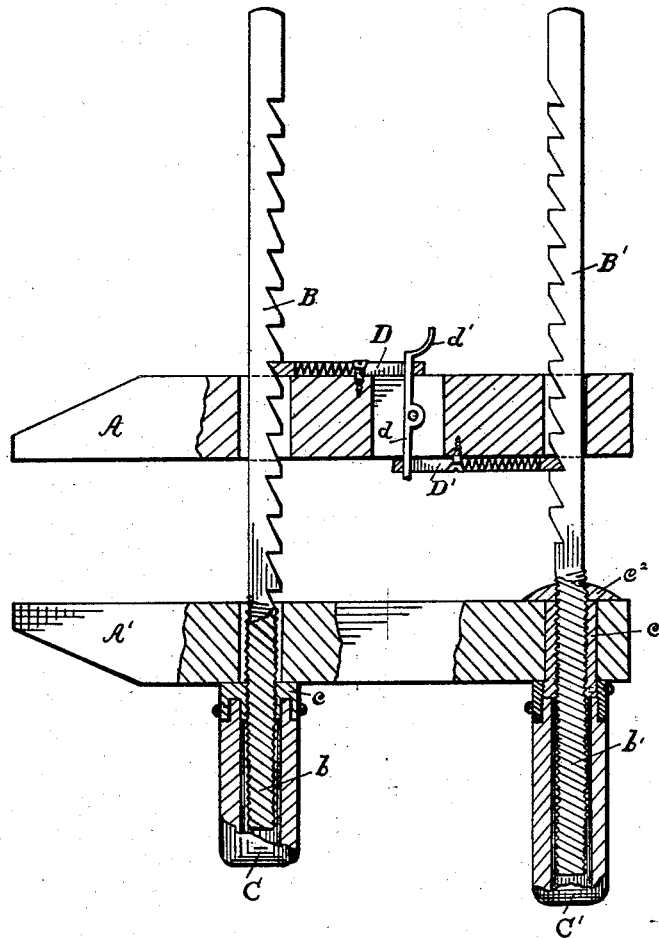


(No Model.)

T. RENO.  
CLAMP.

No. 266,887.

Patented Oct. 31, 1882.



WITNESSES

*Samuel B. Thomas.*

*Edward Warren*

INVENTOR

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# UNITED STATES PATENT OFFICE.

THOMAS RENO, OF DETROIT, MICHIGAN, ASSIGNOR, BY MESNE ASSIGNMENTS,  
OF ONE-HALF TO THE DETROIT TOOL COMPANY, OF SAME PLACE.

## CLAMP.

SPECIFICATION forming part of Letters Patent No. 266,887, dated October 31, 1882.

Application filed May 9, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS RENO, of Detroit, county of Wayne, State of Michigan, have invented a new and useful Improvement in  
5 Hand Screw-Clamps; and I declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying  
10 drawing, which forms a part of this specification.

My invention consists in the combinations of devices and appliances hereinafter specified, and more particularly pointed out in the claims.

In the drawing the figure is a side elevation  
15 of a device embodying my invention, showing also a part in section.

Heretofore in the manufacture of hand screw-clamps they have been constructed with a set of wooden screws, whereby the jaws are oper-  
20 ated.

It is the object of my invention to provide a hand screw-clamp which shall dispense with the wooden screws, and in which the jaws shall be operated by means of ratchet-bars having  
25 screw-cut tangs and engaging handles, in connection with a set of suitable spring-pawls.

A and A' represent the two jaws.

B and B' are the ratchet-bars, on which the ratchets are formed in opposite directions. *b*  
30 and *b'* are their screw-cut ends or tangs, *b* preferably constructed with a right-hand and *b'* with a left-hand screw.

C and C' are the handles. The handle C is provided at *c* with a nut adapted to engage  
35 the screw-cut tang of the ratchet-bar. The handle C' is also provided with an elongated nut at *c'*, passing through the jaw A' and provided with the head *c''*.

D and D' are spring-pawls, adapted to en-  
40 gage with the ratchet-bars.

*d* is a link pivoted in the jaw A, and connecting the two spring-pawls in such a manner that they may both be operated by one  
45 thumb-piece, *d'*.

The operation of the device will be readily understood. By disengaging the spring-pawls

from the ratchet-bars the two jaws may be ad-justed upon any object, as desired, when, by turning the handles, each in the same direction, the jaws may be caused to grip tightly upon  
50 the object between them.

By diminishing the size of the orifices required in the jaws, as is done by my invention, the jaws may be made smaller than when made for wooden screws, and still have the same  
55 strength.

What I claim is—

1. A hand screw-clamp consisting of two jaws united by two ratchet-bars having screw-cut tangs, and engaging handles, and, in con-  
60 nection therewith, dogs or pawls upon one of said jaws, adapted to engage said ratchet-bars, substantially as described.

2. A hand screw-clamp consisting of two jaws united by two ratchet-bars having screw-cut tangs and engaging handles, and, in con-  
65 nection therewith, a set of spring dogs or pawls upon one of said jaws, adapted to engage said ratchet-bars, and a handle and a connecting-link, whereby both pawls may be operated si-  
70 multaneously, substantially as described.

3. The combination, with the jaws, of the two ratchet-bars with screw-cut tangs and en-  
75 gaging handles, one of said bars provided with pawls or dogs to engage said ratchets, and the ratchets on one bar formed in the opposite direction from those of the other bar, substan-  
tially as described.

4. The combination, with the jaws, of the two ratchet-bars with screw-cut tangs and en-  
80 gaging handles, the handle farthest from the free end of the jaws provided with a stationary nut, and, in connection therewith, dogs or pawls upon one of said jaws, adapted to engage said  
85 ratchet-bars, substantially as described.

In testimony whereof I sign this specification in the presence of two witnesses.

THOMAS RENO.

Witnesses:

J. EDWARD WARREN,  
SAMUEL E. THOMAS.