

No. 680,285.

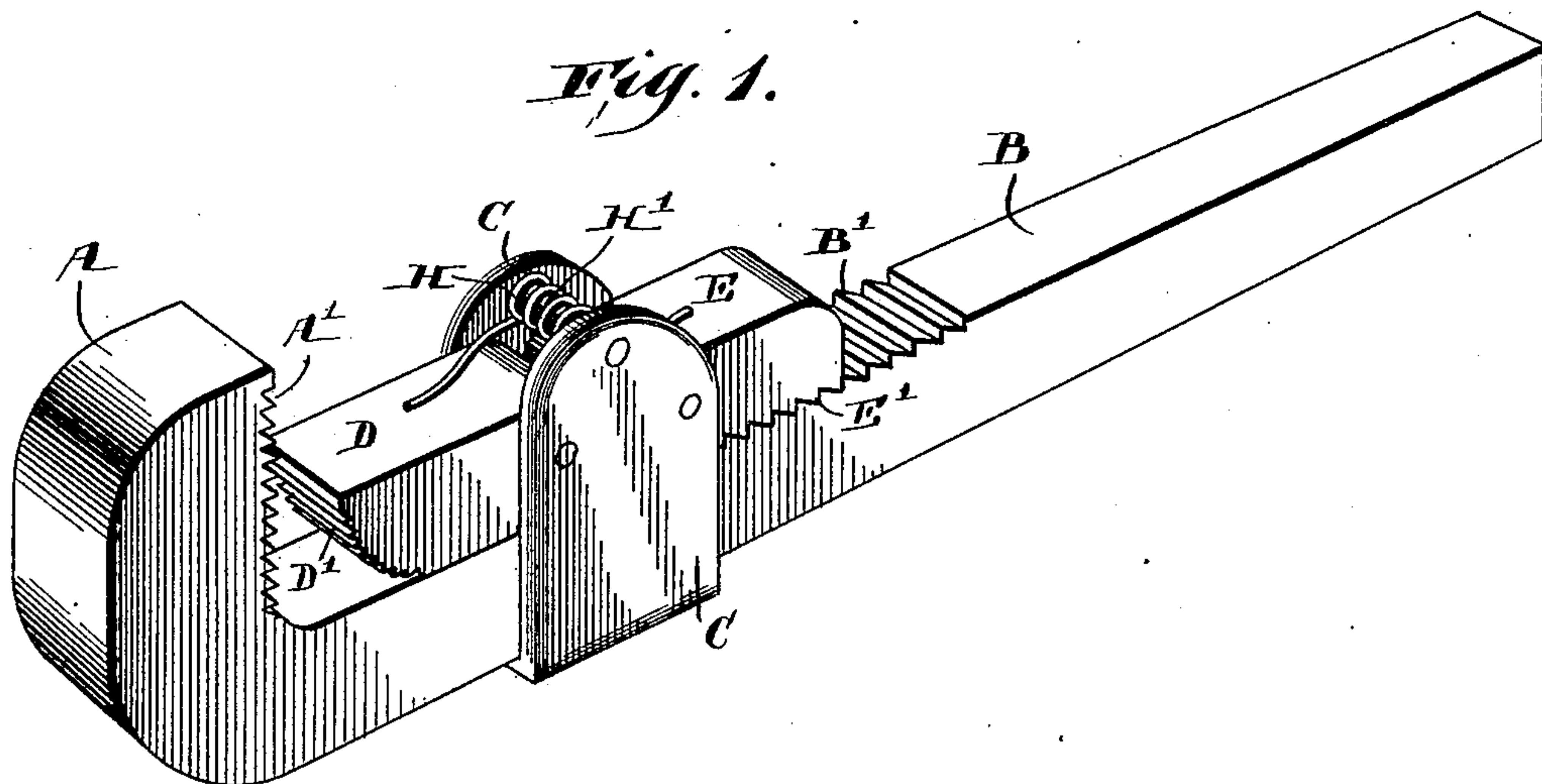
Patented Aug. 13, 1901.

