June 22, 1926. 1,590,089

G. S. HEATH

CLAMP FOR SHEET MATERIAL

Filed Nov. 22, 1924

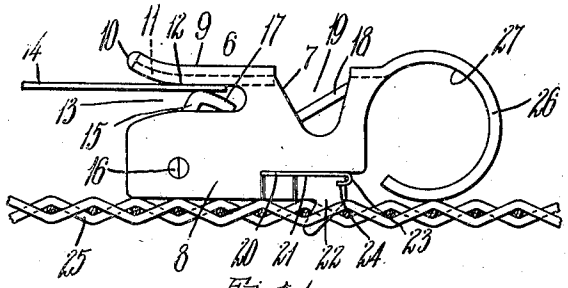


Fig. 1.

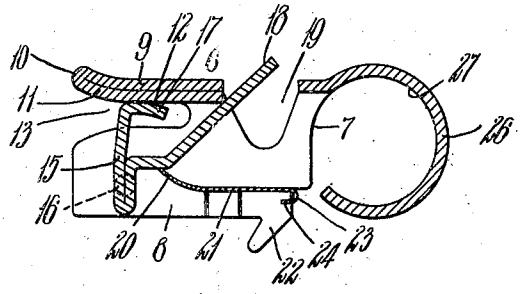


Fig. 2.

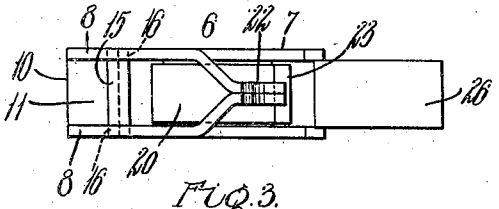


Fig. 3.

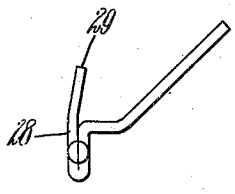


Fig. 4.

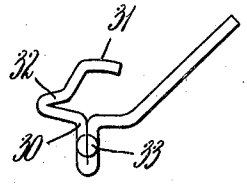


Fig. 5.

Inventor:
George S. Heath.

By Charles S. Goodwin
Atty.

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GEORGE S. HEATH, OF REVERE, MASSACHUSETTS.

CLAMP FOR SHEET MATERIAL.

Application filed November 22, 1924. Serial No. 751,548.

This invention relates to a clamp for holding sheet material, particularly hides after they have been tanned and while they are being dried and stretched, and has for its object to provide a clamp of simple construction capable of being easily and quickly applied to, and removed from a hide.

It is still further an object of the invention to provide a clamp having a spring actuated gripping member which is normally so positioned relatively to an oppositely disposed gripping surface of a holding member to which the gripping member is pivoted, that in applying said clamp to a hide, while the gripping member may be operated by the thumb if it is so desired, in most cases however, it is simply necessary to press the front face of said gripping member against the edge of the hide, and said gripping member will yield rearwardly against the action of a spring thereby separating the gripping surface of the gripping member and holding member and allowing said hide to pass therebetween, and said spring will thereafter act to force said gripping member into engagement with said hide and force the latter against the gripping surface of the holding member.

It is still further an object of the invention to so position the gripping surfaces of the gripping member and holding member that when a hide is held therebetween, a pull either upon the hide or the clamp will tend to cause the gripping member to more tightly force the hide against the gripping surface of the holding member.

The invention consists in a clamping device for sheet material as set forth in the following specification, and particularly as pointed out in the claims thereof.

Referring to the drawings:

Figure 1 represents a side elevation of a clamp embodying my invention, a piece of sheet material being illustrated held by said clamp, and the latter resting upon and being hooked to a stationary support.

Fig. 2 is a central vertical section through the clamp, the latter being illustrated in its closed position.

Fig. 3 is an underneath plan view of the clamp.

Figs. 4 and 5 are detail views illustrating modified embodiments of the pivoted gripping member.

Like numerals refer to like parts throughout the several views of the drawings.

In the drawings, referring particularly to Figs. 1, 2 and 3, 6 represents a holding member constructed of a single piece of suitable sheet metal, and comprising a body portion 7 having a pair of parallel side walls 8 spaced apart and connected together by a top wall 9. The top wall 9 is bent downwardly and rearwardly at 10, having a portion 11 which is folded closely against the under surface thereof between the side walls 8, and an underneath surface 12 of said rearwardly bent portion 11 constitutes a gripping surface for the holding member 6. Each side wall 8 of the holding member 6 has a slot 13 extending rearwardly from the front edge thereof beneath the top wall 9, thereby providing a space into which the sheet material 14 may be inserted, as illustrated in Fig. 1.

Mounted upon the holding member 6 and located between the side walls 8 thereof and beneath the top wall 9 is a gripping member 15, the latter being pivoted at 16 upon said side wall 8. The gripping member 15 is provided with a curved serrated gripping surface 17 which is oppositely disposed to the gripping surface 12 of the holding member 6, said surface 17 being eccentric to the pivotal axial line of said gripping member 15, and gradually increasing in distance from said pivotal axial line as it extends rearwardly. The gripping member 15 is preferably formed of a single piece of suitable sheet metal and a portion 18 thereof constitutes a thumb piece which when the clamp is not in use projects through an opening 19 provided in the top wall 9, and said thumb piece 18 may be utilized whenever it is desired to separate the gripping surfaces 12 and 17.

