(No Model.) 2 Sheets—Sheet 1.

C. A. WELLER.

CLAMPING DEVICE.

No. 351,550. Patented Oct. 26, 1886.

Fig: 3

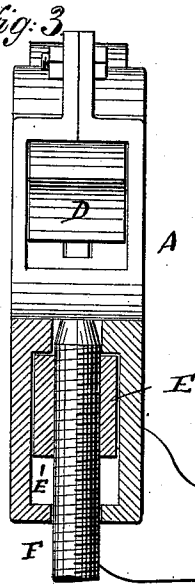


Fig: 1.

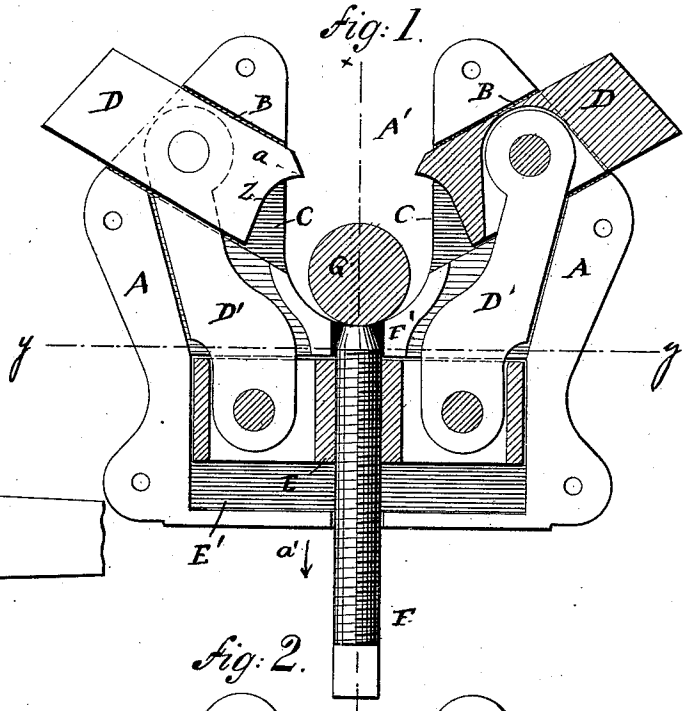


Fig: 4.

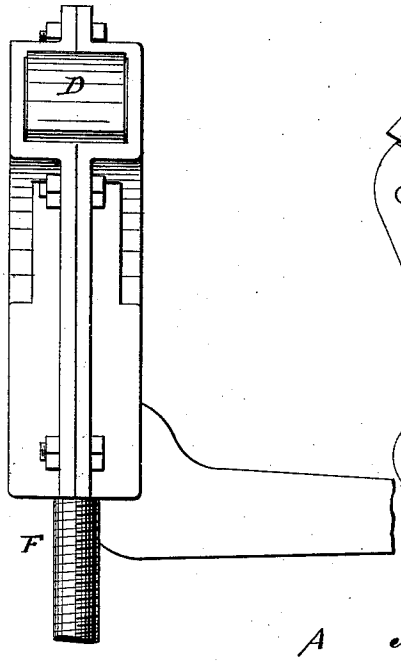


Fig: 2.

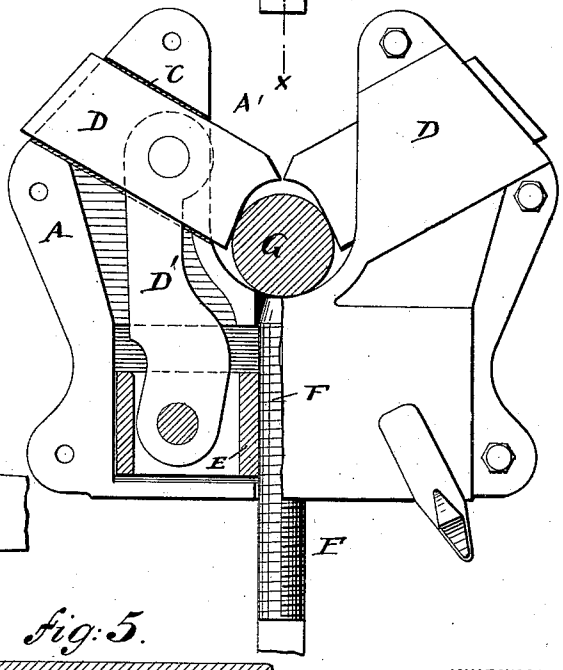
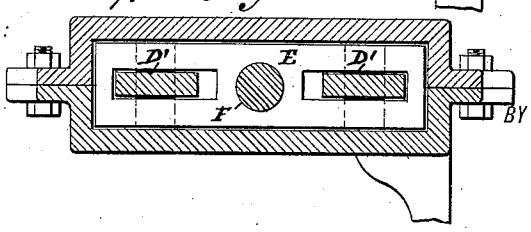


Fig: 5.



