(No Model.)

O. A. WEISSENBORN.

BLACKBOARD.

No. 483,371. Patented Sept. 27, 1892.

Fig. I.

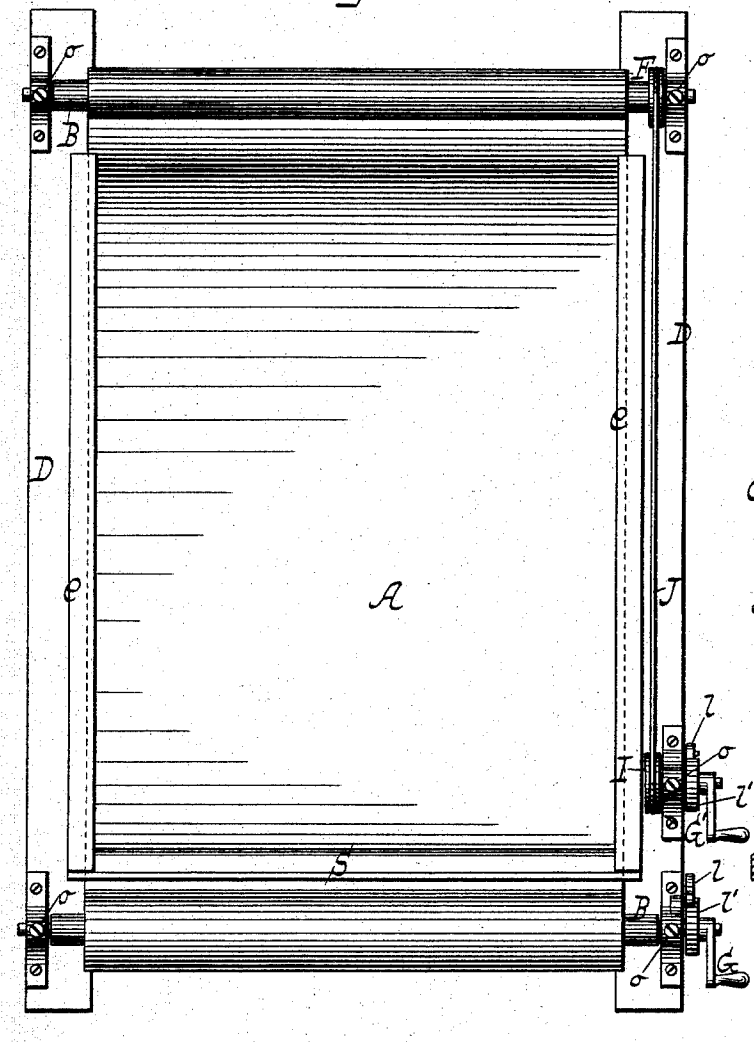


Fig. II.

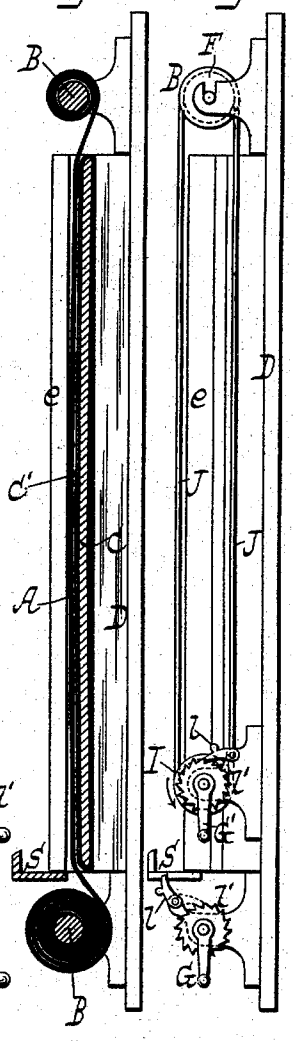
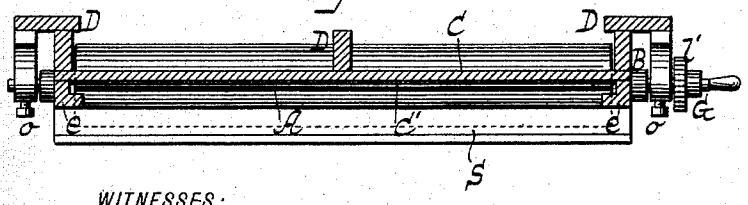


Fig. III.

