

(No Model.)

D. SCRYMGEOUR.
FRAME FOR SCHOOL SLATES.

No. 376,786.

Patented Jan. 24, 1888.

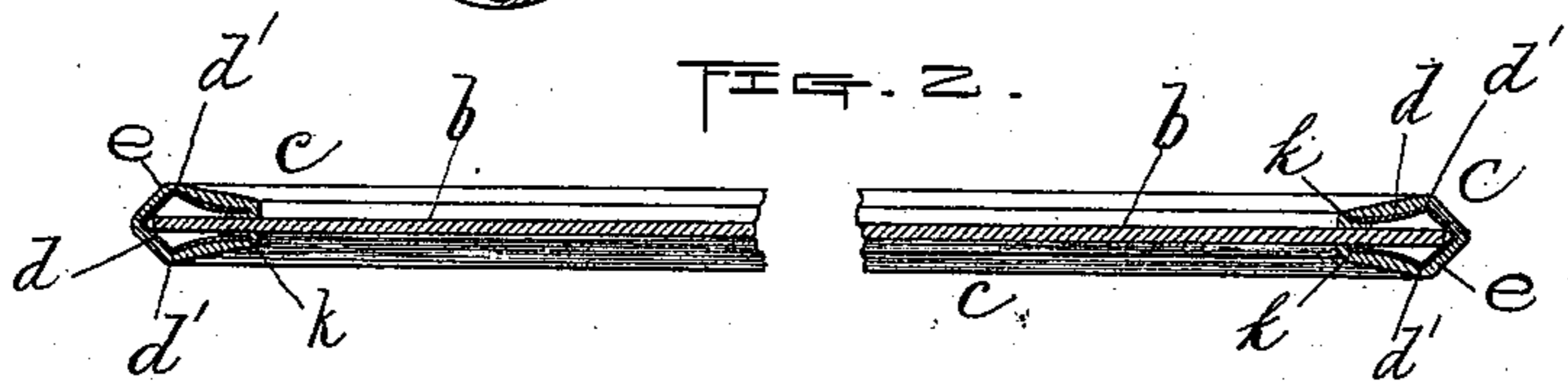
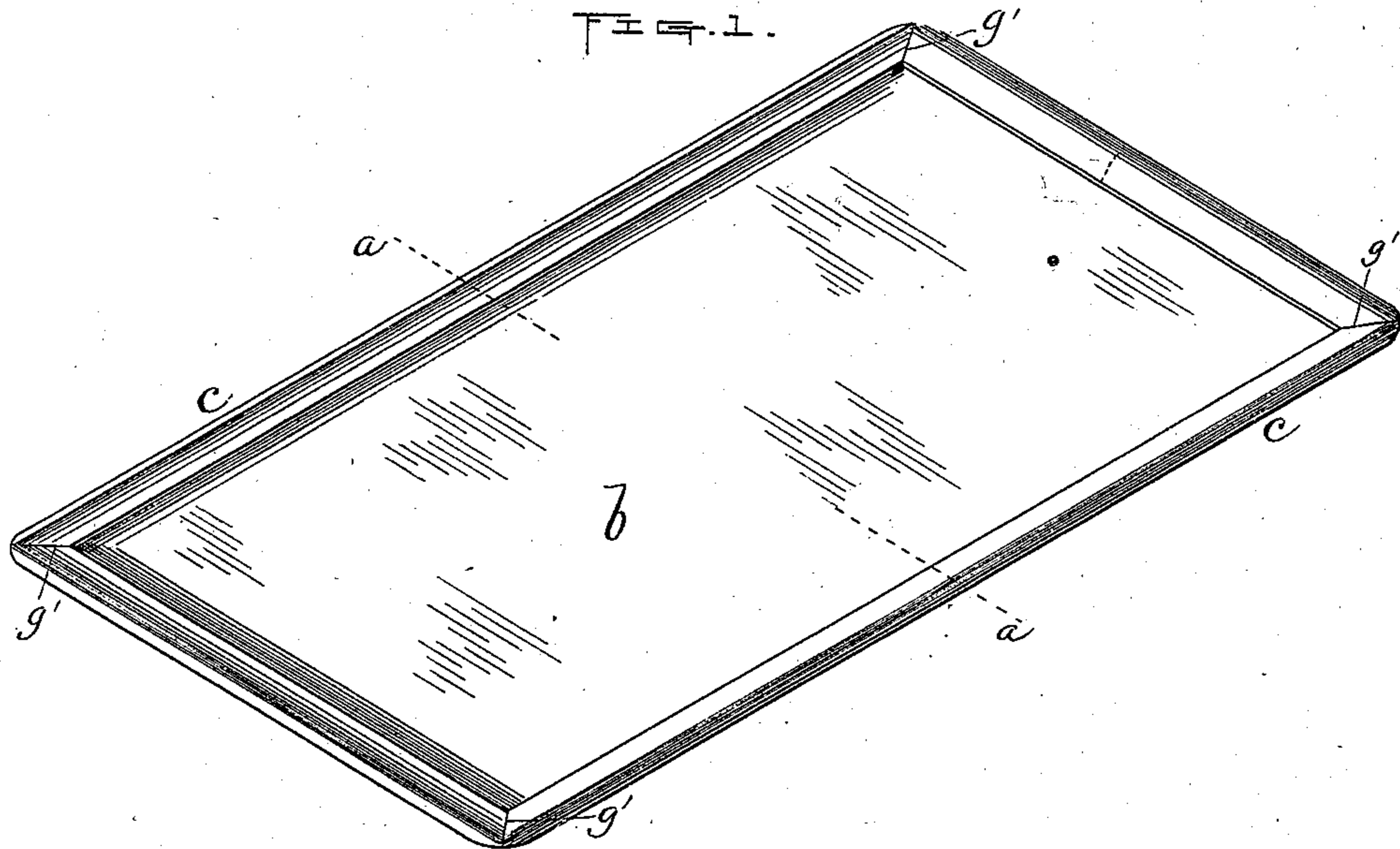


