A. A. NOYES.

DEVICE FOR MAKING BEAM CLAMPS.

APPLICATION FILED APR. 27, 1910.

992,038.

Patented May 9, 1911.

2 SHEETS—SHEET 1.

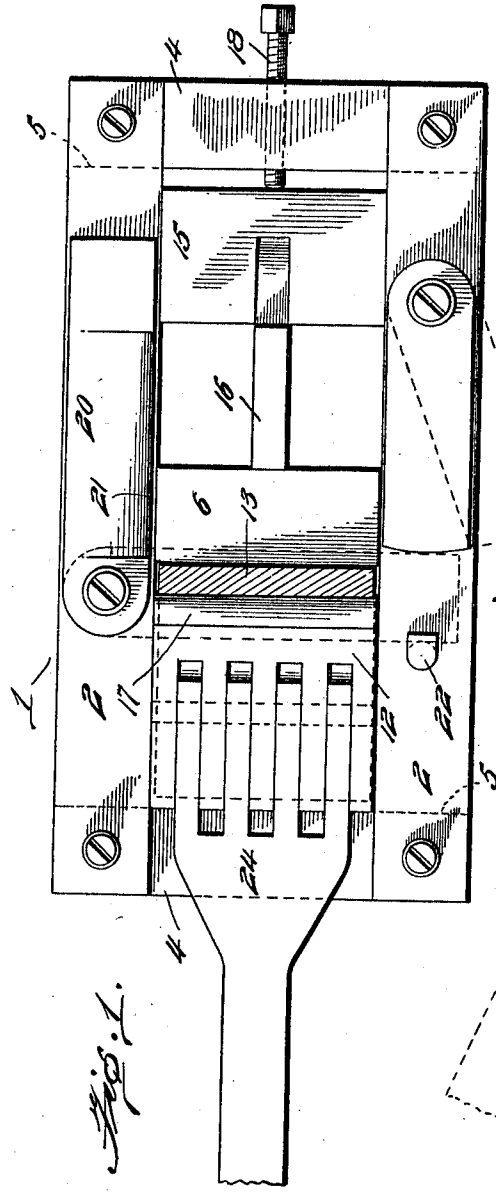

Fig. 1.

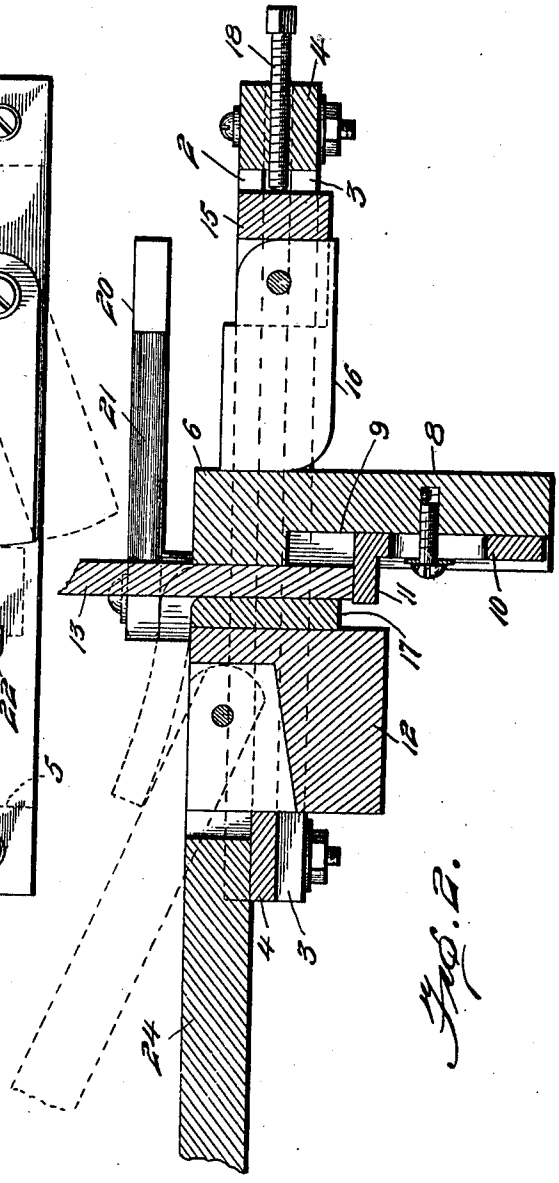

Fig. 2.

Witnesses

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2 SHEETS—SHEET 2.

