# E. G. DURANT.

## SCHOOL-DESKS.

No. 183,800. Patented Oct. 31, 1876.

Fig. 1.

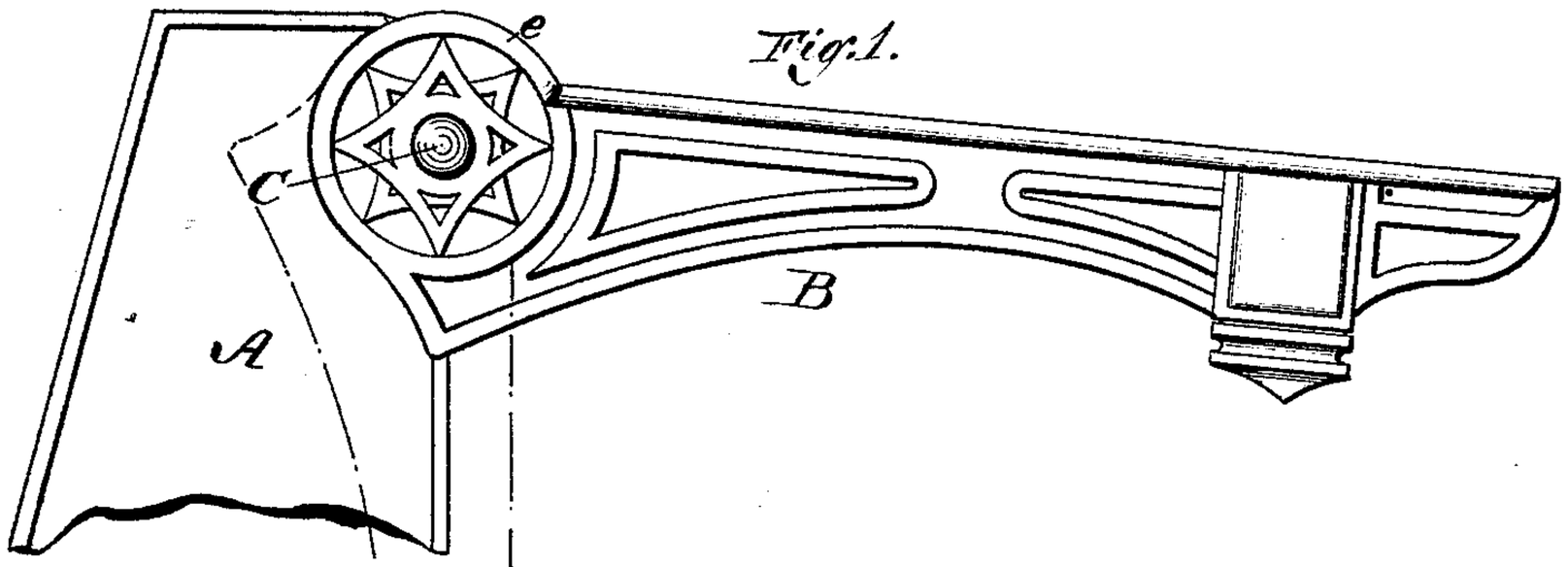



Fig. 2.

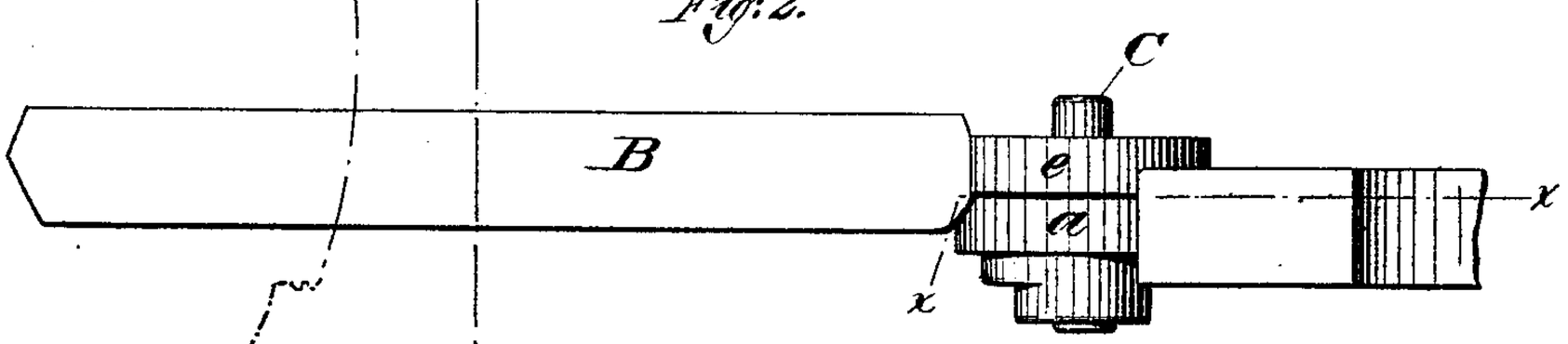



Fig. 3.




Fig. 6.

