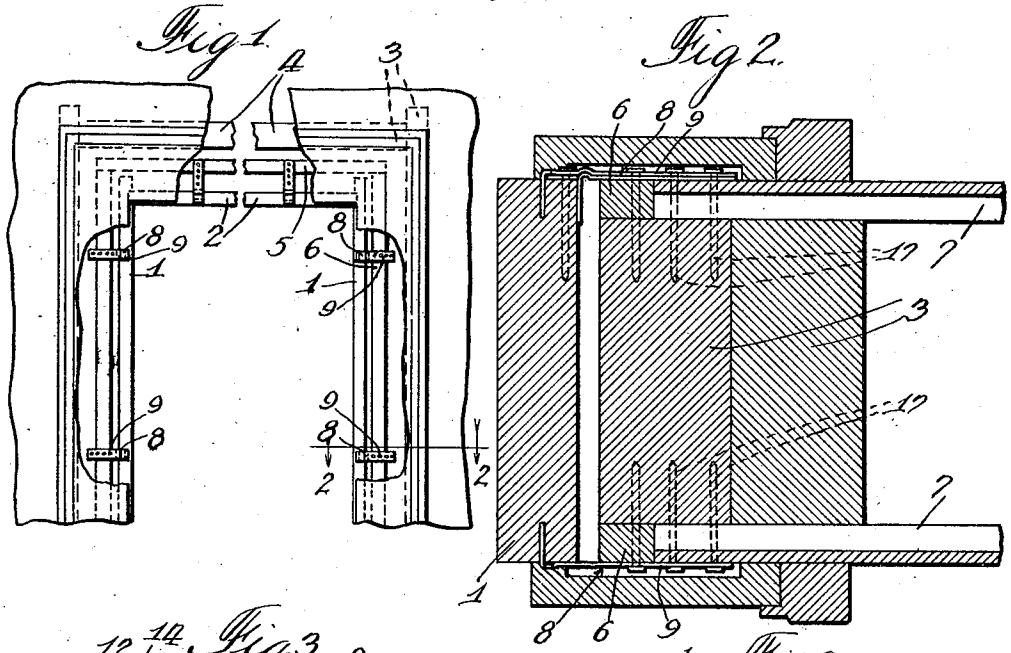
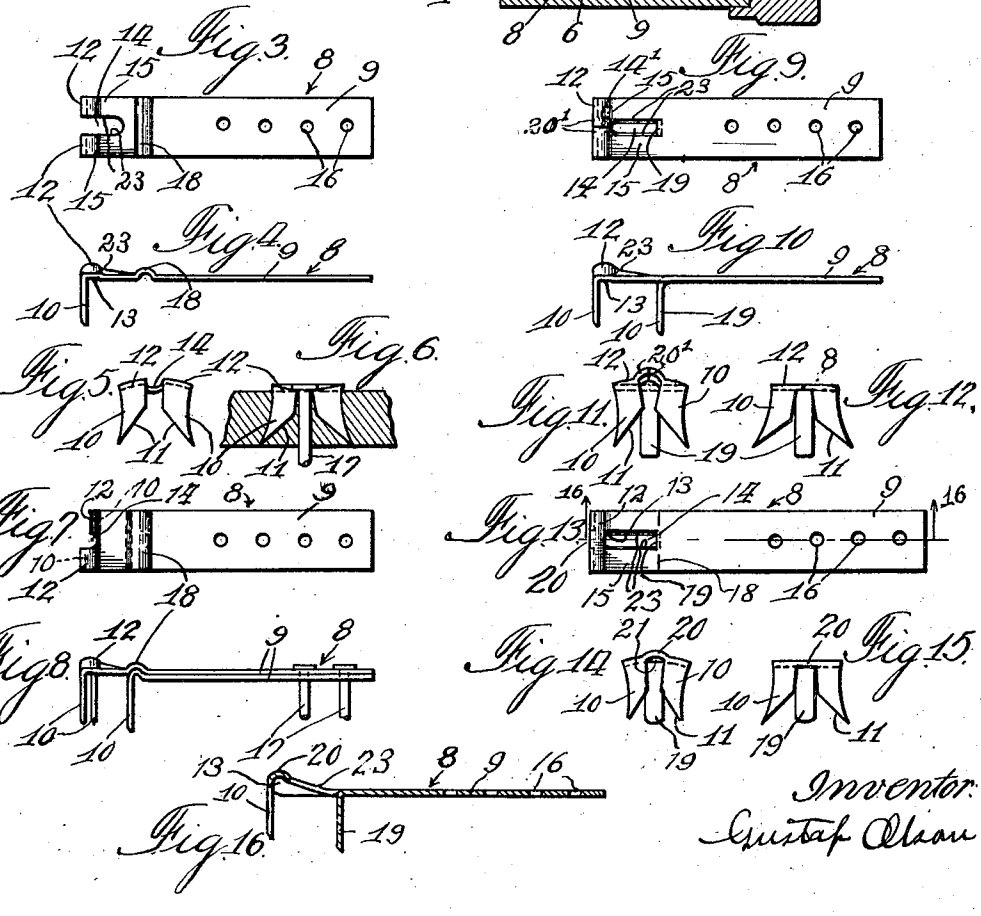
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G. OLSON

