

(No Model.)

C. A. MERRILL & A. D. LINN.
SCHOOL DESK, &c.

No. 432,319.

Patented July 15, 1890.

Fig. 1.

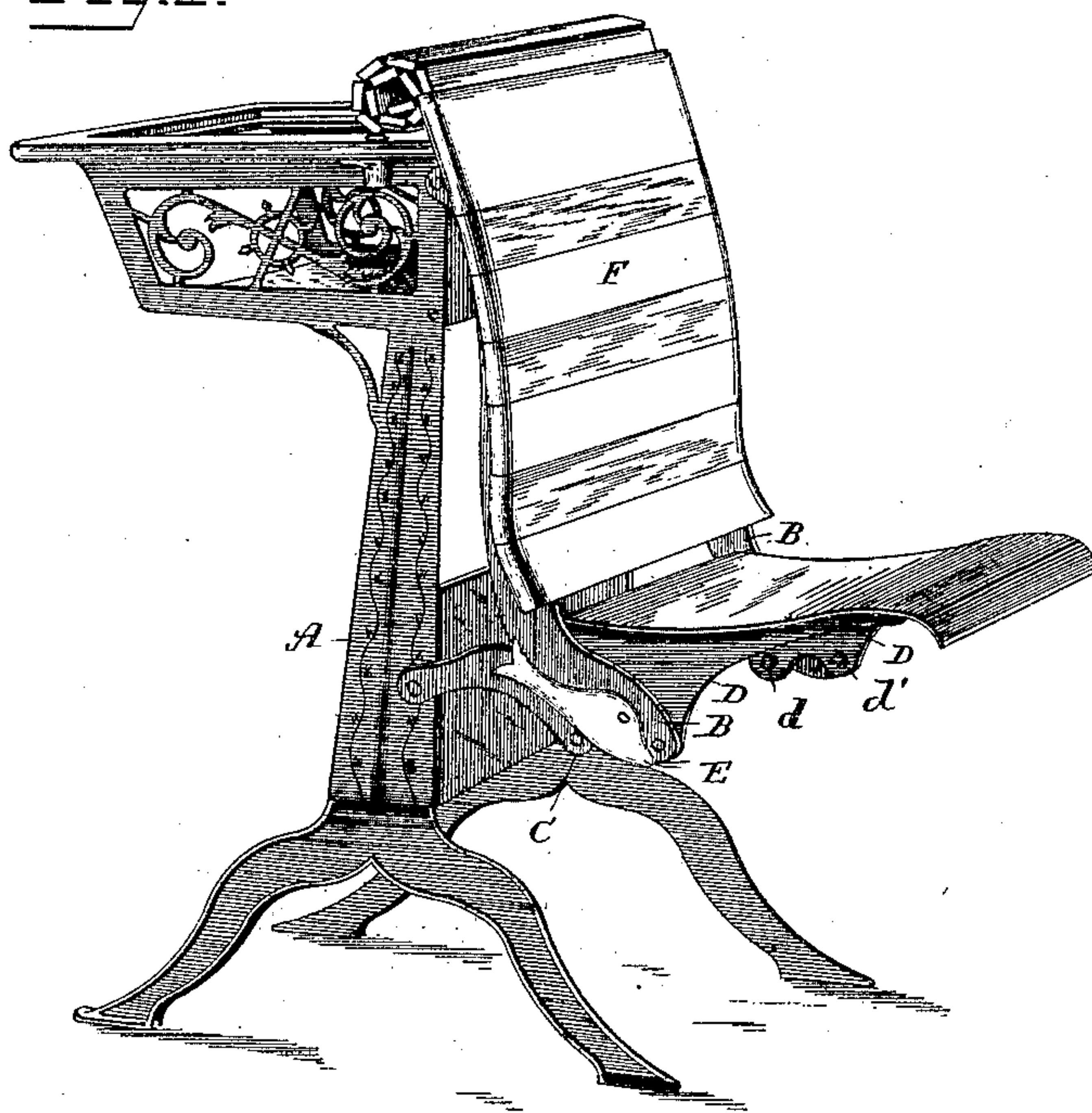


Fig. 3.