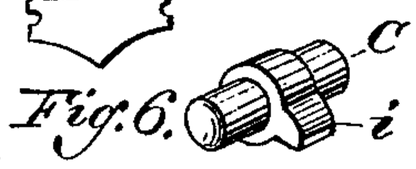



Fig. 4.

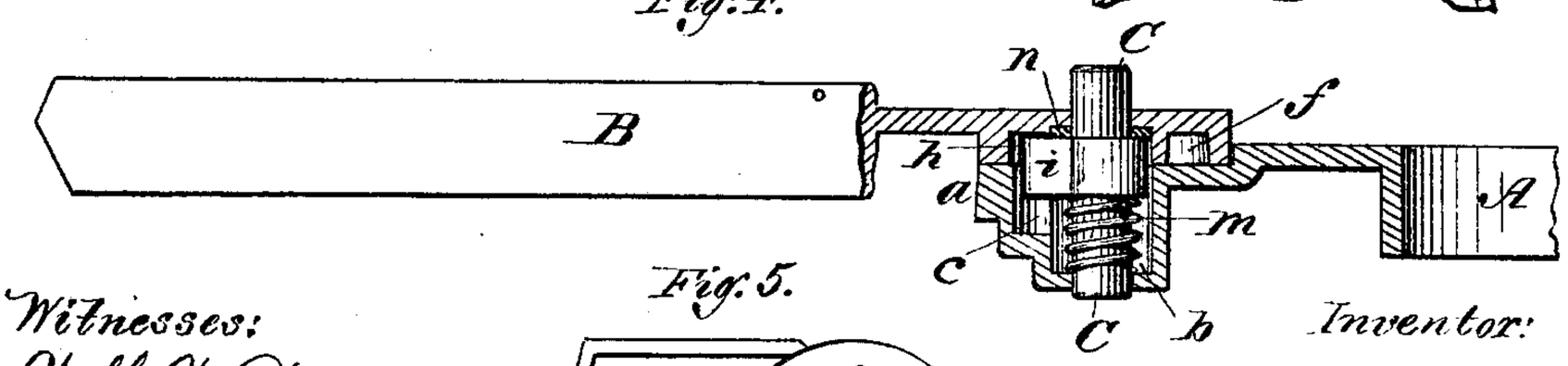
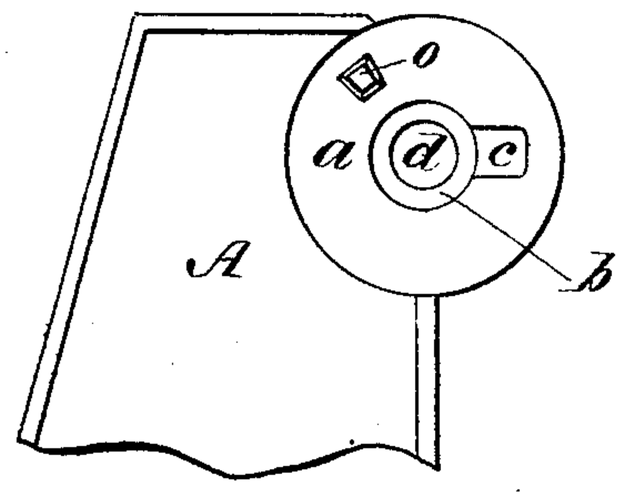



Fig. 5.

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# UNITED STATES PATENT OFFICE.

EDWARD G. DURANT, OF RACINE, WISCONSIN.

## IMPROVEMENT IN SCHOOL-DESKS.

Specification forming part of Letters Patent No. **183,800**, dated October 31, 1876; application filed January 8, 1876.

*To all whom it may concern:*

Be it known that I, EDWARD G. DURANT, of Racine, in the county of Racine and State of Wisconsin, have invented certain Improvements in Hinged-Top School-Desks, of which the following is a specification:

My invention relates to an improved hinge-joint for connecting the tops or lids of school-desks to the bodies or standards; and consists in a peculiar manner of constructing the joint, and arranging therein a sliding locking-bolt, which sustains the top in position for use, but admits of its being readily released and turned down; in a peculiar construction and arrangement of the locking-bolt, by which it is also made to serve as a pivot-pin; in constructing the parts in such manner that the lid can be raised above the position it occupies when in use without being unlocked; and in the peculiar application of cushions to prevent noise.

Figure 1 represents a side view of the lid-arm, connected, by my improved joint, to the standard or frame of the desk; Fig. 2, a top-plan view of the same; Fig. 3, a vertical section of the same on the line *x x*, Fig. 2, looking toward the inside of the arm; Fig. 4, a horizontal section on the line *y y*, Fig. 3; Fig. 5, a side view of the standard or frame; Fig. 6, a perspective view of the locking-bolt, which, in the present instance, also serves as a pivot-pin.

My joint is intended for uniting the top or lid to the standard or frame in that class of desks which have their tops arranged to fold down out of the way when not in use; and the object of the invention is to produce a cheap, strong, and simple joint, which will be noiseless in its action, which will give a firm support to the top when it is in use, and which will admit of the top being easily and instantly turned up and down.