METALLIC FASTENER OR JAMB NAIL

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Inventor:
Gustaf Olson

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GUSTAF OLSON, OF CHICAGO, ILLINOIS, ASSIGNOR TO ERIC J. STRAND, OF CHICAGO, ILLINOIS.

METALLIC FASTENER OR JAMB NAIL.

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This invention relates to metallic jamb nails or fasteners, such as are adapted to be used for securing and holding door jambs or window jambs, or the like, in place; and has for its object the production of an improved metallic fastener or jamb nail which is simple and economical of construction, efficient in operation, and adapted to be secured in position with facility and accuracy, and to securely hold the jamb of a door or window, or other article in connection with which it is to be used, in place.

A further object of the invention is to provide an improved jamb nail or fastener having pointed prongs which are adapted to be driven into the material to which the fastener is to be secured, and bent or clinched, or spread at the sharpened ends, by the operation of driving in the prongs either into wood, or into plaster or fiber board or other similar material which may be softer than wood and not sufficiently firm to bend or cause the spreading apart or clinching of the pointed prongs to the desired extent merely by the resistance offered to the prongs by the material into which they are to be driven.

Other and further objects of the invention will appear from the following description, and from the accompanying drawings, which are made a part hereof.

The invention consists in a metallic fastener or jamb nail, adapted to be used for securing and holding door jambs, or window jambs, or the like, in place, and in the construction and arrangement of parts, and combinations of elements herein described and claimed.

In the accompanying drawings—

Figure 1 is a view in elevation of a door jamb or window jamb provided with metallic fasteners or jamb nails for securing and holding the jamb in place, with parts of the jamb broken away or omitted, for the purpose of clearness of illustration.

Fig. 2 is an enlarged detail view in section, taken on line 2—2 of Fig. 1, looking in the direction indicated by the arrows, and showing the jamb provided with metallic fasteners or jamb nails constructed in accordance with my invention.

Fig. 3 is a detail top view of a metallic fastener or jamb nail constructed in accordance with my invention.

Fig. 4 is a view in side elevation of the fastener or jamb nail shown in Fig. 3.

Fig. 5 is an end view of the device shown in Fig. 3, showing the pointed prongs in normal position before being spread.

Fig. 6 is an end view of the device shown in Figs. 3, 4 and 5, showing the pointed prongs as they would appear after being driven into material to which the device is to be secured.

Fig. 7 is a top view of a metallic fastener or pair of fasteners comprising two jamb nails or pieces each having pointed prongs such as are shown in Figs. 5 and 6, adapted to be used either together or separately, as desired.

Fig. 8 is a side view in elevation of the pair of fasteners shown in Fig. 7, showing the prongs of the lower or inner member in position to serve as a stop for engaging the surface of a jamb into which the prongs of the top or outer member are adapted to be driven, as shown in the upper part of Fig. 2.

Fig. 9 is a top view of a metallic fastener or jamb nail constructed in accordance with my invention, and showing the fastener provided with a projecting stop which is formed in one integral piece with the main body and pointed prongs.

Fig. 10 is a view in side elevation of the device shown in Fig. 9.

Fig. 11 is an end view of the device shown in Figs. 9 and 10, showing the pointed prongs and integral projecting stop in normal position, as they would appear before driving in or bending or spreading the prongs.

Fig. 12 is a similar view showing the pointed prongs as they would appear after being driven into a jamb or other article, and after being spread apart at the ends by the operation of driving them.

Fig. 13 is a top view of a modified form of fastener or jamb nail constructed in accordance with my invention.

Fig. 14 is an end view of the device shown in Fig. 13, showing the pointed prongs and their upwardly projecting bases as they would appear before driving in the prongs.

Fig. 15 is a similar end view of the device

shown in Fig. 13, showing the prongs as they would appear after being driven in and after depressing the projecting bases or shoulders formed at the bases of the prongs in the operation of driving them in.

