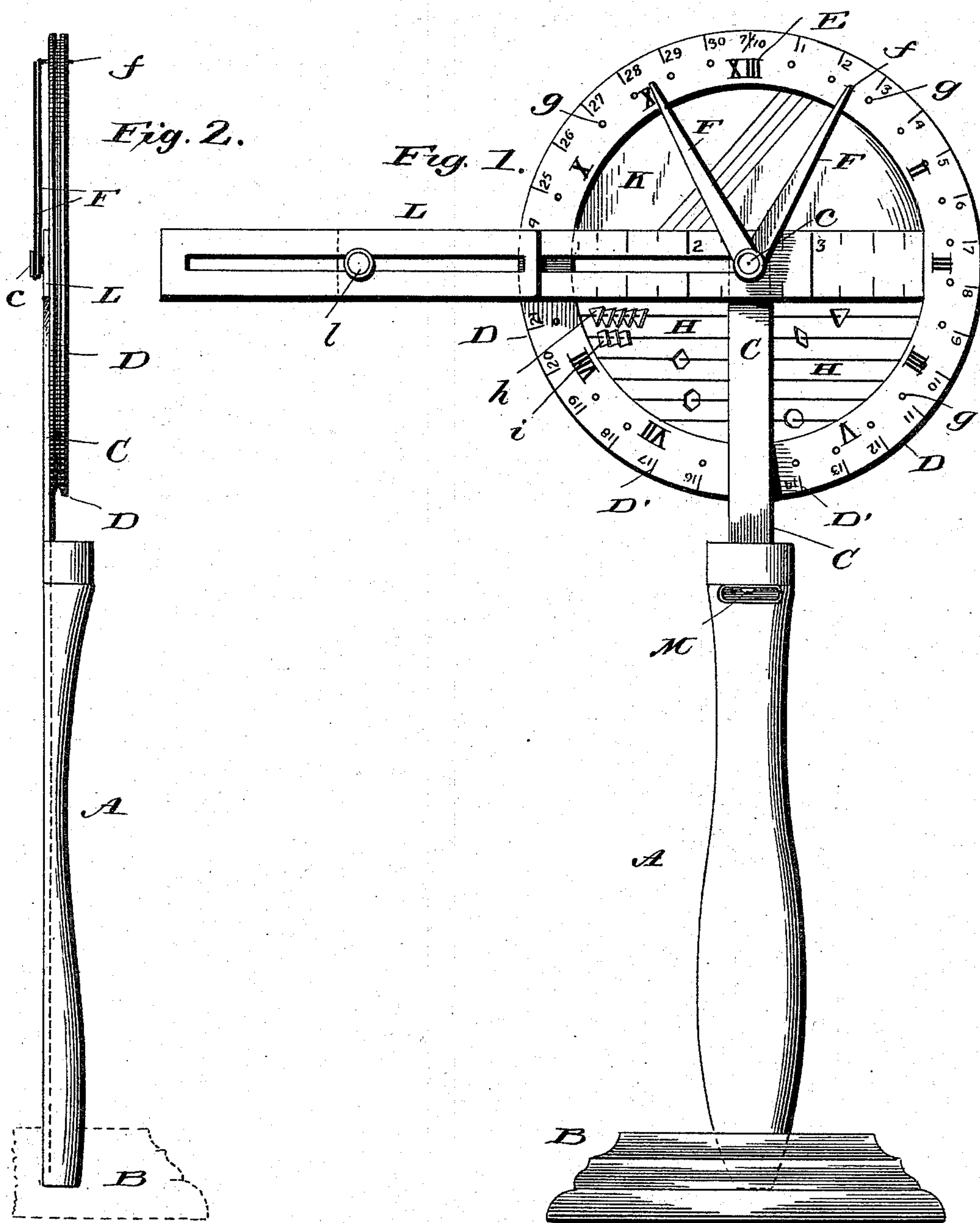


L. W. MUSSER.  
EDUCATIONAL APPLIANCE.

Patented Oct. 23, 1894.



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# UNITED STATES PATENT OFFICE.

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## EDUCATIONAL APPLIANCE.

SPECIFICATION forming part of Letters Patent No. 528,010, dated October 23, 1894.