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(No Model.) 2 Sheets—Sheet 2.

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Fig. 6.

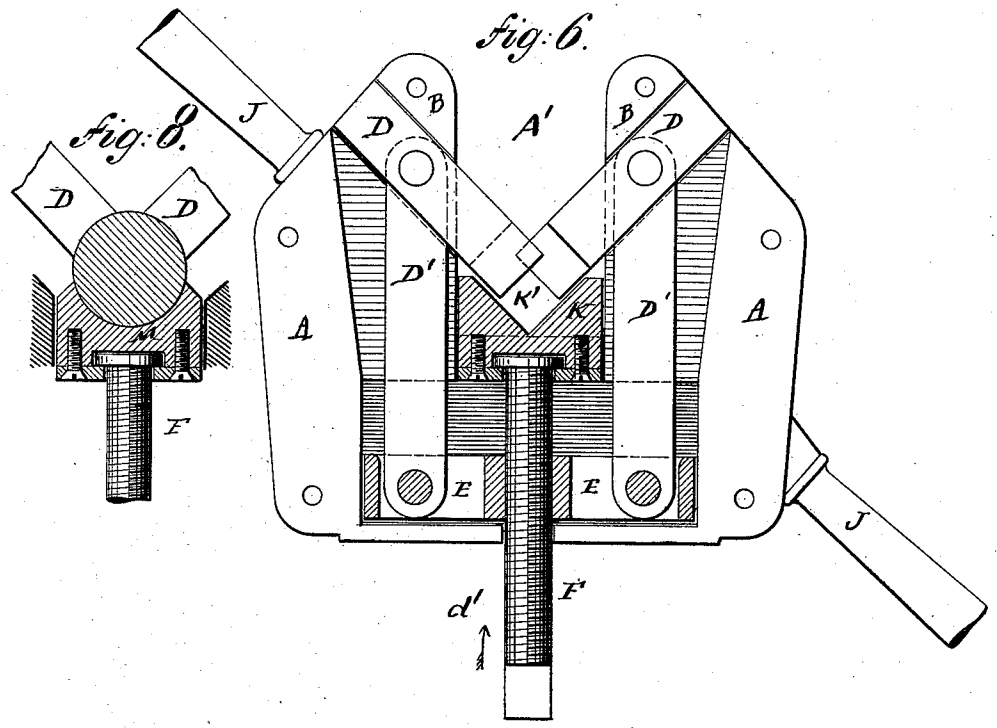
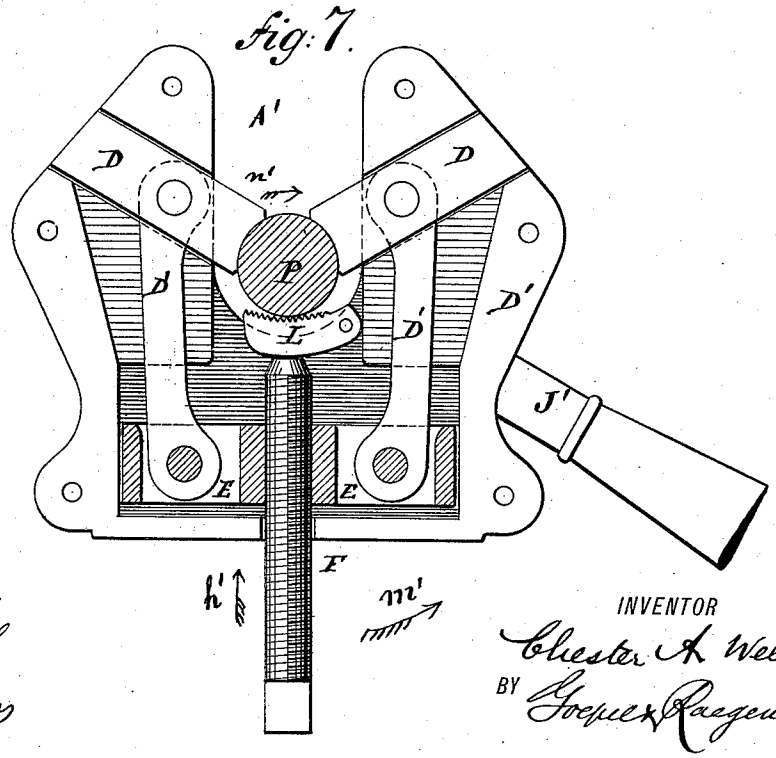


Fig. 8.

