

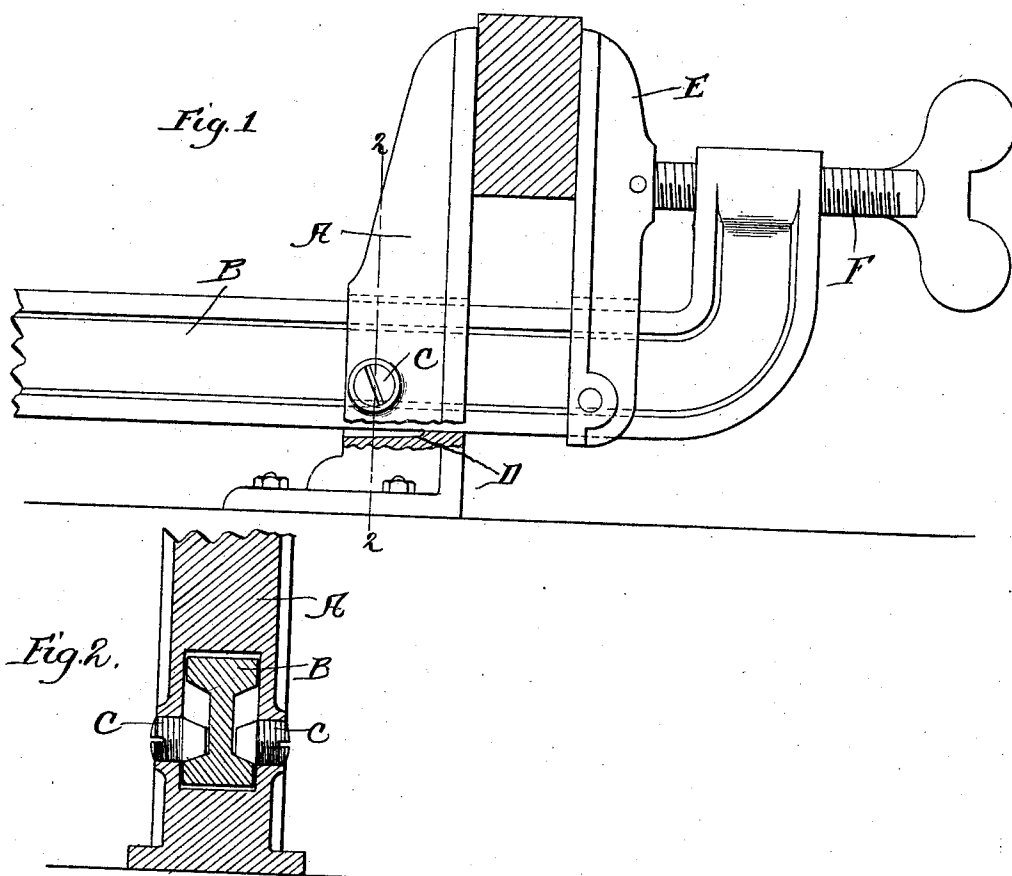
No. 827,612.

PATENTED JULY 31, 1906.

P. BROADBOOKS.

FRICITION CLUTCH FOR VISES, LIFTING JACKS, CLAMPS, OR THE LIKE.

APPLICATION FILED JAN. 9, 1905.



Witnesses:

H. B. Hallock  
L. A. Morrison

Inventor  
Peter Broadbooks

By

W. F. Williamson, Atty.

# UNITED STATES PATENT OFFICE.

PETER BROADBOOKS, OF BATAVIA, NEW YORK.

FRICTION-CLUTCH FOR VISES, LIFTING-JACKS, CLAMPS, OR THE LIKE.

No. 827,612.

Specification of Letters Patent.

Patented July 31, 1906.

Application filed January 9, 1905. Serial No. 240,368.

