

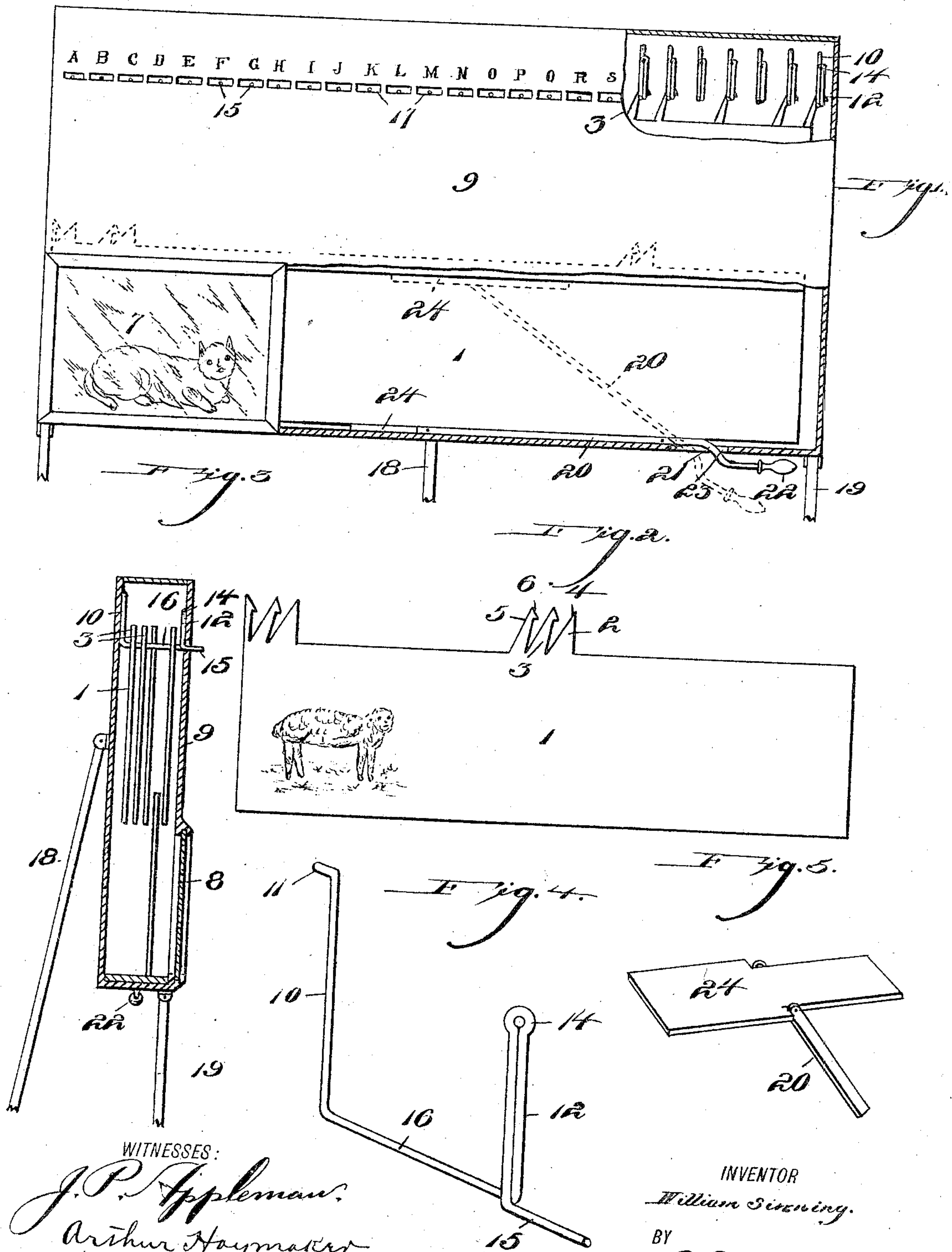
No. 622,551.

Patented Apr. 4, 1899.

W. SINNING.
EDUCATIONAL APPLIANCE.

(Application filed Apr. 14, 1898.)

(No Model.)



WITNESSES:

J. P. Appleman.
Arthur Haymaker

INVENTOR

William Sinning.

BY

H. C. Ernst & Co.
ATTORNEYS

UNITED STATES PATENT OFFICE.

WILLIAM SINNING, OF PITTSBURG, PENNSYLVANIA.

EDUCATIONAL APPLIANCE.

SPECIFICATION forming part of Letters Patent No. 622,551, dated April 4, 1899.

