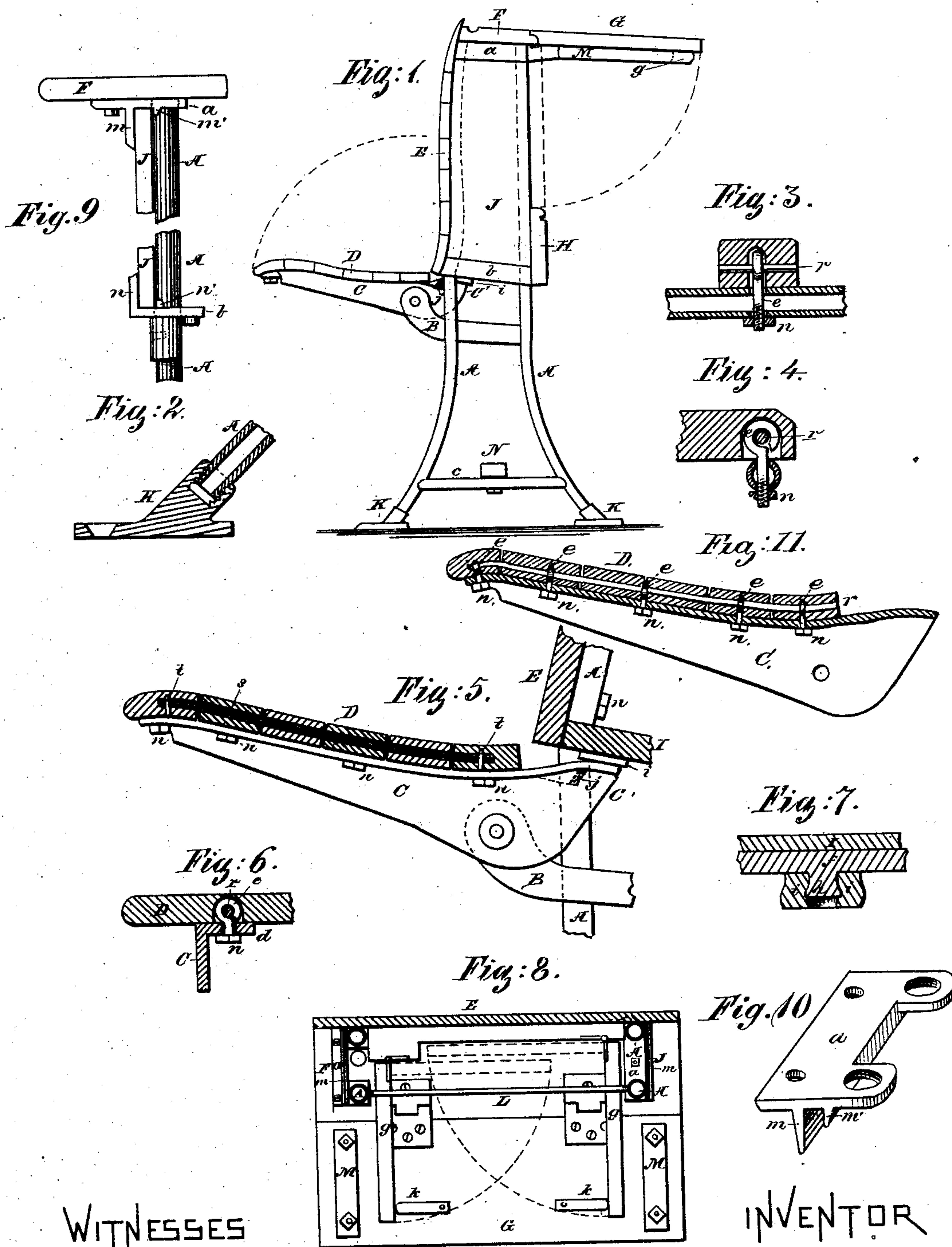


J. M. MOTT.

SCHOOL DESK.

No. 245,087.

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WITNESSES

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JOHN M. MOTT, OF CHICAGO, ILLINOIS.

SCHOOL-DESK.

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To all whom it may concern:

Be it known that I, JOHN M. MOTT, of the city of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in School-Desks; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to a school-desk frame formed of wrought tubular or angle iron; and it consists, first, in the fastening of the wooden portion to the metal portions by rods inserted edgewise through the wooden portions and through interposed eyebolts, whereby the whole is secured to the rigid portions; second, in the flanged connecting-pieces; third, in the connecting-pieces, standards, and transverse piece.

