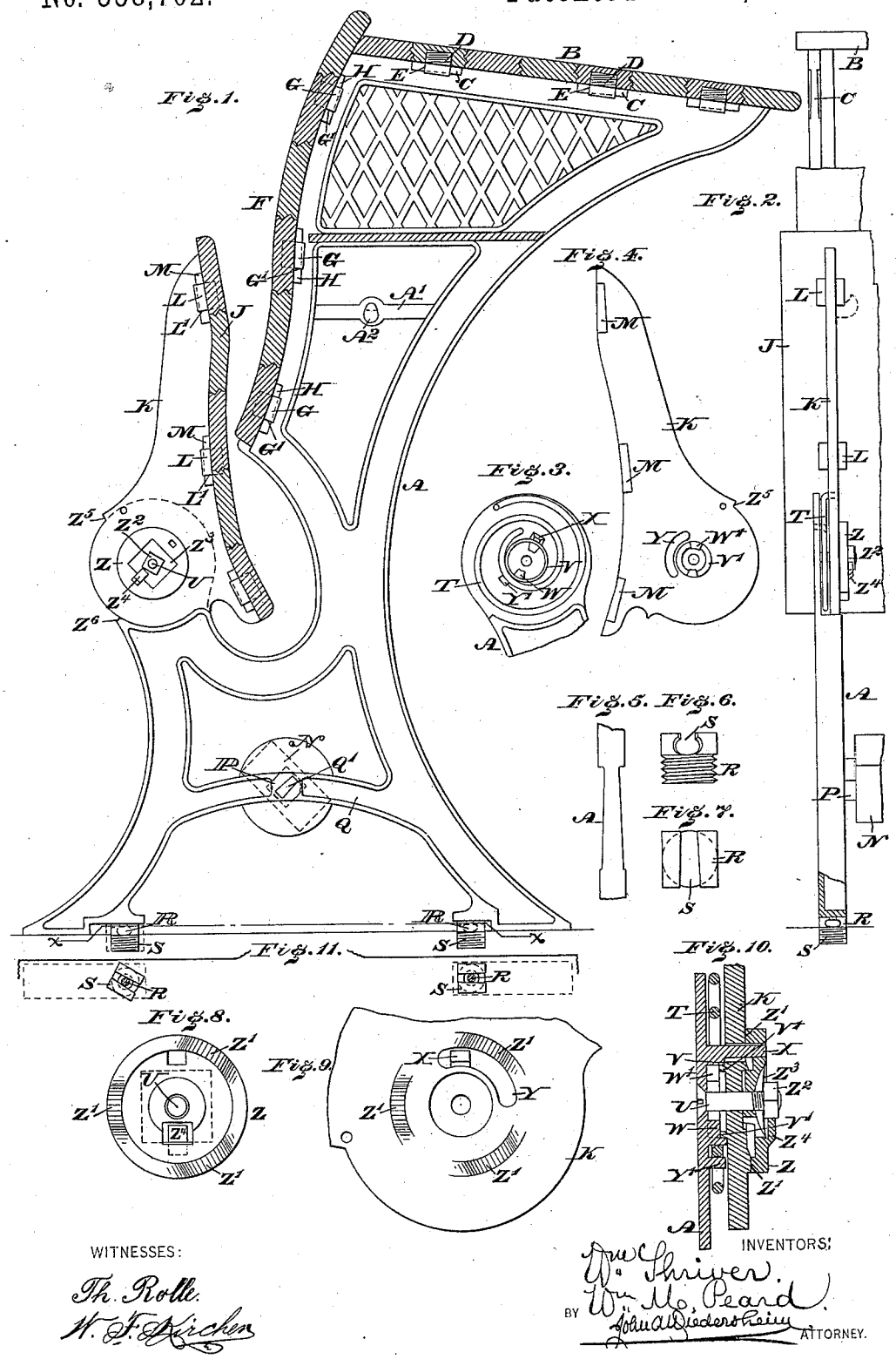
(No Model.)

