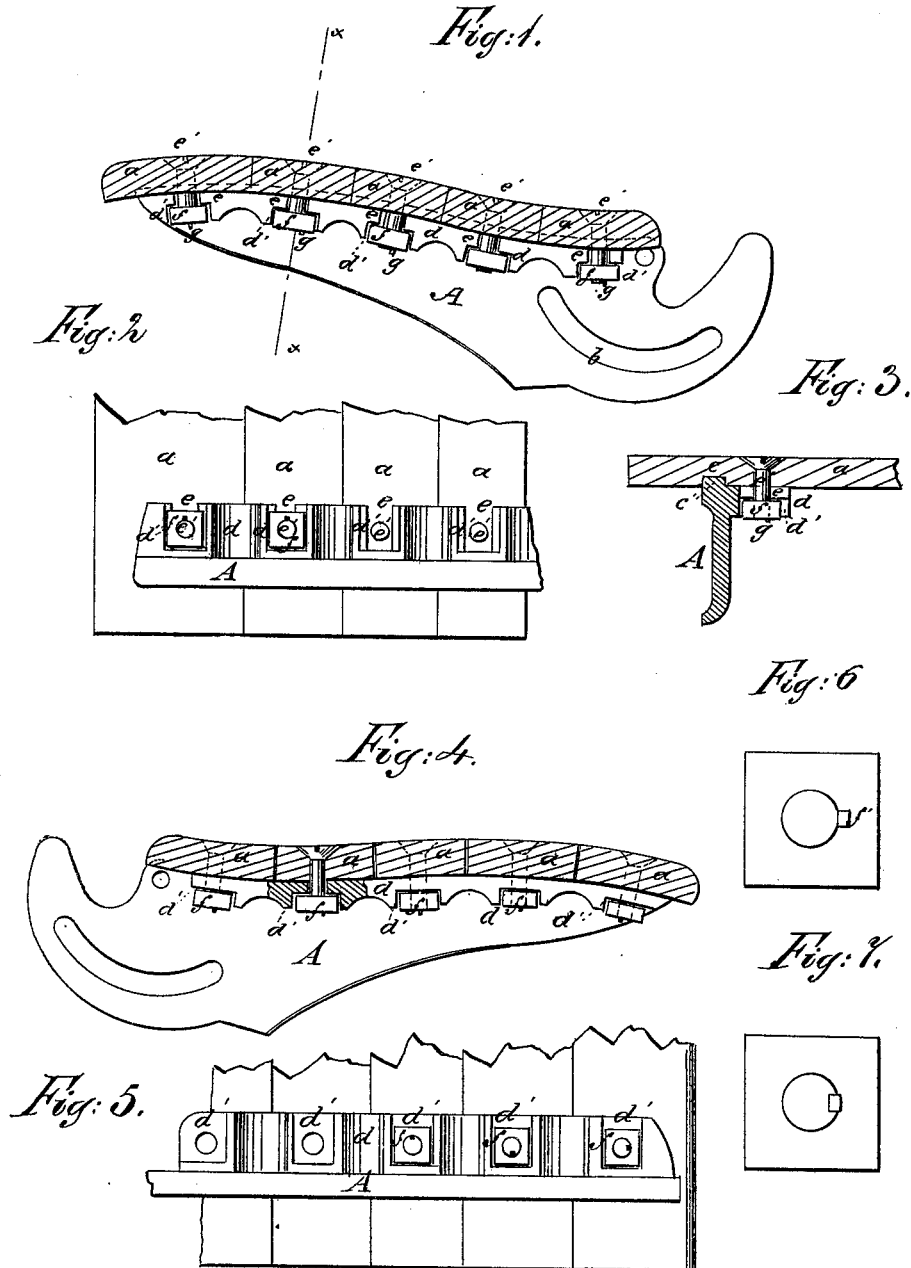


W. A. BRADFORD.
School-Desk.

No. 214,092.

Patented April 8, 1879.



WITNESSES:

Chas. Nida.
b. Seagwick.

INVENTOR:

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UNITED STATES PATENT OFFICE.

