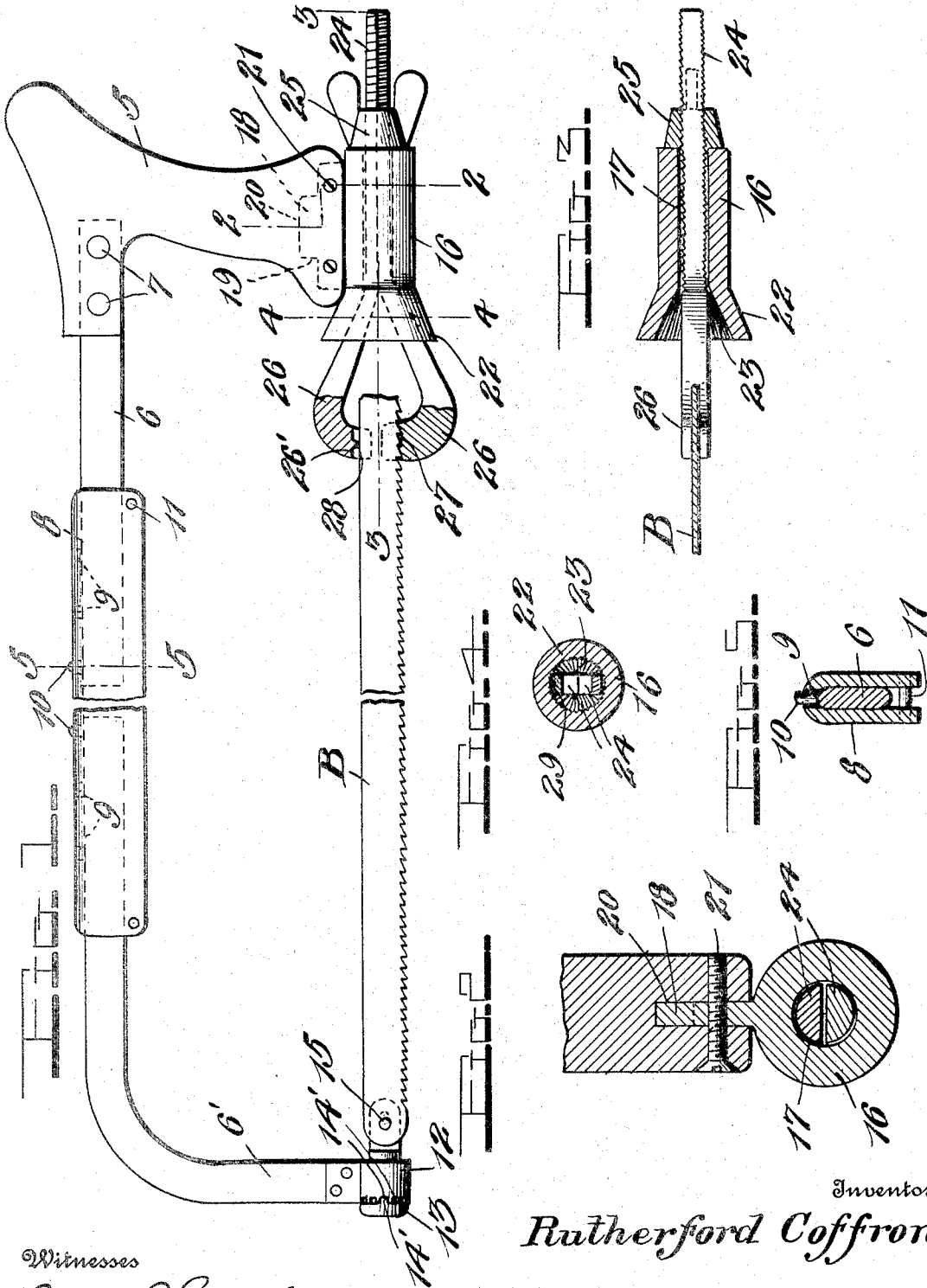


R. COFFRON.
BLADE CLAMP FOR SAW FRAMES.
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990,839.

Patented May 2, 1911.



Witnesses

Chas. L. Griesbauer.

W. F. Peeler.

Inventor

Rutherford Coffron,

By *Watson E. Coleman*
Attorney

UNITED STATES PATENT OFFICE.

RUTHERFORD COFFRON, OF WASHINGTON, DISTRICT OF COLUMBIA, ASSIGNOR OF ONE-HALF TO ARTHUR COWSILL, OF WASHINGTON, DISTRICT OF COLUMBIA.