Fig. 16 is a longitudinal central sectional view taken on line 16—16 of Fig. 13, looking in the direction of the arrows.

In Fig. 1 is shown a part of a door or window having a jamb which is secured in place by means of metallic fasteners or jamb nails constructed in accordance with my invention.

Referring to said Figure 1, the jamb comprises a pair of upright side jambs or jamb members 1, 1, which are connected at their top ends by means of a top horizontal jamb member or top jamb 2, thus forming an inside frame of a door or window, as the case may be. The inner frame comprising frame members 1 and 2 is mounted between upright studs 3 which are arranged in pairs on opposite sides of the inner frame, the upper ends of the studs 3 being connected in the usual manner by means of an upper horizontal stud or scantling 4. A horizontal strip 5 is mounted between and in parallel relation to the top jamb member 2 and strip or scantling 4; and upright intermediate side strips 6 are mounted between the upright inner side jambs 1, 1 and the adjacent upright side posts 3 already described.

Laths 7 are nailed to the upright posts or studs 3 in the usual manner, with their end abutting against the upright side strips or stops 6 which serve to prevent the spreading of the plaster beyond the ends of the laths.

The upright jambs 1, 1 are secured to the adjacent upright strips or stops 6, 6, and the top horizontal jamb member 2, to the horizontal strip 5 by means of metallic fasteners or jamb nails constructed in accordance with my invention.

I provide any desired number of metallic fasteners or jamb nails 8, each of which consists of or comprises, by preference, a main body portion 9 and a pair of pointed prongs 10, 10, all formed in one integral piece of sheet metal, such, for example, as sheet steel, stamped or cut and bent in such a manner that the pair of pointed prongs 10, 10, which are spaced apart and provided with opposed inner inclined edges 11, 11 which extend downward and outward at an incline from each other and from the longitudinal central portion of the main body 9, at one end of the latter, are normally disposed at right angles to the main body portion 9, and project downward or in perpendicular relation to the inner flat surface of said main body portion. The bases of the prongs are transverse to the main body portion of the fastener of which they form an integral part, and to the end of which they are united, thus forming an angle at the apex of which the bases of the prongs are united with the end of the main body portion, the metal being, by preference, bent to form a transverse protrusion or rib 12 which extends across the end of the main body portion 9 and projects upward or outward from the apex of said angle beyond the outer surface or top side of the main body portion 9, said transverse rib being hollow on its inner side, thus forming or providing a transverse recess 13 on the inner side of the angle, which transverse recess extends along the inner side of the base of each prong. The transverse recess thus formed at the base of each prong and on the inner side of the angle at the apex of which the bases of the prongs are united with the main body portion, is adapted to receive material which may be displaced by the prongs when they are driven into wood, plaster, fiber-board or other material into which the prongs are adapted to be driven by striking upon the protuberance or projection formed by the protruding transverse rib or head 12, with a hammer or other suitable instrument or tool.

A central recess or opening 14 is, by preference, provided in the material which is bent to form the angular pronged end of the fastener. This opening may be elongated to any desired extent so as to form a central slot or groove which may be open at one extremity and thus provide an end opening or space between the prongs 10, 10 at their bases as well as between their inner tapered or inclined side margins 11, 11, and between the side portions or strips 15, 15 located on opposite sides of the recess or slot 14 and with which the bases of the prongs and the hollow transverse protruding rib 12 are all connected integrally. (See Figs. 3, 4, 5, 6 and 7.) The recess or slot 14 may thus extend between and separate the pointed prongs 10 and provide a space between the bases of the prongs and between the thus separated parts of the transverse rib or protuberance 12, which is adapted to receive or permit the extrusion of material displaced by the prongs as they are driven into a door jamb, window jamb, plaster, fiber-board or other material to which the fastener is to be secured, or structure in connection with which the device is to be employed.

The protuberances or projecting shoulders formed by the protruding transverse rib or head 12, and the side strips or body portions 15 on opposite sides of the slot 14 may be so formed or bent by the stamping dies that the inner margins 23 of said parts 12 and 15 will be normally somewhat raised with respect to the outer side margins of said parts, as shown, for example, in Fig. 5. The inner protruding or relatively higher surfaces or marginal portions of the parts