Fig. IV.



WITNESSES:

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BLACKBOARD.

SPECIFICATION forming part of Letters Patent No. 483,371, dated September 27, 1892.

Application filed October 12, 1891. Serial No. 408,416. (No model.)

To all whom it may concern:

Be it known that I, OSCAR A. WEISSENBORN, a citizen of the United States, residing at Jersey City, Hudson county, and State of New Jersey, have invented certain new and useful Improvements in Blackboards, of which the following is a specification.

My invention relates especially to that class of blackboards in which the board proper is composed of a sheet or apron of what is known as "slated" cloth; and my invention consists of a certain novel arrangement of apron-supporting rollers and concomitant parts, as hereinafter fully described, whereby different parts of the apron may be successively exposed for use in either direction of its length, the exposed part is kept always in a state of tension, and the rollers are capable of operation independently of each other with ease and facility.

In the accompanying drawings, Figure I represents a face view of a blackboard embodying my invention. Fig. II represents a vertical cross-section thereof. Fig. III represents a side view thereof. Fig. IV represents a horizontal section thereof.

Similar letters of reference indicate similar parts.

The letter A indicates the slated-cloth apron, and B B two rollers lying in horizontal planes, one above the other, to each of which rollers one end of said apron is connected in such a manner that the apron may be alternately wound and unwound on and off from either of the rollers. A part of the apron A is thus exposed between the rollers B B, as shown, forming a writing-surface, the area of which is determined by the distance between the rollers, and in order to properly sustain this exposed part of the apron in use a backing C, of suitable area and material, is mounted opposite thereto on the blackboard-frame, this backing, together with bars or uprights D D, one at each side and one at the center, constituting the frame. To each of the vertical edges of the backing C is fastened a cleat *e*, which acts as a guide for either edge of the apron by receiving such edge, as shown. The side bars D D of the frame carry the bearings for the shafts of the rollers B B, and on the shaft of the upper roller is mounted a pulley F, while on the shaft of the lower roller is mounted a crank or winch G, both the pulley and crank being at one and the same side of the frame. At a point adjacent to the lower roller is an auxiliary pulley I, which lies in the vertical plane of the roller-pulley F and which is joined thereto by a suitable band J. The shaft of the auxiliary pulley I has its bearing on the proper side bar D, and on this pulley-shaft is also mounted a crank G'. By this arrangement the operation of the lower roller may be effected by the crank G and that of the upper roller by the crank G', together with the pulleys F I and band J, and due to the juxtaposition of said two cranks the greatest ease and facility is afforded to the operator in adjusting the apron by the rollers irrespective of the distance between the rollers.

In blackboards of small construction the auxiliary pulley I, &c., may be done away with, the operator in that event working the top roller by means of a crank on its shaft.

By winding the apron A on the two rollers B B the exposed part of the apron opposite the backing C is kept always in a taut or stretched condition, which is requisite to the successful use of the apron as a blackboard, and by said winding of the apron, moreover, every portion of which is not in actual use is protected against dust and atmospheric influences. The operation of the rollers B B is controlled by means of pawls *l*, engaging with ratchet-wheels *l'*, which are mounted on the shafts of the lower roller and pulley I, and the tension of the apron A may be regulated by means of set-screws, which are fitted in the several bearings of the structure to act on the shafts.

At the lower edge of the backing C is a ledge or shelf S, which extends entirely across the blackboard-frame, it being properly mounted on the cleats *e*, as shown, or other suitable part. The chief purpose of this shelf S is to form a receptacle for pieces of chalk and other objectionable matter, preventing access thereof to the folds of the apron as it winds on the lower roller.

In order to obviate an undesirable warping of the backing C when it is of wood, it may be curved from top to bottom outward, or in the direction of the apron rendering it convex, as shown in Fig. II, this shape also more

readily to lie against the backing, and, if desired, the backing may be covered with cloth or like material, as at C, so as to present a soft or yielding surface.

What I claim as my invention, and desire to secure by Letters Patent, is—

A blackboard having, in combination, the winding-apron of slated cloth, the apron-supporting rollers, a means for operating the rollers independently of each other, and the frame having a backing with a convex surface presented to the apron, and cleats forming guides for the edges of the apron, substantially as shown and described.

OSCAR A. WEISSENBORN.

In presence of—
LOUIS W. FROST,
R. T. VAN BOSKER.