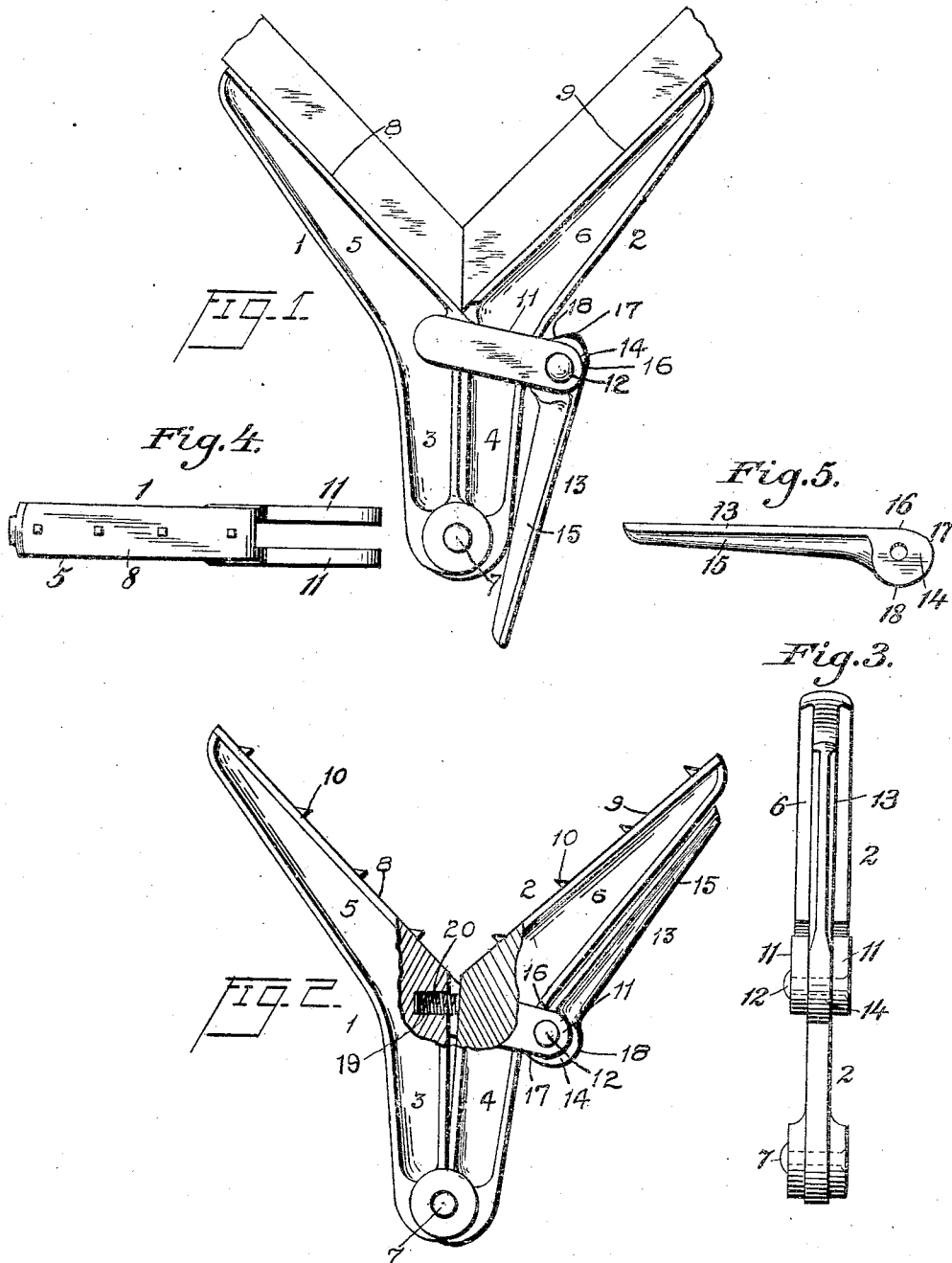


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MITER CLAMP.
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Patented Nov. 30, 1909.



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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JAMES L TAYLOR, a citizen of the United States, residing at Bloomfield, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Miter-Clamps, of which the following is a specification.

The objects of this invention are to provide a clamp which can be applied to the corner of a miter joint to force the members of the same into intimate relation with each other, as for gluing or the like; to utilize a spring for holding the jaws of such a clamp in open relation, and to secure a simple and convenient arrangement and construction of said spring; to provide a locking or clamping lever which in both its locked and unlocked positions is held lying closely against the clamp, by the said spring, and is thus not swinging loosely about as the clamp is handled; to secure an efficient and practical construction, and to obtain other advantages and results as may be brought out in the following description.

Referring to the accompanying drawings, in which like numerals of reference indicate corresponding parts in each of the several figures, Figure 1 is a side elevation of my improved clamp locked in engagement with a miter joint; Fig. 2 is a similar elevation of the clamp in released or open position, and partly in section to show a certain spring more clearly; Fig. 3 is an edge view of the clamp locked as in Fig. 2 and looking at the locking lever; Fig. 4 is a plan of the jaw of the clamp which carries the locking lever, and Fig. 5 is a side view of said lever detached.