In constructing my joint I provide each standard or side frame A of the desk with a circular plate or face, *a*, having a round central cavity, *b*, a notch, *c*, leading laterally from said cavity, and a small hole, *d*, extending from the bottom of the cavity through the back of the arm, as clearly shown in Figs. 4 and 5. The arm B, which is intended to support the desk top or lid, I provide at its inner end with a flat circular face, *e*, adapted to fit upon the face *a* of the standard, and provided with a round central hole, and with a shallow sector-shaped cavity, *h*, in its inner face, as clearly represented in Figs. 3 and 4. I next provide the combined locking-bolt and pivot-pin C, (represented in Fig. 6,) consisting simply of a round pin or bolt, having at its middle an enlarged belt and a radial locking-lip, *i*, which latter serves to sustain the arm and top, as hereinafter described. I place a spiral spring, *m*, around one end of the bolt, and then insert the bolt and spring into the cavity in the standard A, as shown in Figs. 3 and 4, passing the end of the bolt out through the hole in the back, and seating the lip *i* in the notch *c*, by which it is held from turning, although it can be pushed back into the standard by bearing on the end of the bolt. After the insertion of the bolt into the standard I apply thereto, as shown in Figs. 1, 2, 3, and 4, the end of the arm B, which will be held up snugly against the standard by the desk top or lid extending across, and attached to, the arm on the opposite side of the desk. The outer end of the bolt extends through the central hole in the arm B, and protrudes on the outside, forming both a pivot-pin for the arm and a means by which the locking-lip *i* may be released. When the arm B is thrown up by raising the desk-top to its natural position, the spring *m* presses the bolt C endwise toward the arm, causing one side of the lip *i* to enter the upper side of the cavity *h* in the arm and lock under the shoulder or bearing formed thereby, as clearly represented in Figs. 3 and 4. The lip *i* at one side, seated in, and held firmly by, the notch in the standard, and at its other side bearing under the shoulder of the arm, holds the arm and desk-top firmly and securely in position for use. By pressing inward upon the outer protruding end of the bolt the locking-lip *i* is forced back into the standard clear of the arm, and the latter thereby released and permitted to fall.

It will thus be seen that when the desk-top is turned up in position it is locked automatically, and that in order to release it it is only necessary to press the bolt inward—an operation which can be easily and readily performed while the other hand is employed in holding

the rear edge of the top. By making the cavity *h* in the arm of the form represented a space is left below the locking-lip *i* when the top is in position for use, as shown in Fig. 3, so that, without unlocking the arm, the top may be raised to a limited extent above the position it occupies when in use, in order to give more convenient access to the book-rack, which will be located, as usual, in the back of the desk below the top. In order to prevent the locking-bolt from producing a noise when thrown outward by the spring, I place a rubber or other soft band, *n*, around it, as shown in Fig. 4. In order to limit the movement of the arm and prevent noise therefrom, I provide the standard with a stud, *o*, and the arm B with a curved slot, *f*, to admit the same, and in the ends of the slot seat cushions *g*, of rubber, felt, leather, or equivalent material, as represented in Fig. 3, so that the stud, coming in contact with one or the other of the cushions, will limit the movement of the arm in each direction in a noiseless manner.

While it is preferred to construct the parts in the manner shown, certain modifications may be made without departing from the limits of my invention. Instead of having the bolt C serve the purpose both of a pivot and a locking-bolt, it may be employed for the latter purpose alone, in which case the arm will be connected to the standard by a hollow journal cast upon one of the two parts. It is also obvious that instead of having the locking device more in line with the axis of the joint, to lock and unlock, it may be arranged to move radially, being mounted in a recess in one of the parts, and arranged to lock into a notch in the other.

My invention consists in combining with the pivoted arm a locking bolt or dog in or at the joint, and it is immaterial in what direction the bolt moves to unlock, provided it locks the two parts firmly together and admits of the arm being readily released. It is also obvious that different cushions may be employed without affecting the action of the locking devices, and that when the top is not to be raised above its natural position the slot *f* will be shortened accordingly, and a notch substituted for the large recess *h*.

I am aware that it is old to provide a hinged lid-arm with side teeth, which were engaged with and disengaged from teeth on the standard by sliding the lid or top endwise, and I lay no claim thereto, my invention being limited to a movable bolt or dog, which can be operated without shifting the lid or top.

Having thus described my invention, what I claim is—

1. In combination with a desk standard or frame, A, and a lid-arm, B, hinged thereto, a locking bolt or dog located in the joint, and movable independently of the standard and arm, for the purpose of upholding the latter, substantially as shown and described.

2. In combination with the standard A, having the circular plate *a*, and the arm B, having the corresponding plate *e*, the sliding locking-bolt C, having the lip *i* and the spring *m*, all constructed and arranged to operate substantially as shown and described.

3. In combination with the standard A and the arm B, the combined locking-bolt and pivot C and the spring *m*, as shown.

4. The combination of the standard A, lid-arm B, hinged thereto, and the arm-locking device C, constructed substantially as shown, whereby the arm is permitted to rise above the position which it occupies when in use without being unlocked.

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