J. Cadwell,

Wood Clamp.

No. 27,968. Patented Apr. 24, 1860.

Witnesses:

Wm. Clough

Charles L. Fisher.

Inventor:

John Cadwell

UNITED STATES PATENT OFFICE.

JOHN CADWELL, OF CINCINNATI, OHIO.

CARPENTER'S CLAMP.

Specification of Letters Patent No. 27,968, dated April 24, 1860.

To all whom it may concern:

Be it known that I, J. CADWELL, of Cincinnati, in the county of Hamilton and State of Ohio, have invented a new and useful Improvement in Clamps for Sash, Doors, and Blinds; and I do hereby declare that the following is a full and complete description thereof, reference being had to the accompanying drawings, and letters of reference marked thereon, making a part hereof.

My improvement consists in the employment of certain well known devices such as windlass, rack and pinion, levers, stops and an adjustable jaw, arranged and operating together as hereinafter described for the purpose of clamping and securely retaining the parts of doors, sash, blinds and other small frame work, while the same are being bored and pinned together or keyed in place.

To enable others of competent skill to make and use my invention, I proceed to describe its construction and operation.

Referring to the drawings Figure 1 is a perspective view of my improved clamp, Fig. 2 represents a plan of the clamp as seen after the removal of the sliding frame. The minor drawings (*x*) (*y*) (*z*) represent the racks or notched pieces which retain the adjustable stops, also the stops, in various positions.

Like letters of reference indicate corresponding parts in the different drawings.

(A) is the jaw, jointed to horizontal and adjustable foot pieces (*a*), and acted upon by the iron draft bars *b*.

(B) is a sliding frame shown only in Fig. 1. The nuts of the clamp screws (*c*) are secured to one end of each longer part of the frame. It is also pierced with holes at suitable distances to accommodate the stops (*d*,) which, to correspond with the length of any frame required to be clamped together, are set at a proper distance from the screws (*c*;) in this position they receive the end thrust produced by the screws when they are employed to clamp frames end-wise.

C represents the windlass which is fixed upon the vertical shaft, (*e*) and is operated by the handles (*f*). Affixed to the same shaft (*e*,) is a pinion (*g*,) gearing into and acting upon the rack (*h*.) This rack receiving motion from the pinion communicates it by the rods (*i*) to the levers (*j*) and these having fulcra at (*k*) and acting upon the draft bars (*b*) cause the jaw (A) before described to close upon the frame. The frame, one of which is represented in Fig. 1 encountering the stops (*m*) presently to be described is compressed in any required degree, until the parts are all brought well together, when they may be secured by pins or keys. The under side of the rim of windlass (C) is cut with ratchet teeth, to which a long wooden stop (*n*) is adapted, this having a step at (*o*) and passing through an opening in the swinging piece (*p*) is caused to raise or fall so as to lock or release the windlass (C) at the pleasure of the operator. The horizontal bar (*q*) by which the swinging piece (*p*) is acted upon is placed near the floor to be shifted by the foot of the operator.

To a series of transverse rails placed across the top of the frame, there is secured a set of irons recessed at regular intervals upon thin sides, the recesses affording receding shoulders as shown in Figs. (*x*) (*y*). Adapted to these recesses each piece is furnished with a stop (*m*) before alluded to, the under or interior construction of which is shown in perspective by the minor Fig. (*z*). The recesses correspond to the intervals in the sides of the above named iron pieces, and when in position and under a strain from the contraction of the jaw are prevented from rising or "tripping" by the oblique direction of the shoulders above named.

In case it should be required to employ the clamp upon a frame wider than the apparatus in the position represented, would accommodate, the draft bars (*b*) may be disconnected from the levers (*j*) and united at any other convenient point of connection afforded by the pin holes made for the purpose, a corresponding change being made in the position of the foot pieces (*a*), allowing the jaw to swing appropriately at a considerable distance from its nearer and more common position thus accommodating frames of any width suitable or required to be treated with the clamp.

The sliding frame B is not represented as having an indispensable connection with the apparatus; it is a simple and common form of clamp and is placed in the position it occupies in connection with the clamp proper for occasional and irregular use.

In operating my improved clamp the stops

(*m*) are placed in such a position with reference to distance from the jaw (A) as to allow the jaw which has a motion of several inches, to close upon and embrace the frame between itself and the above named stops. The windlass is then turned by hand until the frame is sufficiently compressed, when it is held by the stop (*n*). The frame is then to be bored and pinned or secured by keys, when with the foot applied to the horizontal bar (*q*) the windlass is released and the jaw separates from the frame allowing it to be removed.

It is presumed that the utility of the apparatus and its adaptation to the purpose for which it is designed will be sufficiently apparent. I will however take occasion to remark that I have had the clamp as herein represented in regular use under my own observation for many months, and that its performance has been highly and uniformly satisfactory.

Having thus fully described my improved clamp and its mode of operation, what I claim as my invention and desire to secure by Letters Patent is,

1. The adjustable jaw (A), windlass (C), pinion (*g*) rack (*h*) and levers (*j*) arranged and operated in combination with stops (*m*) substantially as described and for the purposes set forth.

2. I claim the stop (*n*) the swinging piece (*p*) and the shifting bar (*q*) arranged as described and acting in combination with the windlass (C) substantially as and for the purpose set forth.

JOHN CADWELL.

Witnesses:

WM. CLOUGH,

CHARLES L. FISHER.