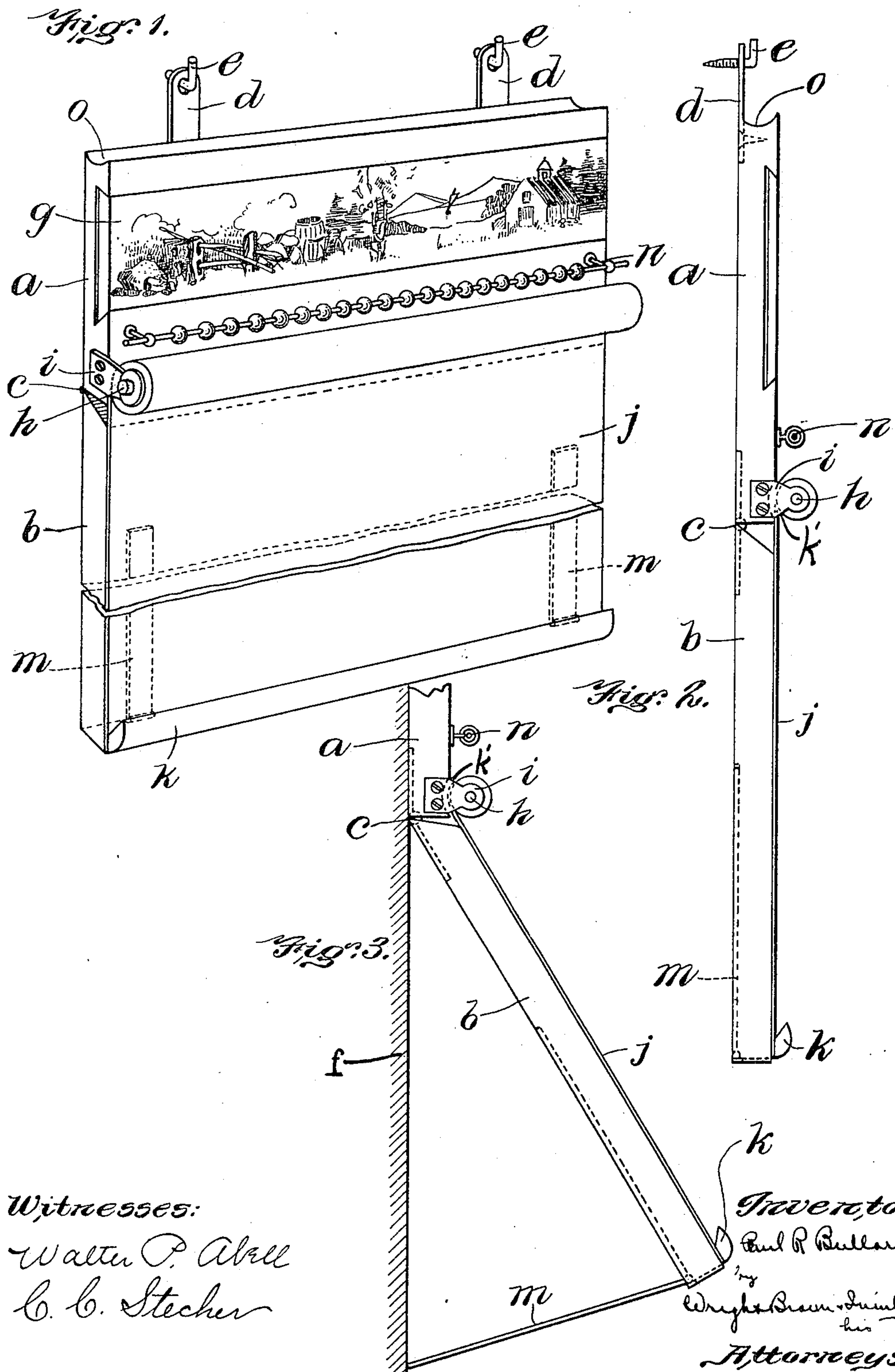


No. 819,847.

PATENTED MAY 8, 1906.

P. R. BULLARD.
EDUCATIONAL APPLIANCE.
APPLICATION FILED MAR. 22, 1905.



Witnesses:
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UNITED STATES PATENT OFFICE.

PAUL R. BULLARD, OF WALTHAM, MASSACHUSETTS.

EDUCATIONAL APPLIANCE.

No. 819,847.

Specification of Letters Patent.

Patented May 8, 1906.

Application filed March 22, 1905. Serial No. 251,412.

To all whom it may concern:

Be it known that I, PAUL R. BULLARD, of Waltham, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Educational Appliances, of which the following is a specification.

This invention has for its object to produce an educational appliance particularly for use in the home, although from its nature, as hereinafter disclosed, it may be seen that it may be utilized in schoolwork, if desired.