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*To all whom it may concern:*

Be it known that I, LUTHER WILLIS MUSSER, a citizen of the United States, residing at State College, in the county of Centre and State of Pennsylvania, have invented certain new and useful Improvements in Educational Appliances; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to certain new and useful improvements in educational appliances which are designed for instruction in object lessons, for kindergarten and other schools, the purpose of the device being to aid pupils in school room work and it will be also of use in household work, inasmuch as by its use all kinds of surfaces can be measured and pictures properly hung, and by the provision of transparent material in a portion of the wheel which is employed, and relatively connected with a protractor, objects may be measured and rightly proportioned that are distant, though visible to the naked eye. However small the dimensions of distant objects may be, they may then be increased by fourths, thirds, halves, &c.

A further object of the invention is in the provision of a wheel, preferably twelve inches in diameter, and having a rim of sufficient width to contain a scale of figures representing inches and fractions thereof, or of centimeters, or both, the said wheel to be mounted on a pivot carried at the upper end of a handle, and hands or needles having a common axis with the wheel, and carrying at their free ends points at right angles to the hands which are adapted to engage in perforations about the circumferential rim of the wheel to hold said pointers opposite the scale numbers. Secured in horizontal rows across the face of the wheel are wires which support plates of different shapes as trigons, tetragons, pentagons, hexagons, &c., which are colored differently, a distinct color for each shape of plate.

To these ends and to such others as the in-

vention may pertain, the same consists further in the novel construction, combination and adaptation of the parts as will be hereinafter more fully described and then specifically defined in the appended claims.

I clearly illustrate my invention in the accompanying drawings, which with the letters of reference marked thereon, form a part of this specification and in which drawings similar letters of reference indicate like parts throughout the several views, in which—

Figure 1 is a front elevation. Fig. 2 is a side view in elevation.

Reference now being had to the details of the drawings by letter, A, represents a handle, which may be seated in a standard B, so as to hold the handle in a vertical position.

C is a shaft running through the handle A, and carries at its upper end a pivot *c* on which the wheel D turns. About the rim of the wheel is arranged a series of scale numbers, preferably dividing the same into inches and fractions thereof, or in centimeters, and a series of Roman numerals E, representing the numbers on the dial of a clock.

F are hands representing the hands of a clock, and are pivoted on the common pivot *c*. Near the free ends of the hands or pointers are the pins *f* at right angles to the hands and the said points are adapted to engage in the perforations *g*, about the circumferential rim of the wheel, so as to aid the pupils in learning to tell the time of day.

Strung across the wheel from one side of the rim to the other are the wires H, and on these wires are to be hung plates *h* of triangular shape, of a certain color, plates *i* of quadrangular shape, colored in a distinct color, and another wire designed to carry plates of a still different shape as hexagons, each shape of plate having its distinct coloring. These various plates may be provided with letters or numbers on one side, and on the other sides with algebraic signs, and by their use arithmetic and algebraic problems may be carefully explained and conceived in a much shorter time than is required by other methods of teaching, and will be more effective and the impressions will be more indelibly impressed on the mind of the pupil.

K is a semi circular piece of isinglass placed



within the rim of the wheel occupying about one half of the space within the rim, and this is divided with slant lines fifty-two degrees, to be used in exacting proper slant letters in writing or drawing.

L is a two part scale which is longitudinally adjustable and held in a fixed position by means of a thumb screw l, which scale is used in drawing, and as the side of the handle A is flat on one side, different angles in drawings may be made by the said three part scale being held in different relations to the handle.

M is a spirit level seated within the side of the handle.

The outer edge of the rim may be grooved if desired so as to use the wheel for a pulley, and pendulums may be suspended from the central cross piece or scale.

Having thus described my invention, what I claim to be new, and desire to secure by Letters Patent, is—

1. An educational appliance consisting of a wheel with circumferential scale mounted on a pivot carried near the upper end of a shaft provided with a handle having one flat side, and a scale bar pivoted to the common pivot

of the wheel, substantially as shown and described.

2. In an educational appliance, the combination of the wheel having a graduated rim divided into inches and fractions thereof and mounted on the pivot c carried at the upper end of a shaft C held in the handle A having one flat side, of the pointers F pivoted to the end of the said shaft and having lugs or points adapted to register with perforations about the circumferential rim, substantially as shown and described.

3. In an educational appliance, the combination of the wheel graduated with the numbers about its rim, the shaft supporting the same, the handle A with the spirit level seated therein, the two part longitudinally adjustable scale L, thus forming a square with the flat side of the handle and shaft C, substantially as shown and described.

In testimony whereof I affix my signature in presence of two witnesses.

LUTHER WILLIS MUSSER.

Witnesses:

W. S. GLENN,

T. S. BAILEY.