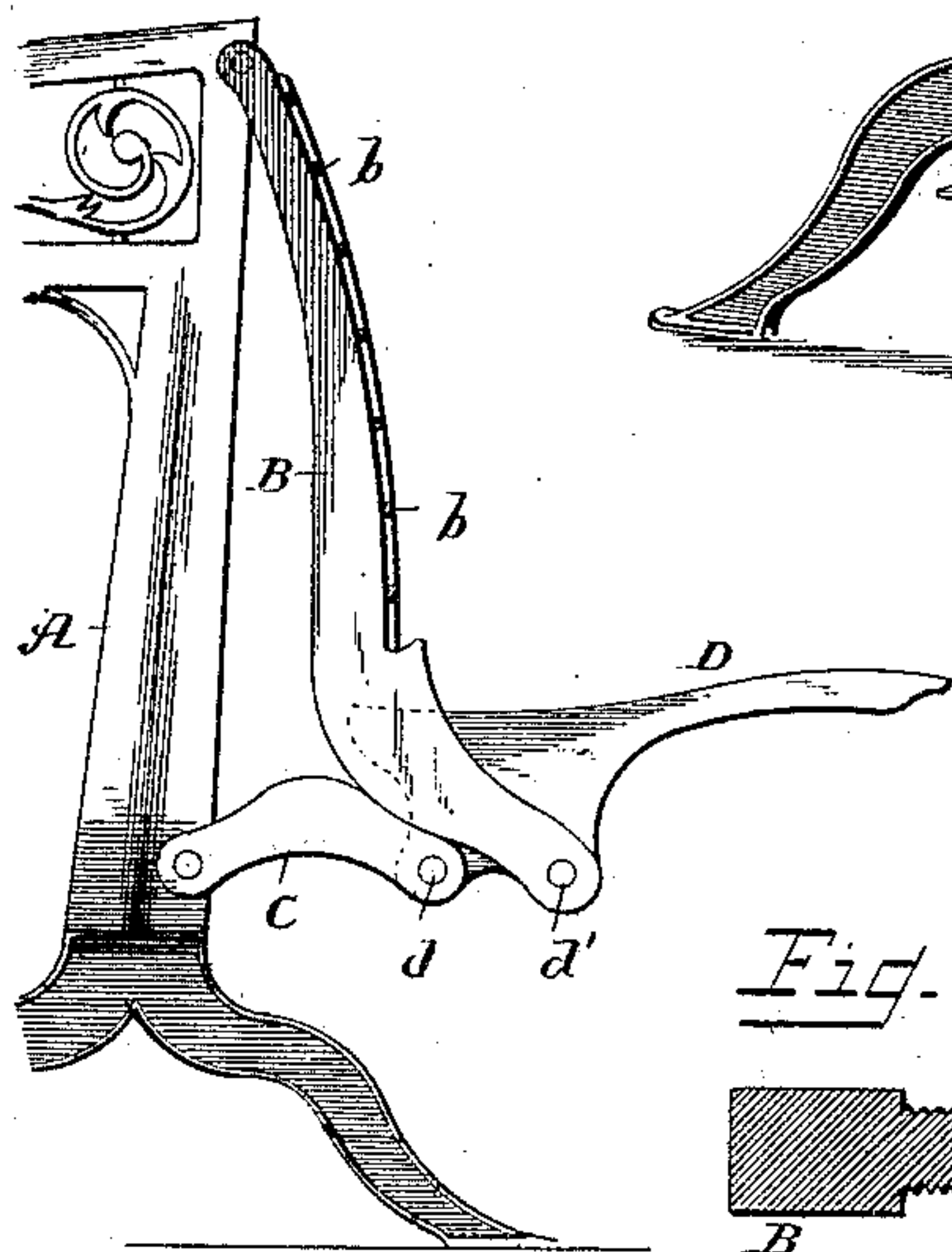


Fig. 4.

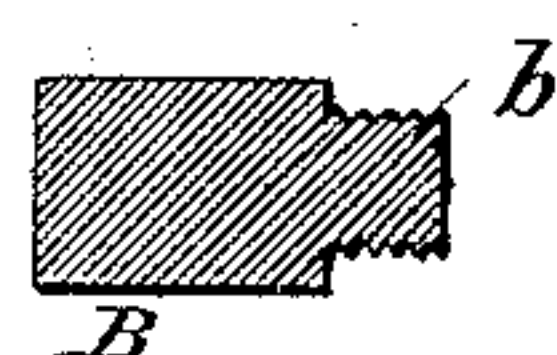
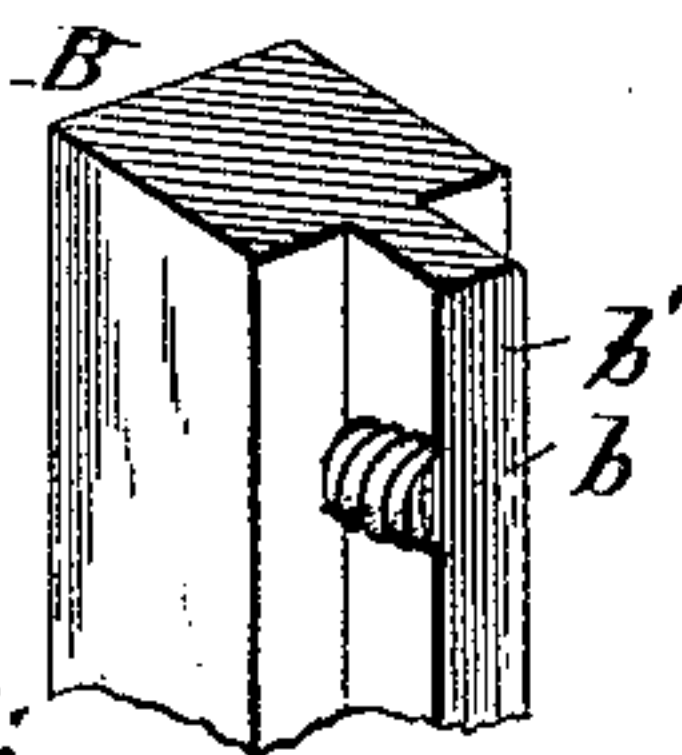


