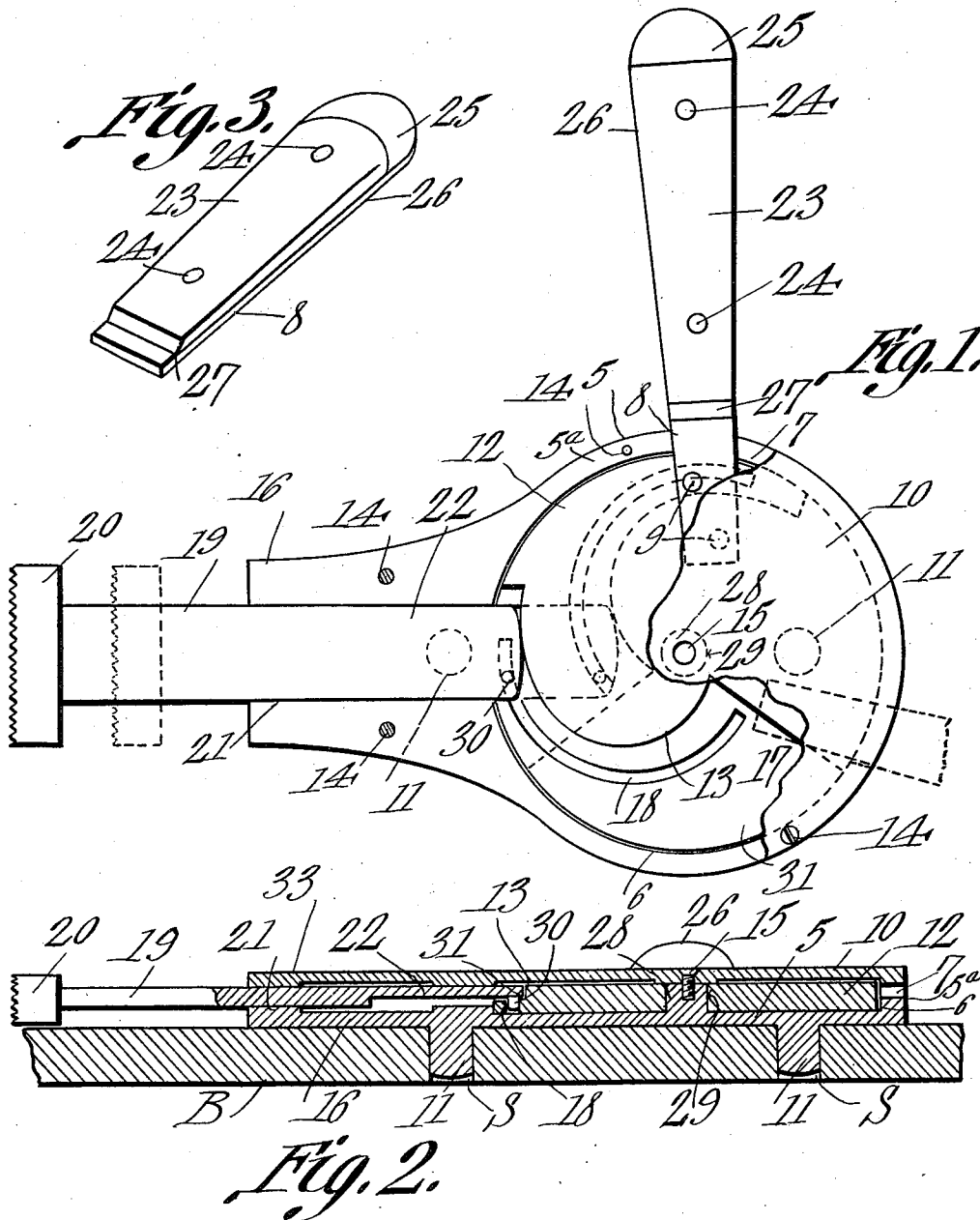


W. J. VILLARD.
BENCH DOG.
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1,046,123.

Patented Dec. 3, 1912.



Witnesses

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WALTER J. VILLARD, OF CHAMPAIGN, ILLINOIS.

BENCH-DOG.

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To all whom it may concern:

Be it known that I, WALTER J. VILLARD, a citizen of the United States, residing at Champaign, in the county of Champaign and State of Illinois, have invented a new and useful Bench-Dog, of which the following is a specification.

This invention relates to bench tail clamps, vises or dogs for carpenters and other craftsmen and artisans, the object of the present invention being to provide an improved device of this character; to provide such a device which shall be simple, inexpensive and compact in construction; and to provide a device of this character which shall be practical and efficient.

This invention contemplates a device of the character indicated which may be readily applied to the bench, table or the like used by the craftsman or artisan, and which will clamp the object to be operated upon by the craftsman or artisan, and which will be convenient in its use, and which shall not encumber the bench or obstruct the use of the bench or table.

To the above ends, this invention is embodied in the novel construction and combination of parts elicited in the following description and pointed out in the appended claims, reference being had to the accompanying drawings wherein the preferred embodiment of the present invention is illustrated, and wherein:

Figure 1 is a plan view of the clamp, parts being broken away. Fig. 2 is a longitudinal central section thereof. Fig. 3 is a fragmental view in perspective of a detail.