T. E. SMYTHE.  
PIPE WRENCH.

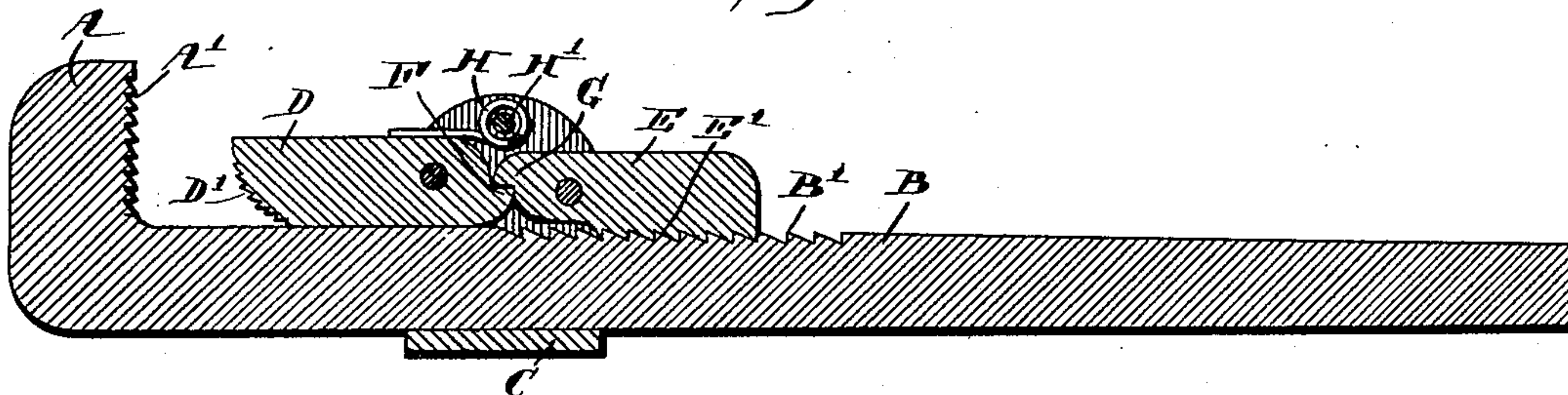
(Application filed Nov. 17, 1900.)

(No Model.)

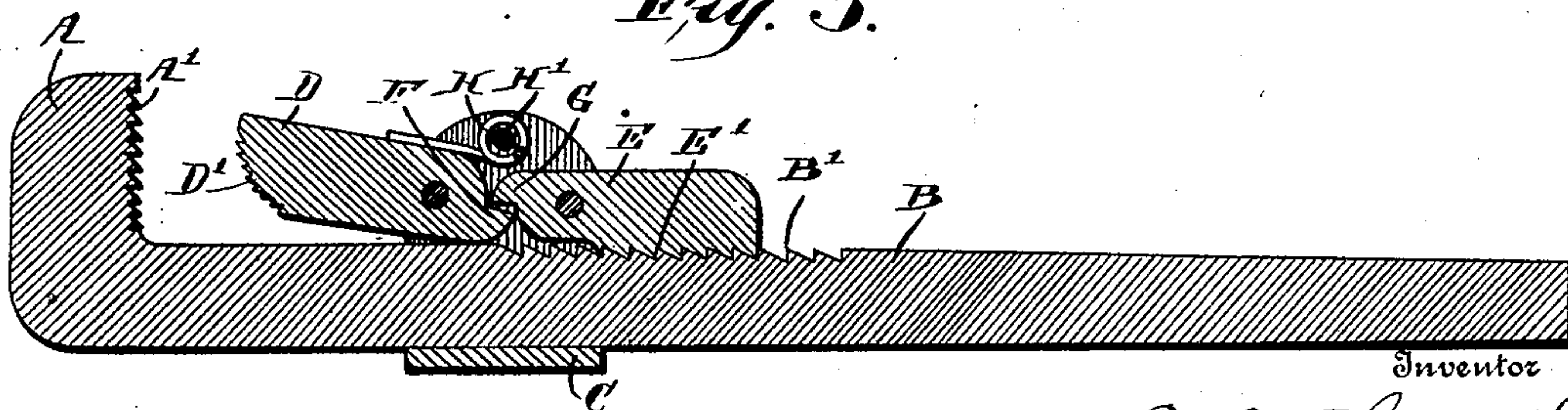
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



Witnesses

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# UNITED STATES PATENT OFFICE.

THOMAS E. SMYTHE, OF GALION, OHIO.

## PIPE-WRENCH.

SPECIFICATION forming part of Letters Patent No. 680,285, dated August 13, 1901.

Application filed November 17, 1900. Serial No. 36,820. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS E. SMYTHE, a citizen of the United States, residing at Galion, in the county of Crawford and State of Ohio, have invented a new and useful Pipe-Wrench, of which the following is a specification.

This invention relates generally to pipe-wrenches, one object of the invention being to provide a combined sliding and pivoted jaw whereby the wrench can be quickly and easily adjusted to fit any size pipe or rod.

Another object of the invention is to provide a wrench in which the gripping-jaw can be operated either by means of a locking-dog or independent thereof.