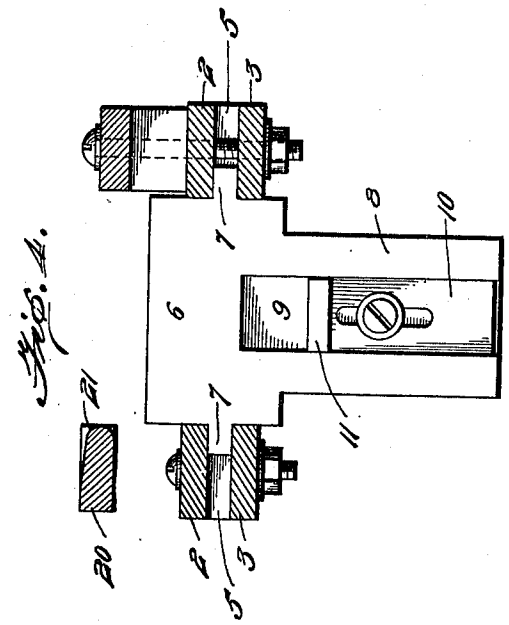

Fig. 4.

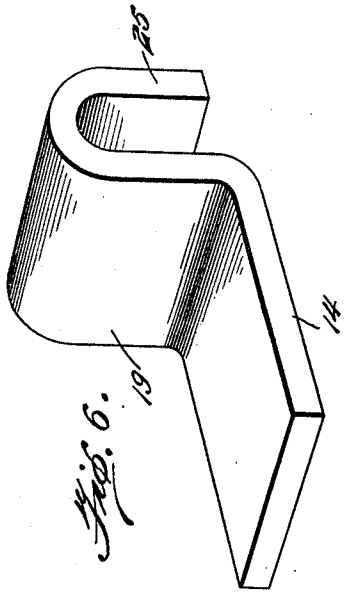

Fig. 6.

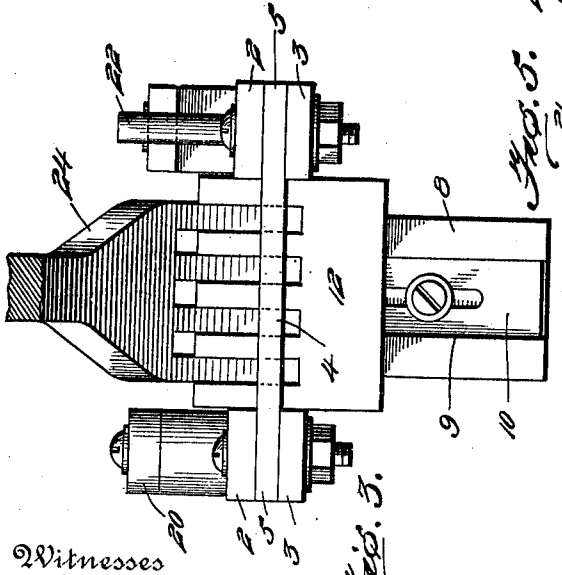

Fig. 5.

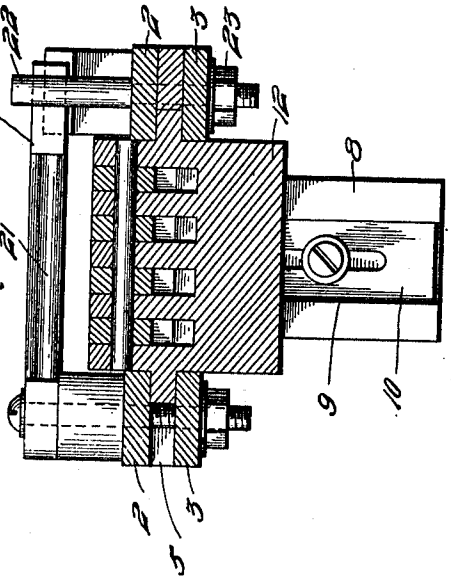

Fig. 7.

Witnesses

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UNITED STATES PATENT OFFICE.

ARTHUR A. NOYES, OF NEW YORK, N. Y.

DEVICE FOR MAKING BEAM-CLAMPS.

992,038. Specification of Letters Patent. Patented May 9, 1911.

Application filed April 27, 1910. Serial No. 557,896.

To all whom it may concern:

Be it known that I, ARTHUR A. NOYES, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Devices for Making Beam-Clamps; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to a device for making beam clamps from steel or iron of any size and with one heating by the use of which one man can easily do the work of two.

With the foregoing and other objects in view, the invention consists of certain novel features of construction, combination and arrangement of parts as will be more fully described and particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a plan view of the device showing the position of the bending and clamping bar prior to the final step in the operation of forming the clamp. Fig. 2 is a longitudinal sectional view thereof. Fig. 3 is a rear elevation. Figs. 4 and 5 are transverse sections. Fig. 6 is a detail perspective view of the completed clamp.