FIG. 3.

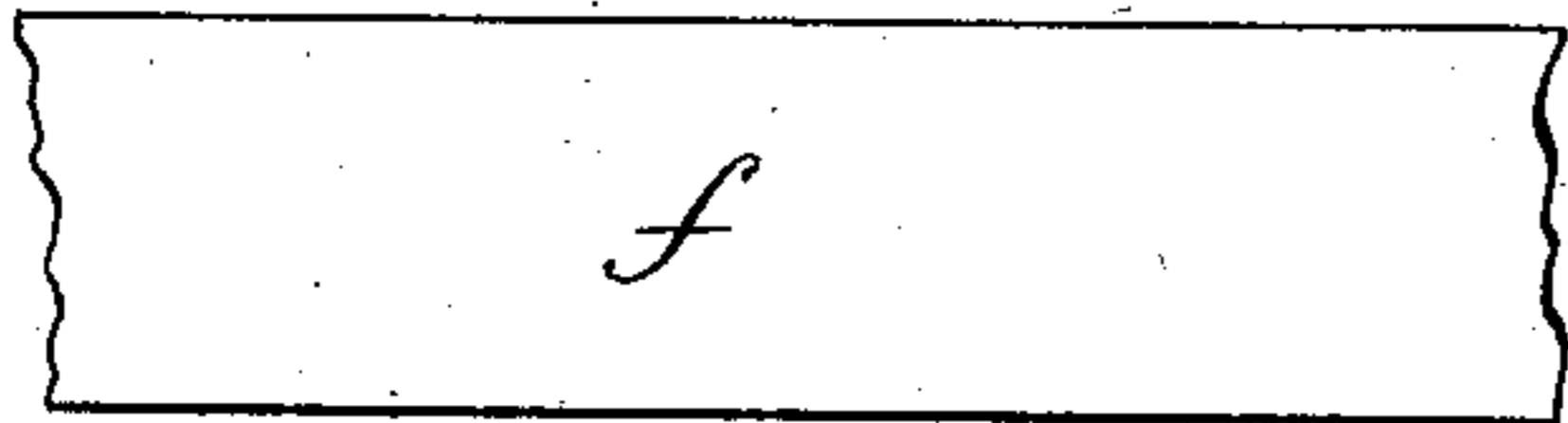


FIG. 4.