With these objects in view my invention consists, essentially, in constructing the rigid jaw and handle in a single piece and in arranging the combined sliding and pivoted jaw upon the upper surface of the handle, said sliding jaw being pivoted in a sliding carrier surrounding the handle and sliding thereon, said carrier also having a locking-dog pivoted therein, which locking-dog has a series of teeth formed upon its lower surface adapted to engage a series of teeth formed upon the upper surface of the handle, a spring fastened to the carrier acting upon both the pivoted jaw and the locking-dog for the purpose of normally holding them in a locked or closed position.

The invention consists also in certain details of construction and novelties of combination, all of which will be fully described hereinafter and pointed out in the claims.

In the drawings forming a part of this specification, Figure 1 is a perspective view of a wrench constructed in accordance with my invention. Fig. 2 is a vertical longitudinal sectional view, the parts being shown closed or locked; and Fig. 3 is a similar view showing the parts opened and ready to receive the pipe or rod between the jaws.

In constructing a wrench in accordance with my invention I employ a fixed jaw A, having teeth A' cut upon the inner face of its hooked end, and in practice I prefer to form this fixed jaw A integral with the handle B, and sliding upon the said handle and embracing the same upon the lower side is a carrier C, said carrier having a pivoted gripping-jaw D pivoted between its members and ex-

tending forwardly toward the fixed jaw, the forward end of said gripping-jaw being curved and provided with teeth, as most clearly shown at D'. A locking jaw or dog E is pivoted also between the members of the sliding carrier and projects rearwardly, as shown, and has a series of teeth E' upon its lower side adapted to engage with the teeth B', formed upon the upper side or face of the handle B. When the teeth E' are in engagement with the teeth B', the carrier and the gripping-jaw will be locked against backward movement, though it will of course be understood that the forward movement will still be possible, and inasmuch as the gripping-jaw is pivoted in the carrier it will of course be understood that it is a pivotal movement, so that the wrench can be used after the pattern of a ratchet-wrench.

The rear end of the gripping-jaw D is formed with a rearwardly-projecting lip F, and a forwardly-projecting lip G is formed upon the forward end of the locking jaw or dog E, said lips being adapted to engage each other in such a manner that when the locking dog or member is raised the gripping-jaw will also be opened, as most clearly shown in Fig. 3, thereby facilitating the operation of the wrench. It will be noted, however, that the gripping-jaw is entirely independent of the locking dog or jaw, and consequently can have an upward movement without disturbing the said locking jaw or dog, and this construction and arrangement permits the wrench to be used after the pattern of a ratchet-wrench. The gripping-jaw D and the locking jaw or dog E contact with each other, as shown, and thereby take away all strain from the pivots.

A spring H bears upon both the pivoted jaw and the locking jaw or dog and holds them normally in a closed or locked position, said spring being preferably coiled around a post H', extending across the top of the carrier, the free ends of the spring bearing relatively upon the pivoted jaw and the locking-dog.

In operation the locking-dog is lifted clear of the teeth upon the handle and the carrier is slid back or forth the approximate desired distance, and as soon as the locking-dog is released the spring will immediately throw



the said dog into engagement with the teeth, and at the same time the pivoted gripping-jaw will be thrown into engagement with the pipe or rod to be operated upon. It will thus  
5 be seen that I provide an exceedingly cheap and simple construction of wrench which has all the strength and simplicity of a sliding-jaw wrench and still has all the advantages of adjustment of a pivoted-jaw wrench, and  
10 it will furthermore be noted that by having the clamping-jaw independently movable of the locking dog or jaw I am permitted a movement similar to that of a ratchet-wrench.

Having thus fully described my invention,  
15 what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a wrench of the kind described, the combination with the fixed jaw and integral handle, of the slidable carrier arranged to  
20 slide upon said handle, the pivoted gripping-jaw carried by the said carrier, the locking jaw or dog also carried by said carrier and provided with teeth to engage the teeth upon

the handle, the spring for normally holding the jaws closed, and the contacting lips 25 formed upon the contiguous ends of the gripping-jaw and locking jaw or dog, substantially as and for the purpose described.

2. In a wrench of the character described, the combination with a fixed jaw and an in- 30 tegral handle formed with teeth, of a slidable carrier arranged to slide upon said handle, a pivoted gripping-jaw carried by said handle, a locking member also carried by said handle and provided with teeth to engage the teeth 35 of the handle, a spring normally pressing said gripping-jaw and locking member toward the handle, and contacting lips formed upon the contiguous ends of the gripping-jaw and locking member, the lip of the locking member 40 being uppermost, substantially as described.

THOMAS E. SMYTHE.

Witnesses:

CHAS. E. BROCK,  
CLARENCE SHAW.