(No Model.)

# F. MARTIN.

## JOINER'S CLAMP.

No. 484,104. Patented Oct. 11, 1892.

Fig. 1.

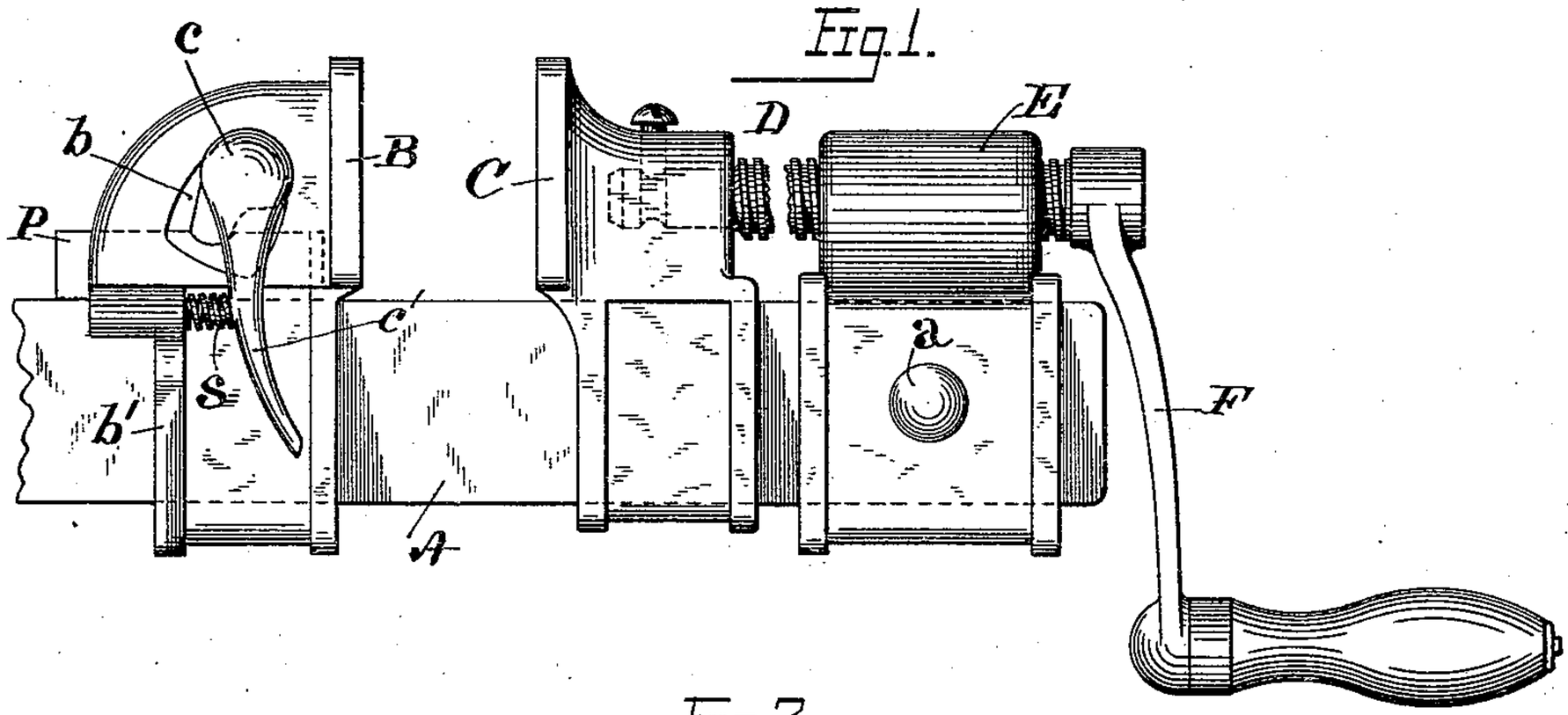



Fig. 2.

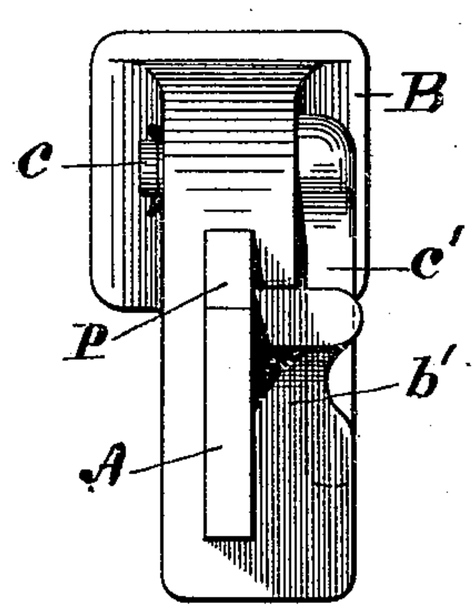
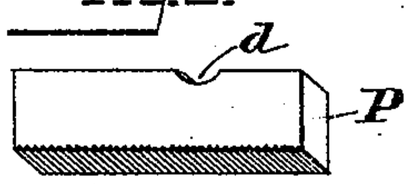



Fig. 3.

