reception of a retaining element and a pencil holder 22. The pencil holder 22 is illustrated as provided with a clamp 23 whereby the pencil P may be secured in position so that the same may be removable to be employed in conjunction with the scale or protractor which will hereinafter appear. The holder is provided adjacent one end thereof with a retaining member 24 which comprises a pin element having a portion 25 bent back upon the holder 22 parallel and in spaced relation thereto. This portion 25 extends into the socket 21 hereinbefore referred to.

The opposite sides of the sections 10 and 11 from that provided with the scale have formed thereon graduations 16 forming a protractor scale which are complete when the device is folded as in the position shown in Figure 3.

In the use of the device the pencil P may be removed and employed in conjunction with the scale to lay off proper distances and the protractor to lay off the proper angles. The compass may subsequently be employed to lay off the circles at the distances set and if desired, the protractor may be employed subsequently to sub-divide the

circles into desired angles. In other words, the device is capable of all of the uses of the rule, protractor and compass but at the same time eliminates the use of this plurality of instruments.

It will be seen from the foregoing that a device constructed in accordance with our invention is particularly well adapted for use in that it may be very cheaply constructed and that it facilitates the construction of geometrical problems either in a school room or a work shop by providing a complete set of instruments necessary for the work in a single instrument. It will furthermore be obvious that the construction thereof as hereinbefore set forth is capable of some change and modification without in any manner departing from the spirit of our invention and we accordingly do not limit ourselves to such specific structure except as hereinafter claimed.

We claim:

In combination with a compass leg having a socket formed in the end thereof, a pencil holder including means for releasably clamping a pencil, a means for maintaining the holder in position against the side of the compass leg comprising a member secured to the holder and having the lower end thereof bent back in spaced relation thereto and adapted for engagement in said socket.

In testimony whereof we hereunto affix our signatures.

ANNA FRANKLIN.
JAMES F. HUNLEY.