

(No Model.)

W. HARDING.  
WRENCH.

No. 540,252.

Patented June 4, 1895.

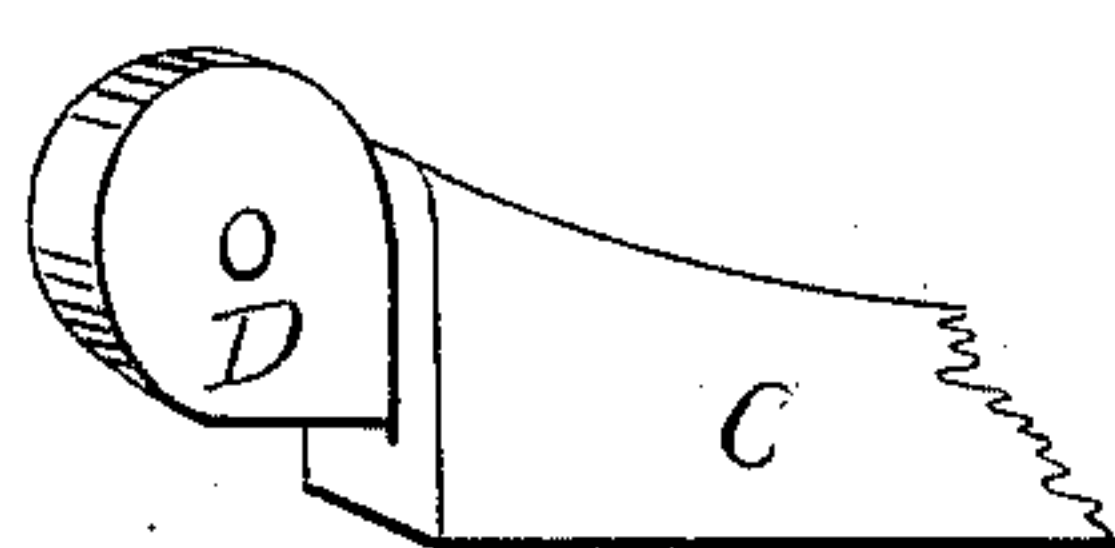
