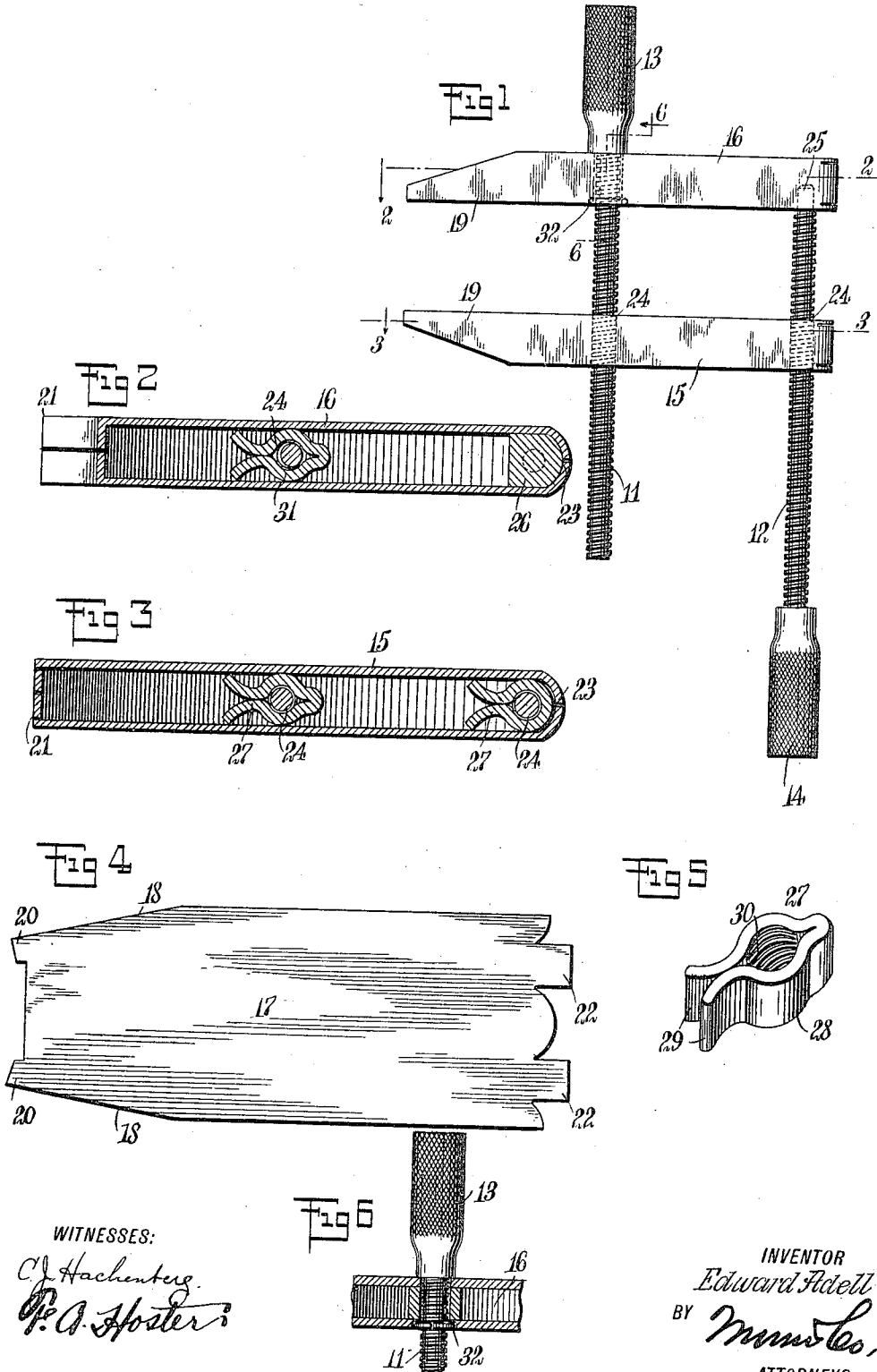


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CLAMP.
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993,940.

Patented May 30, 1911.



WITNESSES:

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EDWARD ADELL, OF ORANGE, MASSACHUSETTS.

CLAMP.

993,940.

Specification of Letters Patent.

Patented May 30, 1911.

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To all whom it may concern:

Be it known that I, EDWARD ADELL, a citizen of the United States, and a resident of Orange, in the county of Franklin and State of Massachusetts, have invented a new and Improved Clamp, of which the following is a full, clear, and exact description.

An object of the invention is to provide a clamp, of the screw clamp type, for removably clamping articles of various dimensions and proportions. For the purpose mentioned, use is made of handled clamping screws, having clamping bars operatively mounted thereon, with means in one of the clamping bars for screw threadedly engaging the clamping screws and means in the other clamping bar for preventing the said bar from sliding longitudinally on one of the clamping screws.

In clamps now generally used, the screw-threaded connection between the clamping screw and the clamping bar is oftentimes made integral with the clamping bar, or rigidly connected thereto, thus involving considerable strain on the threads of the connection and quickly wearing them out. Although I am aware that there are clamps having attachments thereon for preventing the clamping bar from sliding on the clamping screw, the said attachments are in most part of clumsy construction and depend solely upon the elasticity of the material they are made of, for their efficiency and durability. In my device, I provide a clamp having the screw-threaded connection between the clamping bar and clamping screw so disposed in the interior of the clamping bar, that the strain is proportionately caused to act on the sides of the bar and not altogether on the threaded connection. Furthermore, I provide means on the loosely-engaged clamping bar for holding the clamping bar against the handled end of the clamping screw, thus preventing any longitudinal sliding of the bars on the screw and producing a larger surface for receiving the strain when an article is secured in my clamp.