W. SHRIVER & W. M. PEARD.

SCHOOL SEAT AND DESK.

No. 358,702. Patented Mar. 1, 1887.



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WILLIAM SHRIVER AND WILLIAM M. PEARD, OF PHILADELPHIA, PENNSYLVANIA; SAID SHRIVER ASSIGNOR TO SAID PEARD.

SCHOOL SEAT AND DESK.

SPECIFICATION forming part of Letters Patent No. 358,702, dated March 1, 1887.

Application filed February 4, 1886. Serial No. 190,802. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM SHRIVER and WILLIAM M. PEARD, both citizens of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in School Desks and Seats, which improvement is fully set forth in the following specification and accompanying drawings, in which—

Figure 1 represents a vertical section of a school desk and seat embodying our invention. Fig. 2 represents a view of a portion thereof, taken at the back. Figs. 3 and 4 represent views of detached parts. Figs. 5, 6, 7, 8, and 9 represent views of detached parts on an enlarged scale. Fig. 10 represents a section of the seat-joint on an enlarged scale. Fig. 11 represents a horizontal section in line *x x*, Fig. 1.

Similar letters of reference indicate corresponding parts in the several figures.

Our invention consists of a novel fastening for the parts of a desk, as will be hereinafter set forth.

It further consists in the seat of the desk adapted to be automatically folded, when not in use, by means of springs connected thereto, as will be hereinafter set forth.

It further consists of a novel construction of a friction-joint for the seat-arms and standards.

The matter describing the foot-rests and fasteners of the desk to the floor in this specification, and illustrated in the drawings, is not claimed herein, but is reserved, and will be described, illustrated, and claimed in another application, the serial number of the same being 225,144.

Referring to the drawings, A represents the standards of a school or other desk, which are formed of cast metal, and B represents the top of said desk. Rising from the upper end of the standards A are tongues C, and secured to the under side of the top are heads D, having grooves E, said tongues and grooves being dovetailed or of wedging form, whereby, when the tongues are fitted in the grooves and a horizontal sliding motion is imparted to the top, the tongues are tightened in the grooves and interlocked therewith, and thus the top is firmly secured to the standards and reliably retained in position thereon.

F represents the back of the desk, the same having secured to its inner side heads G, with grooves G′. Formed on the standards, and facing the back, are tongues H, said tongues and grooves being dovetailed or of wedging form, whereby, when the tongues are fitted in the grooves and a downward motion is imparted to the back, the tongues are tightened in the grooves, and thus the back is firmly secured to the standards and reliably retained in position thereon, it being noticed that the upper portion of the back abuts against the adjacent end of the top B, and prevents displacement of the latter.

J represents the seat, and K the supporting-arms thereof, said seat having on its under side heads L, with grooves L′. Formed on said arms K, on the upper edges thereof, are tongues M, said tongues and grooves being dovetailed or of wedging form, whereby, when the tongues are fitted in the grooves and a rearward motion is imparted to the seat, the tongues are tightened in the grooves and interlocked therewith, and thus the seat is firmly secured to the arms K and reliably retained in position thereon.

The foot-rest N is provided on its ends with grooved heads P, and the cross-bars Q of the standards have tongues Q′, said tongues and grooves being dovetailed or of wedging form, whereby, when the tongues are fitted in the grooves and the foot-rest advanced, the tongues are interlocked in the grooves, and thus the foot-rest is firmly secured to the standards and reliably retained in position thereon.

R represents downwardly-projecting heads on the under side of the feet of the standards. Secured to the floor of the apartment on which the desk is placed are sockets S, with grooves, the grooves being dovetailed or of wedging form, whereby, when the heads are fitted in the grooves and the standards advanced, the heads are interlocked in the grooves, and thus the desk is firmly secured to the floor and reliably retained in position thereon.

The several heads D, G, L, and P and the sockets S are threaded, whereby they may be screwed into the part to which they are attached, and thereby firmly held in position, and said heads may be turned so as to increase

the friction with the tongues and grooves, whereby the respective parts are reliably connected, and looseness of the same is prevented.

