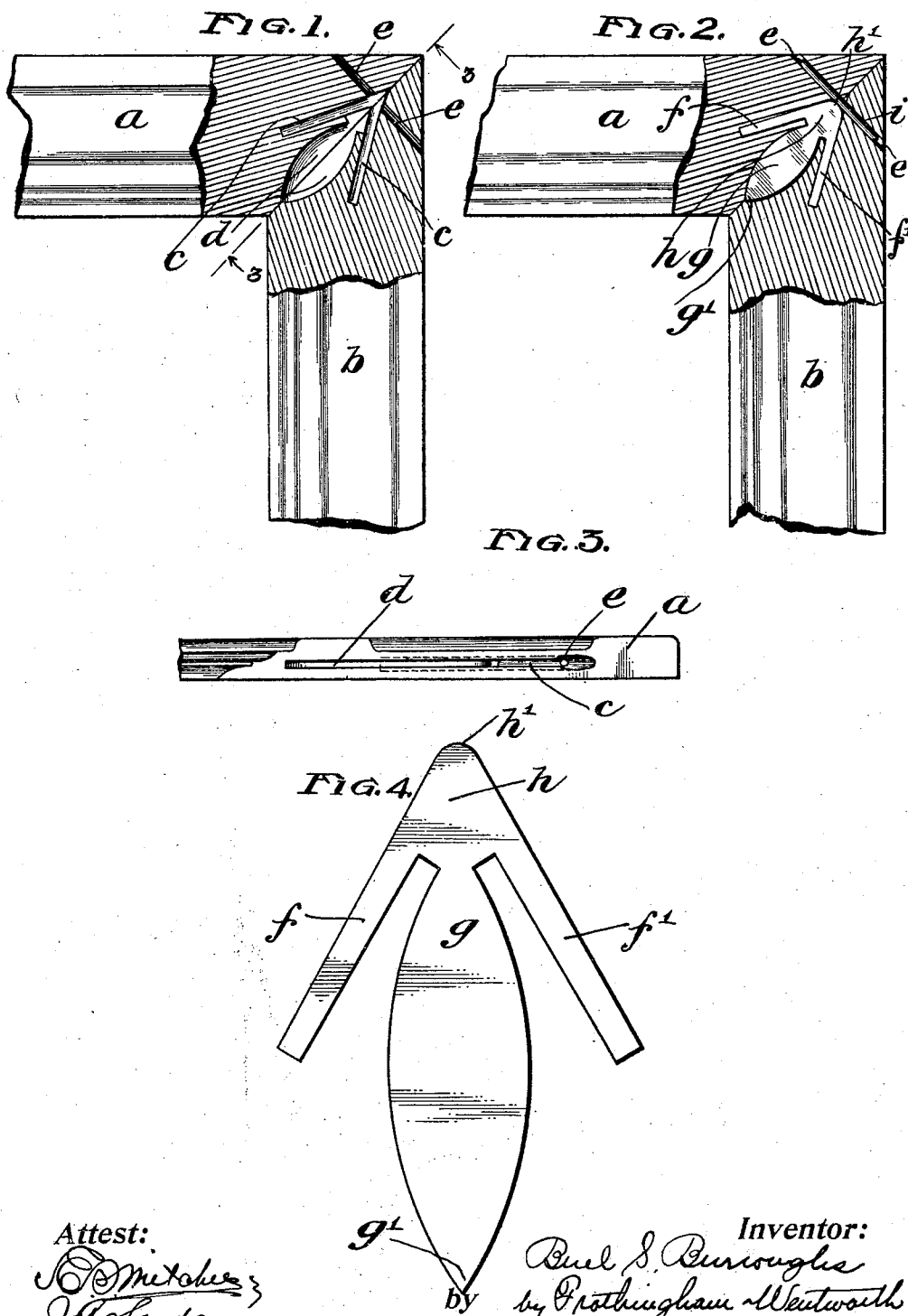


No. 869,055.

PATENTED OCT. 22, 1907.

B. S. BURROUGHS.
SPLICE AND JOINT.
APPLICATION FILED JULY 16, 1907.



Attest:
J. L. Sands

Inventor:
Buel S. Burroughs
by *Prothingham & Wentworth*
his Attys.

UNITED STATES PATENT OFFICE.

BUEL S. BURROUGHS, OF KINGSTON, NEW YORK.

SPLICE AND JOINT.

No. 869,055.

Specification of Letters Patent.

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Application filed July 16, 1907. Serial No. 384,050.