Fig. 7.



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UNITED STATES PATENT OFFICE.

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CLAMPING DEVICE.

SPECIFICATION forming part of Letters Patent No. 351,550, dated October 26, 1886.

Application filed March 27, 1886. Serial No. 196,866. (No model.)

To all whom it may concern:

Be it known that I, CHESTER A. WELLER, of Croton Landing, in the county of Westchester and State of New York, have invented certain new and useful Improvements in Clamping Devices, of which the following is a specification.

The object of my invention is to provide a new and improved clamping device, which can be used as a lathe-dog, lathe-chuck, pipe-wrench, screw-pipe holder, &c., for holding rods, tubes, bits, and other pieces of machinery.

The invention consists in the combination, with a frame having guides for sliding jaws, of links pivoted to the jaws and to a cross piece through which a screw is passed, which is used for adjusting the jaws, all as will be fully described and set forth hereinafter, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a longitudinal sectional view of a lathe-dog provided with my improved clamping device. Fig. 2 is a face view of the same, parts being broken out and others in section. Fig. 3 is a cross-sectional view on the line *x x*, Fig. 1. Fig. 4 is a side view. Fig. 5 is a sectional plan view on the line *y y*, Fig. 1. Fig. 6 is a longitudinal sectional view of the stock for holding bits provided with my improved clamping device. Fig. 7 is a sectional view of a wrench provided with my improved clamping device, and Fig. 8 is a detail sectional view of another construction for the inner end of the screw.

Similar letters of reference indicate corresponding parts.

The casing of frame A is provided with a notch or recess, A′, forming two shanks, B B. Said notch is in the bottom of the frame, which, for convenience sake, is shown inverted in Fig. 1. In each shank B an inclined guide-groove, C, is formed, in which a sliding jaw, D, is mounted, the jaws being guided by the sides of the groove. To each jaw a link, D′, is pivoted, the end of the link being within a suitable recess in each jaw, as shown in Fig. 1, and the other ends of the links are pivoted within slots of a cross-piece, E, mounted to travel in a recess, E′, in the casing A. A screw, F, is passed through an aperture in that end of the casing opposite the one provided with the notch A′, and through the aperture F′ in the closed end of the notch A′. The apertures in the casing A, through which the screw F is passed, are not screw-threaded, and the screw can pass through them freely; but the aperture in the cross-piece E is screw-threaded. The inner end of each jaw D is provided with a transverse chisel edge or lip at that surface of the jaw nearest to the open end of the notch or recess A′, and from said chisel edge or lip the curve *b* extends to the side of the jaw opposite to the one at which the chisel-edge is formed. This curved surface may be smooth or serrated. The frame A is passed over the rod G or other article to be held by the dog until the article rests upon the closed end of the notch A′, and the screw F is moved in the direction of its length, as indicated by the arrow *a′*, until the cross-piece E is checked by the jaws striking against the rod G. By thus moving the cross-piece E the links D′ of the jaws D are brought into the position shown in Fig. 2. By pulling the screw F in the direction of the arrow *a′*, its inner end is pulled from the closed end of the notch A′. The screw F is then turned so as to move in the inverse direction of the arrow *a′* until its inner end rests against the rod G. By continuing the turning of the screw, which can travel no farther in the inverse direction of the arrow *a′*, as it rests against the bottom of the rod held by the jaws D, the cross-piece E is moved slightly in the direction of the arrow *a′*, whereby the lips or chisel-edges are pressed into the surface of the rod G, or at least are pressed upon it with sufficient pressure to prevent the slipping of the rod G, and the same is thus held securely. When the rod G is to be removed, the screw F is loosened, so as to permit of moving the cross-piece E in the inverse direction of the arrow *a′*, whereby the jaws D are moved from each other, thus releasing the rod or bar G. The casing A may be provided with any suitable handle.