Referring in detail to the drawings, wherein similar characters indicate similar parts, the numeral 5 indicates a shallow cup-shaped base. This base 5 has a portion of the edge 5^a thereof cut away to provide an arcuate slot 7 in the periphery thereof communicating with the recess 6 of the base, and the said base has a radial extension 16, which extension 16 has a radial channel or guideway 21 therein extending from the outer end thereof to the recess 6 of the base. A boss 28 rises centrally from the bottom of the base 5, and a disk 12 is rotatably disposed within the base 5, the said disk 12 being disposed in the recess 6 of the base and having a central opening 29 therein receiving the boss 28. This disk 12 has a cut away portion 31 in its upper face along a portion of its periphery, the said cut away portion

forming an eccentric or cam 13 of approximate involute form extending from the central portion of the disk to the periphery thereof, and a wall 17 extending from the inner end of the eccentric 13 to the periphery of the disk. A flat plunger 19 is slidable in the channel 21, and has an inner and thinner extension 22 passing into the cut away portion 31 of the disk with its inner end curved and abutting against the eccentric 13 to cooperate therewith. The disk has a slot 18 in the cut away portion 31 extending along the eccentric 13 and diverging inwardly therefrom, and the extension 22 carries a pin or lug 30 at its inner end which engages in the slot 18.

The outer end of the plunger 19 is provided with a serrated or toothed head 20 for engaging the object to be clamped. A lever 8 has its inner end embedded in and secured to the disk 12 by means of rivets 9 or other suitable securing members, and the said lever extends radially through the slot 7. A piece 23 of wood or other suitable material is secured on the upper face of the lever 8 between the lug 25 at the outer end and the inner lug 27 by means of rivets 24, whereby a hand-hold, designated generally by the reference numeral 26, is provided on the outer or free end of the lever 8 for manually swinging the lever to rotate the disk 12. A top plate or cover 10 is secured on the upper edge of the base by means of screws 14, or the like, and the said cover has an extension 33 fitting over the extension 16 of the base. This cover or top plate 10 retains the disk 12 in its position and it also retains the plunger 19 in its slidable relation on the base. The cover 10 also abuts against or seats upon the boss 28 of the base, and a screw 15 is passed through the cover and is screw threaded into the boss 27 to assist in retaining the cover in position. The base 5 is also provided with a plurality of depending studs or fingers 11, which in use are inserted into suitable sockets or holes S in the bench or table B to retain the base upon the bench or table in a convenient and efficient manner.

In use, the base 5 is mounted upon the bench or table 31, the studs or fingers 11 fitting in the sockets S of the bench or table to prevent the base from being displaced upon the bench or table, and by swinging the lever 8 in the proper direction the disk 12 may be rotated whereby the eccentric or cam 13

forces the plunger outward, whereby the outer end of the plunger is extended.

In practice, the object to be clamped is brought against a suitable stop on the bench or table (not shown) and the clamp is then disposed on the bench or table in the proper relation to the object whereby upon swinging the lever 8 the head 20 of the plunger will be brought tightly against the object to clamp the object in its position upon the bench or table, thus permitting the craftsman or artisan to work on the object. By swinging the lever 8 in the opposite direction the plunger is carried inwardly or is retracted by the pin or lug 30 following in the slot 18, thereby releasing the object.

This invention is simple, inexpensive, and compact in its construction, and in its use is convenient and efficient, it being understood that this clamp is susceptible of slight alterations or deviations in its details within the scope of the appended claims without departing from the spirit of the invention.

What is claimed is—

1. A bench dog comprising a shallow cup-shaped base having a portion of the edge cut away to provide a slot and having a radial extension with a channel therein, a disk fitting within the base and having an eccentric and a slot therein along the eccentric, a plunger slidable in the said channel and having its inner end passing over the disk and abutting against the eccentric, a pin carried by the plunger and engaging in the said slot in the disk, a lever secured to the disk and passing through the former slot, and a detachable cover secured on the upper edge of the base and having an extension fitting over the extension of the base in order to retain the plunger and disk in position.

2. A bench dog comprising a cup-shaped base having a radial extension, a plunger slidable in the extension, a disk rotatable within the base and having an eccentric cooperating with the plunger to extend the plunger, and means for retracting the plunger, a lever secured to the disk for rotating the same, and a detachable cover secured on the base and over its extension to retain the plunger and disk in position.

3. A bench dog comprising a shallow cup-shaped base having a portion of the edge cut away to provide a slot and having a radial extension with a channel therein, a boss rising centrally from the bottom of the base, a disk fitting within the base and having a central opening receiving the boss and having a cut away portion in its upper side and on the periphery thereof forming an eccentric and having a slot therein along the eccentric, a plunger slidable in the said channel and having an inner extension passing into the cut away portion of the disk and abutting against the eccentric, a pin carried by the extension and engaging in the said slot in the disk, a lever secured to the disk and passing through the former slot, and a detachable cover secured on the upper edge of the base and on the boss and having an extension fitting over the extension of the base in order to retain the plunger and disk in position.

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

WALTER J. VILLARD.

Witnesses:

JOE WYNINGER,
H. M. MILLER.

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