(No Model.)

G. B. NORMAN.

BENCH DOG OR CLAMP.

No. 487,762. Patented Dec. 13, 1892.

FIG. 1.

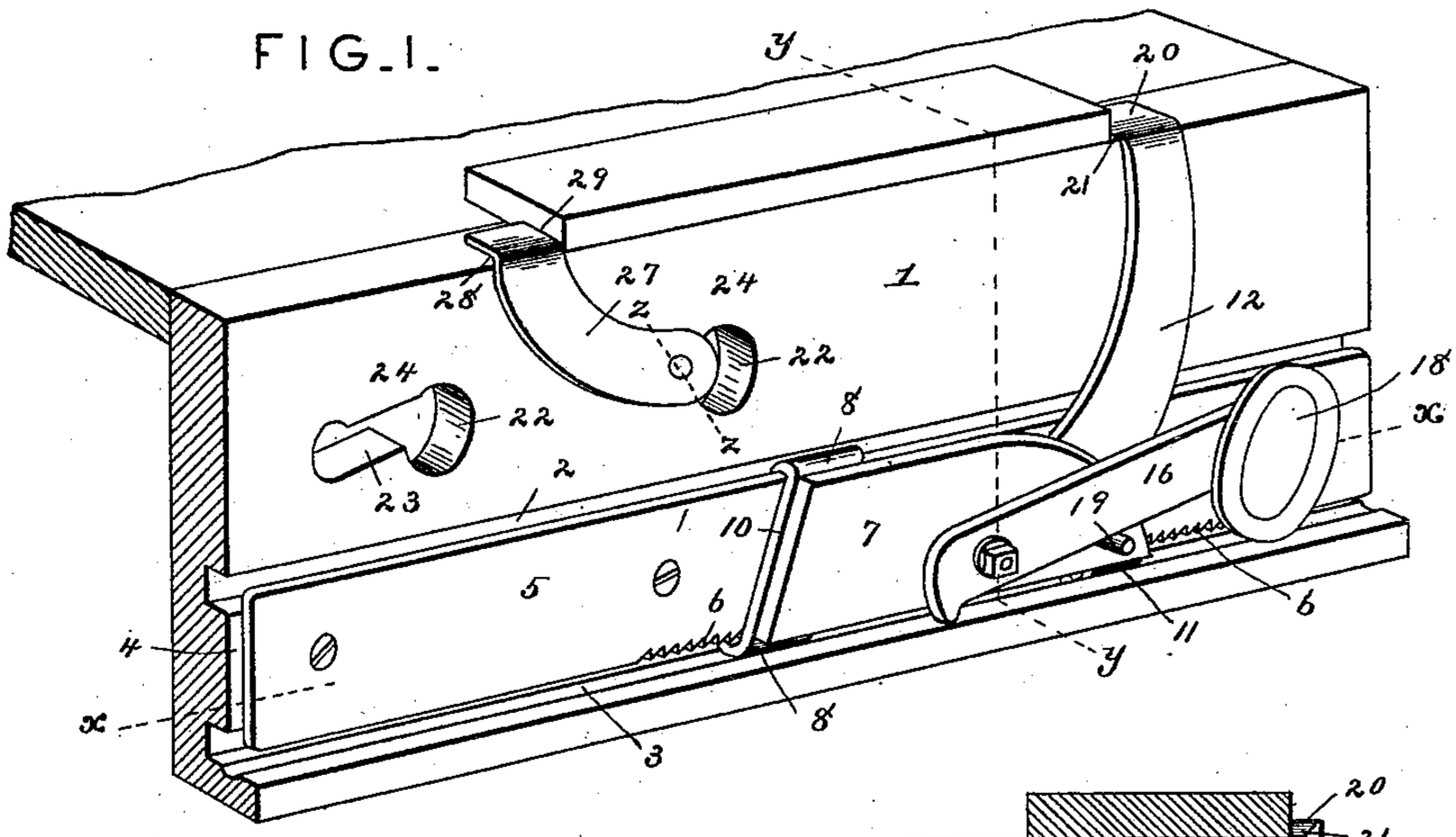


FIG. 2.

