

No. 668,137.

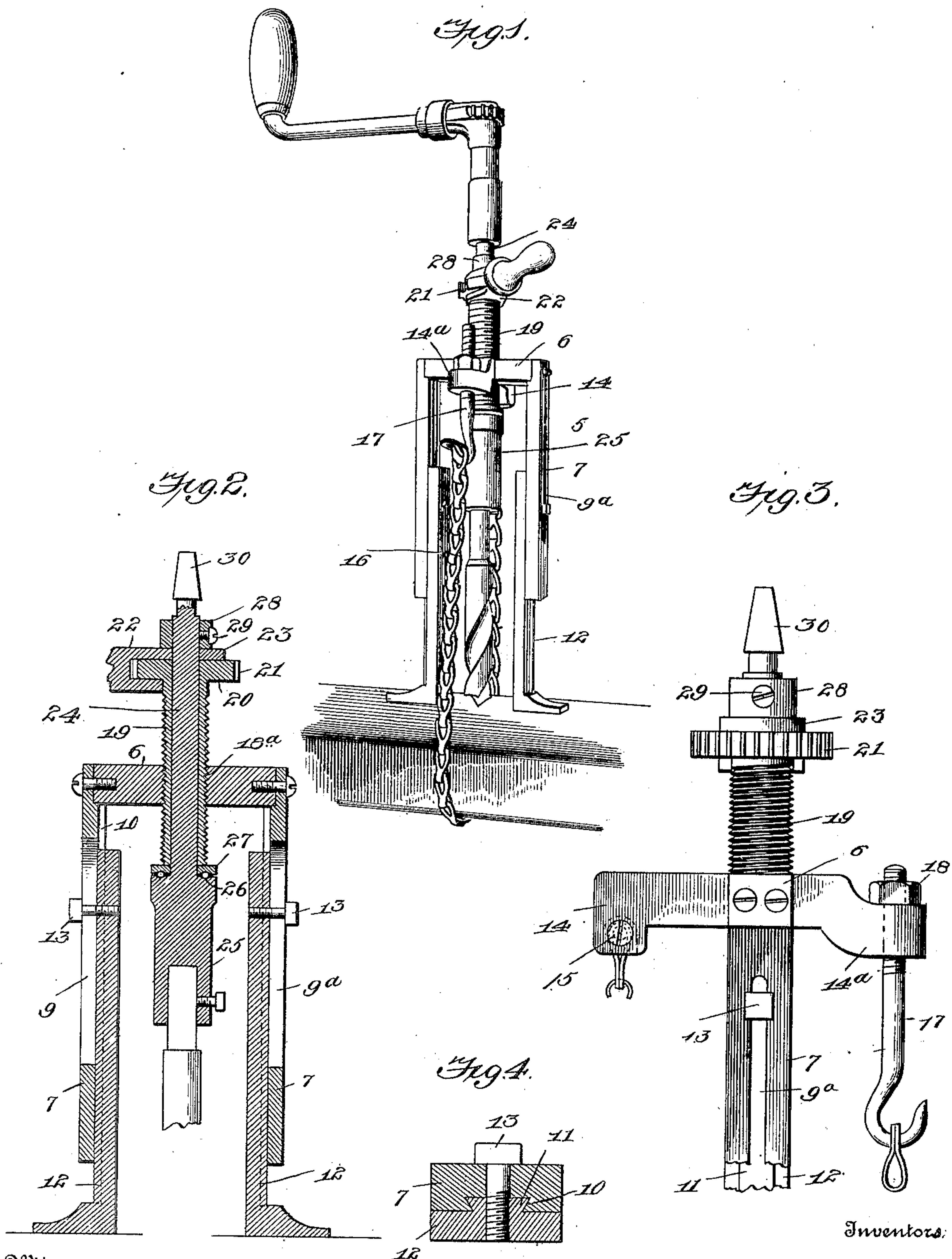
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P. M. BRADLEY & P. F. STONEHOUSE.

DRILL.

(Application filed Nov. 4, 1899.)

(No Model.)



Witnesses
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UNITED STATES PATENT OFFICE.

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DRILL.

SPECIFICATION forming part of Letters Patent No. 668,137, dated February 12, 1901.

Application filed November 4, 1899. Serial No. 735,814. (No model.)

To all whom it may concern:

Be it known that we, PORTE M. BRADLEY and PETER F. STONEHOUSE, citizens of the United States, residing at Cripple Creek, in the county of Teller and State of Colorado, have invented a new and useful Drill, of which the following is a specification.