WILLIAM A. BRADFORD, OF GOSHEN, INDIANA, ASSIGNOR TO HIMSELF,
LEWIS H. NOBLE, AND JOSEPH M. NOBLE, OF SAME PLACE.

IMPROVEMENT IN SCHOOL-DESKS.

Specification forming part of Letters Patent No. 214,092, dated April 8, 1879; application filed
September 20, 1878.

To all whom it may concern:

Be it known that I, WILLIAM A. BRADFORD, of Goshen, in the county of Elkhart and State of Indiana, have invented a new and useful Improvement in School-Desks, of which the following is a specification.

The object of my invention is to secure the wooden slats forming the seat of the desk to the cast-iron frame and supports more securely, neatly, and economically than is now done.

In the accompanying drawings, forming part of this specification, Figure 1 is a section of the seat of a school-desk furnished with my improvement. Fig. 2 is a plan of the bottom of the same. Fig. 3 is a detailed sectional view of the improvement. Fig. 4 is a modification of the improvements in section. Fig. 5 is a bottom plan of the same. Figs. 6 and 7 show the manner of keying the nuts on the bolts.

Referring to the drawings, A represents the cast-iron support for one end of the seat, on which the slats *a* forming the seat are placed. This support is pivoted to the uprights forming the ends of the seat, so that it can be folded from a horizontal position, such as indicated in Fig. 1 of the drawings, to a nearly vertical position against the back of the seat, a slot, *b*, running over a pivot in the side, serving to guide and stiffen the parts. The wooden slats *a* forming the seat have a transverse rabbet, *c*, at or near each end to let in the rib *c'* on the upper side of the support A, as clearly shown in Fig. 3. Projecting horizontally from the inside of the support A is a ledge, *d*, on which the slats *a* rest when placed in position as shown in the same figure. On the under side of this ledge, at regular intervals, are the recesses *d' d' d'*, &c., and slots *e e e*, their purpose being to receive the nuts and screws which secure the slats to the support A, as clearly shown in Figs. 1 and 2. These nuts and screws are indicated by *e' e' e'*, &c. in Fig. 1. They are passed through holes in the slats, and thence through the recesses in the ledge *d*. Before putting them completely through, however, a nut, *f*, is placed in the

seat *d'* in the ledge, with its threaded eye coinciding with the hole in the slat. The screw is then driven in until its thread engages the thread of the nut, and it is screwed in as tightly as possible.

The sides of the recessed seats, wherein the nuts are placed, of course prevent them from turning, and would be sufficient to lock them on the screws were it not that the screws can be drawn out from the upper side of the seat. To prevent this, an additional safeguard is necessary, and this is provided in the following arrangement: In the sides of the eye of the nut a recess or key-seat, *f'*, is cut parallel to the axis of the nut, and entirely through the same from side to side. Into this recess or seat, when the screw is entered into the nut as far as it will go, a metal key, *g*, is placed tightly, so that it will wedge the nut on the screw, as shown in Figs. 1 and 2. This makes it impossible to turn the screw in the nut; hence the two cannot be separated, and the sides of the recesses will hold the nuts so that no movement can be given to the screw.

Thus it will be seen that by passing the screws entirely through the wooden slats and the cast supports A greater strength is given to the connection, and better precautions are given against the movement or loosening of the screws in their places.

Instead of the slots left in casting the supports, holes may be drilled through them in the same position relative to the recessed seats, to receive the screws, as shown in Figs. 4 and 5. Practically, the same effect of furnishing an arrangement by which the screws can be passed through the two parts is obtained; but as the holes have to be drilled additional work is thus required, and consequently it is not so economical as the mode first described.

A modification of the method of securing the nut on the screw consists in making a recess or key-seat in the threaded portion of the bolt parallel to the bolt's axis and inserting the key in the seat so formed, as shown in

Fig. 7. Either method may be employed, as, in connection with the recessed seat, the same effect is produced in preventing the movement of the nut or screw.

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

The combination, with slotted support A b,

having rib *c'*, ledge *d*, recesses *d'*, and slots *e*, of the slats *a*, having rabbets *c*, the screws *c'*, and nuts *f*, as and for the purpose specified.

WILLIAM A. BRADFORD.

Witnesses:

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