Fig. 5.



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Fig. 6.

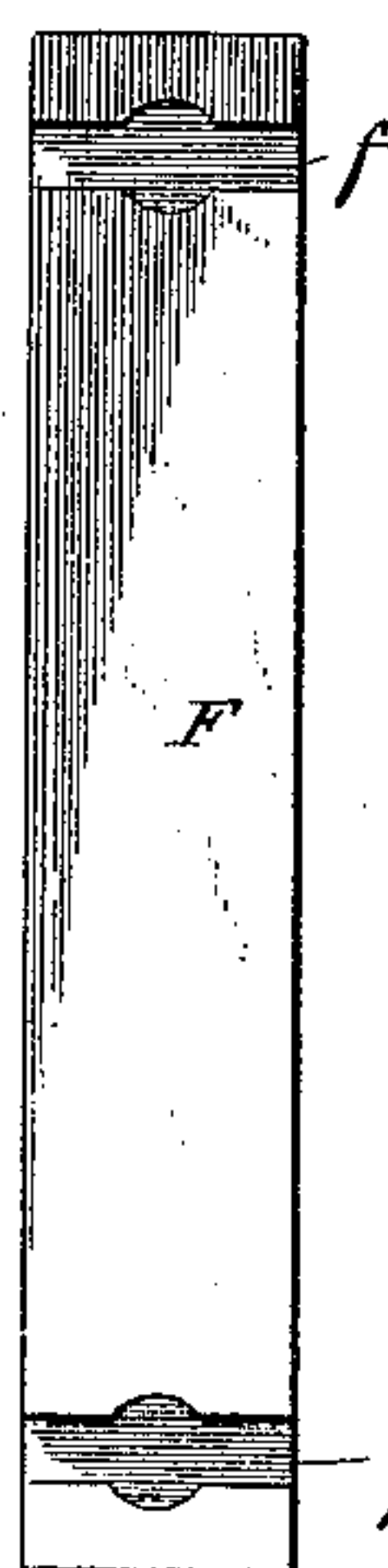
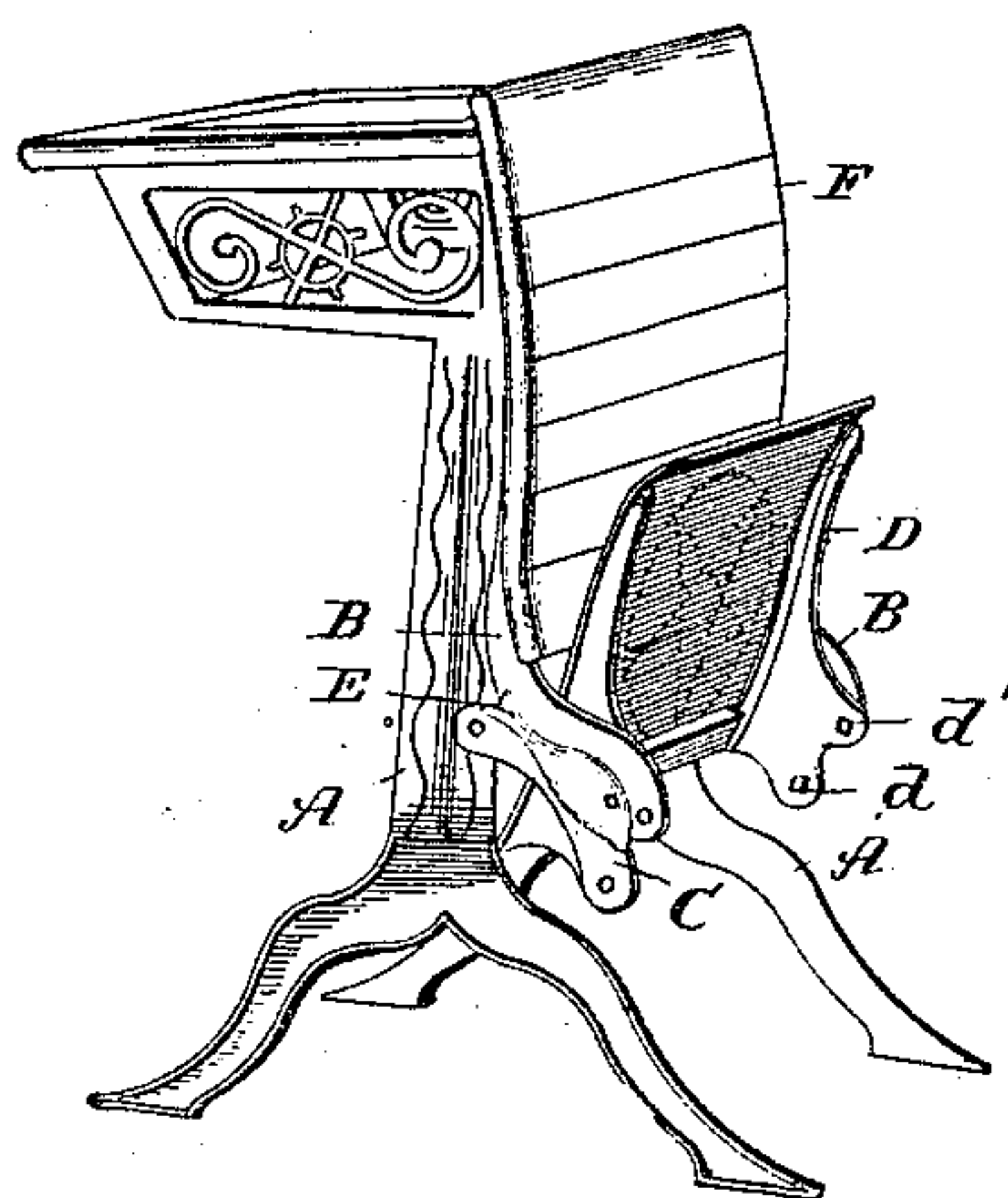


