

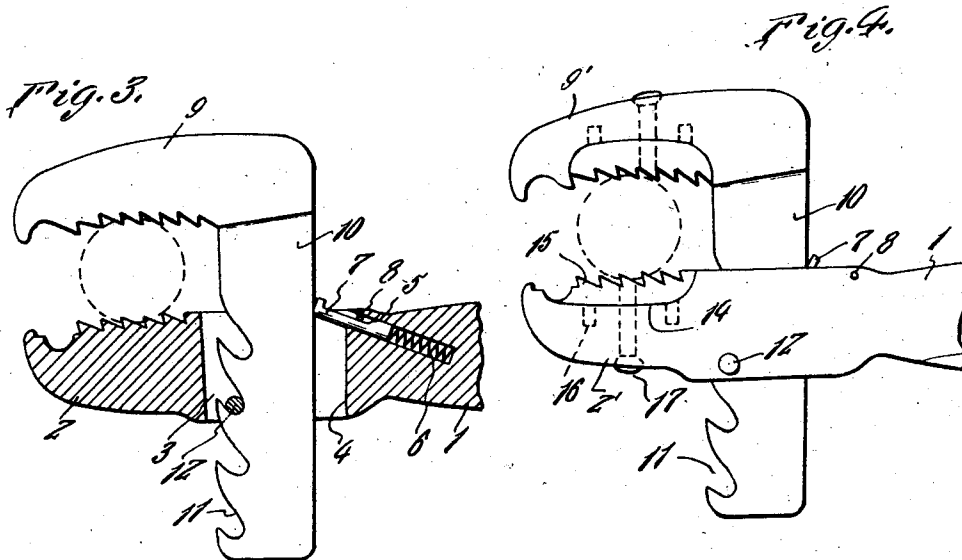
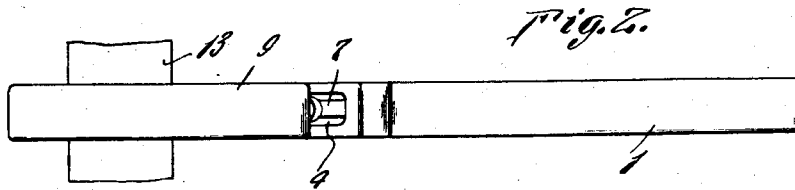
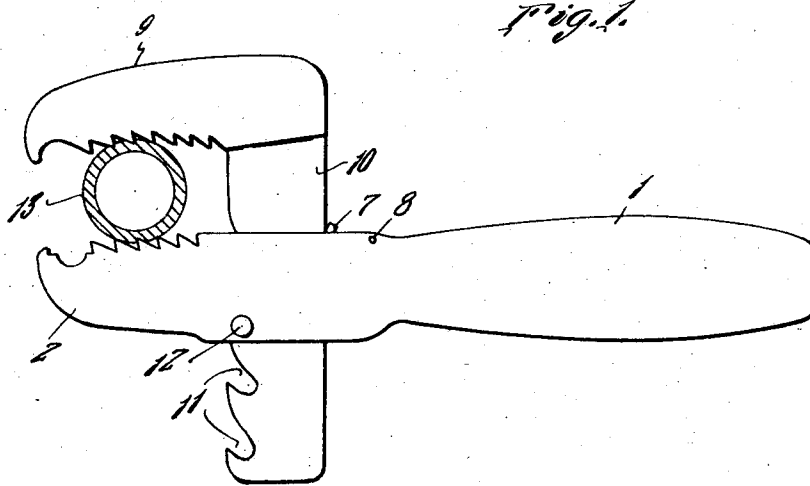
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W. M. STOVALL

WRENCH

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WRENCH.

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The object is the provision of an adjustable ratchet wrench whose construction is simple and which will positively grip an article arranged between the jaws thereof.

5 A further object is the provision of a wrench of this character, with removable inserts for the jaws thereof.

To the attainment of the foregoing the invention consists in the improvement as hereinafter described and claimed.

In the drawings:—

Figure 1 is a side elevation of a wrench in accordance with this invention;

Fig. 2 is an edge view thereof;

15 Fig. 3 is a fragmentary elevation with parts in section; and

Fig. 4 is a fragmentary elevation showing the jaw portions of the wrench provided with removable inserts or auxiliary jaws.

20 As disclosed by the drawings, I make use of a straight handle 1 that terminates in a jaw end 2. The handle, directly to the rear of the jaw 2, is provided with a longitudinal slot or opening 3. The rear wall of this opening is indicated for distinction by the numeral 4, and is provided with an angularly arranged slot 5 that enters the handle. In this slot there is a spring 6 that acts against a plunger rod 7. The 30 plunger rod has one of its faces, for a determined distance, notched, and passing through the opening 5 and received in said notch, there is a pin 8. The pin bears upon and limits both the outward and inward 35 movement of the plunger.

The second element of the wrench includes a jaw 9 having on its rear or inner end a rightangularly disposed shank 10. The shank has its outer edge formed with inwardly rounded notches 11, and one of these 40 notches is designed to engage with a pin 12 that passes transversely through the opening 3, adjacent to the outer wall of the said opening.

45 The shank 10 is of a materially less width than the length of the opening 3 and it will be noted that the pin 12 is disposed adjacent to the outer edge of the handle member 1, while the plunger 7 contacts the straight edge of the shank at a point angularly with respect to the notch 11 in which the pin 12 is received. The result is that 50 the handle 1 will have a swinging action

on the shank 10 so that the jaw 2, in the manipulation of the wrench will open and close, permitting the wrench to ratchet over an object such as a pipe 13 which is gripped between the jaws.

In Fig. 4 the jaws 2' and 9' have their active faces provided with concaved depressions 14, respectively, and in these depressions there are received blocks 15, respectively. The blocks have their confronting faces toothed. Each block has its inner edge provided, adjacent to its ends, with 65 dowels 16 to be received in suitable sockets in the respective jaws or heads 2' and 9', while passing through suitable openings arranged centrally between the spaced sockets in the jaws or heads there are bolt members 70 17, whose threaded ends are received in suitable openings in the auxiliary jaws or inserts 15. With this construction the inserts or auxiliary jaws 15 may be of harder material than the remainder of the wrench 75 so that the wrench can be more cheaply constructed.

While I have illustrated satisfactory embodiments of my improved device, my features of invention are capable of extended 80 application and I do not wish to be limited to the specific structure herein shown and described.

Having described the invention, I claim:—

A wrench including a handle having a jaw 85 end and having a longitudinal opening at its juncture with the said jaw, a pin passing transversely through the opening, a second jaw having a right-angular shank whose outer edge is notched and which shank is 90 designed to be received through the opening and one of the notches thereof designed to receive therein the pin, the inner wall provided by the opening having an angularly arranged passage which enters the handle, 95 a spring in the passage, a notched plunger in the passage contacted by the spring and forced into engagement with the inner edge of the shank, and a pin passing through the passage and received in the notch of the 100 plunger, and said pin providing both a bearing and a retaining element for the plunger.

In testimony whereof I affix my signature.

WILLIAM M. STOVALL.