The seat is self-acting or automatical in its folding action. For this purpose we employ coiled springs T, one end of each of which is connected with the arm K and the other end with the adjacent portion of the standards, it being seen that the arms are pivoted to the standards by screws or bolts U.

On the inner faces of the arms K and adjacent portion of the standards, at the pivotal portion of the arms, are circular flanges V V′, respectively, the flanges V′ entering the flanges V and rotating thereon. Stops W W′ are formed adjacent to the flanges, the stops W being adapted to abut against the stops W′, whereby the bolts U are relieved of strain, whether the seat is in folded or unfolded position.

Lugs X are also formed on the inner faces of the standards adjacent to the flanges V, and project laterally therefrom into segmental slots Y, formed in the arms K, thus also providing stops for the arms K. Lugs Y′ are also formed with the standards, the same being so disposed that the springs are held between the same and the flanges V near the inner ends of said spring, so that displacement of the springs is prevented.

Z represents friction-washers, which are fitted on bolts U on the side of the arms K, and prevented from rotation by means of the lugs X, which, after passing through the slots Y, enter openings in said washers. The contiguous faces of the washers and arms are formed with cams Z′, which are in frictional contact, especially when the arms are moved. The bolts U have on their ends nuts Z^2, between which and the washers Z are spring-washers Z^3. Lugs Z^4 are formed on the outer faces of the washers Z, and overhang the spring-washers Z^3, and serve to hold the latter in position, and also prevent rotation of the nuts Z when the bolts U are screwed therein, as shown in Fig. 10.

It will be seen that when the seat is moved to fold or unfold the same the cams Z′ come in contact, whereby when the washers are forced laterally the consequent increased pressure of the spring occasions increased friction of the part, whereby the motion of the seat-arms is retarded—a feature of importance, as slamming or abruptness of motion of the seat is prevented.

On the outer or under side of the arms K, near the pivotal portion thereof, are shoulders Z^5, which are so disposed that when the seat is lowered said arms abut against shoulders or projections Z^6 on the standards, whereby the bolts U are relieved of the weight of the seat and occupant thereof.

A′ represents a cross-bar, which is formed with the standards A, and has cast or otherwise connected with it a hook, A^2, for the purpose of conveniently holding a school-bag or other article on the side of the desk.

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

1. A desk having attaching devices whereby either the top, the back, or the seat may be detachably secured to the frame, said devices consisting of tongues fastened to the frame and screw-threaded pieces having heads adapted to be secured to said tongues, all substantially as described.

2. In a desk, arms pivotally connected to the side standards, and provided with tongues wedge-shaped in form, in combination with a seat having at or near its ends screw-threaded grooved pieces adapted to hold said tongues, substantially as and for the purpose set forth.

3. In a desk, the side standard, A, having laterally-projecting lugs X integral therewith, in combination with the arm K, pivotally attached to said standard A by bolt U, and having the segmental slot Y, in which said lug X operates, and the coil-spring T, one end of which is connected to the arm K and the other end to the standard A, all substantially as described.

4. The standard A, having laterally-projecting lugs X and circular flange V, in combination with segmentally-slotted arm K, pivotally secured to said standard and provided with the circular flange V′ and the spring T, all substantially as described.

5. The standard A, having the lugs X and Y′ and circular flange V, in combination with arm K, having the segmental slots Y and circular flange V′, and spring T, all arranged and operating substantially as described.

6. The standard A, having the laterally-projecting lug X, in combination with the segmentally-slotted arm K, pivotally secured to said standard by bolt U, and the friction-washer Z, placed on said bolt outside of said arm, and having opening therein to receive the lug X, all substantially as and for the purpose set forth.

7. The standard A, in combination with an arm pivotally connected thereto by a bolt and a washer secured to said standard, but outside of said arm, the contiguous faces of said washer and arm being formed with cams, substantially as and for the purpose set forth.

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Witnesses:
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