(No Model.)

C. C. SHEPHERD.

MANUFACTURE OF SLATE FRAMES.

No. 301,630. Patented July 8, 1884.

Fig. 2.

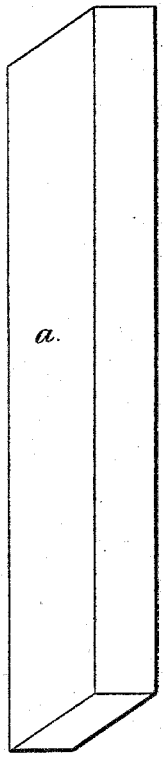


Fig. 5.

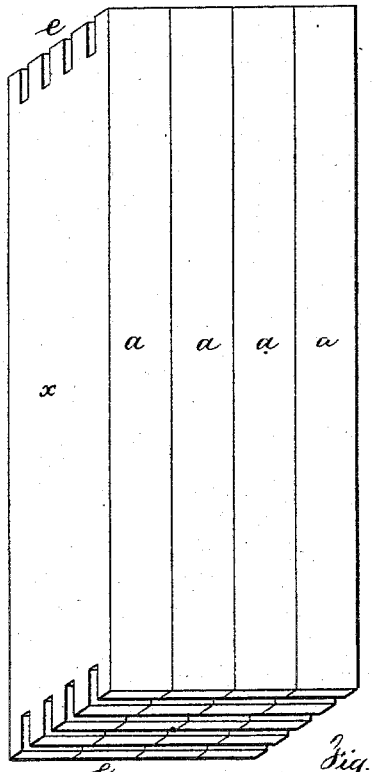


Fig. 4.

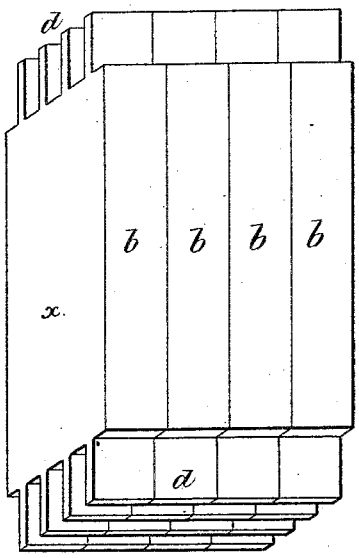


Fig. 3.

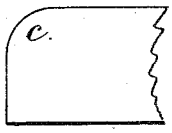


Fig. 1.

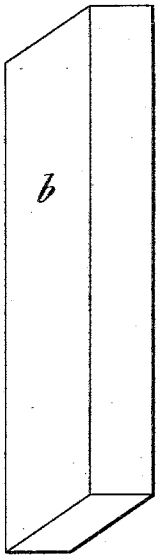


Fig. 9.

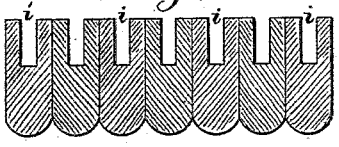


Fig. 7.

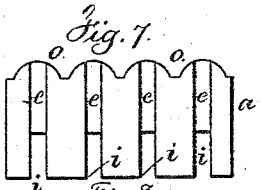


Fig. 8.

Fig. 10.

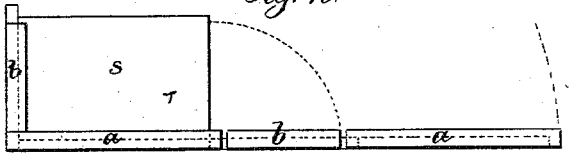
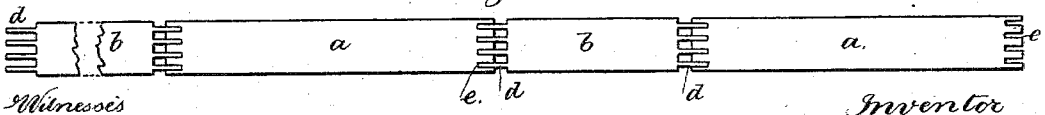


Fig. 6.



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UNITED STATES PATENT OFFICE.

CHARLES C. SHEPHERD, OF PASSAIC, NEW JERSEY.

MANUFACTURE OF SLATE-FRAMES.

SPECIFICATION forming part of Letters Patent No. 301,630, dated July 8, 1884.

Application filed April 10, 1884. (No model.)

To all whom it may concern:

Be it known that I, CHARLES C. SHEPHERD, of Passaic, in the county of Passaic and State of New Jersey, have invented an Improvement in the Manufacture of Slate-Frames, of which the following is a specification.

School-slates are usually surrounded by a frame of wood composed of four pieces united by tenons and slots at the angles, and the corners rounded. The expense of manufacturing such frames is augmented by the number of pieces that have to be handled separately, and by the extent of finishing that becomes necessary to remove inequalities in the surfaces of the wood where the pieces come together at the corners.