Referring to the accompanying drawings, which illustrate one embodiment of the invention, Figure 1 represents the appliance with the flexible blackboard drawn down to operative position. Fig. 2 represents a side elevation of the same. Fig. 3 shows how the lower portion of the support may be moved to an angle to both the vertical and horizontal and there sustained.

The appliance comprises a two-part base or back *a b*, the parts of which are pivotally connected by hinges *c*. The upper portion *a* may be provided with hangers *d d*, by which it may be suspended from hooks *e* from the wall *f* of a room. It will be observed that when the back is suspended its rear faces hang flat against the wall, which is indicated in Fig. 3 at *f*. The upper portion of the back is provided with a transverse groove, the walls of which are undercut to receive copy-sheets *g*, upon which may be printed letters, symbols, or drawings, of which copies are to be reproduced. These copy-sheets may be made of pasteboard or any suitable material.

Secured to the upper portion of the back is a spring-roller of the character of that used for hanging window-shades, this roller being indicated at *h* and being journaled in forwardly-projecting arms *i*, attached to the side edges of the back portion *a*. Wound upon the roller is a flexible blackboard *j*, the lower end of which may be weighted, as at *k*. It will be observed that the roller is so mounted that when the blackboard is drawn downward to position for writing the plane of the front face of the back *b* is tangential to the last convolution of the blackboard upon the roller, so that the blackboard is flat against the front face of the said portion *b*. To permit this relation, the upper portion of the back is provided with a transverse groove *k'*, into which the blackboard may project when it is wound upon the roll.

I have not deemed it necessary to show the exact construction of the roller, as it has heretofore been proposed to employ a spring-roller for supporting a flexible blackboard, and I may use any one of various kinds.

The lower portion *b* of the back is adapted to hang vertically, as illustrated in Fig. 2; but as it sometimes is found desirable to have the blackboard at an inclination both to the vertical and to the horizontal to make it easier for a child to write thereon I have provided the said lower portion *b* with struts or braces *m*, one at each end, which normally lie in cavities in the rear face of the portion *b*, but which may be moved to the position illustrated in full lines, so as to support the said portion *b*, as indicated in said last-mentioned figure.

For convenience I may provide the portion *a* with an abacus, (indicated as a whole at *n*), although this is not material so far as the invention is concerned.

The upper edge of the portion *a* is grooved to receive chalk, as indicated at *o*.

What I claim is—

1. An educational apparatus, comprising a base having a movably-connected upper and a lower portion, means for supporting a copy-sheet upon the upper portion, arms projecting from said upper portion below the copy-sheet support, a spring-roller mounted upon the arms, and a flexible blackboard carried by the roller and being movable over the lower portion of the base.

2. An educational apparatus, comprising a base having an upper and a lower portion pivotally connected to one another, means for supporting a copy-sheet upon the upper portion, arms projecting from said upper portion below the copy-sheet support, a spring-roller mounted upon the arms, and a flexible blackboard carried by the roller and being movable over the lower portion of the base.

3. An educational apparatus, comprising a base having an upper and a lower portion pivotally connected to one another, means for supporting a copy-sheet upon the upper portion, arms projecting from said upper portion below the copy-sheet support, a spring-roller mounted upon the arms, a flexible blackboard carried by the roller and being movable over the lower portion of the base, and a brace hinged to said lower portion.

4. An educational apparatus, comprising a base having a movably-connected upper and

a lower portion, a roller mounted upon the upper portion, and a flexible blackboard carried by the roller and being movable over the lower portion of base, the outside of the blackboard upon the roll being tangential to said lower portion in one position.

5. An educational apparatus, comprising a base having a movably-connected upper and a lower portion, the upper portion being provided with a groove, a roller mounted upon the upper portion, and a flexible blackboard carried by the roller and being movable over the lower portion of the base, the blackboard extending into the groove when it is wound upon the roller.

6. An educational apparatus, comprising a base having a movably-connected upper and a lower portion, the upper portion being provided with a groove, a roller mounted upon the upper portion, and a flexible blackboard carried by the roller and being movable over the lower portion of the base, the blackboard extending into the groove in one position and

having its outside tangential to the lower portion in another position.

7. The combination with a base adapted for suspension, said base being provided with a groove for holding a copy-sheet with its outer face substantially flush with the surface of the base, a roller mounted upon the base in close proximity thereto, and a flexible blackboard carried by the roller.

8. The combination with a base adapted for suspension, said base being provided with a groove and a second groove for holding a copy-sheet with its outer face substantially flush with the surface of the base, a roller extending across the base opposite the first-named groove, and a flexible blackboard carried by the roller.

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

PAUL R. BULLARD.

Witnesses:

M. B. MAY,
GEORGE E. BULLARD.