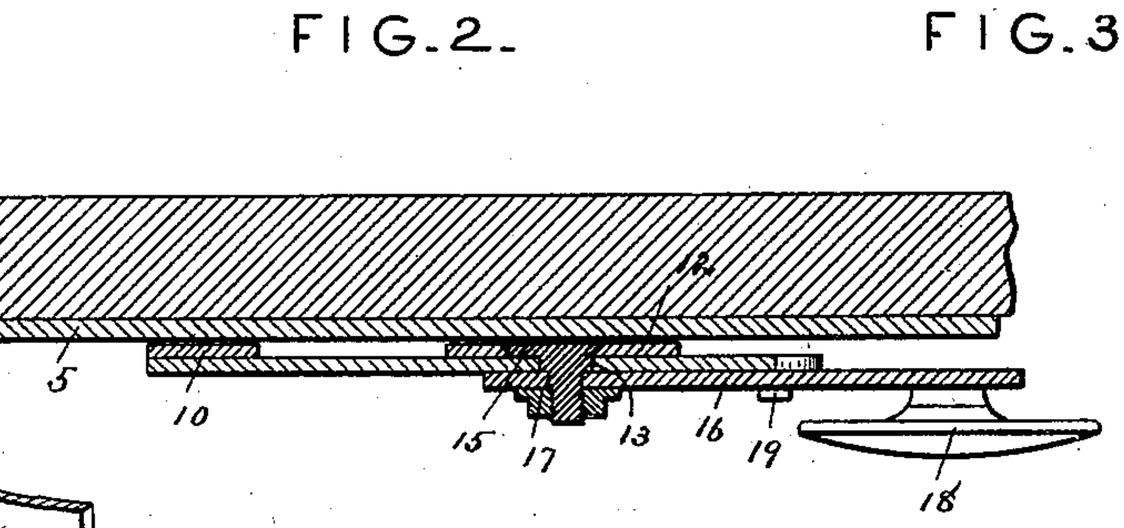


FIG. 3.

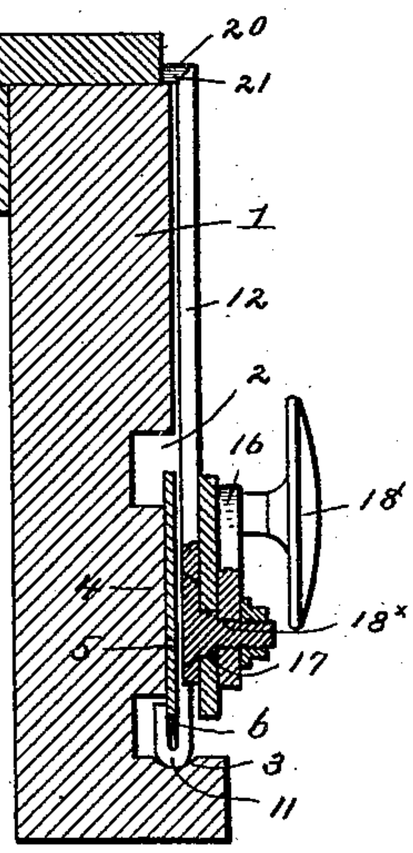


FIG. 4.