To all whom it may concern:

Be it known that I, BUEL S. BURROUGHS, a citizen of the United States, residing at Kingston, in the county of Ulster and State of New York, have invented certain
5 new and useful Improvements in Splices and Joints, of which the following is a specification, reference being had therein to the accompanying drawings, which form a part thereof.

My invention relates to splices and joints and more particularly to a spline especially adapted to facilitate the mounting of trims in wooden buildings.

The main object of the invention is to provide a miter spline which will form a perfect joint at the angles of the trim, by means which will be entirely embedded
15 in or concealed by the wood, and which will bring the two sections of strip forming the joint together without the necessity for clamping same.

A further object of the invention is to provide a device of this character wherein the spline will serve to
20 bring the corners of the trim to a perfect joint and hold same against any substantial variation from such in any direction.

A still further object is to provide a device of this character by means of which the two adjoining strips of the trim will be brought tightly together at the angle
25 and said means may be so held in position as to prevent a subsequent movement thereof, to an extent to permit the separation or distortion of the joint.

A still further object is to provide a spline, the construction and arrangement of which will be such as to permit the preparation of the trim to receive same in an inexpensive manner, and which, when assembled, will join the parts of the trim together in a manner to prevent the separation of the miter joint or of any strip of the
30 trim from the frame. And a still further object is to provide a spline adapted to be used in a joint which may be inexpensively produced, and which may be readily applied to the trim or similar frame employing a miter joint.

The invention consists in the novel features of construction and combination of parts hereinafter set forth and described, and more particularly pointed out in the claims hereto appended.

Referring to the drawings: Figure 1 is an elevation of
45 one corner of a door trim broken away adjacent to the angle to disclose the manner of preparing the strips to cause them to cooperate with the spline plate in carrying out my invention; Fig. 2 is a similar view showing the spline plate and key pin in place in the trim; Fig. 3
50 is an end view of one of the trim strips, and Fig. 4 is a view of the spline plate alone.

Like letters refer to like parts throughout the several views.

In the accompanying drawings, I have shown at *a*
55 and *b* two strips forming a part of the trim of a door or

window, the end of each being mitered and brought to place to form a perfect miter joint. The end of each said strip has drilled therein a hole extending into the trim at an angle of less than 90 degrees from the edge of the miter cut and at a point distant from the apex of the
60 top of the end of the trim. Adjacent to the said drill hole, I form a channel *d* the bottom of which is preferably concave, in order to permit it to be formed by a circular cutter or saw. This channel *d* extends into the mouth of the drill hole *c*, sufficient stock being left be-
65 tween the two, however, to give sufficient strength of material at this point to permit the adjoining miter ends to be drawn by a spline, to a perfect joint. Each trip *a b* has also drilled from the outer straight edge through the strip and opening outwardly through the
70 miter edge, a hole *e*. When the miter edge of the adjoining strips of a trim are brought together in a joint the mouths of the holes *c*, the channel *d* and the hole *e*, in the respective strips should register with each other, or be capable of being brought into such register.
75

Coöperating with the strips of trim, prepared as above, is a metallic spline plate comprising a plurality of divergent arms *f f'* adapted respectively to enter a hole *c* in a strip *a* or *b* and by engagement with the walls thereof, guide or draw the miter ends of the two strips
80 together and prevent the edge from drawing apart except along the line of projection of said arms. Intermediate the arms *f f'* is a tongue *g* having both edges curved on the same radius in a manner to bring the lower end of the tongue to a point at *g'*. The radius of
85 the edges of said tongue conforms to that of the channels *d* and the thickness of the tongue conforms to the width of the channels *d*, allowing only sufficient clearance to permit a convenient adjustment of the spline to the strip.
90

To afford ample strength of material in this spline, I form a head as *h*, common to the arms *f f'* and the tongue *g*, the lower part of which extends from a point of said tongue which prevents the curved side thereof coming to a point at the top, to each said arm thus forming a
95 flange or web connecting these parts. The top of this head is rounded or beveled as shown at *h'* to facilitate the formation of a tight joint with a lock pin *i* adapted to enter the hole *e* and engage said top edge. To accommodate the lower part of the head *h*, the upper part
100 of the stock between the hole *c* and the channel *d* is broken or cut away as shown.