The gripping member 15 is rocked upon its pivot 16 to move the gripping surface 17 thereof toward the gripping surface 12 of the holding member 6 by a flat spring 20 which is located between the side walls 8 of the holding member 6 resting upon the top edges 21 of hooked portions 22 which are formed integral with said side walls 8. The spring 21 is secured between the side walls 8 by having a bent portion 23 formed at the rear thereof, said bent portion projecting into and tightly fitting a groove 24 formed in the rear edge of the hooked portions 22.

The clamp, when in use, rests upon a suitable support 25 which generally consists of an open mesh wire fabric as illustrated in

Fig. 1, and the hooked portions 22 are provided for the purpose of projecting through the spaces between the wire of said fabric and holding the sheet material taut, as illustrated in Fig. 1.

A handle 26 is provided for the holding member 6, said handle being formed integral with said holding member and being an extension of the top wall 9 thereof, and said handle is bent in a suitable curve to form a finger hole 27.

The general operation of the clamp is as follows:—Assuming that the sheet material 14 which represents a hide of leather is resting upon the support 25, said hide having been tanned and necessitating stretching and drying, the clamp is preferably grasped with the fore finger located within the opening 27 of the handle 26. In applying the first clamp to the hide, it may be necessary owing to the soft, wet condition of the hide, to press the thumb of the hand holding the clamp against the thumb piece 18 of the gripping member 15, and thereby manually open said gripping member, but after the first clamp has been attached to said hide, and said clamp has been hooked to the support 25, in attaching the remaining clamps to said hide it is simply necessary to press the front face of the gripping member 15 against the edge of said hide, the operator preferably pulling upon the hide in a manner to hold the edge thereof taut, and as said gripping member yields rearwardly, the edge of the hide passes between the gripping surface 17 of said gripping member and the surface 12 of the holding member. The spring 20 will now force the gripping member 15 against the hide 14, and the latter against the gripping surface 12 of the holding member 6 and the clamp is then pulled in the proper direction to pull the hide tight, after which the clamp is hooked to the support 25, the hooked portions 22 projecting downwardly through said support and engaging the strands of wire of which said support is preferably composed.

While it will be noted that the thumb piece 18 of the gripping member 15 projects through the opening 19 in the top wall of the holding member 6, as illustrated in Fig. 2, when the clamp is not in use, when said clamp is attached to a hide, as illustrated in Fig. 1, the end of the thumb piece 18 will be located below the upper surface of the top wall 9 of the holding member, and in a position where it cannot be accidentally engaged to release the gripping member.

After the hide has been thoroughly dried and stretched, all that is necessary to release said hide is to lightly tap the thumb piece 18 either with the finger, or with a suitable instrument, such as a hammer, either of which will project through the opening 19 in engaging the thumb piece.

It will be noted that the hooked portions 21 of the clamp are inclined at a slight angle forwardly, and it is possible with the hooks so formed in releasing the hide to tap the thumb piece 18 in a manner to not only release the hide, but to also force the clamp rearwardly away from the hide a sufficient amount so that when another hide is laid upon the support, the clamps will have been withdrawn a sufficient distance from above the area covered by the hide so they may be readily picked up when again wanted, and there will not be a tendency to lay the new hide upon certain of the unused clamps, thereby obscuring them from view.

In Fig. 4 I have illustrated an alternate construction of gripping member 28 having an edge 29 which constitutes a gripping surface therefor, said surface co-operating with the gripping surface of the holding member to grip the sheet material which may be located therebetween.

In Fig. 5 still another form of gripping member 30 is illustrated, said gripping member having a curved gripping surface 31 formed thereon, and also having a V-shaped bent portion 32 formed integral therewith, the latter being provided for the purpose of enabling the distance between the gripping surface 31 and the center of the pivot 33 to be reduced when hides of unusual thickness are desired to be held, it being possible at such times by employing pinchers to pinch the V-shaped portion together in a manner to decrease the distance between the gripping surface 31 and the center of the pivot 33 as mentioned, thereby rendering the gripping power of the member 30 more effective.

In all other respects the construction of the gripping members 28 and 30 is exactly like the gripping member 15 previously mentioned.

I claim:—

1. A clamp for sheet material having, in combination, a holding member having a top wall provided with a gripping surface upon the under side thereof and with an opening extending therethrough, said holding member also embodying therein a pair of side walls located at right angles to said gripping surface, and a spring actuated gripping member pivotally mounted between said side walls and having a thumb piece projecting through said opening and a gripping surface oppositely disposed to the gripping surface of said holding member, the gripping surface of said gripping member comprising a curve eccentric to the pivotal axial line thereof.

2. A clamp for sheet material having, in combination, a holding member having a top wall provided with a gripping surface upon the under side thereof and with an opening extending therethrough, said top wall also being extended to form a handle,

said holding member also embodying therein a pair of side walls located at right angles to said gripping surface and having hooked portions formed integral therewith, and a spring actuated gripping member pivotally mounted between said side walls and having a thumb piece projecting through said opening and a gripping surface oppositely disposed to the gripping surface of said holding member, the gripping surface of said gripping member comprising a curve eccentric to the pivotal axial line thereof.

3. A clamp for sheet material having, in combination, a holding member having a top wall provided with a gripping surface upon the under side thereof and with an opening extending therethrough, said top wall also being extended to form a handle, said holding member also embodying therein a pair of side walls located at right angles to said gripping surface and having hooked portions formed integral therewith, a gripping member pivotally mounted upon said holding member between said side walls and having a thumb piece projecting through said opening and a gripping surface oppositely disposed to the gripping surface of said holding member, the gripping surface of said gripping member comprising a curve eccentric to the pivotal axial line thereof, and a spring to force said gripping member toward the gripping surface of said holding member.

In testimony whereof I have hereunto set my hand.

GEORGE S. HEATH.