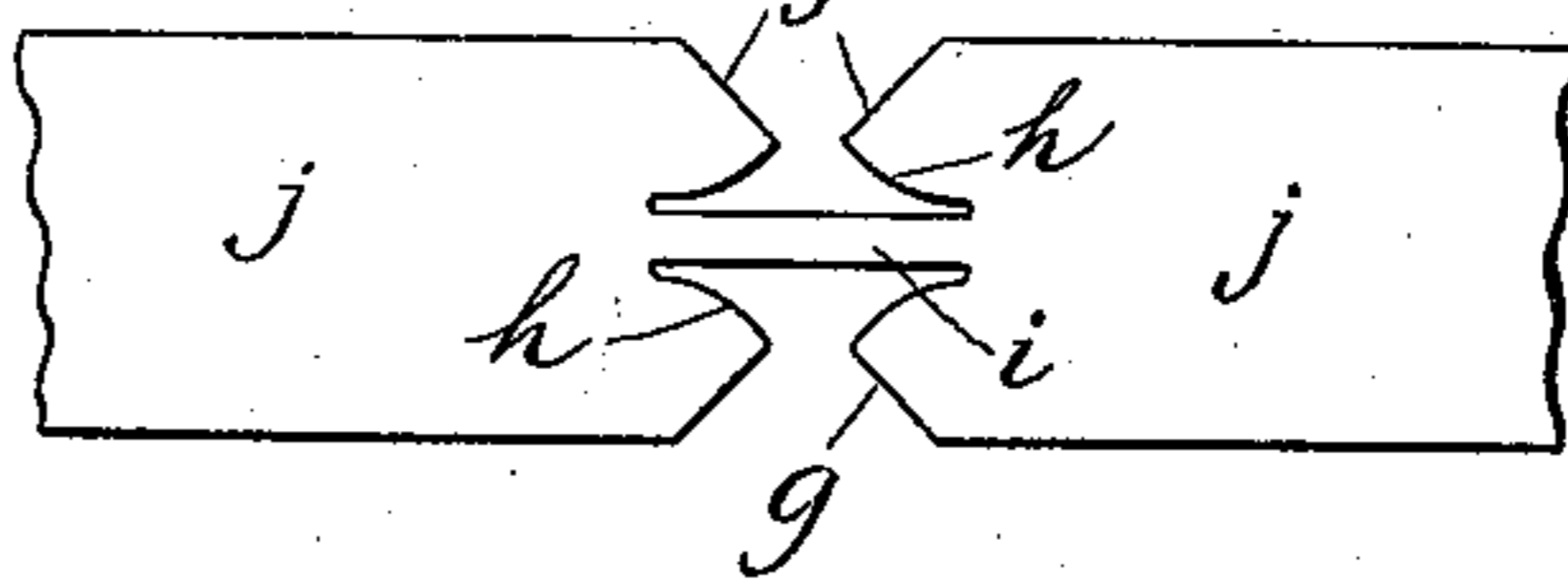


FIG. 5.