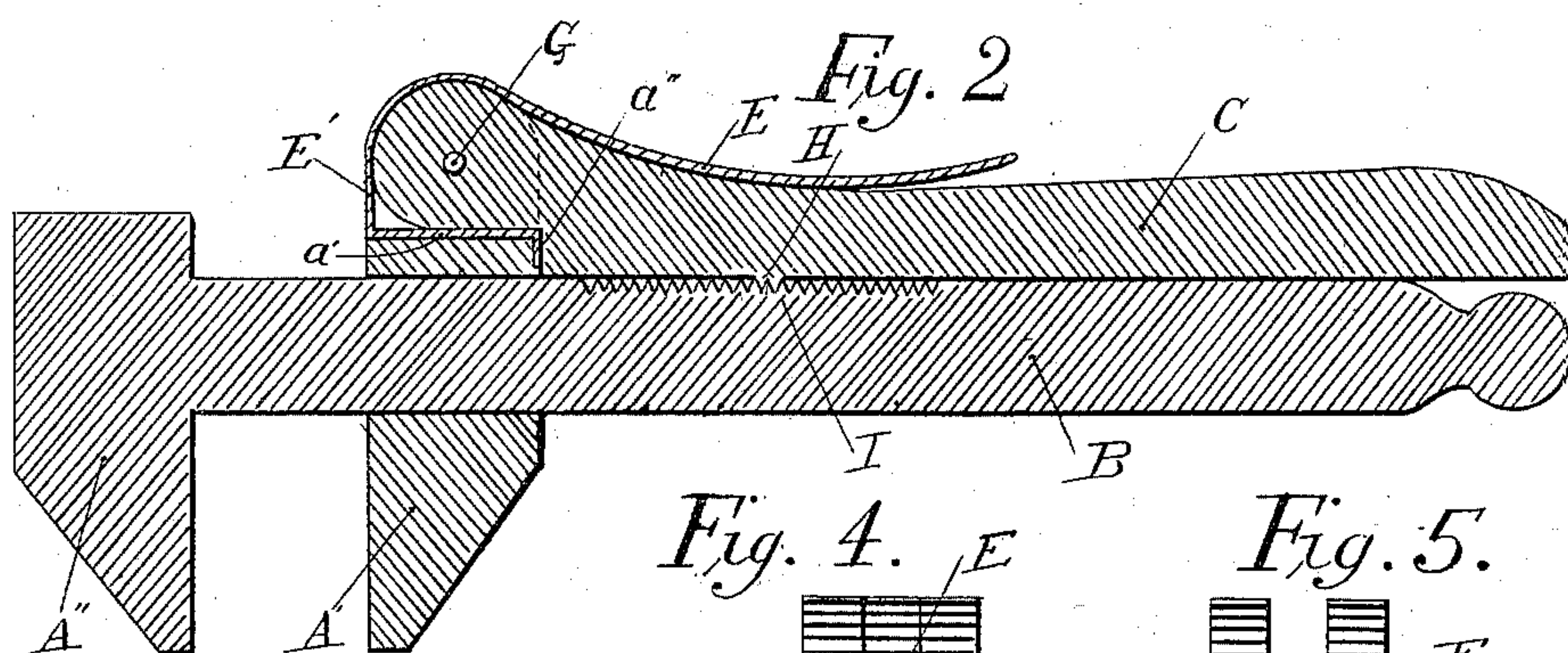
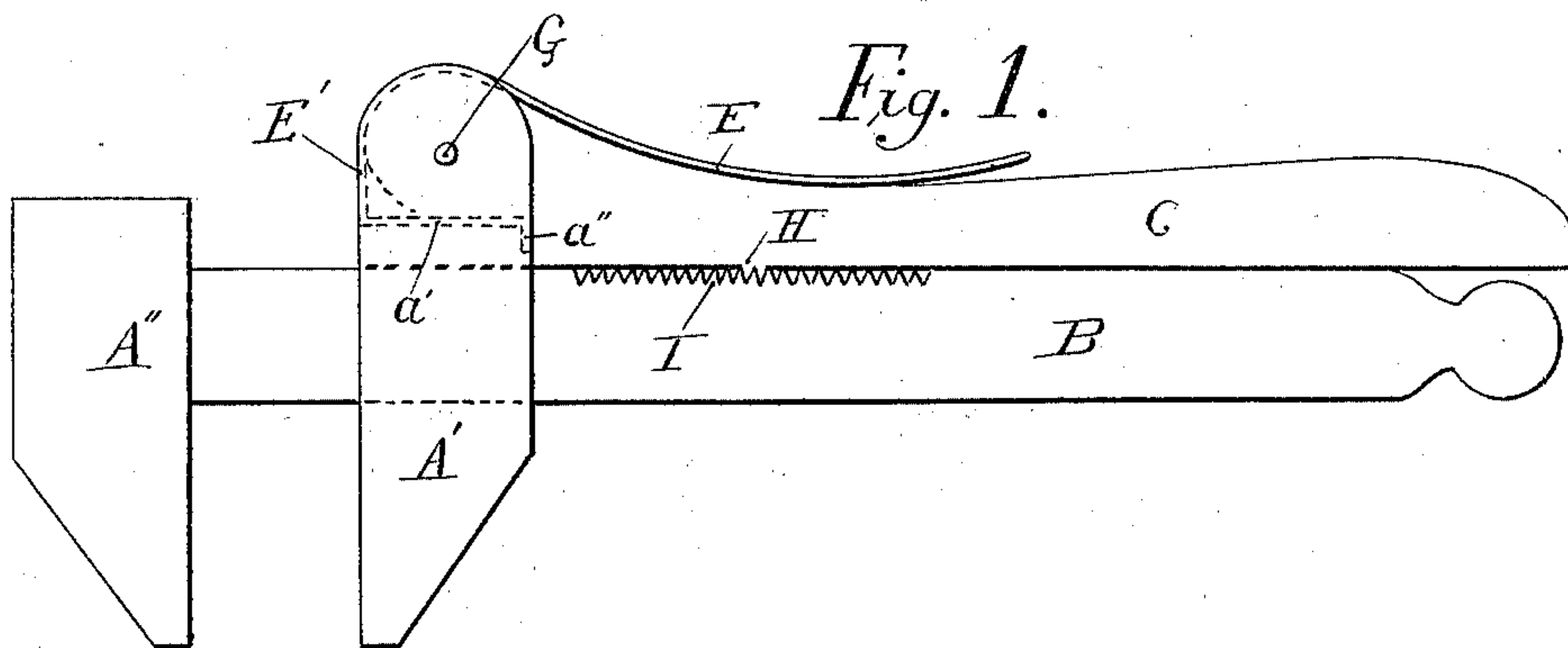