BLADE-CLAMP FOR SAW-FRAMES.

990,839.

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To all whom it may concern:

Be it known that I, RUTHERFORD COFFRON, a citizen of the United States, residing at Washington, District of Columbia, have invented certain new and useful Improvements in Blade-Clamps for Saw-Frames, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to improved means for rigidly holding a saw blade in its frame and more particularly to a new and novel device whereby a section of a broken blade may be utilized in cases of emergency.

The invention has for a further object the provision of an adjustable gripping device arranged upon the handle of the saw, said device comprising a tubular member and flexible metal strips having gripping jaws formed on one of their ends and threaded to receive an adjusting nut which engages with the ends of said tubular member.

Still another object of the invention is to provide means for preventing the jaw members from turning or rotating in the tubular member during the operation of the saw.

Another object of the invention resides in the provision of means for rigidly holding a section of a broken saw blade in the adjustable frame of a hack-saw, said device being very quickly adjustable to secure or release the saw blade and extremely efficient, reliable and durable in use.

With the above and other objects in view, the invention consists of the novel features of construction, combination and arrangement of parts hereinafter fully described and claimed, and illustrated in the accompanying drawing, in which—

Figure 1 is a side elevation partly in section illustrating my improved blade holding device; Fig. 2 is a section taken on the line 2—2 of Fig. 1; Fig. 3 is a section taken on the line 3—3 of Fig. 1; Fig. 4 is a section taken on the line 4—4 of Fig. 1; and Fig. 5 is a section taken on the line 5—5 of Fig. 1.

Referring in detail to the drawing 5 designates the handle of the saw in which the end of one of the frame bar sections 6 is rigidly secured by means of the rivets or other analogous fastening devices 7. The other frame bar section 6' is bent intermedi-

One of the ends of the frame section 6' is normally disposed in alinement with the rigid frame bar 6. A substantially U-shaped plate 8 is arranged upon these sections and is provided in its intermediate portion with a plurality of openings 9 to receive the studs 10 one of which is fixed in the extremity of the frame sections 6 and 6'. It will be readily seen that the frame may be easily and quickly adjusted by moving the frame bar sections in the U-shaped plate and positioning the studs in the openings of the plate 8. The lower corners of the plate 8 at each end thereof are connected by means of the rivets 11 which support the bar sections in their sliding movement and prevent the entire disconnection of the same from the plate 8. Upon the other end of the frame section 6' a sleeve 12 is secured and in this sleeve a bolt 13 is slidably mounted, the head of said bolt having a lug 14 formed thereon for engagement in a recess 14' in one end of the sleeve as shown in Fig. 1 thus holding the bolt against rotation. The end of the shank of said bolt is flattened and has fixed thereto a laterally disposed pin 15 which extends at a slight angle toward the end of the frame.

The parts above described are all of common construction and in the usual form of adjustable saws, a bolt similar to the bolt 13 is also arranged upon the lower end of the handle 5. The pins on these bolts are adapted to be inserted through openings provided in the ends of the saw blade B. In the event that the blade should be broken, it must be replaced by a new one which cannot always be conveniently obtained, thus causing considerable loss of time. It is the object of the present invention to utilize one of the sections of the broken blade so that the sawing operation may be continued. To this end I provide the member 16 which is formed with a longitudinal bore or opening 17. This member 16 is further provided with an exterior flange or plate 18 which is formed with the shoulders 19 and fits within a recess or socket 20 of similar form in the end of the handle 5 thereby preventing longitudinal movement of the member 16. Suitable fastening screws 21 extend through the handle and the plate 18. The forward end of the tubular member 16 is formed with a flared or enlarged mouth 22 the inner wall of which

is serrated or toothed as indicated at 23. A pair of flexible metal strips 24 of substantially semi-circular form are loosely disposed through the longitudinal opening of the member 16 and are threaded to receive a wing-nut 25 which engages with the rear end of said member. By adjusting this wing-nut on the threaded strips, said strips are drawn through the member 16. The forward ends of the strips 24 are formed with opposed jaws 26 which are bifurcated as at 26', one of said jaws being provided with teeth 27 which interlock with the teeth on the saw blade, and the other of said jaws having a single tooth 28 which bites the opposite edge of the saw blade as the flexible metal strips 24 are moved longitudinally in the tubular member 16. The outwardly extending diverging forward end portions of the strips 24 are provided with longitudinal teeth or corrugations 29 which engage with the serrations 23 on the inner periphery of the flared mouth 22 of the tubular member 16 and act to prevent any rotation of the jaw members within said tubular member so as to absolutely prevent any movement whatever of the saw blade with respect to the frame in the operation of the saw.

