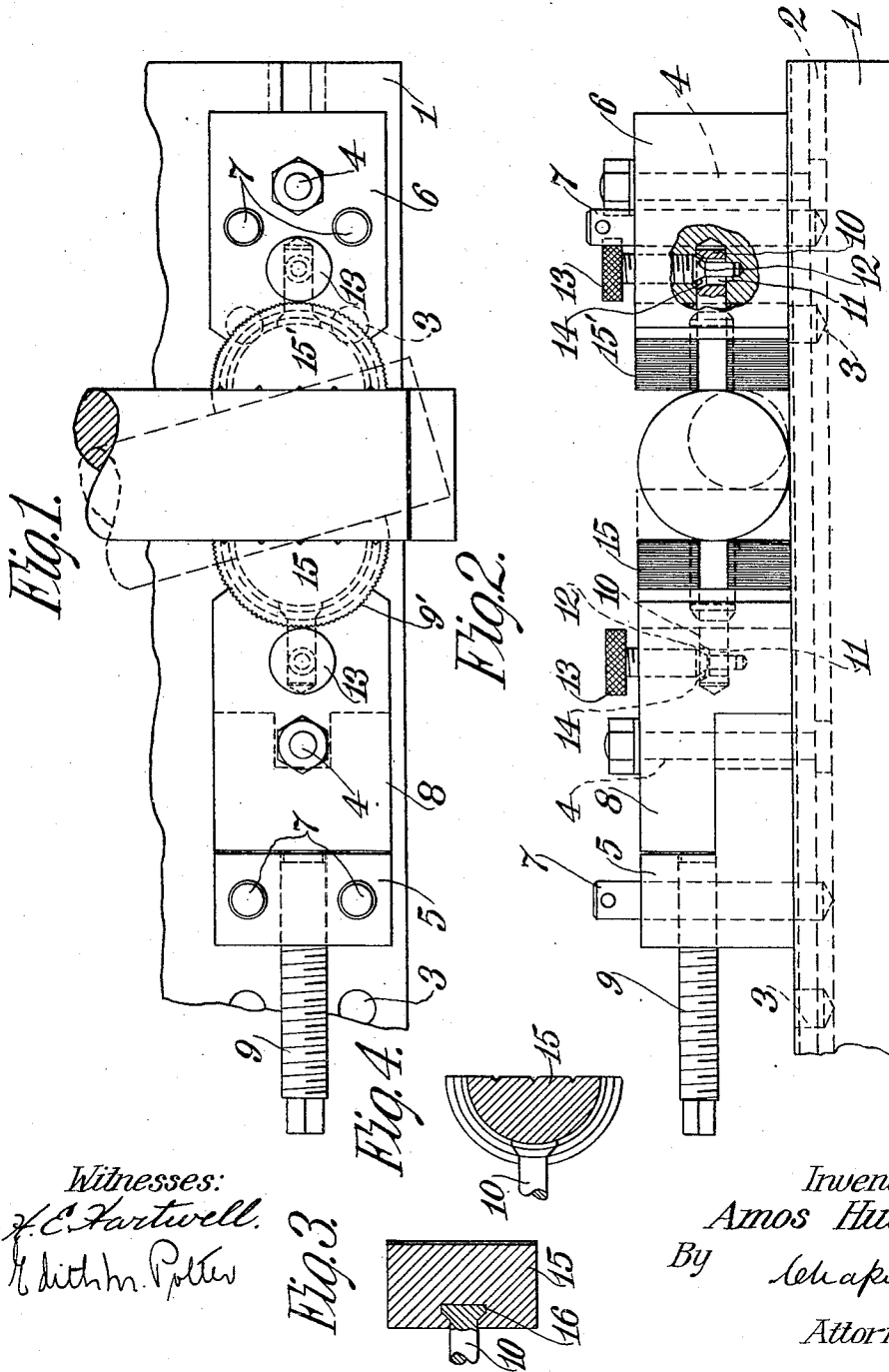


A. HUTTON.
ADJUSTABLE VISE FOR HACKSAWS.
APPLICATION FILED JAN. 17, 1914.

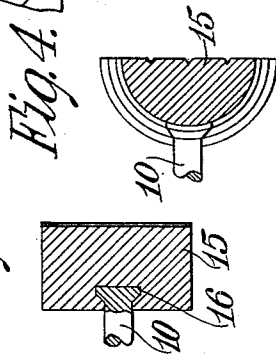
1,111,386.

Patented Sept. 22, 1914.



Witnesses:
J. E. Hartwell.
Edith M. Potter

Fig. 3.



Inventor:
Amos Hutton.
By Chapman & Co.
Attorneys

UNITED STATES PATENT OFFICE.

AMOS HUTTON, OF SPRINGFIELD, MASSACHUSETTS, ASSIGNOR TO MASSACHUSETTS SAW WORKS, OF SPRINGFIELD, MASSACHUSETTS, A CORPORATION OF MASSACHUSETTS.

ADJUSTABLE VISE FOR HACKSAWS.

1,111,386.

Specification of Letters Patent.

Patented Sept. 22, 1914.

Application filed January 17, 1914. Serial No. 812,726.

To all whom it may concern:

Be it known that I, AMOS HUTTON, a subject of the King of Great Britain, residing in Springfield, in the county of Hampden, in the State of Massachusetts, have invented certain new and useful Improvements in Adjustable Vises for Hacksaws, of which the following is a specification.