In said drawings, 1 and 2 indicate the two members of my improved miter clamp having lower portions, 3 and 4 respectively, adapted to lie close together as shown, and upper portions, 5 and 6 respectively, which diverge after the manner of a letter Y to receive the miter joint of the clamp between themselves. The said lower portions 3 and 4 are hinged together at their lower extremities upon a hinge pin 7 perpendicular to the plane of the clamp, and the said upper portions 5 and 6 provide inner faces 8 and 9 adapted to engage the work. Preferably these said faces 8 and 9 are provided with brads or spurs 10 which engage the work to hold the same without appreciably damaging or injuring it. The two members 1

and 2 are each in one integral piece, and at the work-engaging edges of their upper portions, 5 and 6, present rigid straight edges, which are each in one integral piece also. After said edges have at any point once engaged the work, therefore, there can be no shifting of such contact with respect to other points of the engaging surfaces or edges, and great accuracy and positiveness are secured. One of said members, as 1, is provided near the upper end of its lower portion 3 with lateral arms 11, 11 which project transversely across the other member 2, beyond and inclosing the same. These arms 11 thus provide a guide-way for the member 2 to swing in, and furthermore at their outer ends they receive a transverse fulcrum pin 12, parallel to the hinge pin 7, and upon which is fulcrumed a locking lever 13. The said arms 11 are located at the union of the upper and lower portions of the member 1 of which they are an integral part, and their upper edges adjacent to the upper portion 5 of said member are in alinement with the work-engaging edge 8 thereof, whereby the work-engaging edge of that member extends past the corresponding edge 9 of the other member, as clearly shown in Figs. 1 and 2. This construction gages the position of a piece of work being introduced between the clamping members, and prevents it from being inserted too far at its extreme corner or wedged between the lower portions 3, 4 of the members. The said locking lever 13 has a cam-shaped head 14 adapted to engage the clamp member 2, and an operating portion or handle 15 which swings in the plane of the clamp between the limits formed by the outer edges of the upper and lower portions, 6 and 4 respectively, of the clamp member 2. In idle position, or when the clamp is open, as shown in Fig. 2, the said handle 15 lies against the upper portion of the clamp, and at the extremity of the flattened edge 16 of the cam head is a projection 17 which engages the lower portion of the clamp and serves when the lever is swung downward to give the clamp members a quick initial movement to bring them close to the work. Still beyond this projection 17 is a long gradually inclined cam surface 18, which forces the brads or spurs 10 into the wood and brings the two pieces of the miter joint into their proper angular relation and closely pressed together, the le-

ver handle 15 lying at the termination of this movement close against the lower portion of the clamp, as shown in Fig. 1.

One of the clamp members, preferably the one 1 having the arms 11, is provided at its edge between said arms with a socket 19 bored therein, and in said socket is seated a spiral spring 20 which projects into engagement with the other clamp member to normally force the two apart. It is this spring, and the pressure which it exerts to force the clamp member 2 against the cam head 14 of the operating lever, which causes the said lever to lie as described close against the upper part of the clamp when in idle position. Obviously, therefore, the locking lever is never swinging loosely about, to get in the way or become broken, which greatly adds to the convenient handling and rapid manipulation of the tool.

The spring 20, it will be noted, is located between the arms 11, 11, in side view, and thus entirely inclosed, and protected from possible injury in rough handling of the tool. A better appearance of the clamp is thus secured, also.

Having thus described the invention, what I claim as new is:

1. In a miter clamp, the combination of two angular members hinged together at their lower ends and having diverging upper portions adapted to receive between themselves the work, a stop on one of said members providing an edge projecting in alignment with the work-engaging face of said member past the line of the work-engaging face of the other member extended, and means for clamping said members together.

2. In a miter clamp, the combination of two members having lower portions hinged together at one end and upper portions diverging from the other ends of said lower hinged portions to receive between themselves the work, said upper portions providing rigid straight edges each in one integral piece adapted to contact with the work and one extending past the other so as to form a closed angle, and means for clamping said members together.

3. In a miter clamp, the combination of two members having lower portions hinged

together at one end and upper portions diverging from the other ends of said lower hinged portions to receive between themselves the work, arms on one of said members at the union of its upper and lower portions, the other member lying between said arms and the edges of the arms next the upper portion of their member extending past the adjacent edge of the other member in alinement with the work-engaging face of the said member carrying the arms, and means for clamping said members together.

4. In a miter clamp, the combination of two members having lower portions hinged together at one end and upper portions diverging from the other ends of said lower hinged portions to receive between themselves the work, arms on one of said members at the union of its upper and lower portions, the other member lying between said arms and the edges of the arms next the upper portion of their member extending past the adjacent edge of the other member in alinement with the work-engaging face of the said member carrying the arms and being extended past the said other member, a cam-lever fulcrumed between the ends of said arms outside the said member they inclose, the member carrying said arms having a spring socket or seat between said arms, and a spiral spring projecting from said socket against the other member and being inclosed by said arms.

5. In a miter clamp, the combination of angular members hinged together at one end and adapted at their other ends to receive the work, arms projecting from one of said members near its angle across and beyond the other member, a locking lever fulcrumed between said arms and having a cam head to engage the second member, one of said members having in its edge next the other member a socket located between said arms, and a spiral spring in said socket inclosed and protected by said arms and adapted to normally force said members apart.

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