12 are thus adapted to be struck with a hammer in the operation of driving in the prongs, and as the force of the blows of the hammer is thus received by the inner protruding or projecting marginal portions or surfaces of the transverse shoulders or transverse outwardly protruding rib portions 12, 12, it will be readily understood that the prongs will be driven downward and outward, so as to cause the sharp points of the prongs to be spread apart by the force of the blows thus applied, and that the spreading of the prongs will be effected, not merely by the resistance afforded by the material into which the prongs are driven coming into contact with the inner inclined margins of the prongs 10, but by the force of the blows of the hammer applied to the projecting shoulders or protuberances or heads 12, which, being applied, by preference, with greater force to the inner margins 23 of the projecting parts 12 tends to twist the side strips 15, 15 on opposite sides of the opening 14 and to spread the sharp pointed ends of the prongs 10 apart or in opposite directions, in the material. And it should be noted that this mechanical spreading of the pointed ends of the prongs is thus effected regardless of whether the material into which the prongs are to be driven is sufficiently strong or hard to cause the bending or spreading of the prongs or not. The prongs may thus be driven into relatively soft material, such as plaster, or fiber board, and spread or forced apart in such material or in any desired suitable material, so that the fasteners may be firmly secured and strongly held in place without depending upon the material into which the prongs are driven to spread them apart or to bend the prongs. The prongs 10 may thus be driven into any suitable material and spread apart as shown in Fig. 6,—for example, into a door jamb or window jamb, or into plaster, or plaster and lath, or other structure, as desired.

The fasteners or jamb nails 8 are more particularly intended and adapted to be used for securing door jambs and window jambs in place, and for positioning and securing the jambs or inner frames of doors or windows, or the like, to the studding. (See Figs. 1 and 2.) The main body of each fastener 8 is therefore, by preference, provided with a series of perforations 16 adapted to receive nails 17, which may be driven through said openings into studding or other structures to which the fasteners are to be secured. And the central opening or elongated slot 14 is, by preference, adapted to receive a headed nail 17 which may be driven therethrough into a door jamb or window jamb or other structure. The head of a nail may thus be driven into contact with the inner margins of the protruding shoulders or heads 12, 12, if desired, so as to force said inner margins down or inward toward and into contact with the face of the jamb or material into which the prongs are driven, thus tending to spread the pointed ends of the prongs apart. The spreading of the prongs may thus be accomplished either with or without the use of a nail. A nail not being required for this purpose, it is ordinarily only used when found desirable for furnishing an additional fastening means to supplement the prongs, which are ordinarily sufficient without the use of a nail in slot 14.

Each fastener 8 is, by preference, provided with an indicator mark or device 18 for indicating the proper position of the margin of a door jamb or window jamb or other structure with respect to the prongs to be driven into such structure. The indicator mark or device may be in the form of a transverse raised rib or shoulder extending across the body of the fastener, or may be an indentation or graduation, or mark of any desired or suitable form, no raised rib being required.

A projecting stop or positioning boss 19 may be provided, which may be formed by bending the metal strip displaced in making the central slot or opening 14, thus forming an integral stop on the inner side of the main body portion of the fastener which stop is perpendicular to the inner flat side of the said body portion and parallel to the pair of pointed prongs 10, 10, already described, and in position to abut against the side surface of a door jamb or window jamb, or other structure into which the pointed prongs 10 are to be driven, when the device is in operation. The stop 19 may, however, be made by cutting and bending the strip of metal of which it is formed from any desired part of the sheet metal body of the fastener; or said stop may be dispensed with if desired.

The central opening or slot 14 may extend between and separate the normally projecting bases of the prongs 10, as well as between the integral side marginal strips 15, 15 which are integral with the bases of the prongs 10 and connect the same with the main body portion 9, which is, by preference flat, as shown in Figs. 3 to 8 inclusive; or said slot 14 may be closed at both ends, and a mere closed slit 14′ may be provided between the inner adjacent opposed margins or shoulders 20′ which are integral with the bases of said prongs 10 and in wedge-like engagement with each other, and adapted to be depressed or flattened with the normally projecting bases or shoulders 12, by striking the latter with a hammer, thereby causing the normally arched protruding central portion of the spreader elements or wedging shoulders 20′