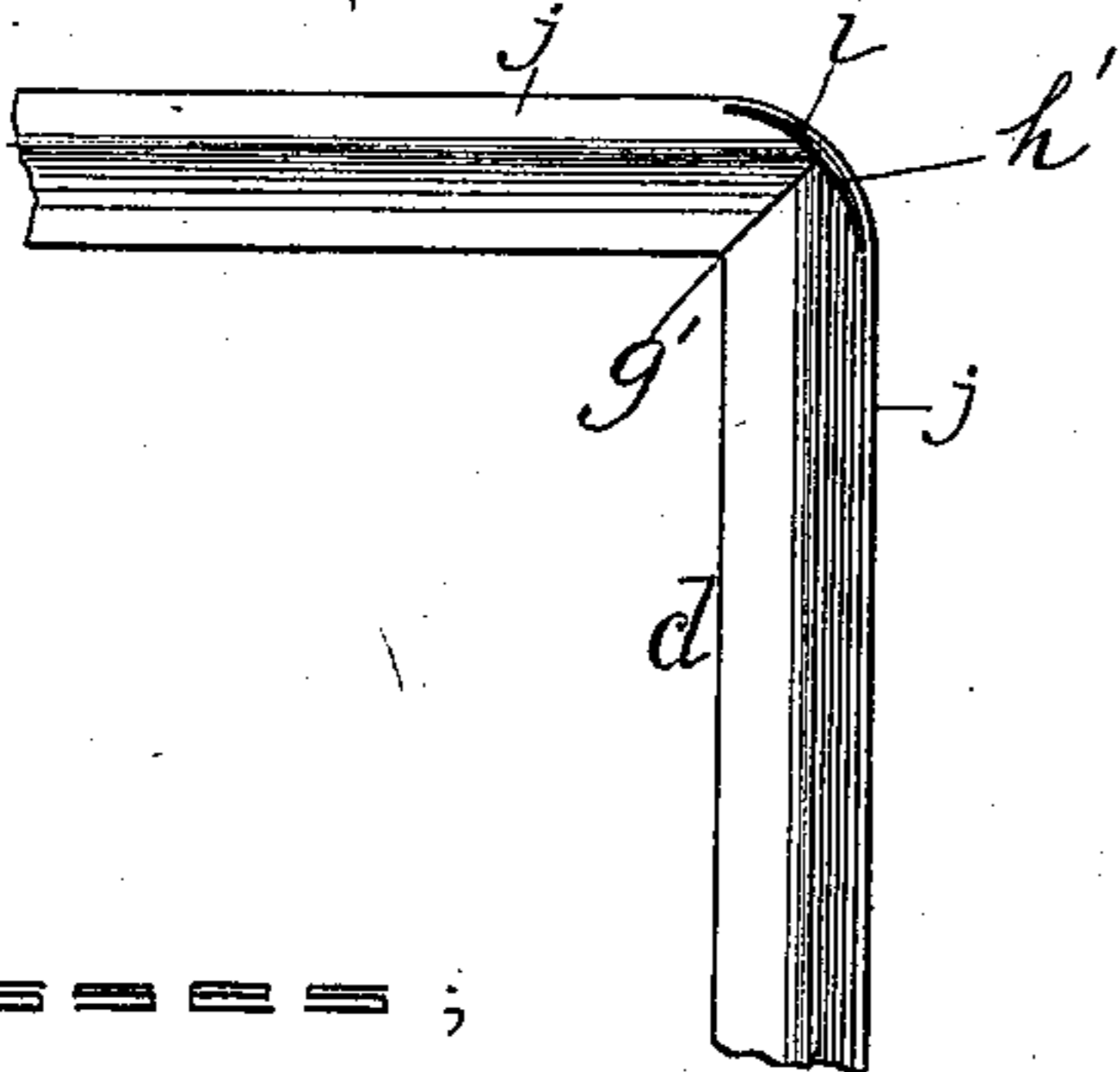
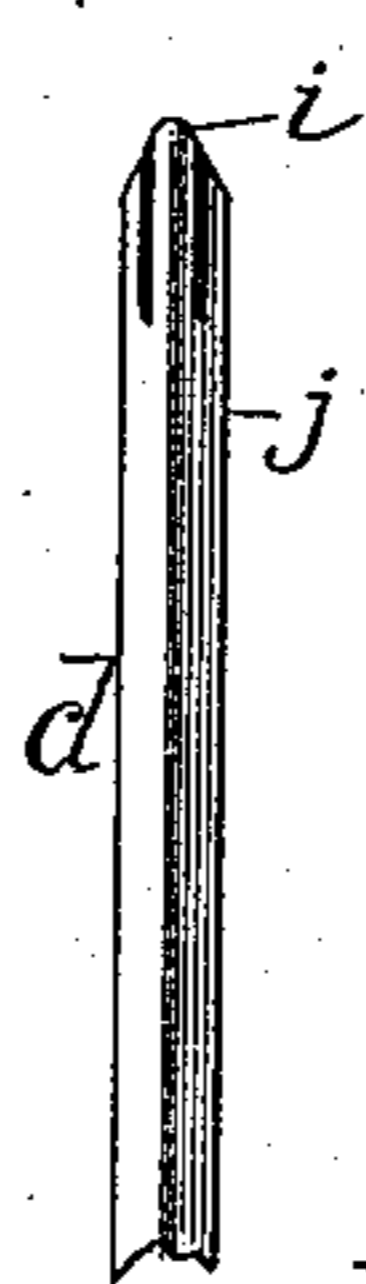


