The present invention relates to a clincher plate for nailing machines, which is essentially characterized by the combination of a base plate and a clincher plate support secured to said plate, and a movable member which may be disposed in a recess formed by the assembling of the aforesaid members, and also a work supporting member which is fitted upon the whole with a certain play.

The invention further relates to a control for the movable member which controls the position of the work supporting members and includes a cam actuated lever attached to a vertical shaft carrying a lever connected by a link connection to the movable member.

The invention is illustrated in the accompanying drawings, in which:

Fig. 1 is a view in elevation of the invention.

Fig. 2 is a top plan view of the same.

Fig. 3 is a plan view of the operating means for the control of the nailing frame.

Fig. 4 is a section on line 4-4 of Fig. 2.

As observed in the drawings, the device comprises the following parts:

1. A cast iron base plate 1 by which the device is secured to the main frame of the machine by means of the lugs 2.

2. A stationary cast iron clincher plate support 3 mounted on the base plate 1; to which member is secured the tempered steel clincher plate 4.

3. A movable member 5 which can be displaced in the recess which is formed by the assembling of the base plate 1 with the stationary clincher plate support 3. To the movable member 5 are secured two cams 6 for the control of the work supporting member.

4. A work supporting member which is fitted without pressure upon the device formed by the base plate 1 and the stationary clincher plate support 3; said frame consists of two cast iron cheeks 7 which are assembled by two steel plates 8 by means of the screws 9. In the cheeks 7, at determined points, are formed four apertures 10—two on each side and properly in line—for the insertion of the rings 11 which are provided with shoulders and are held at the exterior by screws, said rings being exactly in line with the said cheeks in the interior. Into the rings 11 are fitted two tempered steel axles 12 which extend through the frame; said axles 12 support the tempered steel rollers 13 coating with the cams 6.

The device for the control of the said clincher plate comprise the following parts:

1. A two-part cam 14 of determined shape, which is secured to the shaft of the machine actuating the member 35.

2. A lever 15 on one end of which—one on a determined side—is mounted the tempered steel roller 16 which is rotatable on a tempered steel axle 17 secured to the lever extending outwardly.

The lever 15 is controlled by the cam 14 either directly by means of the roller 16 or through the medium of a device which is vertically movable on the axis of the cam; to it is held in contact with the cam by the double-tapered spring 18 which is secured at one end to the axle 17 and at the other end to a lug 19 which is mounted on the main base of the machine 20; the tension of the said spring is regulated by the wing nut 21. The said spring may be replaced by a cam which forms the complement of the cam 14 (both cams operating at the exterior) or these two external cams might be replaced by a cam with internal operative surface, the device controlling the lever being displaced horizontally.

3. A cylindrical shaft 22 in which two axial grooves 23 are milled to a suitable depth and upon a determined length; said shaft is secured to the lever 15 and extends through the said lever at its left hand end—the machine being viewed from the front—and forms a unit with said lever; it is held in place at its lower end by the support 24 which is mounted on the main frame of the machine 20 and at its upper end—in any position—by means of a support forming a bearing 25 which is mounted on the side of the operating table of the machine 26. The shaft thus held is pivotally mounted, and its bearing consists of the lower face of the lever 15 to which it is secured.

4. The lever 27, in whose bored aperture 28
are mounted two keys 28 which correspond exactly to the grooves 23; the lever 27 is slideable with easy friction on the shaft 22 and is controlled by said shaft by means of the grooves 23 and the keys 26, irrespectively of the position of the operating table.

5 A connecting element or link which connects the controlling device with the plate, and comprises a forked bracket 29 mounted on the end of the lever 27 by means of the axle 30 traversing the said bracket and lever with an adjusted fit; it further comprises a shaft 31 which is screw threaded at each end and is secured at one end to the forked bracket 29 and at the other end to the forked bracket 32 which is secured to the shaft 33 which is provided with a shoulder and is suitably milled, and serves to actuate the movable member 5, in which it is secured.

The bracket 32 is secured to the axle 33 by the axle 34.

36 indicates one of the uprights to which the operating table is secured.

When the machine is in the inoperative position, the movable member 5 is brought to the end of its stroke. On the left hand side, the cams 6 pass below the rollers 14 which are rotatable on the axles 12 controlling the work supporting members; said frame when in this position will extend outwardly of the clincher plate 4.

From the preceding description and the drawings, it will be readily observed that the clincher plate is very accurately controlled in all positions of the operating table on which it is mounted.

The operation of the said clincher plate and its controlling device is as follows:

When the machine is inoperative, the lever 15 is brought into the lower position of the cam 14 which—due to the operation play of the control—brings the member 5 to the left hand end of its stroke. In this position, the cams 6 are engaged below the rollers 13 which raise the work supporting members 7 by means of the axles 12 upon which they are rotatable.

With the machine thus disposed, the objects to be assembled and riveted by means of nails or like pointed pieces of a determined length are mounted on the work supporting members 7. For this purpose the operator presses down the clutching pedal of the machine, so that the shaft 35 will actuate the part by which the nails are driven; during its rotation it actuates the cam 14 which is secured thereto.

In a determined position according to the degree of driving of the nails, the cam 14 impels the lever 15, and this latter—due to the action of the control—impels the movable member 5 for the releasing of the cams 6; herein the cross-piece 3 which is no longer supported will descend and the nails will turn down and become clinched upon the clincher plate 4 which is applied upon the said plate by the plunders of the machine.

When the shaft 35 has made a complete revolution, the movable member rises and the lever is now in the stopping position controlling the whole of the plate.

I claim:

1. In combination with a nailing machine, a base plate secured to the frame of the machine, a clincher plate support mounted on the base plate so as to provide a recess therebetween, a clincher plate carried thereby, a member movably mounted in said recess, cams carried by and movable with said member, work supporting members, and rollers carried by said work supporting members for cooperation with said cams upon movement of the member aforesaid.

2. In a nailing machine as in claim 1, the addition of a control for the movable member comprising a two-part cam mounted on the driving shaft of the nailing machine, a lever engaged by and positioned through the movement of said cam, a shaft mounted for rotation and controlled by said lever, and a connection between said shaft and said movable member.

In testimony whereof I affix my signature.

EMILE ALIBERT.