*To all whom it may concern:*

Be it known that I, PETER BROADBOOKS, a citizen of the United States, residing at Batavia, county of Genesee, and State of New York, have invented a certain new and useful Improvement in Friction-Clutches for Vises, Clamps, Lifting-Jacks, or the Like, of which the following is a specification.

My invention relates to a new and useful improvement in friction-clutches for vises, clamps, lifting-jacks, or the like, and has for its object to provide a friction-clutch which will clutch the bar of a vise or clamp to the fixed jaw automatically, said clutch being forced into engagement by the pressure exerted against the jaws.

With these ends in view this invention consists in the details of construction and combination of elements hereinafter set forth and then specifically designated by the claim.

In order that those skilled in the art to which this invention appertains may understand how to make and use the same, the construction and operation will now be described in detail, referring to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a side elevation of a vise or clamp provided with my improved clutch; Fig. 2, a section taken on the line 2 2 of Fig. 1.

My improved clutch is designed to clutch and hold the bar of a vise or clamp secure to the fixed jaw, and the more pressure there is applied to the movable jaw the tighter the clutch will hold; but when the pressure is released from the movable jaw the bar can be easily moved by simply raising the outer end of the same and moving it to any position desired.

A represents the fixed jaw through which is adapted to slide the movable bar B. In the construction shown in Figs. 1 and 2 this bar is channeled upon each side, and threaded through the sides of the fixed jaw are the studs C, which extend into the channels of the bar B upon each side and lie against the upper edge of the lower flange of the bar. The lower wall of the opening in the fixed jaw, through which the bar B slides, is slightly beveled toward the rear, as shown at D, and the forward part of this lower wall is adapted to come in contact with the lower surface of the lower flange of the bar B, and as the studs C

are located near the rear of the fixed jaw, and the point where the lower wall D contacts the bar is at the forward side of the fixed jaw, any pressure brought to bear between the jaws which will tend to force the forward end of the bar downward will clamp the lower flange of the bar between the studs, and the forward edge of the lower wall of the opening through the fixed jaw, and the more pressure brought to bear the tighter the clutch will hold; but by simply lifting up or releasing the pressure upon the bar said bar can be easily and quickly moved to any position desired relative to the fixed jaw. The movement of the bar B will wear on the ends of the studs C; but by having the studs threaded within a fixed jaw A this wear may be taken up. The adjustability of the studs with relation to the bar B forms an important feature of the invention. Of course the lower wall D of the opening through the fixed jaw need not necessarily be beveled, but could be horizontal, if desired; but in order to have the clutch operate upon the bar B when said bar is horizontal it is desirable to form this wall D inclined, as shown. The movable or clamping jaw E can be made in any manner desired and may be pivoted at any place, and the pressure against said jaw may be exerted in any manner desired so long as said pressure when applied in clamping the material between the jaws tends to force the forward end of the bar B downward. The clamping arrangement shown in the drawing consists of a screw F, threaded through an upturned end of the bar B and bearing against and swiveled to the movable jaw E.

A friction-clutch, such as I have shown and described, possesses many advantages, in that it is extremely simple and can be made at a comparatively small cost, is very durable and efficient in action, and is easily released, and it will be noticed that the whole weight of the bar and the movable jaw rests upon the base of the stationary jaw, which also bears half of the strain from the force of the screw. This is a very important point, as the bar will have a very firm bearing at this point and the strain is exerted at the point most able to bear it.

Having thus fully described my invention, what I claim as new and useful is—

In a device of the character described, a

fixed jaw, an I-bar adapted to slide through  
the fixed jaw, the opposing faces of the flanges  
of the I-bar being inclined, a movable jaw  
carried by the I-bar, studs threaded through  
5 the fixed jaw, the ends of said studs being  
beveled to bear against the inclined faces of  
the lower flanges of the I-bar.

In testimony whereof I have hereunto af-  
fixed my signature in the presence of two sub-  
scribing witnesses.

PETER BROADBOOKS.

Witnesses:

C. B. PIELEY,

G. W. BABCOCK.