Fig. 3.

Fig. 4.

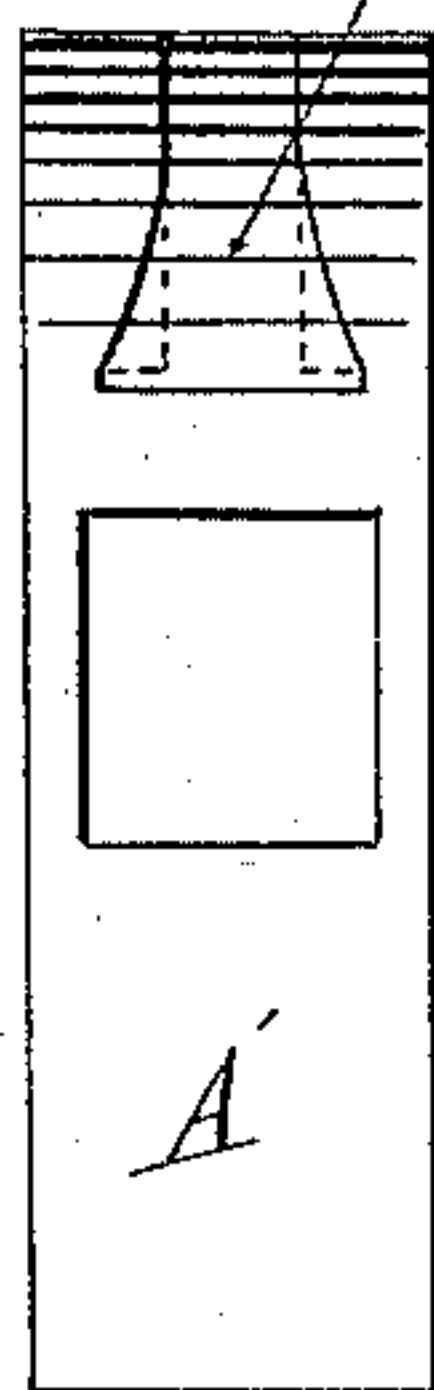
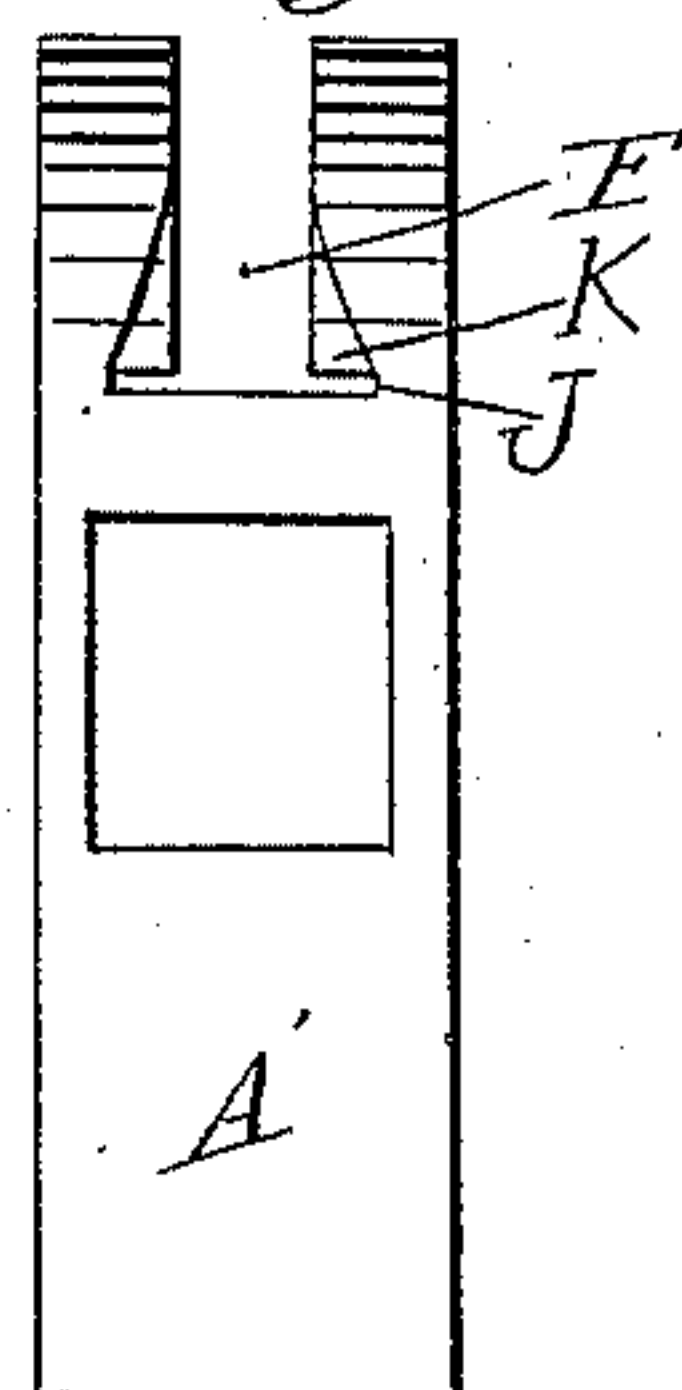