This invention relates to an adjustable device for hack saw machines. Among its advantages may be mentioned that my vise will take work of all sizes and will further locate this work at any point along the hack saw. This is important for the reason that it is desirable to change the working portions of the saw occasionally; if the saw has been used considerably near its toe, it is advisable to use it near its heel and vice versa, thus distributing the wear more uniformly than otherwise would be the case, and consequently increasing the life of the tool.

Another important advantage of my invention relates to the means, hereinafter to be more fully described, whereby I may incline the stock at any angle to the saw.

In the drawings: Figure 1 is a top view of my vise. Fig. 2 is a side elevation of the same. Figs. 3 and 4 are a sectional elevation and sectional plan view respectively, of my new adjustable jaws.

In the drawings, 1 represents the bed plate of the machine which is preferably provided with horizontal slot or key-way 2, and further with a series of equally spaced recesses 3. Slidably mounted in the key-way 2, preferably by means of T-head bolts 4, are a pair of carriages 5 and 6. The invention as disclosed shows these two carriages as specifically different, although it may be understood that each thereof, could if desired, be made like the one upon the left in Fig. 2, now to be described.

Carriage 5 is provided with a lock bolt 7 which may be dropped into any one of the holes 3, as shown, whereby the carriage may be locked at any point within the range of the bed plate 1. A similar construction is adopted with regard to the carriage 6. Once adjusted these carriages may be tightened to prevent their jarring, vibrating or lifting, by means of bolts 4. Dove-tailed upon the carriage 5 is a carrier 8 which may be slidably adjusted upon the carriage 5, through the intermediary of the screw 9. This car-

rier 5 has the same function and is broadly similar to the face portion of carriage 6 and it is to be understood that the jaws and adjusting means upon the carrier 8 are each similar to the corresponding mechanisms upon the carriage 6, one only of these mechanisms will, therefore, be described. The carrier 8 has a cylindrical face 9', preferably provided with fine teeth or serrations. Diametrical with this cylindrical face is a recess in which is located a T-headed bolt 10, having therein an aperture 11 and provided with a cam face 12. Crossing the aperture, in which is located the bolt 10, is another threaded aperture for the reception of the bolt 13 which is turned down at its lower end to provide a cam face 14. A vise jaw 15 has a cylindrical back of the same radius as the cylindrical face of the carriage 8 and is also provided with corresponding teeth or serrations. This vise jaw has moreover a T-slot 16 therein, which receives the T-head of the bolt 10. It is to be understood that both jaws and their securing means are identical, the jaw 15 merely being mounted upon a movable carrier upon carriage 5, whereas, the jaw 15' similar in all respects thereto is mounted upon the carriage 6. The same reference numerals have been used to indicate the corresponding parts of the two jaws.

In operation, it is to be understood that, inasmuch as both the carriers 5 and 6 may be moved independently, they may be adjusted at any distance apart and at any place along the bed plate. Inasmuch, further, as the screw 9 gives a range of movement greater than the space between two consecutive recesses 3, in the bed plate, it is obvious that any stock of any size may be held at any point along the bed plate. If it is desired to hold stock at an incline, such as is suggested by dotted lines in Fig. 1, the screw 13 is loosened, whereby by reason of the cam faces 12 and 14, the T-head or bolt 10 is also loosened, thereupon, the jaw 15 may be turned to any position desired, the head of the bolt 10 sliding in the slot 16. Thereafter by screwing down the screw 13, the bolt 10 is forced backwardly by reason of the cam face mentioned, and with the further help of the serrations in the back of the vise jaw upon the face of the carrier, the vise jaw is held rigidly in any position. It is obvious from the drawings taken

in connection with the description above how stock may be clamped between the vise jaws.

Having now particularly pointed out and specifically described my invention, but wishing it clearly understood that many departures and variations may be made from the precise form thereof without departing from the scope of the invention which is more truly bounded and defined by the claims hereto appended, I claim:—

1. In a vise, a bed-plate, a pair of carriages mounted thereon and in opposed relation to each other, means for independently adjusting the carriages, at a plurality of points along the bed-plate, said bed plate having recesses in the bed-plate, a lock-bolt passing through each carriage and engaging a recess in the bed-plate, a carrier mounted upon one of the carriages, means to tightly secure the carrier and its carriage to the bed-plate, means to tightly secure the other carriage to the bed-plate, work-engaging jaws attached to the carrier and the opposite carriage, means for causing said jaws to relatively approach or recede from each other through a range equal to the distance between any adjacent pair of recesses in the bed-plate to grip articles of different sizes, the jaws, one carrier and the opposite carriage formed with inter-engaging serrations, and means to retain the carrier and its jaw and the opposite carriage and its jaw in locked relation to each other.

2. In a vise for hack saws, a support, a carrier along said support, said carrier having a serrated cylindrical face and a pair of crossed apertures, one thereof communicating with said face, a serrated jaw having a serrated cylindrical back to cooperate with the cylindrical face of the carrier, a T-slot in the back of said jaw, a T-head bolt engaging the T-slot and having a cammed aperture slidably mounted in the aperture communicating with the face of the carrier, another bolt threaded in the other aperture and having an inclined portion for cooperation with said cammed portion all for the purpose described.

3. In a vise, a block adjustable along a support, and the support, a carrier slidably mounted on said block and having cylindrical face, means passing through the block and carrier and engaging the base to adjust the carrier longitudinally of the block, a swiveled jaw, having a cylindrical back and a T-slot therein, a T-bolt slidable in said carrier and cooperating with said T-slot, means for longitudinally moving said bolt, whereby said swiveled jaw may be firmly clamped in adjusted position or released therefrom.

AMOS HUTTON.

Witnesses:

LYMAN LEE,
A. MAY DANCKET,
G. W. DONAHUE.