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# UNITED STATES PATENT OFFICE.

FRANK MARTIN, OF CINCINNATI, OHIO.

## JOINER'S CLAMP.

SPECIFICATION forming part of Letters Patent No. 484,104, dated October 11, 1892.

Application filed November 2, 1891. Serial No. 410,567. (No model.)

*To all whom it may concern:*

Be it known that I, FRANK MARTIN, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented new and useful Improvements in Joiners' Clamps, of which the following is a specification.

My invention relates to bar-clamps, such as are used by joiners, machinists, and others, for the various uses for which the same are applicable; and it consists in the clamp embodying certain elements constructed and combined in a novel manner, as hereinafter more fully set forth, embracing a holding-bar provided with two clamping heads or jaws adjustable thereon, one of which is readily adjusted to ultimate positions by hand and engages by pressure from the opposite head through the object clamped. The other clamping-head is engaged and controlled by a screw operated through a fixed head by means of a crank.

The principal feature of novelty in the present invention relates to the construction and arrangement of what may be termed the "backing head or jaw" of the clamp, by which its hand-adjustment upon the holding-bar is greatly facilitated, and its engagement at any point without "backlash" or lost motion is secured.

Mechanism embodying my invention is illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of the device complete; Fig. 2, a rear view of the backing head, and Fig. 3 a detached perspective view of the holding-pawl.

Referring now more particularly to the drawings, A designates the holding-bar; B C, the adjustable clamping heads or jaws; E, the fixed head; D, the adjusting-screw, and F the manipulating-crank. The holding-bar A is preferably a thin bar of steel of rectangular cross-section and plane surfaces. The three heads B, C, and E referred to may be of cast iron or steel and are formed to embrace the bar A—the two former so as to slide freely thereon, while the latter is secured thereto by a single central rivet passed from outside to outside through the bar A, as shown at *a*. The construction and mode of combination of the clamping-head C, the screw D, and the fixed head E do not differ materially from the ordinary practice.

The independent clamping-head or "backing head" B is constructed and arranged as follows: The rectangular slot by which it embraces the bar A is extended upward to receive a rectangular friction-block P, whose under surface may be crossed and covered by dentate grooves, as indicated in Fig. 3. The head is also provided with a cross-opening *b*, as shown in Fig. 1, adapted to receive an eccentric pawl or cam *c*, provided with a handle *c'*, and engaging the friction-block P by means of the surface groove *d*, as clearly shown in the drawings. The handle *c'* projects downward outside and is engaged and held forward by a spring *s*, backed against a suitable projection, as *b'*, of the head B at the side of the bar A, whereby the pawl is always held in readiness for action. The arrangement of these parts, as will clearly appear by reference to Fig. 1, is such that any backward pressure upon the backing-head B operates through the cam *c* to force the friction-block P directly downward upon the holding-bar A, and if the pressure be excessive would embed the projections of its dentate surface into the upper face of the holding-bar. It will also be seen that by placing the fingers—say, of the left hand—behind the projection *b'* and the thumb against the outside of the handle *c'* and compressing these two together the friction-block P would at once be released and the head B readjusted to any desired position upon the holding-bar A without removing the hand.

It will be seen that all the parts described may be cast and fitted together with very little expense and labor, excepting the holding-bar, which is cut from the ordinary merchant bars of rolled steel.

I claim as my invention and desire to secure by Letters Patent of the United States—

1. In a joiner's clamp, an integral clamping or backing head provided with a slot adapted to embrace and extend above the connecting-bar and with a lateral opening extended through the side cheeks of the slot, in combination with a friction-block riding upon the connecting-bar within the slot, and an ec-

centric pawl or cam inserted in the side opening and bearing against the clamping-head and the friction-block, substantially as set forth.

2. In a joiner's clamp, an integral clamping or backing head provided with a slot adapted to embrace and extend above the connecting-bar and with a lateral opening extended through the side cheeks of the slot, in combination with a friction-block riding upon the connecting-bar within the slot, an eccentric pawl or cam inserted in the side opening and bearing pivotally against the clamping-head and the friction-block within the slot, and a spring operating upon and holding said pawl or cam normally engaging the clamping-head and friction-block, substantially as set forth.

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

FRANK MARTIN.

Witnesses:
L. M. HOSEA,
E. HOSEA.