to spread or tend to spread and hold or lock the pointed ends of the prongs apart in the material in which they are imbedded when the device is attached to a structure by the driving in and spreading of the pointed prongs. (See Figs. 9 to 12 inclusive, also Figs. 13 to 16 inclusive.) A very desirable form of fastener constructed in accordance with my invention is shown in Figs. 13 to 16 inclusive, in which a spreader or expansion element in the form of a normally protruding, arched wedging or spreader element 20 is formed integrally with the normally protruding bases of the prongs 10, and is adapted to be flattened or depressed and spread by striking the normally protruding or raised central arched portion of said part 20 with a hammer in the operation of driving in the prongs, thus depressing and driving said arched spreader element into wedging or wedge-like engagement with and between the adjacent integrally connected bases of the pointed prongs 10, and causing the pointed ends of the prongs 10 to be thereby spread apart in the material in which they are to be driven, and to be securely held and locked in their spread-apart position by the wedge-like spreading and locking action of said arched depressible spreader element 20. (See Figs. 13 to 16 inclusive.) The arched bridging piece or spreader element 20 extends across the central opening or slot 14 which is thus closed at its outer extremity; and the inner recess 13 which is formed on the inner side of the pointed prongs is deeper near the longitudinal center of the device than at the side margins, the side marginal strips 15 being higher at their inner margins than at their outer side margins, and the arched spreader element or bridging piece 20 being higher at its center than at the side margins, and adapted to be depressed or flattened and spread transversely of the device by the stroke of a hammer so as to spread and hold apart the pointed ends of the prongs as already described.

The material displaced in making the slot 14 may be bent to form an integral stop 19, whether the slot 14 be closed at both ends or not. And the stop or boss 19 may be dispensed with if desired, or may be formed from any suitable part of the sheet metal.

The pointed prongs 10, 10, may be disposed in staggered relation to each other, as shown in Figs. 7 and 8, for preventing the splitting of wood into which the prongs may be driven.

A pair of fasteners may be laid together, as shown in Figs. 7 and 8, the pointed prongs 10 of the inner fastener being used in lieu of the integral stop 19, for positioning the device and indicating its proper position with respect to the margin of the structure into which the prongs are to be driven; and either the outer fastener of such pair, or both the inner and outer fasteners may be secured to the structure, as desired. (See Fig. 2.)

I claim:

1. In a metallic fastener of the class described, the combination of a metallic main body portion and a pair of pointed prongs disposed at an angle with respect to said main body portion and all formed in one integral piece, the bases of said prongs being at the apex of said angle and spaced apart, and an arched portion integral with the bases of said prongs and normally projecting outward and adapted to be depressed and held in wedge-like engagement with and between said bases of said prongs, and acting to spread and tend to hold apart the pointed ends of said prongs.

2. In a metallic fastener of the class described, the combination of a metallic main body portion and a pair of pointed prongs, said prongs being spaced apart and projecting at an angle from the end of and formed in one integral piece with said main body portion, the bases of said prongs being at the apex of said angle and adapted to project outward and beyond the adjacent main body portion in an opposite direction from the pointed ends of the prongs, the bases of said prongs being bent to form a recess on the inner side of the prongs, and said projecting bases of said prongs being adapted to be depressed by force applied thereto in the operation of driving the prongs, and acting to cause the pointed ends of the prongs to be spread apart by the flattening of said projecting bases of the prongs with respect to the main body portion of the device.

3. In a metallic fastener of the class described, the combination of a substantially flat metallic main body portion and a pair of pointed prongs, said main body portion being provided with perforations for receiving nails to be inserted therethrough, for securing the perforated main body portion to a structure in connection with which the device is to be used, said prongs being formed in one integral piece with said perforated main body portion and projecting at an angle with respect to the same, the bases of said prongs being at the apex of said angle and adapted to project outward in an opposite direction from the pointed ends of the prongs, the said bases of said prongs being bent to form a recess on the inner side of the prongs, and being adapted to be depressed with respect to the main body portion, and to cause the pointed ends of the prongs to be spread apart by the flattening of said projecting bases by the application of force to the latter in the operation of driving the prongs into a structure to which

the device is to be attached, and means on said main body portion, for positioning and indicating the position of the device with respect to a structure to which the device is to be attached.

4. In a metallic fastener of the class described, the combination of a metallic main body portion, and a pair of pointed prongs having opposite inclined inner margins extending to the pointed ends of said prongs respectively, said prongs being spaced apart and projecting at an angle from the end of and formed in one integral piece with said main body portion, the bases of said prongs being at the apex of said angle and each adapted to normally project outward beyond the main body portion in an opposite direction from the pointed ends of the prongs, said normally projecting bases being provided with a recess on the inner side of the base of each prong, and said projecting bases being adapted to be depressed by force applied thereto in the operation of driving the prongs, and acting to cause the pointed ends of the prongs to be spread apart by the flattening of said normally projecting bases of the prongs with respect to the main body portion of the device, for securing the prongs to a structure to be engaged thereby, said main body portion being adapted for attachment to a structure with which the structure engaged by said prongs is to be connected.

Signed at Chicago, in the county of Cook and State of Illinois, this 19th day of May, 1926.

GUSTAF OLSON.