Fig. 5.



Witnesses.

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# UNITED STATES PATENT OFFICE.

WILLIAM HARDING, OF ORANGEVILLE, CANADA.

## WRENCH.

SPECIFICATION forming part of Letters Patent No. 540,252, dated June 4, 1895.

Application filed December 10, 1894. Serial No. 531,435. (No model.) Patented in Canada November 24, 1894, No. 47,526.

*To all whom it may concern:*

Be it known that I, WILLIAM HARDING, a citizen of the Dominion of Canada, residing at Orangeville, in the county of Dufferin and Province of Ontario, Canada, have invented certain new and useful Improvements in Wrenches, (for which I have obtained a patent in Canada, No. 47,526, under date of November 24, 1894;) and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in wrenches, known as sliding jaw wrenches; and it has for its general object to provide an exceedingly cheap, simple and strong sliding jaw wrench, and one embodying such a construction that the sliding jaw may be very quickly adjusted with respect to the fixed jaw and may be securely held with but very little effort on the part of the user.

Other objects and advantages of the invention will appear from the following description and claims, when taken in connection with the annexed drawings, in which—

Figure 1 is a side elevation of my improved wrench. Fig. 2 is a longitudinal section of the same. Fig. 3 is a detail perspective view of a portion of the handle of the sliding jaw. Fig. 4 is an end elevation of the sliding jaw with the spring in position, and Fig. 5 is a similar view of the sliding jaw with the spring removed.