FIG. 6.



Witnesses;

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UNITED STATES PATENT OFFICE.

DAVID SCRYMGEOUR, OF MONSON, MAINE, ASSIGNOR TO THE PARAGON
NOISELESS SCHOOL SLATE COMPANY, OF SAME PLACE.

FRAME FOR SCHOOL-SLATES.

SPECIFICATION forming part of Letters Patent No. 376,786, dated January 24, 1888.

Application filed June 4, 1887. Serial No. 240,252. (No model.)

To all whom it may concern:

Be it known that I, DAVID SCRYMGEOUR, of Monson, in the county of Piscataquis and State of Maine, have invented certain new and useful Improvements in Frames for School-Slates; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and in which—

Figure 1 represents an isometric view of a school-slate embodying my improvements. Fig. 2 is a cross or transverse section thereof, upon an enlarged scale, taken on line *a a*, Fig. 1, with the central portion of the slate and frame broken away. Fig. 3 represents part of a thin, flat, metallic strip, such as is used in the construction of my improved slate-frame. Fig. 4 represents said strip after having been cut into the desired shape to form one of the corners of the frame, hereinafter more fully described; and Figs. 5 and 6 represent a side and edge view, respectively, of one of the corners of the frame made from a cut strip, such as shown in Fig. 4, after having been bent into the proper form and prior to being covered with rubber, as will also be hereinafter explained.

The object of my invention is to produce a school-slate frame, which shall be noiseless as well as elastic, so that it may not be easily broken when dropped upon any hard substance, and that will not readily slide upon or scratch any smooth surface upon which it may be placed when in use.

Said invention relates more especially to improvements upon the slate-frame for which Letters Patent of the United States were granted me May 8, 1883, and numbered 277,164.

My invention consists in combining with the edges of an ordinary slate a hollow frame made preferably of thin sheet metal, cut and bent in a peculiar manner to produce circular outer and square inner corners having smooth unwrinkled surfaces, and covered with rubber vulcanized and molded into the desired shape, as hereinafter more fully set forth.

To enable others skilled in the art to which my invention appertains to better understand the nature and purpose thereof, I will now proceed to describe it more in detail.

Referring to the drawings, the part marked

b represents an ordinary school-slate, and *c* my improved frame, which is constructed and applied to the edges of said slate in the following manner. The frame *c* comprises an inner supporting and stiffening hollow casing, *d*, made preferably of thin sheet metal, and coated upon the exterior with vulcanized rubber *e*, as before stated.

In making the casings *d*, the sheet metal is first cut into strips similar to the piece *f*, shown in Fig. 3, and of the proper widths and lengths to form the desired sizes and widths of frames. Said strips are then cut, by means of suitable dies, into substantially the shape shown in Fig. 4, and at the proper places to produce the corners, each corner, it will be understood, being cut as shown in said Fig. 4. The strips having been thus cut, are now bent in any suitable manner into the shapes shown in Figs. 2, 5, and 6, ready to be applied to the edges of the slates.

By cutting and bending the strips in the manner shown it will be observed that the straight edges *g* form the miter-joints *g'*. The curved edges *h*, the rounded corners *h'*, and the central narrow connecting-strips, *i*, which extend around the corners aforesaid, serve to hold the parts *j* of the metallic casing together and to protect the corners of the slate when fitted over the same. Said corners of the slate are in practice preferably rounded to correspond therewith.

