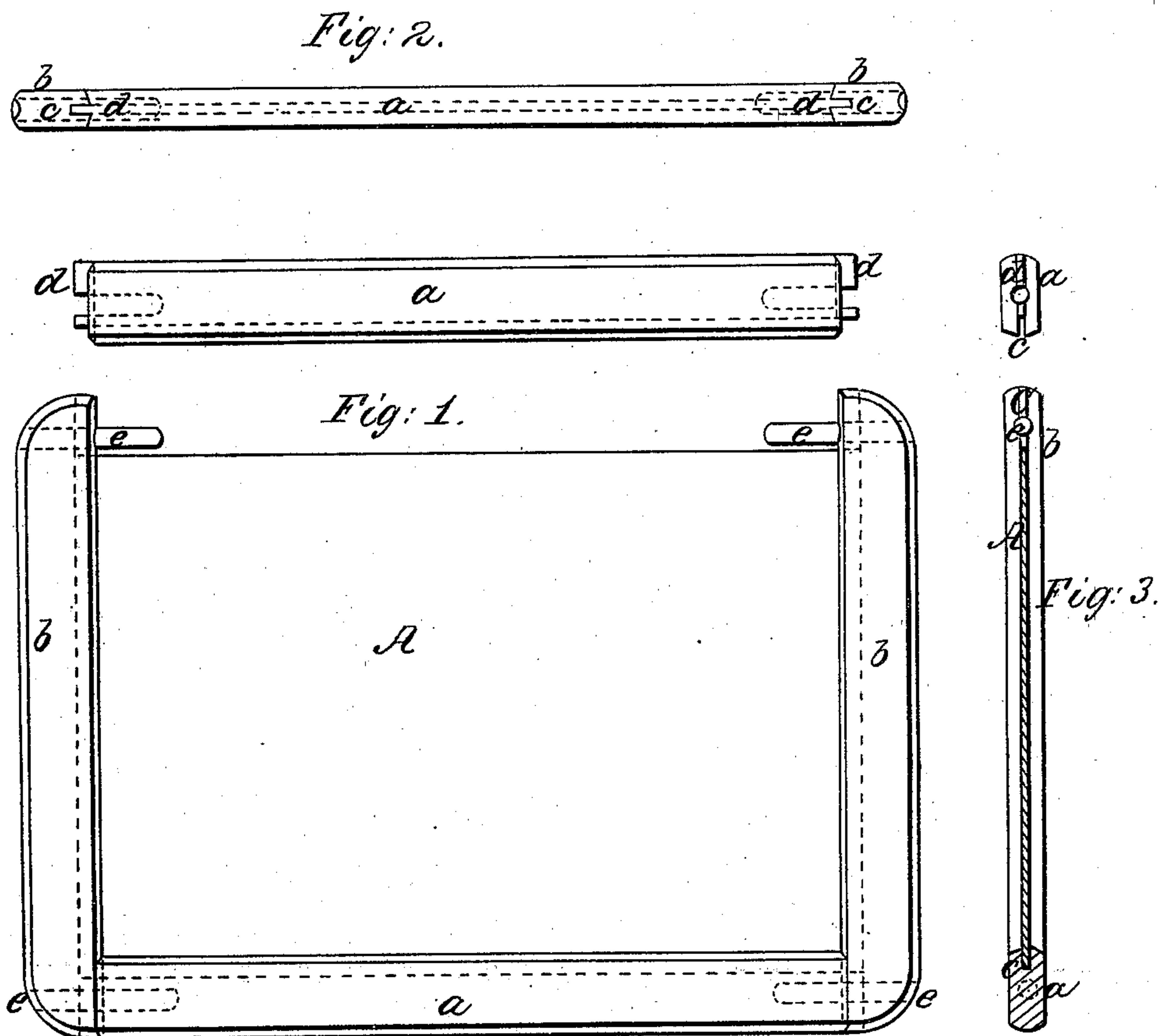


Uhlinger & Doring.

Making Slate Frames.

N^o 86,610.

Patented Feb 2, 1869.



Witnesses;
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WILLIAM P. UHLINGER AND JUSTUS DOERING, OF PHILADELPHIA,
PENNSYLVANIA.

Letters Patent No. 86,610, dated February 2, 1869.

IMPROVEMENT IN CONSTRUCTING SLATE-FRAMES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that we, WILLIAM P. UHLINGER and JUSTUS DOERING, both of the city of Philadelphia, and State of Pennsylvania, have invented a new and useful Improvement in Slate-Frames; and we do hereby declare the following to be a full and exact description of the same, reference being had to the accompanying drawing, and to the figures and letters of reference marked thereon.

The object of our invention is to produce school or counting-house slates, of a very strong and perfect construction, at a low manufacturing-cost, and to form the joints of their frames in such a manner that they cannot be tampered with, or picked apart.

The slabs of slate furnished in commerce are not of strictly uniform dimensions, although nominally of a given size, by which they are distinguished in trade, and therefore a very important practical feature of our improvement consists in the facilities it provides for adjusting the size of each frame to the exact width of its particular slab of slate, so that the latter is not only prevented from shaking within the frame, but actually strengthens and preserves the frame very materially.

In order that our invention may be fully understood, we will now proceed more particularly to describe the same.

On reference to the drawing making part of this specification, and in which similar letters of reference allude to like parts throughout the several views—

Figure 1 is a plan of our improved slate, with one of the long bars of the frame detached;

Figure 2 is a side view; and

Figure 3, a sectional end view.

The frame consists of two longitudinal bars, *a a*, and transverse bars, *b b*.

All have their inner edges bevelled, as seen in the drawing, and are provided with a groove, *c*, to receive the slate *A*.

The long bars, *a a*, are made to correspond in length, as nearly as practicable, with the length of the slate *A*. They are, at both ends, provided with short tenons, *d*, fitting the grooves *c c* in *b b*, and are otherwise so shaped as to joint with the bevelled edges of *b b*.

It will thus be seen that, when the short slats *b b* are placed upon the corresponding ends of the slate, the long bars *a a* may have their tenons inserted into the grooves *c c*, and be brought up, from opposite sides, until the slate is firmly confined between them.

In putting the frames together as described, the joints are glued, so as to give due strength to the frame, for the additional handling required for its completion, as follows:

After the glued joints are set and hardened, a hole is drilled at each of the four joints, passing transversely through the end bars *b b*, and entering the long bars *a a* endwise, in the manner fully shown in the drawing. Into these holes is then tightly fitted and glued a series of strong dowel-pins, *e e*, and, lastly, the outer edges of the frame are dressed, and the corners rounded, as seen in the drawing.

It will be readily evident that the dowel-pins *e e*, when once in their places, as described, cannot be withdrawn or tampered with, as is the case when they pass transversely through the mortise-joint, and are exposed at both ends.

Having thus described the nature of our invention, What we claim as our improvement, and desire to secure by Letters Patent, is—

A joint for slate-frames, constructed as herein described, having tenons *d* fitted in grooves *c*, and firmly united by dowel-pins *e*, in the manner and for the purposes specified.

WILLIAM P. UHLINGER.
JUSTUS DOERING.

Witnesses:

CHRISTIAN PFLAUM,
WM. NEILL.