In the construction shown in Fig. 6 the casing or frame is provided with two opposite handles, J, for turning it, and the sliding jaws D have their inner ends rabbeted, so as to overlap; or the edges may be bent or otherwise mounted, so as to overlap more or less. The inner ends of the sliding jaws rest on the

block K, having the V-shaped notch K′, in which block the inner end of the screw F is mounted to turn, the block being fixed and not adapted to have any movement.

In the construction shown in Fig. 7 but a single handle, J′, is provided. At the closed end of the notch A′ the jaw L is pivoted in the casing, one edge of said jaw being serrated or toothed and the other edge curved, and facing the inner end of the screw F. If desired, the screw F may be provided with a head, M, which is so mounted that the screw can turn on it, said head being guided in the frame so as to have a movement in the direction of the length of the screw F. The head M is provided in its upper part with a circular or segmental recess adapted to receive the rod or tube, as shown in Fig. 8.

The jaws D may in all cases be provided with the lip and chisel edge *a;* or they may have segmental recesses fitting on the cylindrical object, such as a rod or tube; or they may be cut off square, as shown in Fig. 6. To hold a reamer or other bit, or a screw-cutting die, the screw F is turned so as to move the cross-piece E and the links D′ in the direction of the arrow *d′*, Fig. 6, whereby the inner ends of the jaws are moved from each other, thus forming a recess or cavity for receiving the die or bit. Then the direction of the rotation of the screw F is reversed for the purpose of moving the cross-piece E in the inverse direction of the arrow *d′*, whereby the jaws are pressed against the walls of the casing. The casing A is turned by means of the handles J, and the casing may be used as any other stock or bit holder. Stocks or bits of various size can easily be held in the frame, and can be adjusted, fastened, or loosened easily and rapidly.

In the construction shown in Fig. 7, which is a pipe-wrench, and which is turned by means of the handle J′, the screw F is turned so as to move in the inverse direction of the arrow *h′*, to permit the jaw L to swing down into a cavity in the casing. The tube P is placed on the closed end of the notch A′, and then the screw F is moved in the inverse direction of the arrow *h′*, whereby the cross-piece E is moved in the same direction and the inner ends of the jaws D are pressed against said rod or tube. The screw F is then turned so as to move in the direction of the arrow *h′* and raise the inner end of the serrated jaw L. When the device is turned in the direction of the arrow *m′*, the serrated edge of the jaw L does not grip the rod; but when the device is turned in the inverse direction of the arrow *m′* the teeth of the jaw L take on the tube or rod P and turn the same, as indicated by the arrow *n′*, Fig. 7. The parts can be adjusted to hold or release the tube very easily and rapidly, and the device never fails to grip the tube or rod.

The device shown in Fig. 8 is merely a modification of that shown in Fig. 7, and may be used in a lathe dog or chuck.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A clamping device consisting of a casing provided with sliding jaws adapted to slide toward and from each other, a cross-piece connected by links with said jaws, and a screw passed through a screw-threaded aperture in the cross-piece, substantially as shown and described.

2. In a clamping device, the combination, with a casing having guide-grooves, of sliding jaws in said guide-grooves, a cross-piece, links connecting the cross-piece with the sliding jaws, and a screw passed through a screw-threaded aperture in the cross piece, substantially as shown and described.

3. In a clamping device, the combination, with the casing having guide-grooves, of sliding jaws in said grooves, a cross-piece, links connected with the cross-piece, a screw passed through a threaded aperture of the cross-piece, which screw is mounted to move freely in the direction of its length with the cross-piece through which it is screwed in the casing, substantially as shown and described.

4. In a clamping device, the combination, with a casing having guide-grooves, of jaws mounted to slide in said grooves, a cross-piece, links connecting the cross-piece with the sliding jaws, a screw passing through a screw-threaded aperture in the cross-piece, and a head in which the inner end of the screw is mounted to turn, substantially as shown and described.

5. In a clamping device, the combination, with the casing, of sliding jaws in the same, a cross-piece, links connecting the cross-piece with the sliding jaws, a screw passed through a screw-threaded aperture in the cross-piece, and a handle on the casing, substantially as shown and described.

6. In a clamping device, the sliding jaw D, provided with a chisel-edged lip, *a*, and a curved recess, *b*, on the end, substantially as shown and described.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

CHESTER A. WELLER.

Witnesses:
A. H. DYCKMAR,
WM. EMENY.