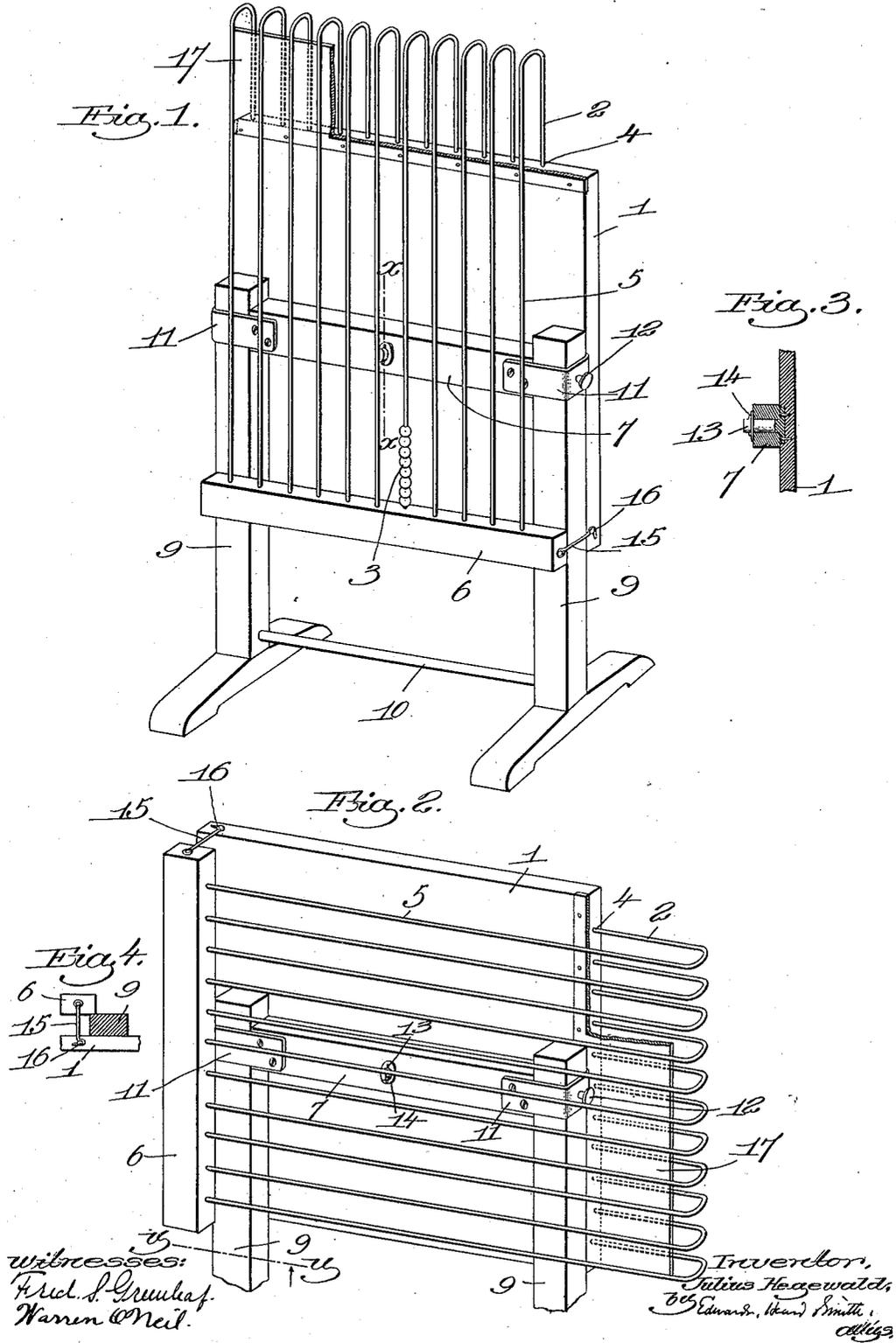


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 EDUCATIONAL APPLIANCE.  
 APPLICATION FILED MAR. 4, 1912.

1,028,212.

Patented June 4, 1912.



# UNITED STATES PATENT OFFICE.

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EDUCATIONAL APPLIANCE.

1,028,212.

Specification of Letters Patent.

Patented June 4, 1912.

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*To all whom it may concern:*

Be it known that I, JULIUS HEGEWALD, a citizen of the United States, residing at Waltham, county of Middlesex, State of Massachusetts, have invented an Improvement in Educational Appliances, of which the following description, in connection with the accompanying drawing, is a specification, like characters on the drawing representing like parts.

This invention relates to devices designed to aid teachers in the instruction of elementary arithmetic and applies more directly to such devices as imply or comprise object lessons.

The object of the invention is to improve the construction shown in my former Patent No. 541,787, June 25, 1895, by making a construction which is better adapted for use with small children and one which small children can easily manipulate.

Further objects of the invention are to improve generally devices of this nature.

Referring to the drawings wherein I have illustrated a selected embodiment of my invention which is sufficient to disclose the principles thereof, Figure 1 is a perspective view of the rear side of an apparatus made in accordance with my invention; Fig. 2 is a similar view showing the apparatus adjusted into a horizontal position; Fig. 3 is an enlarged section on the line  $x-x$ , Fig. 1; Fig. 4 is a section on the line  $y-y$ , Fig. 2.