Fig. 2.



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UNITED STATES PATENT OFFICE.

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SCHOOL-DESK, &c.

SPECIFICATION forming part of Letters Patent No. 432,319, dated July 15, 1890.

Application filed October 3, 1889. Serial No. 325,844. (No model.)

To all whom it may concern:

Be it known that we, CHARLES A. MERRILL and ALLEN D. LINN, citizens of the United States, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in School-Desks and Assembly-Seats; and we do hereby declare that the following is a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

Our invention relates to improvements in school desks and seats, the primary object of which is to provide a seat and a back attached to the front of the desk, both of which are capable of being moved back out of the way when a pupil desires to stand.

To this end the invention consists in the combination, with the desk-standards, of the back-bars pivoted thereto, the locking-bars also pivoted thereto, the seat-supports pivoted to the outer or free ends of the back-bars and locking-bars, and the plates or guards secured to the lower part of the back-bars for keeping these working parts in their proper relative positions.

The invention further consists in an improved rolling desk-top and in improved means for securing the wooden slats forming the back to the iron back-bars, all as will appear more fully hereinafter.

In the accompanying drawings, Figure 1 is a view in perspective showing our invention, the seat and back being in their normal position, or that which they assume when occupied. Fig. 2 is a similar view showing the seat in its raised and the back in its rearward position. Fig. 3 is an elevation of one side of the desk, showing one back-bar, locking-bar, and seat-support with the guard removed. Fig. 4 is a cross-section of one of the back-bars, taken through one of its threaded enlargements, showing the means of attaching thereto the slats forming the back. Fig. 5 is a perspective view of a section of the back-bar, showing a slight modification. Fig. 6 is a plan view of the under side of one of the slats which form the back.

Referring now by letter to the drawings, A A are the desk standards or supports, the sides of the desk being cast integral therewith.

