

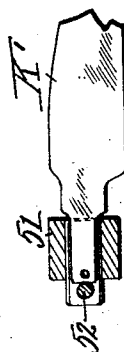
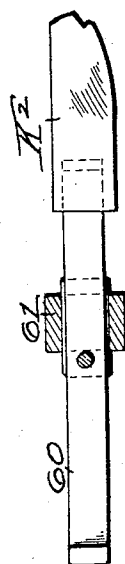
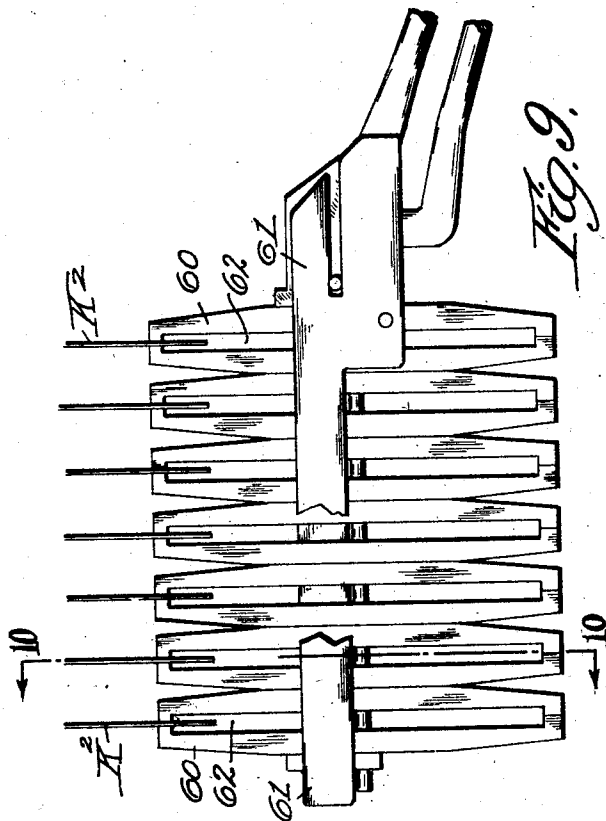
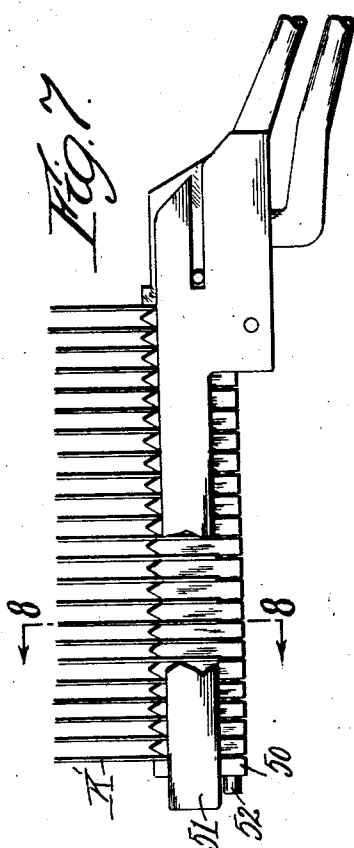
Sept. 21, 1926.

1,600,266

F. ARMSTRONG
CLAMP FOR HOLDING KNIVES

Filed April 1, 1925

2 Sheets-Sheet 2



Inventor
Frederick Armstrong
By Attorneys
Southgate Fay & Hawley

UNITED STATES PATENT OFFICE.

FREDERICK ARMSTRONG, OF SOUTHBRIDGE, MASSACHUSETTS.

CLAMP FOR HOLDING KNIVES.

Application filed April 1, 1925. Serial No. 19,993.

This invention relates to a clamp for holding knives or other similar articles during hardening, tempering or other operations thereon. In carrying out such operations, it is desirable to hold a plurality of knives in definite spaced relation and it is essential that the knives may be assembled, clamped and released with a minimum expenditure of time and labor.

It is the general object of my invention to provide an improved clamp for such purposes in which a plurality of knives may be quickly inserted and clamped and as easily removed.

A further object of my invention is to provide a clamp which may be easily and quickly adapted to different shapes, sizes and thicknesses of knives and in which the clamping blocks are readily removable and replaceable.

My invention further relates to arrangements and combinations of parts which will be hereinafter described and more particularly pointed out in the appended claims.

Three forms of the invention are shown in the drawings in which

Fig. 1 is a side elevation of my improved knife holding clamp;

Fig. 2 is a longitudinal side elevation of the clamp;

Fig. 3 is a partial side elevation, similar to Fig. 2 but showing the parts in a different position;

Fig. 4 is a perspective view of the clamping blocks and their support;

Fig. 5 is a plan view of my improved clamp, looking in the direction of the arrow 5 in Fig. 1;

Fig. 6 is a transverse sectional elevation, taken along the line 6—6 in Fig. 1;

Fig. 7 is a side elevation of a slightly different form of my invention;

Fig. 8 is a transverse section, taken along the line 8—8 in Fig. 7;

Fig. 9 is a side elevation of a construction shown in Fig. 7 but using a different type of clamping block, and

Fig. 10 is a transverse sectional elevation, taken along the line 10—10 in Fig. 9.

Referring particularly to Figs. 1 to 5, my improved knife holding clamp comprises

a frame 20 having a fixed abutment 21 at one end thereof. The frame is also provided with a slot 22 which is open from top to bottom of the frame and which extends from the abutment 21 to the opposite end of the frame, the extreme right hand lower portion 23, as viewed in Fig. 2, being preferably of slightly reduced width. The sides of the frame may be tied together below the slot 22 by cross members 24 and 25 (Fig. 2). A downwardly inclined handle 26 extends lengthwise from the frame or from its cross member 25.

