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O. G. GUSS.

WRENCH.

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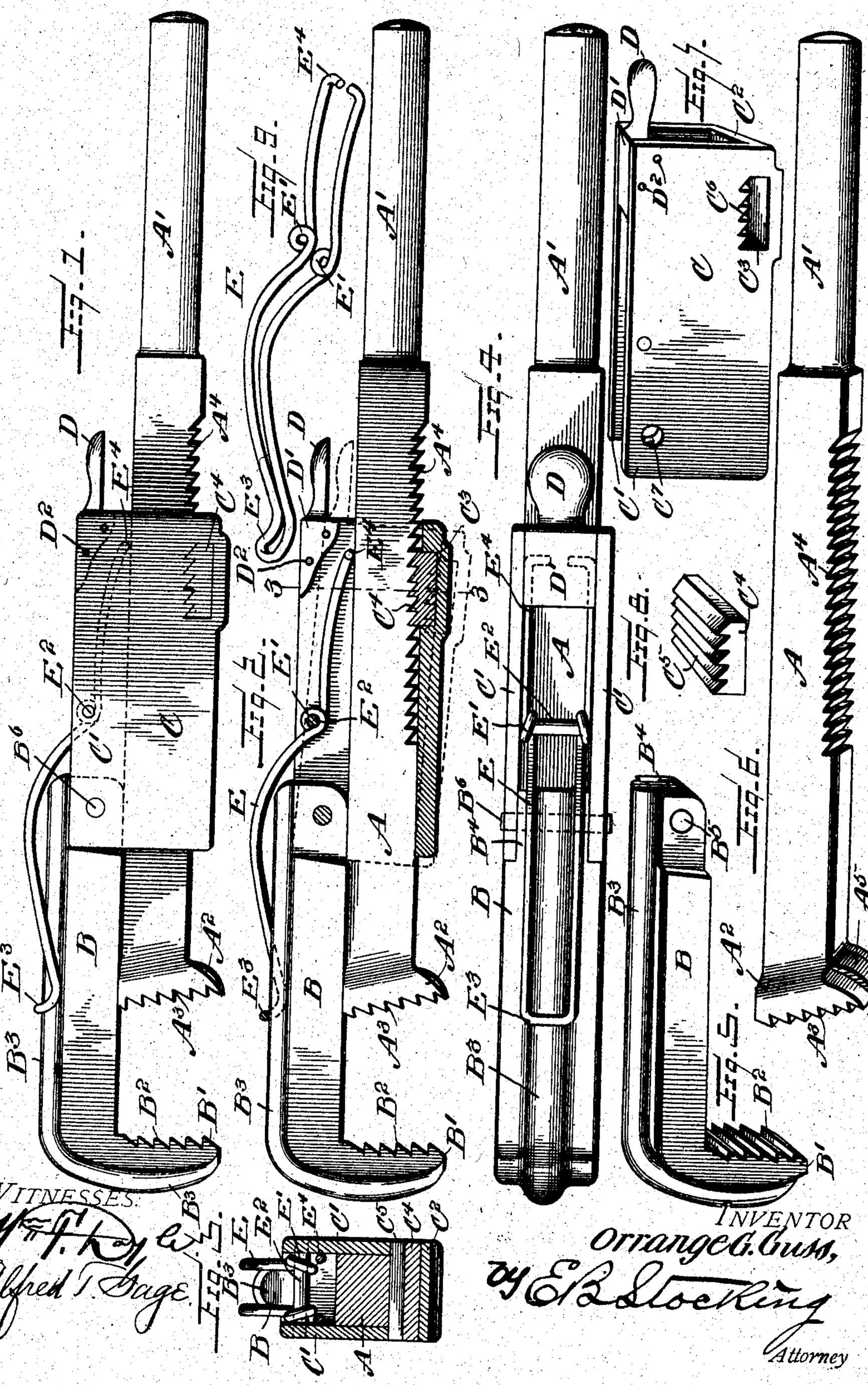

UNITED STATES PATENT OFFICE.

ORRANGE G. GUSS, OF DELPHOS, OHIO.

WRENCH.

No. 796,206. Specification of Letters Patent. Patented Aug. 1, 1905.

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To all whom it may concern:

Be it known that I, ORRANGE G. GUSS, a citizen of the United States, residing at Delphos, in the county of Allen, State of Ohio, have invented certain new and useful Improvements in Wrenches, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to a wrench, and particularly to a construction embodying a fixed jaw and a pivotally-mounted sliding jaw.

The invention has for an object to improve the construction of a frame or carrier for the sliding jaw whereby both of said parts may be held under tension while free for adjustment in the use of the wrench.

A further object of the invention is to improve the details of construction thereof so as to secure the maximum of strength and efficiency in the several parts, combined with simplicity and economy in the manufacture thereof.

Other and further objects of the invention will be hereinafter set forth and the novel features thereof defined by the appended claims.

In the drawings, Figure 1 is a side elevation of the wrench. Fig. 2 is a similar view with one wall of the sliding carrier removed. Fig. 3 is a vertical section on the line 3 3 of Fig. 2. Fig. 4 is a top plan. Fig. 5 is a detail perspective of the sliding jaw. Fig. 6 is a similar view of the fixed jaw. Fig. 7 is a similar view of the carrier. Fig. 8 is a perspective of the pawl-block, and Fig. 9 is a similar view of the tension-spring.