Application filed April 14, 1898. Serial No. 677,565. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM SINNING, a citizen of the United States of America, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Educational Appliances, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in educational appliances; and it has for its object to construct a device which will assist the child in learning to spell, add, subtract, and in many of the lower branches of education.

The essential features of my device comprise a series of sheets upon which is arranged a picture, design, number, or any desired object, these sheets being supported by hangers attached thereto or formed integral therewith and which engage operating-wires arranged above the series of sheets. Each one of these wires protrudes through the casing which incloses the sheets and represents a particular letter, number, or the like, said wires being removable, so as to release the hangers from engagement therewith, and when the word which is being spelled or the number which is being added, subtracted or the like is spelled, added, or subtracted correctly the sheet is released and falls to the bottom of the casing, so as to bring into view the picture representing that which has been spelled, the number representing that which has been added or subtracted, or the like. When, however, the combination is incorrectly operated, so that the word would not be correctly spelled or the number would not be correctly added or subtracted, the sheet bearing the picture or other object is not released from its hangers, and consequently the picture, number, or other object is not produced.

The primary object thereof is to assist the child in learning to spell, add, subtract, or the like correctly, and the specific manner in which I intend to arrive at this result will be hereinafter fully described, and pointed out in the claims, reference being had in such description to the accompanying drawings, in which—

Figure 1 is a side view of my improved edu-

cational appliance, partly broken away and partly in section. Fig. 2 is a detail side view of one of the sheets which has represented thereon the picture, number, or other object. Fig. 3 is a transverse vertical sectional view of the device. Fig. 4 is a perspective view of one of the operating devices which hold the sheets normally suspended and which when correctly moved or operated allow the sheet to fall, so as to bring the picture, number, or other object into view; and Fig. 5 is an inverted perspective view of a portion of the elevating means.

In the drawings herewith I have shown the device constructed to be used for spelling and have shown the suspending devices each represented by a letter of the alphabet.

In order to carry out my invention, I provide a number of sheets 1, which may be composed of cardboard or like material, or they may be formed of tin or any other desired metal or material. On the one edge of these sheets, which edge will be that one which is uppermost when the sheets are in position, I provide a series of upwardly-extending projections 2 and similarly-extending projections 3, the latter acting as hangers to support the sheet or card 1 and retain the same normally in the suspended position. The face or edge 4 of the projection 2 that is adjacent to the hanger 3 is made at an incline to assist in the operating of the device, and the corresponding edge or face 5 of the hangers 3 is similarly inclined for the same purpose, as will be hereinafter described.

The hangers 3 are each formed with a shoulder 6, which is adapted to engage upon the supporting and operating device. At any suitable point upon the sheet or card 1 I provide a picture, letter, or other object 7, which appears in front of the glass or other transparent plate 8, which is arranged at a position in the inclosing case 9 which will correspond to the position or location of the figure, letter, or other object upon the card or sheet.

In the drawings I have shown the picture arranged at the lower left-hand corner of the sheet or card, and the opening in the casing is of course located at a corresponding position, so that the picture will appear when the card drops to the bottom of the casing. It will be observed, however, that this picture

could be placed at any position throughout the length of the card or sheet and the opening in the casing would be made to correspond with such location or position. These
 5 projections 2 and the hangers 3 are of course arranged upon the sheet or card 1 in various different positions, so as to engage the different supporting and operating devices. In the detail of this card or sheet, which is shown in
 10 Fig. 2, it will be observed that the hangers will engage the four supporting devices, which are represented by the letters "A" "B" "L" "M," and it will be necessary to move these four supporting and operating devices before the card
 15 would be released and allowed to fall to the bottom of the casing, so that the picture of a lamb would be exhibited. The supporting and operating devices may of course be of various different forms; but for simplicity of
 20 construction and cheapness I prefer to use such a form as is shown in Fig. 4 of the drawings. In this the device is composed of a single strand of wire or other suitable material, which is bent to a practically U-shaped form,
 25 the vertical arm or rod 10 having its end 11 bent at right angles thereto, and this end is journaled in the rear wall of the casing 9. The other vertical arm or rod 12 is doubled upon itself, so as to form an eyelet 14 at the
 30 outer end, by means of which the device can be pivotally supported from the front wall of the casing. The other free end 15 is bent in alinement with a horizontally-connecting bar 16 between the arms 12 and 10 and at
 35 right angles to the latter and extending outwardly in front of the front wall of the casing through the openings 17, which are provided in the said front wall and which are oblong in their form, so as to give sufficient room for
 40 the longitudinal movement of the projecting ends 15 to permit the disengagement of the hangers 3 with the rod or bar 16. Above each one of these openings 17 is placed a letter of the alphabet, or in case the device was to be
 45 used for adding, multiplying, or the like a figure would be placed upon the casing adjacent to each of the openings, and each one of the projecting ends 15 will consequently be represented either by a letter, figure, or
 50 other object, according to the purpose for which the device is being used. For example, we will assume, using letters for such purpose, that the picture of a horse were represented upon the card or sheet 1, the hangers
 55 upon the card bearing such a picture would of course be arranged so that they would engage the respective rods 16, which would be represented by the letters "H," "O," "R," "S," "E." Assuming now that we
 60 desire to produce this picture, it will be necessary to first move the projecting rod 15 so as to disengage the respective hanger representing H, and, secondly, the rod under O, next the rod under R, then the rod under S, and,
 65 lastly, the rod under E, at which time all the supports for the card or sheet have been removed. The latter falls by gravity to the bot-