A plurality of spacing blocks 27 are slidable in the slot 22 and are mounted upon a block support which comprises a head 28 and a longitudinally extended rod 29. The rod 29 extends through openings in the blocks 27 and also through an opening in the abutment 21. The head 28 of the support is slidable in the slot 22 and is preferably provided with a cross pin 31 which is also slidable in a horizontally disposed longitudinal slot 32 (Fig. 1) in the frame 20.

The outer portion of the head 28 is slotted as indicated at 33 (Fig. 4) to receive an upwardly projecting arm 35 (Fig. 2) of an actuating lever 36 pivoted at 37 in the lower portion of the slot 23. The lever 36 also has a handle 37^a adapted to cooperate with the handle 26 in clamping the knives.

The arm 35 of the lever 36 has a surface 38 (Fig. 2) adapted to engage the outer face of an abutment 39 on the head 28 of the sliding block support. An inclined surface 40 on the arm 35 also cooperates with a cross pin 41 in the support to withdraw the support as the handles 26 and 37^a are separated.

When it is desired to remove the clamping blocks and support from the frame 20, the lever 36 is swung downward to the position indicated in Fig. 3, permitting the clamping blocks and their support to be removed endwise as a unit from the frame 20. This permits a change in the number of blocks when a change in the thickness of knife stock is made or when for any reason a different type of block is desired.

In the use of the device, it is merely necessary to insert the butts of the knives K between the blocks 27, seating the knives upon

the upper surface of the frame 20 and then clamping them in position by grasping the handles 26 and 37^a and moving them toward each other, thus applying pressure to move the abutments 21 and 39 toward each other. A considerable number of knives can thus be handled at a single operation, after which they are released by separating the handles.

In Figs. 7 and 8, I have indicated a construction in which the abutment 50 extends below the frame 51 and the rod 52 is also positioned below the frame. This construction is desirable for holding knives K' which have a narrow shank which can be inserted between the sides of the frame 51, engaging the rod 52 at their lower ends. Otherwise the construction and operation is identical with the type first described.

In Figs. 9 and 10, I have shown a construction similar to Fig. 7 but provided with a special type of block 60. These blocks extend a substantial distance above and below the frame 61 and are cut away in their intermediate portions as indicated at 62. The blocks 60 are preferably arranged in pairs as indicated in Fig. 9 and the members of each pair engage each other at their extreme lower ends only. They also engage the knives K² at their extreme upper ends only, the knife-engaging portions being reduced in thickness to offset the thickness of the knife, so that the blocks 60 will be maintained substantially parallel.

When pressure is applied to the blocks as previously described, the knives K² will be firmly gripped at the extreme upper ends of the blocks 60. This construction is desirable when treating certain forms of knife blades which require hardening and tempering over substantially their entire surface. With this construction it is possible to apply heat to the entire blade and also to the upper ends of the blocks 60 without injury to other parts of the clamp.

Having thus described my invention and certain modifications thereof, I do not wish to be limited to the details herein disclosed otherwise than as set forth in the claims, but what I claim is:—

1. A clamp for holding knives comprising a frame having an abutment at one end and a handle extending from the other end, a clamping lever pivoted to said frame, and a plurality of clamping blocks slidably mounted between said abutment and said lever.

2. A clamp for holding knives, comprising a frame, a plurality of clamping blocks movably mounted in said frame to grip and hold a plurality of knives in spaced relation, a support for said blocks slidably mounted in said frame and removable with said blocks as a unit from said frame, and an actuating member pivoted in said frame and detachably engaging said support to move

said support both to and from clamping position.

3. A clamp for holding knives comprising a frame, a plurality of clamping blocks movably mounted in said frame to grip and hold a plurality of knives in spaced relation, a support for said blocks slidably mounted in said frame and removable with said blocks as a unit from said frame, and an actuating member pivoted in said frame and detachably engaging said support to move said support both to and from clamping position, and movable to an extreme position out of engagement with said support, thereby permitting removal of said support and blocks from said frame.

4. A clamp for holding knives comprising a frame having an end abutment and a longitudinally extended slot open at the end remote from said abutment, a support having a head slidable in said slot and having a rod slidable through an opening in said abutment, a plurality of clamping blocks slidably mounted on said rod in said frame, and an actuating member effective to slide said support toward said frame abutment to clamp a plurality of knives in spaced relation between said blocks.

5. A clamp for holding knives, comprising a frame having an end abutment and the longitudinally extending slot open at the end remote from said abutment, a support having a head slidable in said slot and having a rod slidable through an opening in said abutment, a plurality of clamping blocks slidably mounted on said rod in said frame, the head of said support being slotted, and an actuating member pivoted in said slot effective to slide said support toward said frame abutment to clamp a plurality of knives in spaced relation between said blocks, said actuating member having an arm extending freely into the slot in said head and loosely engaging said head at opposite sides of said arms for moving said support in both directions, and in which said actuating member is also movable in said frame to a position entirely free from said head, thereby permitting removal of said support and blocks as a unit from said frame.

6. A clamp for holding knives comprising a frame, a support slidably mounted therein, a plurality of knife holding blocks loosely mounted on said support, and a lever pivoted to said frame below said support and having an upwardly projecting arm engaged by said support on both sides of said arm, said arm having a cam action on said support to move said support to clamping and releasing position.

7. A clamp for holding knives, comprising a frame, a support slidably mounted therein, a plurality of knife holding blocks loosely mounted on said support, and a lever

pivoted to said frame below said support and having an upwardly projecting arm engaged by said support on both sides of said arm, said arm having a cam action on said support to move said support to clamping and releasing position and said lever being also movable to withdraw said arm from said support and permit removal of said support and blocks as a unit from said frame. 10

In testimony whereof I have hereunto affixed my signature.

FREDERICK ARMSTRONG.