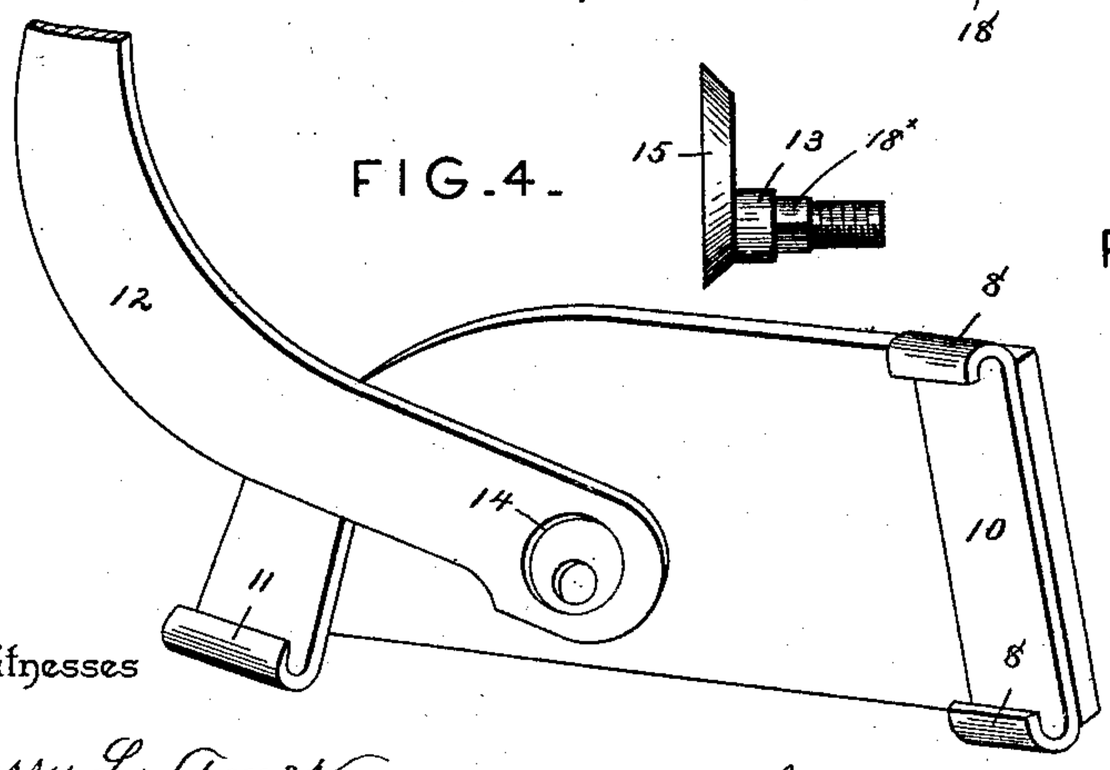
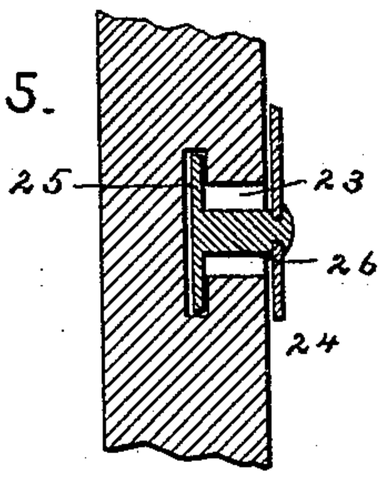


FIG. 5.



Witnesses

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UNITED STATES PATENT OFFICE.

GREEN B. NORMAN, OF BATESVILLE, ARKANSAS.

BENCH DOG OR CLAMP.

SPECIFICATION forming part of Letters Patent No. 487,762, dated December 13, 1892.

Application filed May 23, 1892. Serial No. 434,029. (No model.)

To all whom it may concern:

Be it known that I, GREEN B. NORMAN, a citizen of the United States, residing at Batesville, in the county of Independence and State of Arkansas, have invented a new and useful Bench Dog or Clamp, of which the following is a specification.

This invention relates to certain new and useful improvements in bench clamps or dogs; and it consists of the construction and arrangement of parts thereof, as will be more fully hereinafter described and claimed.

The object of this invention is to provide simple and effective means for clamping or holding work upon a work-bench, the parts being readily and easily operated and applied, strong and durable, and comparatively inexpensive in manufacture.

In the drawings, Figure 1 is a perspective view of a portion of a work-bench, showing the improved device applied in connection therewith and holding work in clamped position. Fig. 2 is a longitudinal section, taken in a horizontal plane, on the line $x\,x$ of Fig. 1 and on an enlarged scale. Fig. 3 is a transverse vertical section on the line $y\,y$ of Fig. 1 and also on an enlarged scale. Fig. 4 is a detail perspective view of some of the parts detached. Fig. 5 is a sectional view on the line $z\,z$, Fig. 1.

Similar numerals of reference are used to designate corresponding parts in the several figures.