tom of the casing and displays the picture representing the word which has been spelled correctly. In this connection, however, it will
 70 be observed that in case the operator should fail to move the correct supporting devices the card will still be supported and will not display its picture, thus indicating at once that the word has been incorrectly spelled. I
 75 may support the appliance in any suitable manner, and for such purpose I have merely illustrated it as being supported from an easel or the like, the one supporting-leg 18 being
 80 fulcrumed to the rear wall of the casing and the other two supporting-legs 19 being similarly attached to the underneath side of the casing.

In order to return the cards or sheets again into their suspended position, I provide a lever 20, which is arranged in the bottom of the casing and has a curved portion 21 near its
 85 handle 22, extending through a slot 23, provided therefor in the bottom of said casing. This lever is suitably fulcrumed and is or may be bifurcated at its forward end, and the two
 90 prongs thus formed pivotally attached to the bar or plate 24 and which is adapted to form a greater bearing-surface for the edge of the card or sheet 1. When the handle of this operating-lever is depressed, as shown in dotted
 95 lines in Fig. 1, the card which has previously dropped to display its picture or other object is thereby elevated and its hangers again brought into engagement with the supporting
 100 devices. In order to make such engagement absolutely sure, I provide the beveled edges 5 and its points or projections 2 and the hangers 3. These inclined edges, all extending in the same direction, come into engagement
 105 with the bar 16 and serve to return the latter to the position from which it has been moved when spelling the word, as above described. As this bar or rod 16 reaches the base of the
 110 V-shaped slot between the projection and the hanger, between two of the hangers, or comes into engagement with the upper edge of the card or sheet 1 the rod 16 and the projecting end 15 have been returned to their former
 115 position, and the lift on the underneath edge of the card being relieved the latter descends, so that the shoulder 6 of the hangers engage upon the rods 16 and the card is again in its position for operating. This same principle
 120 will be carried out, of course, whether the device is constructed for spelling, adding, subtracting, multiplying, or for producing any desired object by this means.

Where there is a word to be spelled that requires the use of the same letter more than
 125 once, I add additional hangers 16, as heretofore described, and I arrange on the display-sheet suitable projections to support the same on the additional hangers.

It will be observed, of course, that various
 130 devices could be attached to such an appliance for raising the cards or sheets—as, for instance, these might readily be operated by a treadle performing the same function

as is performed by the lever constructed in the manner as herein shown. It will also be noted that various changes may be made in the details of construction without departing from the general spirit of my invention.

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

1. In a device of the character described, the combination of a suitable casing, a series of display-sheets arranged within said casing, hangers formed integral with the upper edge of said display-sheets, supporting and operating devices journaled in the casing near its upper edge and adapted to receive the afore-said hangers, projections formed integral with the upper edge of said display-sheet and provided with an inclined edge adapted to engage the supporting and operating devices and operate the same to bring them into engagement with the hangers to hold the display-card normally suspended, substantially as herein shown and described.

2. In a device of the character described, the combination of a suitable casing, the front wall of which is provided with a row of oblong openings, a row of supporting and operating devices journaled in the casing and having a projecting arm protruding through said oblong openings in the front wall of the casing, a series of display-sheets arranged in said casing, each of said display-sheets carrying supporting-hangers adapted to engage the supporting and operating devices to hold the display-card normally suspended, means for engaging said hangers with the supporting and operating devices, and means for elevating the display-sheets after having been released from their supporting devices, substantially as shown and described.

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

WILLIAM SINNING.

Witnesses:

JOHN NOLAND,
H. H. PATTERSON.