Figure 1 is an end elevation of my improved school-desk, specially intended to illustrate the form and construction of the standards and sections of the frame made of wrought tubular or angle iron. Fig. 2 is a vertical section, showing the form of a cast foot screwed to the tubular standard-legs, by which the latter are adapted to rest squarely upon and be fastened securely to the floor. Fig. 3 is a transverse section of a single slat, or of the foot-rest, which shows my improved mode of securing the wood-work to the frame. Fig. 4 is a longitudinal section of the single slat and a transverse section of the dowel-rod and frame. Fig. 5 is a central transverse section of the desk-seat, showing the broad metal blind tie by which the several slats composing the seat are made to mutually support each other. This figure also shows the rubber facing applied to the seat-arm stop to prevent noise of striking in lowering the seat to its place. Fig. 6 is a transverse section of the seat-arm, showing the wood portion of the seat and the dowel-rod and one of the eyebolts by means of which the wood is held to the arm. Fig. 7 shows a form of combined yielding and positive stop for the arrest of the seat as it falls in a horizontal position. Fig. 8 is an under-side view of the desk-top with the hinged leaf raised and held by the arms. This figure is intended to illustrate the use of the transverse rod or bar ex-

tending from standard to standard immediately beneath the leaf-supports, together with the arrangement of the supports when swung in to lower the leaf. Fig. 9 illustrates a mode of securing the end pieces, J, in their places. Fig. 10 is a view of the upper face of connection *a*, detached. Fig. 11 is a transverse section of the seat in line with the dowel-rod *r*.

A A are standards, of bent wrought tubular iron, having the top, middle, and bottom horizontal connections, *a*, *b*, and *c*, secured in any suitable manner to the standards to form one of two or more rigid sections of the desk-frame.

B is a strong metal arm secured to the standards A A, or to one of them, and forming a support, to which the cast or wrought metal seat-arm C is hinged, as shown. The arm C is sectionally in the angular form shown in Fig. 6, or, in other words, has the horizontal flange *d*.

D is the wooden portion of the seat, composed of several slats resting upon the seat-arms of the frame, as shown in Fig. 5.

The strip S is made flat, so as to present a broad surface to the slats, and thereby be prevented from cutting away the edges of the orifices through which it passes, as cylindrical rods would do, because of the small surfaces exposed by them in contact with the wood.

E is the back of the seat, similarly composed of several slats and secured to the front standards, A, which are bent to give to the seat-back the curve required.

F is the fixed top of the desk, resting upon and secured to the cross-piece *a* of the frame, and G is the hinged portion of the desk, forming, as usual, when raised, an inclined extension of F. When lowered it forms the door or the cover of the book-space, beneath F, which is further inclosed by the fixed wood front piece, H, bottom I, and the end pieces, J.

K K are cast feet, preferably adapted to screw into or upon the outwardly-bent standards, and formed to rest squarely upon the floor. They are provided with holes for screws, by which the desk may be firmly fastened to the floor.

The seat-slats are secured to the seat-arms C by means of the transverse rods *r*, passed through them in a line immediately over each of the said arms, and through the eyebolts *e*

let up into or between the slats from the under face thereof, as shown in Fig. 6. The eyebolts pass through holes in the flanges *d* of the arms C, and are secured by nuts *n*. The slats are made to mutually support each other between the seat-arms by means of a broad flat strip of metal, *s*, passing through them transversely and riveted or otherwise secured to the marginal slats, as indicated at *t* in Fig. 5.

The slats that are to form the seat may be joined together while laid in the same plane, which position permits the introduction of a rod or strip that closely fills the space provided for it, and subsequently, by the use of detachable eyebolts *e*, the whole may be forced to conform to any desired curvature in the seat-arms, thereby insuring a much more firm and even structure than is possible when separate and detachable eyebolts are not used, as well as allowing the seat to be given a more graceful and comfortable shape. They also permit the slats to be tightened when loosened by shrinking or otherwise.

The back E is joined to the standards A, the top F to the cross-piece *a*, the desk-lid G to the blocks M, and the foot-rest N to the cross-piece *c* in a manner entirely similar to that of connecting the seat to the arms C, so that, if desired, all exposed wood surfaces may be unbroken by nail or screw.