After the metallic strips have been cut and bent in the manner previously described, they are then fitted over the edges of the slates and their ends brazed or soldered together to form continuous metallic bands around said slates. They are now ready to receive the outer coating of rubber, which is applied in the following manner, and substantially as described in my former patent previously cited. The rubber in an unvulcanized state is first fitted over the casing, the same being extended under the inner edges, *k k*, thereof, next to the slate, as shown in Fig. 2. It is then subjected to pressure and heat while in contact with sulphur by means of a pair of molds, one upon each side of the frame, whose outer contour corresponds to the shape desired to be imparted to said frame. This process causes the rubber to be vulcanized or hardened, so that it will retain

permanently the shape imparted to it, and also to adhere with great tenacity to the surface of the metal casing, as well as to the edges of the slate, thereby effectually preventing dirt and other foul and filthy matter from entering under the edges of the frame when in use, which obviates a serious objection in many of the old slates, and notably those having wooden frames. Being thus constructed, it may therefore be easily kept clean and free from all impurities, and the frame being both strong and elastic greatly reduces the liability to breakage of the slate, as well as rendering it as nearly noiseless as is possible.

Another advantage which the frame possesses over the usual wooden frames is that it retains its position wherever placed without slipping, consequently not requiring to be held while in use. By thus adhering to the surface upon which it is placed the slate is not liable to be pushed off upon the floor and broken.

The casing *d*, although made of light stock, is strong and not easily bent, owing to the ribs *d'* *d'*, formed longitudinally thereon, as shown in Fig. 2; and, if desired, additional strength may be imparted thereto by making the same with two or more ribs or corrugations, instead of as shown. Said ribs constitute one of the important features of my invention, as I am enabled to obtain the requisite strength with lighter stock, and thereby reduce the cost of the frames. I do not, however, limit myself to said construction, as it does not constitute an essential feature of said invention; but I do limit myself to the manner of forming the corners of the frame, substantially as shown and described, and to the method of applying the outer rubber coating to said frame, as previously specified, and pointed out in the claims.

I thus limit my invention in view of the United States Patent No. 360,327, granted to Peter C. Ritchie, for improvements in school-slates, dated March 29, 1887, said invention consisting in making the frame of sheet metal covered with rubber, oil-cloth, or similar material, but differently constructed, and the covering applied in a different manner from mine.

By the employment of a sheet-metal casing, as described and shown in my present application, instead of a wire, as in my former pat-

ent, I am enabled to obtain the desired shape of frame with a large saving in rubber, while at the same time producing a much stronger frame.

What I claim is—

1. A frame for school-slates, consisting of an inner supporting-case made from a strip of sheet metal or equivalent material of proper width and length, cut to form the corners, with mitered sides, rounded edges, and the narrow connecting-strip over each corner, then bent and fastened over the edges of the slate, and an outer coating of rubber or similar elastic material enveloping said case and extending under the edges thereof, substantially as shown and specified.

2. A school-slate, in combination with a frame comprising an inner supporting-case made from a strip of sheet metal or equivalent material of proper width and length, cut to form the corners, with mitered sides, rounded edges, and the narrow connecting-strip over each corner, then bent and fastened over the edges of said slate, and an outer coating of rubber or similar elastic material enveloping said case and extending under the edges thereof, substantially as shown and specified.

3. The method of making and attaching a frame to a school-slate, consisting in cutting and bending a strip of sheet metal or equivalent material of proper width and length into the proper form to produce an inner supporting-case having rounded corners, mitered at the sides, and a narrow connecting-strip over each corner, then fitting said case over the edges of the slate with the ends thereof brazed or soldered together, then enveloping its outer surface with unvulcanized rubber, extending the same under the edges thereof, and finally subjecting said coated case or frame to pressure and heat between suitable molds and in contact with sulphur, thereby causing the rubber to be molded, vulcanized, and to adhere tightly to the metal casing, as well as to the edges of the slate, substantially as and for the purposes set forth.

DAVID SCRYMGEOUR.

Witnesses:

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