The device shown in my former Patent No. 541,787 comprises a black-board mounted on a suitable stand and a series of U-shaped wires above the black-board, one end of the wires being secured to the upper edge of the black-board and the other end of the wires extending down in the rear of the black-board and secured to a suitable cross-bar. These wires sustain beads or buttons, the buttons normally being confined on the portion of the wire behind the board and hence being invisible to the pupil. Said buttons, however, may be brought over into visible position onto the portion of the wire above the black-board. The wires correspond in number to the digits of different denominations, the first wire representing units, the second wire tens, the third wire hundreds, the fourth wire thousands, etc. By manipulating the buttons on the wires the pupil will have before him an object lesson showing the results of arithmetical computations.

The present device involves the same general features as are described in my former patent and 1 represents a black-board, the back side of which is shown in Figs. 1 and 2, and 2 are the wires for sustaining the buttons or beads 3. These wires are bent into U-shape and one end 4 of each is fastened to the top of the black-board 1 while the other end 5 of each extends down back of the black-board and is fastened to a suitable cross-bar 6. The buttons 3 are normally sustained by the portions 5 of the wires that are hidden by the black-board when the latter is viewed from the front. The parts thus far described are or may be the same as shown in my prior patent.

In the present invention the board 1 is pivotally connected to a supporting member 7 which is vertically adjustable on a standard 8. This standard is shown as comprising two posts 9 suitably connected together by rods 10 and the supporting member 7 is shown as situated between the posts 9. Said supporting member has connected to each end thereof a clip 11 which embraces the post and these clips carry set-screws 12 by which the supporting member may be fixed in position. By loosening the set-screws 12 the supporting member 7 may be raised or lowered, thus fixing the black-board 1 at any desired height, and when it is at the proper height it can be held in this position by tightening up the set-screws 12.

Any suitable manner of pivoting the black-board to the supporting member may be employed. As herein shown, said black-board has secured thereto a pivotal pin 13 which extends through an aperture in the supporting member 7, said pivotal pin being held in place by a nut or cotter pin 14, as desired. The cross bar 6 is hung from the ends 5 of the wires, and in order to hold the black-board in position and prevent it from turning about its pivot, I have provided the hooks 15 which are secured to the ends of the cross-bar 6 and are adapted to hook into staples or fastening devices 16 secured in the ends of the black-board. When these hooks are in operative position they engage the sides of the posts 9, as shown in Fig. 1, and they thus serve not only to hold the cross-bar 6 in proper position, but also prevent the black-board from turning about its pivot. By thus making the black-board vertically adjustable it is possible to arrange it at any desired height, and it can be read-

ily placed at such a distance from the floor that small children can manipulate the beads 3 and can perform various arithmetical operations.

5 For some purposes it is desirable to swing the board so that the wires stand horizontally, as shown in Fig. 2, and the pivotal connection between the black-board and the supporting member 7 permits this to be  
10 done.

When the black-board is adjusted into the position shown in Fig. 2 and the hooks 15 are swung into operative engagement with the fastening devices 16, the left-hand post 9 will be clamped between the cross-bar 6 and the black-board, all as shown in Fig. 4, and this clamping action will be sufficient to hold the black-board in a horizontal position.

20 17 designates a show-board which is situated above the black-board between the bent portions of the wires, this show-board hiding the portions of the wires behind the same and leaving visible to the pupil only  
25 the portion of the wires in front. The show-board is partly broken away in Figs. 1 and 2.

Having fully described my invention, what I claim as new and desire to secure by Letters Patent is:—

30 1. In a device of the class described, the combination with a stand, of a supporting member vertically adjustable on the stand, a black-board sustained by said supporting member and vertically adjustable therewith,  
35 U-shaped bead-carrying wires having one end secured to one edge of the black-board and the other end extending down behind the black-board, a cross-bar to which the latter ends of the wires are secured, said

cross-bar being separate from the stand and adjustable vertically with the black-board. 40

2. In a device of the class described, the combination with a stand, of a supporting member vertically adjustable on the stand, a black-board sustained by said supporting member and vertically adjustable therewith, 45 U-shaped bead-carrying wires having one end secured to one edge of the black-board and the other end extending down behind the black-board, a cross-bar to which the latter ends of the wires are secured, said cross-bar being separate from the stand and adjustable vertically with the black-board, and means tying each end of the cross-bar to the edge of the black-board, said means 50 engaging the standard and holding the black-board from turning. 55

3. In a device of the class described, the combination with a stand comprising two posts 9, of a supporting member vertically adjustable on said stand, a black-board pivoted to said supporting member to turn about a horizontal axis, U-shaped bead-carrying wires connected at one end to one edge of the black-board, the other end of said wires extending down behind the black-board, a cross-bar connected to said other end of the wires, said cross-bars being separate from the stand, and hooks connected to the ends of the cross-bar and detachably engaging the edges of the black-board. 60 65 70

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

JULIUS HEGEWALD.

Witnesses:

LOUIS C. SMITH,  
THOMAS J. DRUMMOND.