The seat-arm C is arrested in its horizontal position by the arm C', extending to the rear of the hinge and arranged to strike below the bottom I. In the movements of the occupants the hinged seat is often disturbed and noise produced by the stop, wherever located. To prevent this I provide a thin block of rubber or other yielding substance, *i*, secured either to the rear arm or to the point against which said arm strikes. This rubber I prefer to make in the form illustrated by Fig. 7, in which *f* is an inward-projecting flange upon the cross-piece *b*, adapted to support the bottom board of the book-space, and in position to meet the inner, projection, C', of the seat arm C. On the under face of this flange is formed the pin or button *h*, (which may be a flaring-headed screw let into the flange,) and over this pin or head is sprung the short section *i* of heavy rubber tubing. The tubing projects a proper distance below the head *h*, to first receive and deaden the blow of the rear arm, C', but permits the same to rise and solidly rest against the head *h*, which will then be the real or fixed stop when the seat is subjected to the weight of one of its occupants. The positive stop *h* may, obviously, be at one side of a solid rubber striker and produce the same effect.

The advantage of a fixed or positive stop over a thin piece of rubber alone is that the movements of one occupant of the seat will not "joggle" his neighbor by a movement of the seat. When the combined form of primarily yielding and ultimately positive stop is used the former element should be adjusted to prevent the seat-arm C' from striking the

latter when the seat is simply let fall by its own weight. The arm C' is also provided with a lug or projection having the rubber or elastic facing *j*, intended to noiselessly arrest the upward movement of the seat-arm C by striking against the arm B.

The view of the top inverted, shown in Fig. 8, indicates the arrangement of the hinged arms *g g*, by which they closely overfold beneath the top F, as shown in dotted lines, and also the position and office of the rod L. The latter extends from one standard to the other, parallel with the top, and arranged immediately beneath the arms *g g*, so as to support the latter at all points of their throw from the time they are brought under the falling leaf G. The strain of holding the leaf is thereby almost wholly taken off the hinges by which the arms *g* are attached and thrown upon the rod or bar L.

In forming the standards from wrought-iron tubing it is evident that one piece may be bent to form both standards of a frame-section. The sharp angles required at the top, at the margins of the piece F, and not easily made in the tube, can be supplied either in a cross-piece, *a*, or by the end piece, J, which may be of wood or of metal. In forming the entire section from a single piece of wrought angle-iron a sharp angle can be made by cutting a piece at each corner from the transverse flange and bending the other as required.

Obviously, in using angle-iron for the frame, the cast foot K should be socketed to receive the square end of the leg, and may be either riveted or bolted to the same.

Fig. 9 illustrates a mode of securing the end pieces, J, in their places. For this purpose the transverse connecting-pieces *a* and *b* are respectively provided with the vertical flanges *m'* and *n'*, arranged outside of the standards A a sufficient distance to admit the end piece, J, between the flanges and standards. The connection *b* is preferably a little higher at the front than at the rear standard, as shown in Fig. 1. The end piece, J, is slid into its place from the rear and is held wholly or mainly by the piece H, which is subsequently secured to the rear standards. The standards A may cooperate with the flanges *m* and *n* to hold the end piece, or the shorter flanges *m'* *n'* may be formed on the connecting-pieces *a* and *b*, parallel with *m* and *n*, and may be wholly outside of the standards or in line with their outer surfaces.

The following matters, described and shown, are withdrawn from this specification for the purpose of embodying them in a separate application, viz., first, the frame composed of tubular iron; second, the metal strip S inserted through the slats to support the same; third, the stud with rubber cap or cushion for a noiseless stop; fourth, the rod L to support the leaf-arms.

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

1. A fastening for the wooden portion to the rigid portion, consisting of a transverse rod inserted through the wood, combined with detachable eyebolts let into the under surface 5 of the wood, whereby the latter may be first joined in a plane and afterward secured to the rigid parts, whether straight or curved, substantially as described.

2. The combination, with the standards A A, 10 of the connecting-pieces *a* and *b*, having respectively the flanges *m* and *n*, whereby the end inclosing-pieces, J, may be inserted and secured between the said flanges and standards, substantially as described.

15 3. The combination of the flanged connecting-pieces *a* and *b*, as described, the standards A A, end pieces, J, and transverse pieces

H, substantially as and for the purpose set forth.

4. A fastening to secure the seat, back, or 20 other wooden portions of the desk to the frame, consisting of a strip or bar inserted transversely through the wooden parts over the frame, combined with bolts passing through the frame and engaged with the strip or bar, 25 whereby the wood is clamped to the frame, substantially as described.

In testimony that I claim the foregoing as my invention I affix my signature in presence of two witnesses.

JOHN M. MOTT.

Witnesses:

M. E. DAYTON,
P. ELBOO REY.