Referring by letter to said drawings: A'' indicates the fixed jaw of my wrench which has the fixedly connected shank B, provided on one side with a plurality of transverse grooves I, and A' indicates the movable jaw which has an aperture to receive the shank of the fixed jaw and is designed and adapted to slide upon said shank. This jaw A' has its upper end bifurcated as indicated by F, to receive the reduced portion D, of its handle C, which is connected by a transverse bolt G, and it is also provided at the base of said bifurcation with a groove J, of greater width than the bifurcation F, and has the dovetail recess K, in its forward side for a purpose presently described.

E, indicates the spring which is designed to normally press the handle C, of jaw A' against

the shank B, so as to hold the teeth H, with which said handle is provided, in engagement with the transverse grooves I, of the shank. This spring E, at one end is of a width corresponding to the groove J, and is bent downwardly against the outer transverse side of the jaw as indicated by a'' and is carried through the groove J, as indicated by a' and is then bent upwardly as indicated by E', and is carried over the upper side of the handle portion D, and rearwardly so as to enable it to normally press the sliding jaw handle C, against the shank B, of the fixed jaw for the purpose before described. The portion E', of the spring E, is shaped to correspond to the dovetail recess K, of jaw A', in which it is seated and the portion of the spring in rear of said dovetail portion E', is preferably of a width corresponding to the bifurcation E, so as to enable it to rest in said bifurcation above the handle portion D, as better shown in Figs. 1 and 2 of the drawings. By reason of the end of the spring being bent against the jaw A', as indicated by a', and its dovetail portion E', being seated in the dovetail recess K, as shown in Fig. 4, it will be seen that the spring will be securely held in position and will not be liable to casual disconnection from the jaw A'. It will also be seen that the connection of the spring is an exceptionally strong one inasmuch as it does not embody rivets or the like.

In assembling the parts of my improved wrench, it is simply necessary, after the jaw A', has been placed on the shank B, and the handle C, has been connected to said jaw, to shape the spring E, and pass the same through the groove J, below the handle portion d, as indicated by a', and then bend its end down against the jaw as indicated by a'', when it will be securely held in position.

In using the wrench, it is simply necessary to move the handle C, away from the shank B, so as to disengage its teeth from the grooves of the shank, when the sliding jaw A' may be moved to the position desired with respect to the fixed jaw. When the handle C, is released, the spring E, will return it to the position shown in Figs. 1 and 2, and will assist the hand of the user in holding the teeth H, in engagement with grooves I, so as to securely hold the jaw A', against movement.



It will be appreciated from the foregoing that while exceedingly cheap and simple, my improved wrench is very strong and durable and is capable of being quickly adjusted to  
5 fit the article which it is desired to turn which is a desideratum.

Having described my invention, what I claim is—

1. In a wrench, the combination of the fixed  
10 jaw having the shank provided with transverse grooves in one of its sides, the movable jaw arranged to slide on the shank and having the bifurcation in its upper side, the  
15 jaw and pivotally connected thereto and having a tooth adapted to engage the grooves of the shank, and a spring bent at one end against the outer transverse side of the jaw and extending through the same below the  
20 connected end of the handle and then extending over the handle and bearing upon the upper side of the same, substantially as specified.

2. In a wrench, the combination of the fixed  
jaw having the shank provided with transverse grooves in one of its sides, the movable  
25 jaw arranged to slide on the shank and having the bifurcation in its upper side and also having the groove of greater width at the base of the bifurcation and the dovetail recess in its forward or inner side, the handle  
30 arranged in the bifurcation of the jaw and pivotally connected thereto and having a tooth adapted to engage the grooves of the shank, and the spring bent at one end against  
35 the outer transverse side of the jaw and extending through the groove below the connected end of the handle and extending over the handle and bearing upon the upper side of the same and having the dovetail portion  
40 arranged in the dovetail recess of the jaw, substantially as and for the purpose set forth.

WILLIAM HARDING.

Witnesses:

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