Referring to the drawings, the numeral 1 designates the bench, which may be of any preferred form of construction; but to adapt the same for application of the improved device it is provided with grooves 2 and 3 to form a rib 4, on which is secured a metallic plate 5, wider than the said rib 4, to provide overhanging or projecting flanges, the said plate 5 being constructed with ratchet-teeth 6 in the lower edge thereof. Adjustably mounted on the said metallic plate 5 is a clamping-plate 7, having looped lugs 8 to embrace the flanges provided by the said plate 5, said lugs being formed on the end of a metallic strip 10, secured to the under side at one end of the clamping-plate 7. The opposite end of the said clamping-plate 7, at the lower end thereof, has a gripping-lug 11, which is of looped form and arranged inclined, so that it may readily engage the ratchet-teeth of the plate 5 and prevent movement of the clamping-plate when adjusted to position. A clamping-dog 12 of curved form is pivotally secured to the clamping-plate 7 by means of a stud 13, having an inner enlarged head of disk form, with its periphery beveled to engage a beveled opening 14 in the lower end of the clamping-dog 12. The said inner disk-shaped head 15 of the stud 13 holds the clamping-dog in proper position against the said plate 7 and renders the movement of the said dog 12 easy and quickly responsive to the action of an operating-lever 16, secured on the stud 13, and having a square opening 17 bearing on a square shoulder $18^{\times}$ of the said stud. The stud 13 is eccentrically mounted or formed on the disk 15, to thereby provide for the adjustment of the clamping-dog 12 when the handle 16 is operated to move the same. The handle 16 is provided with a knob or grip 18, and the plate 7 is constructed with a stop-stud 19 to limit the throw of the handle 16 in operating the device. The upper end of the clamping-dog 12 is bent at an angle, as at 20, and the inner edge 21 thereof is sharpened to take into the work to be clamped on the bench by the device. The clamping-plate 7 is readily adjustable on the metallic strip 5 in a longitudinal direction, and when the handle 16 is operated to draw the clamping-dog 12 against the work the lug 11 is simultaneously caused to engage the ratchet-teeth 6 of the metallic strip 5 to hold the clamping-plate 7 and the parts attached thereto in permanent position.

In the side of the bench 1 a series of circular openings 22 is formed, having oblique extensions or slots 23, which are narrower than the said openings 22, and said openings and extensions or slots are formed in a front strip 24, applied to and forming the front of the bench, and whereby a flanged head 25 of a stud 26, carried at the lower end of a removable dog 27, may be readily inserted in the opening 22 and drawn backward into the extension or slot 23. The upper end of the dog 27 is bent at an angle, as at 28, and the inner edge of said angularly-bent portion is formed with a sharpened edge 29, said construction being similar to that of the clamping-dog 12, as hereinbefore set forth. The

strip 24 or side of the bench 1, as the case may be, will be provided with a series of the openings 22, having the extensions or slots 23, so that the dog 27 may be adjusted according to the length of work to be operated upon. The dog 27 holds one end of the work which is placed thereagainst, and the clamping-dog operated by the mechanism hereinbefore set forth to clamp against the opposite end of the work, and thereby hold said work in stationary position for manipulation with suitable tools, as may be desired.

The advantages and conveniences arising from a device constructed in accordance to the description hereinbefore set forth will be readily apparent to those skilled in the art, and it is obvious that many minor changes in the construction and arrangement of the several parts might be made and substituted for that set forth without in the least departing from the nature or spirit of the invention.

Having thus described the invention, what is claimed as new is—

1. In a bench dog or clamp, the combination of a ratchet-plate, a clamping-plate having looped lugs to engage said ratchet-plate, located at one end and a biting-lug at the opposite end, said clamping-plate being adjustably mounted in connection with said ratchet-plate, a dog adjustably carried by said camping-plate, a handle for operating said dog, and a removable dog adapted to be used in connection with the aforesaid dog, substantially as described.

2. In a bench dog or clamp, the combination of a ratchet-plate, a clamping-plate having looped lugs to engage said ratchet-plate, located at one end and an engaging or biting-lug located at the opposite end adapted to engage the ratchet-teeth of said ratchet-plate, and a dog adjustably carried by said clamping-plate, substantially as described.

3. In a bench dog or clamp, the combination of a clamping-plate, a disk-shaped head having a stud eccentrically projecting therefrom and formed with a beveled periphery, a clamping-dog engaged by said disk-shaped head and provided with an opening, with a beveled wall to receive said head, and a handle mounted on the said stud and adapted to actuate the said dog, substantially as described.

4. In a bench dog or clamp, the combination of a ratchet-plate, a clamping-plate having looped lugs at one end to take hold of the edges of said ratchet-plate in an adjustable manner, and a biting-lug at the opposite end adapted to engage the ratchet-teeth of said ratchet-plate, a disk-shaped head having a beveled periphery provided with a stud extending eccentrically therefrom with a square shoulder thereon, a clamping-dog having an opening therein to fit against the periphery of the said disk-shaped head, a handle on the shoulder of the said stud, and an adjustable dog having a headed stud in connection therewith adapted to engage openings and slots in the bench, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

GREEN B. NORMAN.

Witnesses:
G. W. O'BRIEN,
JNO. C. BONE.