Referring to the drawings for a more particular description of the invention and which are for illustrative purposes only and are therefore not drawn to scale, the device comprises a rectangular frame 1 consisting of side pieces formed by upper and lower strips 2 and 3 and end pieces 4 having extensions 5 at opposite ends to fit between the strips 2 and 3. A bearing block 6 is slidably mounted by means of the extensions 7 in the frame 1. This block is provided with the reduced, depending extension 8 which projects beneath the frame and is provided in one face with the rectangular recesses 9 in which is slidably mounted a gage plate 10 provided with the offset or laterally extending lip 11 at its upper end. A second bearing block 12 is arranged in the frame between which and the bearing block 6 is placed or inserted a portion of the strip of metal 13, from which the clamp is to be formed, the lower end of the strip of metal resting on the offset portion 11 of the gage plate. It will be obvious that by adjusting the gage plate the point where the clamp is first bent and whereby the length of the body portion 14 of the clamp is determined, may be regulated. A bearing block 15 is also slidably mounted in the frame and carries the pivoted tongue 16 which is adapted to be swung down against the bearing block 6 and acts as a vise to clamp the body portion and offset portion of the strip of metal from which the clamp is formed, between the bearing block 6 and the bearing plate 17 arranged in the frame between the bearing blocks 6 and 12. This plate 17 is provided at its opposite ends with laterally extending lugs as 17′ which are mounted to slide between the members 2 and 3 of the side pieces of the plate 1 in a manner similar to the block 6, and said plate is removable and adapted to be interchanged with others for varying the bend in the clamp to be formed to adapt it for beams of different sizes.

A clamping screw 18 screws through one of the end pieces 4 against the bearing block 15, whereby the strip of metal from which the clamp is formed is securely clamped or held in position. After the lower end of the strip of metal has been inserted in the device, in the manner described, the upper portion, as 19, of the metal is bent down upon the top of the bearing block 12 by a hammer wielded by the operator the bending bar 20 which is pivoted at one side of the frame to swing in a horizontal plane over the frame and the bearing block 12 being then swung transversely across the frame over the laterally bent portion 19 of the strip and is secured in this position by the means now to be described. The outer side edge of the bar 20 is rounded in the manner shown as at 21, and the bar is adapted to be held in clamping position by the retention bolt 22, the head of which engages the free end of the bar 20 and the body of which screws through the strips 2 and 3 forming the adjacent side piece or member of the frame 1. A horizontally swinging clamping member 22^a is pivotally mounted on the same side member of the frame 1 as the bolt 22 and cooperates with said bolt to lock the bar 20 in operative position. An adjusting nut 23 screws on the lower end of the retention bolt whereby the latter may be held in vertically adjusted position to provide for the clamping and releasing of the bar 20, said bolt 22 being adjustable vertically to provide for the bending of metal bars of varying thickness, the bar 20 being similarly adjustably

held properly spaced from the frame by washers as 20′ arranged on the pivot bolt of said bar. The final step in the formation of the clamp is performed by raising a pivoted member 24 to bend the outer portion, as 25, of the hook shaped head of the clamp over the bar 20. The end 25 is bent flat down against the bar 20 to form a clamp lock of the form shown in the drawings, by a hammer or any suitable device (not shown).

From the foregoing description taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention as defined in the appended claims.

What is claimed is:—

1. A clamp forming apparatus comprising a rectangular frame, a bearing block mounted to slide longitudinally in said frame and having a depending extension projecting beneath said frame and provided with a vertically adjustable gage plate, said gage plate having a laterally extending lip to support the lower end of the clamp to be formed, a member mounted to slide longitudinally in said frame on one side of said bearing block, a clamping tongue pivotally mounted in said member with its free end adapted to engage the adjacent face of said bearing block to hold it in adjusted position, a member mounted in said frame on the opposite side of said bearing block, a bending lever fulcrumed in said member, and means for holding the strip to be bent in position for engagement by said lever.

2. A clamp forming apparatus comprising a rectangular frame, a bearing block mounted to slide longitudinally in said frame and having a depending extension projecting beneath said frame and provided with a vertically adjustable gage plate, said gage plate having a laterally extending lip to support the lower end of the clamp to be formed, a member mounted to slide longitudinally in said frame on one side of said bearing block, a clamping tongue pivotally mounted in said member with its free end adapted to engage the adjacent face of said bearing block to hold it in adjusted position, a member mounted in said frame on the opposite side of said bearing block, a bending lever fulcrumed in said member, means for holding the strip to be bent in position for engagement by said lever, a locking bar pivotally mounted at one end on said frame in position to swing transversely across the frame over the strip to be operated on, and means for locking said bar in operative position.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

ARTHUR A. NOYES.

Witnesses:
CHAS. J. MAHER,
THOS. J. VAN NATTER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents. Washington, D. C."