Our invention relates to improvements in metal drills of the ratchet type; and the object thereof is to improve and perfect this class of devices.

With this object in view our invention consists in providing a substantially rectangular adjustable bearing-frame carrying a threaded sleeve in which is mounted a drill-chuck adapted to be operated by a ratchet mechanism, said frame being provided with two oppositely-disposed arms, to one of which is secured a chain and connected to the other arm by means of an adjustable hook.

Our invention further consists in certain details of construction and combination of parts, all of which will be fully described hereinafter, pointed out in the claim, and illustrated in the drawings forming a part of this specification, and in which—

Figure 1 is a perspective view of a drill constructed in accordance with our invention. Fig. 2 is a vertical longitudinal section through the same. Fig. 3 is a fragmentary side elevation of the frame; and Fig. 4 is a transverse section through one of the standards of the frame, illustrating the manner of adjusting.

Referring now to the drawings, in which the same reference-numerals mark corresponding parts throughout the several views, 5 indicates the mechanism-carrying frame, and comprises a cross-bar 6, on the respective ends of which are secured the depending legs or standards 7 and 8, provided with slots 9 and 9^a, and the inner sides of which are provided with dovetailed grooves 10 to receive the correspondingly-shaped ribs 11 of the supplemental standards 12, which are secured to the first-named standards by set-screws 13, working in the slots 9 and 9^a. At the lower end of the standards 12 are transversely-projecting feet to better enable the frame to be secured to the device it is desired to drill.

Projecting from each side of the cross-bar 6 are two arms 14 and 14^a. A bolt 15 is secured to the arm 14 to connect one end of a chain 16 thereto, which passes down around the lower side of the metal bar or main to be drilled, as shown in Fig. 1, and is connected to the arm 14^a by an adjustable hook 17, threaded at its upper end and held in engagement with said arm by a nut 18, adjustable on said threaded end. The end of the arm provided with the hook is depressed or bent downward to prevent the nut on top of the hook from interfering with the operation of the lever and ratchet-wheel when they are moved down as far as they will go.

A vertical threaded perforation 18^a is provided centrally of the cross-bar 6, in which works an externally-threaded hollow sleeve 19, provided at its top edge with an annular flange 20, having teeth 21 around its periphery to constitute a ratchet-wheel engaged by one of the pawls of the ratchet-lever 22, arranged thereon, and having an extended portion 23 lying snugly against the top of said flange and provided with an opening in line with the central bore of the sleeve, whereby said ratchet-lever is secured thereto by the shank 24 of the drill-chuck 25. It will be noticed that this chuck is greater in diameter than the shank and at the top is provided with a raceway 26, in which a series of anti-friction-balls rest and are secured against displacement by a grooved cup 27, which is sleeved on the shank, and the whole is held in operative engagement by a collar 28, fastened to the shank by a set-screw 29. To the guard-head 30 of this shank is secured a ratchet-crank of any well-known construction.

The operation of our device is as follows: All the parts being assembled, the device will be attached to the article to be drilled, as shown in Fig. 1; but should any inequality in the contour of the article be present one or both of the supplemental standards may be lengthened or shortened until the frame and mechanism assume a vertical position, whereby a true tap may be made. In practice the ratchet-lever will be used to adjust the sleeve until the point of the bit abuts against the

metal, when the crank will be turned to cut the metal, the lever being worked to feed the bit as needed.

While we have described in detail the construction of what to us at this time seems the very best means of accomplishing the desired result, we would have it understood that we reserve the right to make such slight changes and alterations as would properly come within the scope of our invention without departing from the spirit thereof.

Having thus fully described our invention, what we claim as new, and desire to obtain by Letters Patent, is—

In a drill, a perforated cross-bar provided with an arm projecting from each side of the center thereof, the perforation being screw-threaded and one of the arms being provided with a bolt and the other one being depressed and perforated, a bolt through said perfora-

tion, the nut of which is above the depressed portion thereof, a leg detachably secured to each end of the cross-bar and a chain secured to one of the arms and to the bolt in the other one, an exteriorly - screw - threaded sleeve through the perforation in the bar, the upper end of which is provided with a ratchet-wheel, a shank through the sleeve, the lower end of which is adapted to hold a drill and the upper end is adapted to receive means for rotating it and a lever pivotally mounted on the shank and provided with a pawl for engaging with the ratchet-wheel, substantially as described.

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