From the above description, taken in connection with the accompanying drawing it is thought that the construction and operation of the device will be obvious.

The blades of hack-saws such as are commonly employed for sawing metal, meat bones or other material more often become broken owing to their brittleness than worn out through constant use, and by means of my improved device, I aim to overcome the necessity of providing an entirely new saw blade when the one in use is accidentally broken. One portion of the broken blade having the aforementioned opening in its end is engaged with the pin 15 on the bolt 13 in one end of the saw frame and the other end of the blade portion is disposed between the gripping jaws 26 after the frame sections have been properly adjusted in the U-shaped plate 8. The operator now manipulates the nut 25 and the flexible metal strips 24 are moved through the tubular member 16, and the teeth 27 and 28 of the jaws caused to bind or grip upon opposite edges of the blade as the diverging portions of the strips 24 move upon the inner periphery of the flared mouth 22. In this manner the broken blade section may be easily and securely clamped in the saw frame and the operation continued without undue loss of time which would be occasioned in procuring an entirely new blade.

From the foregoing it will be seen that I have produced a device which is extremely convenient and effective in practical use and will entirely eliminate the deficiencies which

exist in devices of this character as at present constructed. The expense incident to the frequent breakage of the saw blades is also eliminated and owing to the wide range of adjustability of the frame in connection with my improved fastening device, one blade may be used for an indefinite time even after it has been broken. The main object of my invention however resides in the fact that in cases of emergency where the completion of the work without delay is imperative, considerable loss of time is obviated.

The device may be produced at a comparatively low cost and is also extremely durable in use.

The sleeve 12 is preferably provided with a plurality of recesses 14' which receive the lug 14 on the bolt head whereby the saw blade B may be angularly adjusted in the frame at any angle, the flexible strips 24 loosened in the tubular member 16 and turn therein to dispose the gripping jaws at a proper angle for engagement with the saw blade.

While I have shown and described the preferred construction and arrangement of the various parts it will be understood that the device is susceptible of considerable modification without departing from the essential feature or sacrificing any of the advantages thereof.

Having thus described the invention what is claimed is:

1. A device of the character described comprising a tubular member rigidly fixed to a saw handle, flexible metal strips loosely disposed through said member, a wing-nut for threaded engagement upon said strips and engaged with one end of the tubular member, said strips at one of their ends diverging to form opposed jaws for gripping engagement upon opposite edges of the saw blade, the adjustment of said wing-nut on the strips drawing said jaws together to securely grip the blade between them.

2. A device of the character described comprising a rigidly held tubular member having a flared mouth at one end, flexible metal threaded strips of substantially semi-circular form disposed through said member, an adjusting nut threaded on said strips engaged with one end of said tubular member, said strips diverging beyond the flared end of said member and having threaded extremities bent to form opposed jaws, teeth formed on one of the jaws for engagement with the teeth of a saw blade disposed between said jaws, and a single tooth formed on the other jaw for gripping engagement with the opposite edge of the blade, the adjustment of said nut on the threaded metal strips drawing said strips through the tubular member and moving the jaws into clamping engagement with the saw blade.

3. A device of the character described

comprising a rigidly held tubular member outwardly flared at one end, said flared portion having serrations formed on its inner wall, flexible metal strips disposed through said tubular member, a portion of said strips being threaded, a wing-nut engaged thereon and disposed against one end of said tubular member, said strips diverging beyond the flared end of said member and having longitudinal teeth for engagement with the serrations in the flared end of the member, and opposed jaws formed on the diverging ends of the strips for gripping engagement upon opposite edges of the saw blade arranged between them.

4. The combination with an adjustable saw frame including a handle, of a tubular member rigidly fixed in said handle flared at one end and provided on the inner periphery thereof with serrations, flexible strips dis-

posed through said tubular member and having diverging end portions provided with longitudinal teeth for engagement with the serrations of said member, opposed jaws formed on the extremities of the diverging ends of the strips, said jaws being bifurcated to receive a saw blade, means formed in the bases of said bifurcations for gripping engagement upon opposite edges of the blade and means arranged upon said flexible strips and engaged with the end of said tubular member to move the strips through said member and draw the jaws into gripping engagement with the blade.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

RUTHERFORD COFFRON.

Witnesses:

M. C. LYDDANE,

GEO. S. LIVINGSTON.