

C. M. HUGHES.
Hinge-Joints for School Desks and Seats.
No. 219,865. Patented Sept. 23, 1879.

Fig. 1

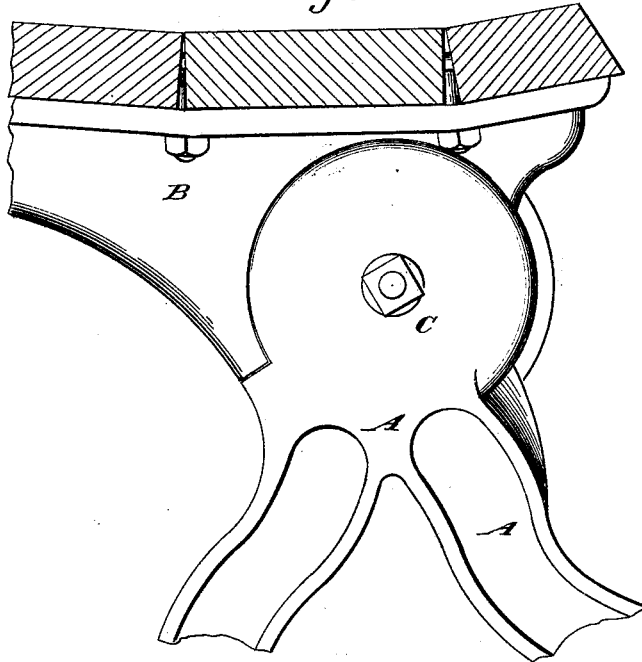


Fig. 2.

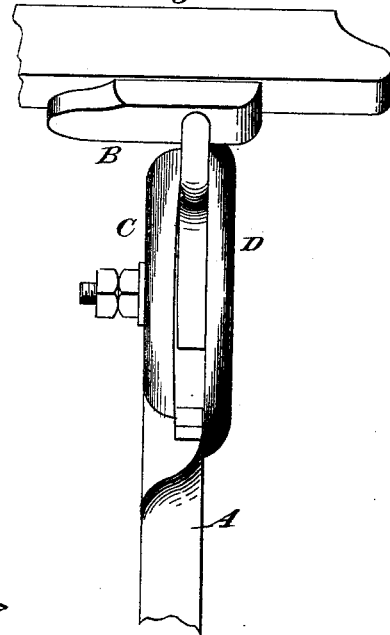


Fig. 4.

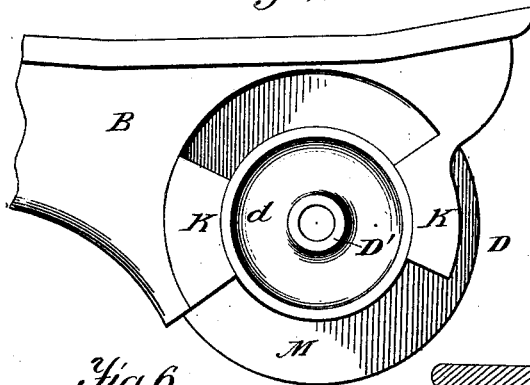


Fig. 3.

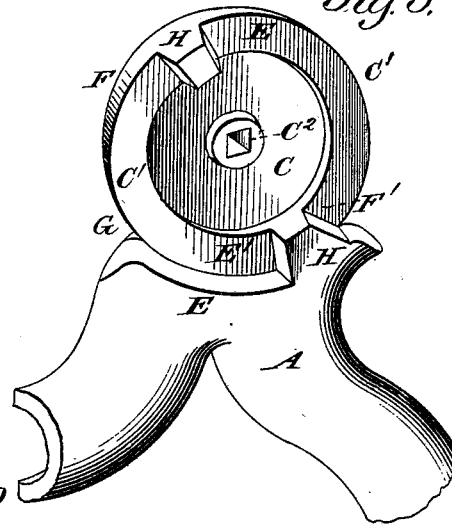


Fig. 6.

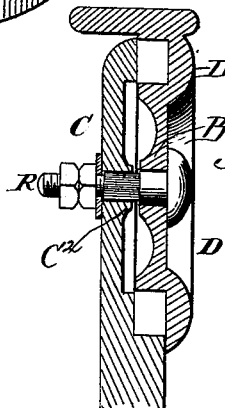
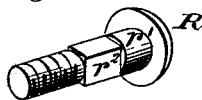


Fig. 5.