To insure the total concealment of the spline plate, even in thin trims, it is made of sheet metal, a construction which also permits it to be economically produced.
105

In forming a joint embodying my invention, the strips forming the trim, or other frame or casing are prepared in the manner above described, the holes *c* and *e* and the channel *d* being capable of being quickly and cheaply made with ordinary tools and mechanisms.
110

When it is desired to set up a trim, an arm *f* is inserted in a hole *c* of one strip of the trim *a* to its full extent or sufficiently to cause one edge of the tongue *g* to enter the channel *d* until it engages the bottom thereof. When the spline is so positioned, the adjoining strip of the trim is brought in a relation to the exposed arm *f'* and the side of the tongue *g* adjacent thereto, which will cause the arm *f'* to enter the hole *c* therein, with the miter edges of the adjoining strip ends substantially parallel. The two strips are thus forced together, the angle of the arm *f'* and hole *c* in which it is seated serving to draw the strip *b* firmly against the strip *a* forming a perfectly tight joint. When in this position, the top *h'* will project slightly into the openings *c*, and by forcing the pin *i* into the said opening, the arms *f f'* will exert sufficient wedging action to draw the contacting surfaces of the miter edges of the trim section still more tightly together, while truing up both the inner and outer angles of the trim. This pin *i* also serves to prevent any such shifting of parts as would tend to a loss of the tight joint thus secured. It will be observed that the arms *f f'* and the pin *i* prevent the opening of the joint to an extent to materially affect the appearance of the joint, and also serve to aid in preventing a distortion of the trim adjacent to the joint. The tongue *g* not only serves to line or true up the adjacent miter edges but also serves to aid in holding this alinement and prevents a distortion of the trim about the joint.

I prefer to use a dished out channel and a cooperating tongue each side of which is a sector of a circle, because such an arrangement and construction not only is capable of being cheaply and accurately produced, but presents a gradually increasing area of contacting surfaces, thus increasing the ease in setting up the trim.

When the trim is set up as heretofore described, it will be observed that the spline is entirely contained within openings in the body of the trim strips thus being concealed, and presenting no evidences of its presence in the wood.

A joint formed as herein described, may be rapidly and perfectly fitted, it being merely necessary to make all strips to standard. Thus not only are the labor and expense of fitting the joint of a trim reduced to a minimum but a uniformly tight joint may be secured.

It is not my intention to limit the invention to the precise details of construction shown in the accompanying drawings, although I have found that such, in practice give satisfactory results.

Having described the invention, what I claim as

new, and desire to have protected by Letters Patent is:—

1. In a splice or joint, the combination with two adjoining strips having mitered ends, each of which has a hole extending thereinto at an angle to the end and a channel in the face of said end, of a metallic spline plate, having divergent arms adapted to enter said holes and a tongue intermediate said arms adapted to enter said channels, and extend across the joint. 55

2. In a splice or joint, the combination with two adjoining strips having mitered ends, each of which has a hole extending thereinto at an angle to the end, a channel in the face of said end, and an opening extending through said end from the miter to the side across said hole, of a metallic spline plate having divergent arms adapted to enter said holes, a tongue intermediate said arms adapted to enter said channels and extend across the joint, and a wedge or lock pin adapted to enter said openings and engage the top of said plate whereby said arms will force said strips together and said pin will prevent movement of said plate. 60 65 70

3. In a splice or joint, the combination with two adjoining strips having mitered ends, each of which has a straight hole extending thereinto at an angle to the end, and a channel formed like the sector of a circle and extending along the face of said end, of a metallic spline plate comprising a head having divergent straight arms adapted to enter said holes and a tongue intermediate said arms having curved sides of the same radius as said channels whereby said spline plate will be entirely contained within said strips and will extend across the joint. 75 80

4. In a splice or joint, the combination with two adjoining strips having mitered ends, each of which has a straight hole extending thereinto at an angle to the end, a channel formed like the sector of a circle extending along the face of said end an opening extending through said end from the miter to the side across said hole, of a metallic spline plate comprising a head having a rounded or beveled top having divergent straight arms adapted to enter said holes, and a tongue intermediate said arms having curved sides of the same radius as said channel whereby said spline plate will be entirely contained within said strips and will extend across the joint, and a wedge or lock pin adapted to enter said openings and engage the top of said plate, whereby said pin will prevent movement of said plate. 85 90 95

5. In a splice or joint, a metallic spline plate comprising a head, divergent arms and an intermediate tongue all made of substantially the same thickness and integrally, whereby said arms are adapted to cause adjoining strips having openings therein adapted to receive said plate, to form a joint inclosing said plate. 100

In witness whereof, I have hereunto affixed my signature this 5th day of July, 1907, in the presence of two witnesses.

BUEL S. BURROUGHS.

Witnesses:

F. A. PALEN,
H. B. WESLEY.