Reference is to be had to the accompanying drawings constituting a part of this specification, in which similar characters of reference denote corresponding parts in all the views, and in which—

Figure 1 is a side elevation of my clamp; Fig. 2 is a sectional view of one of the clamping bars and taken on the line 2—2 in Fig. 1; Fig. 3 is a sectional view of the other

clamping bar and taken on the line 3—3 in Fig. 1; Fig. 4 is a plan view of the blank for forming the clamping bars; Fig. 5 is a perspective view of the winged nut; and Fig. 6 is a fragmentary sectional view disclosing the means on the clamping bar for preventing a longitudinal sliding of the bar on the clamping screw.

Referring more particularly to the drawings, use is made of clamping screws 11, 12 having handles 13, 14 thereon, and operatively mounted on the screws are clamping bars 15, 16. The bars 15, 16 are preferably formed of a blank 17 having inclined edges 18 adapted to constitute the front or clamping end 19 of the clamping bars and also having lugs 20 and 22. The lugs 20, when bent to the desired shape, form the end 21 and the lugs 22, when bent, form the rear curved end 23; the final form of the blank presents in effect a recessed bar. Perforations 24 are formed in the clamping bars, and the screws 11, 12 are adapted to pass therethrough, as will easily be seen in Fig. 1.

The screw 12 is provided with a smooth bearing end 25, adapted to turnably engage a seat 26 in the bar 16. Interior of the bar 15 are loosely disposed screw threaded nuts 27, having a body portion 28 and diverging wings 29, with an internal thread 30 on the body portion 28, and a nut 31 is loosely disposed in the bar 16 and similar in construction to the nuts 27, except that the nut 31 is not provided with an internal thread 30. On the bar 16 a ring 32 is swaged and adapted to encircle the screw 11 to prevent the bar 16 from sliding longitudinally on the screw.

In the assembling of my device, the screw 11 is adapted to pass loosely through the bar 16 and nut 31 and screw threadedly engage the nut 27 in the bar 15, and the screw 12 is adapted to screw threadedly engage the other nut 27 in the bar 15, with the bearing end 25 of the screw turnably engaging the seat 26. After the screw 11 has been passed through the bars as mentioned, the ring 32 is swaged on the bar 16 as shown in Fig. 6, and the clamp is then in operative condition.

To clamp an article in the clamp, the handles 13, 14 are grasped and the screws 11, 12 are operated to separate the bars 15, 16 until the space therebetween is of sufficient width to receive the article to be clamped. The screws 11, 12 are then turned to bring the clamp into engagement with the article and then by turning the screw 12

alone the clamping ends 19 will securely grip the article and hold the same.

From the foregoing description it will be seen that the ring 32 prevents any longitudinal sliding of the bar 16 on the screw 11, and the wings 29 on the nuts 27 and 31, aside from transmitting the clamping strain to the sides of the bars, prevent the nuts from turning in the bars 15 and 16, while at the same time the said nuts are not secured in the bars but are loosely mounted therein.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. A clamp comprising screws and recessed clamping bars in engagement therewith; nuts carried by each screw and lying within the said recessed bars, the said nuts being provided with diverging end portions engaging the side walls of the said recessed members, each nut and the end portions thereon being of integral formation, whereby the screws may be turned relatively to the nuts in order to clamp suitable material between the clamping bars.

2. A clamp comprising clamping screws and recessed clamping bars in engagement therewith; a nut made of a single piece of metal bent at an intermediate portion, the end portions being diverging, the said material between the bent portion and the diverging portions being in engagement with each other, the said nut engaging the said clamping screw and lying within the said recessed bar with the diverging portions of the said nut in engagement with the side walls of the said recesses whereby as the clamping screw is turned to hold suitable material within the clamp, the screw may move relatively to the nut which is held in position within the recess.

3. A clamp comprising clamping screws

and clamping bars in engagement therewith, each of the said bars being formed of a single sheet of metal having the side portions thereof extending laterally to the central portion thereof whereby a recessed formation is secured; nuts carried by each clamping screw and lying within the said recesses, the said nuts being provided with diverging portions engaging the side walls of the said recesses, each nut and the diverging portions being constructed from a single piece of metal, whereby the screws may be turned relatively to the nuts in order to hold the material between the clamping bars.

4. A clamp comprising clamping screws and clamping bars in engagement therewith; the said clamping bars being each made of a single piece of metal having the side portions thereof bent and extending laterally with respect to the central portion of the piece of metal whereby recessed clamping bars are formed, each of the said nuts being made from a single piece of metal, bent at a central portion and having diverging end portions, the said piece of metal having parts thereof between the said bent portion and the diverging portions in contact with each other, the said nuts lying within the said recesses with the diverging portions engaging the side walls of the said recesses whereby the screws may be turned relatively to the nuts in order to hold suitable material between the clamping bars.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

EDWARD ADELL.

Witnesses:

S. J. BIRCH,

FRANK THUNBERG.