Witnesses.
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UNITED STATES PATENT OFFICE.

CHARLES M. HUGHES, OF LIMA, OHIO.

IMPROVEMENT IN HINGE-JOINTS FOR SCHOOL DESKS AND SEATS.

Specification forming part of Letters Patent No. **219,865**, dated September 23, 1879; application filed October 17, 1878.

To all whom it may concern:

Be it known that I, CHARLES M. HUGHES, of Lima, in the county of Allen and State of Ohio, have invented certain new and useful Improvements in Joints for School Desks and Seats; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

Figure 1 is a sectional elevation of my invention in connection with the standard and seat-iron of a school-desk. Fig. 2 is a rear view of the same. Fig. 3 is a perspective view of the part of my invention in connection with the standard of a school-desk. Fig. 4 is a side elevation of the part of my invention in connection with the seat-iron of a school-desk. Fig. 5 is a vertical section of my invention. Fig. 6 is a perspective view of the bolt which attaches the parts together.

The same letters are used in referring to identical parts of the drawings.

My invention relates to the joints of school seats and desks; and it consists in so constructing a joint for this purpose, all of metal, that it shall be durable, adjustable, and noiseless.

Many attempts have been made to avoid the noise attending the use of hinged school-desks, and at the same time preserving their durability. Rubber and similar substances have been employed, and partial avoidance of the noise has been attained, but at the expense of their durability. Others have attempted to overcome the noise by the employment of friction, and have but partially succeeded, owing largely to the rigid character of their hinge and the attending wear of the parts.

In the accompanying drawings, A represents the seat-standard; B, the seat-iron. C is a disk-formed projection of the standard-iron. D is a similar projection of the seat-iron. E E' are rising inclines on the opposite sides of the center of and upon the outer circle of the disk of the standard. These inclines are gradual elevations rising from the plane of the projection or flange C¹ of the disk.

H H are projections of this flange, located at the termination of the elevation of these inclines. F F' are similar inclined elevations, with their summits terminating upon or about the lugs H H upon the sides opposite the inclines E E'. There is also a slight projection, C², in the center of this disk C, and the hole for the bolt R is central with the disk, and is square, to engage the four-sided part r² of the bolt and prevent the same from turning with the seat-iron part of the hinge.

K K are projections raised from the outer part of the disk D, and are so constructed and arranged as to engage with the projections H H of the disk C when the two desks are centrally connected by the bolt R. The summits of these projections are slightly convex, and so constructed and arranged as to present a good bearing-surface upon the inclines E E' and F F', respectively, as they may be severally engaged in operation.

The central annular projection, D', of the disk D is sufficiently cut away to admit of the adjustment of the disks C and D by the tightening or loosening of the nut and check-nut of the bolt R, thus providing for a more severe or lessened contact of the inclines E E' and F F' in their engagements with the corresponding inclines of the projections K K. This joint operates and accomplishes the objects for which I devised it in the following-described manner:

The disk D of the seat-iron is placed in proper relation with the disk C of the standard, and the bolt R placed in position with its head in contact with the disk D and its rounded part r¹ in the circular hole d, and when the projections K K are in contact with the plane of the flange C¹ the nut of the bolt R is turned slightly up, so as to allow a free movement of the seat, and secured in that position by the check-nut.

The seat in falling will cause the projections K K to be engaged with the inclines F and F', and retard and arrest the fall of the seat before the engagement of the lugs or projections H and K. The application of a slight force will cause these lugs to engage when a rigid position of the seat is secured.

In raising the seat the lugs H and K engage the inclines E and E', retarding the upward

motion of the seat, and providing against any noise, the same as in its descent. By loosening or tightening the nuts of the bolt R any required rigidity of the joint may be secured or any wear taken up.

I am aware that heretofore joints for school-desks have been constructed interlocking, so as to dispense with any nut or other fastenings for the pivot, and so constructed by means of cams that the intervening rubber disks would be compressed as the seat was lowered, thus attempting to avoid the noise attending the use, and provide readily for the removal of the seat from the standard; but

What I claim as new and useful, and desire to secure by Letters Patent, is—

In a school-desk joint or hinge, the combination of the disk C, constructed with inclines E and E', F and F', and lugs H H, with the disk D, constructed with projections K K, constructed and operating together as and for the purposes substantially as set forth.

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

CHARLES M. HUGHES.

Witnesses:

THEO. D. ROBB,

J. M. SATTERTHWAIT.