Like letters of reference refer to like parts in the several figures of the drawings.

The letter A designates the fixed jaw, which may be of any desired configuration and is provided at one end with a handle portion A' and at the opposite end with an enlarged head A^2, provided with a toothed face A^3. The central rectangular portion of this jaw is provided upon one face with a series of ratchet-teeth A^4, disposed in any suitable manner—for instance, inclined toward the handle portion. The head A^2 may also be provided with a strengthening-rib A^5 at its lower rear portion.

The movable jaw B is provided at one end with a head B', extending at substantially a right angle thereto and provided upon its inner face with a series of teeth B^2, preferably inclined toward the body of the jaw. Upon the outer face of this jaw and extending over the head thereof is a strengthening-rib B^3, while the end of the jaw opposite the head B' is reduced in diameter to provide a pivoting-lug B^4, having an aperture B^5 therein. For the purpose of receiving and supporting the jaw B a frame or carrier C is mounted upon the fixed jaw A and provided with opposite vertical walls C', connected by a base C^{12}. This base is provided with a socket or recess C^3, adapted to receive a pawl-block C^4, having upon its upper face inclined teeth C^5 to engage the teeth A^4 upon the fixed jaw. The opposite walls C' are provided with a suitable aperture C^6 to receive this block when it is inserted in position, and this construction of parts permits the use of a block of much harder material than the other parts of the wrench and the removal and displacement thereof whenever necessary. The side walls C' of the carrier are also provided with apertures C^7, adapted to receive a pivoting-pin B^6 for connecting the jaw B thereto. For the purpose of depressing the carrier into the position shown by dotted lines in Fig. 2 for the purpose of adjusting it upon the fixed jaw a thumb-piece D is provided and is secured in position by means of a body portion D', fitted between the opposite walls C' and secured thereto in any desired manner—for instance, by means of rivets D^2.

For the purpose of retaining the pawl-block in contact with the fixed jaw and the movable jaw in contact with the opposite face of the fixed jaw a tension-spring E is used, which is provided at its central portion with eyes E', adapted to receive a supporting-pin E^2, mounted in the walls C' of the carrier. The outer end E^3 of this carrier is looped, so as to embrace the rib B^3 upon the jaw B and have a sliding contact thereon, while the opposite end E^4 of the spring bears upon the face of the fixed jaw opposite the ratchet-teeth thereon. The toothed face B^2 of the sliding jaw is disposed at substantially a right angle thereto, while the teeth A^3 of the fixed jaw are inclined away from the sliding jaw and disposed diagonally to the toothed face B^2, thus securing a most efficient grip in the use of the wrench.

In the operating of the invention it will be seen that the carrier may be adjusted upon the fixed jaw by depressing the same, as shown by dotted lines in Fig. 2, so as to remove the pawl-block from contact with the ratchet-teeth, thus leaving the carrier free for move-

ment. As soon as pressure is removed from the thumb-piece the spring restores the block into contact with the ratchet. The invention is, however, not confined to the particular form and disposition of teeth here shown, as any desired construction may be used. The outer end of the spring in contact with the pivoted jaw retains the same constantly under tension, while it is free to swing upon a pivot in the use of the tool. It will also be seen that with the form of tooth here shown the carrier may be moved in one direction without disengaging the block therefrom. The use of the rib upon the jaw B materially strengthens the same and provides a sliding bearing for the free end of the spring, while the removable pawl-block permits that part to be made of different material from the balance of the wrench and to be removed and replaced whenever found necessary or desirable.

It will be obvious that changes may be made in the details of construction and configuration without departing from the spirit of the invention as defined by the appended claims.

Having described my invention and set forth its merits, what I claim, and desire to secure by Letters Patent, is—

1. In a wrench, a fixed jaw provided with ratchet-teeth, a sliding carrier having a cooperating pawl and at a side and end opposite to said pawl a swinging jaw pivoted at its extreme end within said carrier and unobstructed in its movement thereby, and a double spring fixedly mounted between its ends to said carrier at a point spaced from the fixed jaw and bearing at one end upon said fixed jaw opposite said pawl and at the other end upon said swinging jaw in front of its pivot.

2. In a wrench, a fixed jaw provided with ratchet-teeth, a sliding carrier having holding means coöperating with said teeth, a swinging jaw having its under face parallel to and in sliding contact with the upper face of the fixed jaw, a pivotal connection between the inner end of the swinging jaw and the outer end of the carrier to form a pivotal support for the unobstructed movement of the swinging jaw relative to the carrier, and a tension-spring mounted between its ends on a fixed support on the carrier spaced from the fixed jaw and bearing downwardly at one end upon the upper face of the fixed jaw in front of its pivot and at its opposite end extending over the pivot of the swinging jaw to retain the parallel faces of the jaws in contact.

In testimony whereof I affix my signature in presence of two witnesses.

ORRANGE G. GUSS.

Witnesses:
JOHN MOST,
DICK HOHNDRICK