My improvement is made for lessening the number of pieces that require to be handled separately, and to render the joints at the corners more perfect.

In the drawings, the figures represent in succession the various operations performed in making the slate-frame.

The wood usually employed for the slate-frame is cherry. This is sawed up into plank that are sufficiently thick to include the width of the frame-strips, and it is slit up lengthwise of a width sufficient to make, say, four frame-pieces side by side. These operations are performed by ordinary saws. The strips are sawed up into sections *a*, Fig. 2, of sufficient length for the sides, and *b*, Fig. 1, for the ends, of the slate. If the slate-frame, when complete, is to have round corners, it is preferable at this stage to cut off one edge at each end of each section, in the manner indicated at *c*, Fig. 3; but this is not always done. The sections *a a* and *b b* are packed together flatwise in a convenient number for handling, and the ends are tongued and slotted, the tongues *d* being formed at the ends of the sections *b*, Fig. 4, and the slots *e* at the ends of the sections *a*, Fig. 5. These are made by suitable gang saws or cutters, the tongues *d* being of the same width as the slots *e*, and these are at the proper distances apart as represented, so that the operations next described are performed. The sections are now set together in the form represented in Fig. 6, the tongues *d* being pressed into the slots *e*, and the sections placed in the following order: *b a b a*. There is now the material for four slate-frames, and only four pieces have been handled instead of sixteen, and the four pieces being interlocked, there really is but one piece to handle in the next operations. By suitable cutters in gangs, and in any suitable planing-machine, I now cut in one surface of the combined sections *b a b a* grooves *i*, that correspond in position to the tongues *d* and grooves *e*, and in the other surface of the sections I plane the corrugations *o o*, or otherwise finish off the portions of the sections that form the outer edges of the slate-frame. The sections now appear in the form shown in Fig. 7. I however remark that in cases where the outer edges of the slate-frames are to be square the corrugations *o o* will not be required. I now slit the sections lengthwise by suitable saws, so as to separate the compound sections into the four separate frames, as shown in Fig. 8. It is to be understood that one edge—say the edge *x*—is in all the before-described operations to be brought against the gages or fences in the sawing and planing machines, so that there will be perfect uniformity in working up the material, and that the sections may be slightly wider than required, so that all the surfaces of the slate-frames may be smoothed off by the gang of saws that separate the sections longitudinally, such saws being made so as to leave smooth surfaces. In these operations the flat surfaces of the slate-frames are made true, and in the slitting operation the four pieces composing one frame remain together, and are complete, ready to receive the slates, which are dressed off in the usual manner, and of a thickness adapted to pass into the grooves *i*. The slate-frames in the straight lengths are now packed together in a convenient number for handling—say eight—with the groove *i* uppermost, as indicated in Fig. 9, and by a suitable brush or appliance glue is introduced at the junction of the respective tenons and slots, and then the ends *b* of the set of frames are swung up into the positions shown in Fig. 10 and forced home together. The slates *s* are now placed into their slots in the respective frames. Then the other end pieces, *b*, are swung up into place against the slates and the tenons pressed home in the slots. Then the sides *a* are turned down upon

the slates, and the end tenons and slots interlock, and by suitable clamps or pressing devices the frames are all forced together, and the slates and frames are complete, except that whatever dressing may be desired to round the corners of the frame, which may be done in the usual manner to the frames of the separate slates. By my improvement the operations performed upon the slate-frames are greatly facilitated, and there is less handling of the pieces.

It will be apparent that there is a great advantage in the manner of gluing and introducing the slates when the four pieces composing the frame are together in one length.

I do not claim mortises or slots and tenons for uniting slate-frames or boxes; neither do I claim either of the separate operations performed, nor the grooving or sawing up of plank or board to form slate-frames.

To economically manufacture slate-frames of the character described it is necessary to perform the successive operations in the order described, so as to save time and lessen the number of pieces that require to be handled separately.

I claim as my invention—

1. The method herein described of making slate-frames, consisting in cutting slots and tenons upon wooden sections, interlocking the said slots and tenons of four pieces, then grooving the sections longitudinally, and separating such sections longitudinally into separate frames ready to receive the slate and be closed around the same, substantially as set forth.

2. The method herein described of making slate-frames, consisting of cutting slots and tenons at the respective ends of wooden sections, interlocking four of such sections, grooving one side longitudinally for the edges of the slates, planing the opposite side with corrugations, separating the sections longitudinally to form the respective slate-frames, gluing such frames where the tenons and slots interlock, and then wrapping the frames around the respective slates and rounding the corners, substantially as set forth.

Signed by me this 4th day of April, A. D. 1884.

CHAS. C. SHEPHERD.

Witnesses:
GEO. T. PINCKNEY,
WILLIAM G. MOTT.