B B are the back-bars, made of cast-iron, of the general form shown in Fig. 3, the upper portion being curved slightly to fit the shape of the back. The back-bars are pivoted at their upper ends to the standards A A, and their front surface is provided with a tongue, as shown in Figs. 4 and 5, and at intervals along its length with the threaded circular enlargements *b b*. These threaded enlargements correspond in number with the number of slats employed in making up the back, and project but slightly beyond the tongued portion of the back-bars. We prefer to make these enlargements on both sides of the tongue, as shown in Fig. 4, the right-hand portion being provided with right-hand threads and the left-hand portion with left-hand threads. This is for a purpose that will appear later. They may, however, project on but one side of the tongued portion of the back-bars, as shown in Fig. 5.

C C are what we term "locking-bars" or "seat-braces." They are made of cast metal, curved slightly, and are pivoted at one end to the standards.

D D are the seat supports or brackets, with parts projecting outward, and upon them the wooden seat is secured and supported. These supports are pivoted at the two points *d* and *d'* to the free ends of the back-bars and locking-bars and supported thereby.

E E are plates or guards secured to the lower part of the back-bars and overlapping the locking-bars for retaining these parts in their proper working position. When the seat is in its outward position, as shown in Figs. 1 and 3, the free ends of the back-bars B B are drawn outward, the locking-bars C C drawn upward, the upper face of the latter bearing against the under face of the former, and thereby securing or locking the seat in a substantially horizontal position. By raising the seat the outer or free ends of the locking-bars are depressed, and the back-bars carrying the back are forced backward out of the way. In this manner by the extremely simple construction just described we save nearly the entire space between the desks when the seats are unoccupied.

Another novel feature of our device is the rolling top, as shown in Fig. 1. This is in the nature of a panel made up of a series of slats

strung together, fitting the opening of the top frame and adapted to roll back, thus not obstructing the view in front. The frame is secured in the usual manner to the iron standards. An important advantage secured by using this form of top is that only one style of casting is necessary, whereas with the old forms two styles are necessary, one for open and one for closed desks.

10 F F F are the slats which compose the back. These are provided with grooves *ff* across their under side near the ends, into which fit the tongues *b' b'* of the back-bars. These grooves have an enlarged circular part which
15 fits over the enlargements *b b* of the back-bars. When it is desired to attach these slats to the back-bars, the enlarged portion of the grooves is slipped over one of the projections *b*, the tongue fitting the grooves in the slats
20 and forced downward. By this action the enlarged portions of the tongues are forced into the grooves proper, the threads cutting their way into the wood. The tendency of the right and left hand threads and of the
25 single thread of the form shown in Fig. 5 is to draw the wood toward the iron. A secure fastening and a tight fit are thereby obtained upon the back-bars.

Having now described our invention, what we claim as new, and desire to secure by Letters Patent, is—

30 1. The combination, with the standards of a school-desk, of back-bars pivoted thereto, locking-bars or seat-braces, also pivoted thereto, and seat supports or brackets pivoted at
35 different points to the free ends, respectively, of the back-bars and seat-braces, substantially as described.

40 2. The combination, with the standards of a school-desk, of a pair of back-supporting bars pivoted thereto, a pair of locking-bars, also pivoted thereto, a pair of seat-supports pivoted to the free ends, respectively, of the
45 back and locking bars, and a guard for protecting and retaining in position the said bars and seat-supports.

3. A school-desk having its writing-tablet made up of slats strung or otherwise flexibly connected together, pivoted at its rear end to the desk and adapted to roll up out of the
50 way, substantially as described.

4. The combination, with the standards and sides of a school-desk, of an open top frame and a panel forming the writing-tablet, made up of a series of slats strung or otherwise
55 flexibly connected together, pivoted at its rear end to the top frame and adapted to fit the opening therein and to roll up out of the way, substantially as described.

5. The combination, with the standards of
60 a school-desk, of a pair of iron back-bars, each having a tongue along its front edge, with circular enlargements having right and left hand threads projecting at intervals from the sides
65 of the tongue, and a series of slats, each having a groove on its under surface to fit the tongue and having a circular enlargement corresponding to that on the tongue, whereby
70 when the slats are forced downward the projecting threads on the tongue cut into the inner surface of the grooves and the slats are securely held in position.

6. The combination, with the standards of a school-desk, of a pair of iron back-bars, each having a tongue along its front edge, with
75 threaded circular enlargements projecting at intervals from one side of the tongue, and a series of slats, each having a groove on its under surface to fit the tongue and having a circular enlargement corresponding to that
80 on the tongue, whereby when the slats are forced downward the projecting threads on the tongue cut into the inner surface of the grooves and the slats are held in position.

In testimony whereof we affix our signatures
85 in presence of two witnesses.

CHAS. A. MERRILL.
ALLEN D. LINN.

Witnesses:

HENRY J. FELKER,
ALLEN B. LINN.