Dec. 28, 1943. L. G. WEBSTER 2,337,580

HANDLE CLAMP

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Fig 2

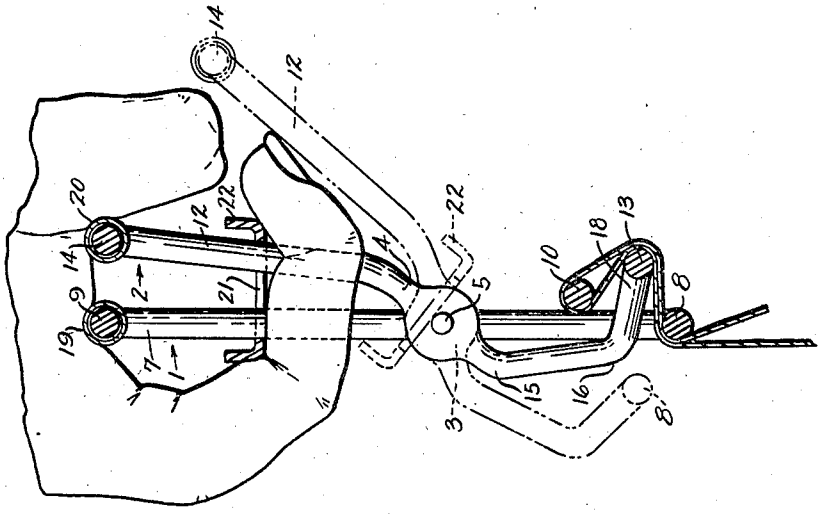
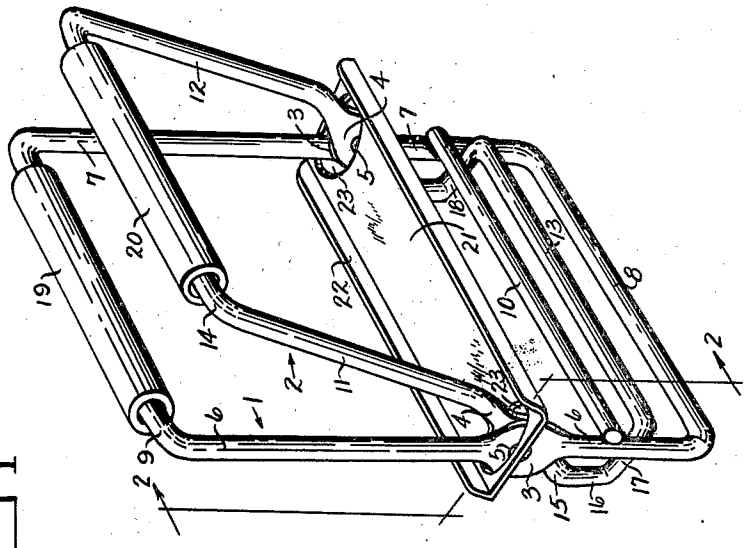


Fig 1



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HANDLE CLAMP

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7 Claims. (Cl. 294—1)

(Granted under the act of March 3, 1883, as amended April 30, 1928; 370 O. G. 757)

The invention described herein may be manufactured and used by or for Government for governmental purposes, without the payment to me of any royalty thereon.

My invention relates to improvements in handle clamping devices and has for its object to provide a simple, inexpensive, and conveniently applied handle device adapted to be clamped on to the mouth of flexible containers, gasoline bags, and the like to seal the same and provide a convenient handle therefor.

The device is also adaptable in connection with handling heavy tarpaulins, tents, airplane wing covers, parachute shroud tape lines, or any fabric or flexible member where it is desired to apply a manipulating or securing handle thereto.

An object of my invention is the provision of a detachable handle-like clamping member which may be easily and quickly clamped on to or removed from a flexible article such as a fabric container or gasoline bag together with a positive keeper or locking means to hold the device in clamping position in which the keeper or locking means comprises the handle member for carrying or manipulating the article being engaged by the device.

A further object is the provision of a handle clamping device having spaced pairs of intermediately pivoted adjacent clamping members provided with fabric clamping means at one end and diverging operating arms at the other end, and a keeper or locking means extending across the device between the spaced pairs of adjacent clamping members for simultaneously moving the clamping arms to a clamping position, locking the arms in the clamping position, and constituting a handle member for the device and for the fabric or article being clamped and handled thereby.

Other objects of the invention will be apparent from the following description, in which like reference characters refer to like parts in the several figures of the drawing.

Fig. 1 is a perspective view of my improved handle clamp showing the keeper or locking handle plate in released position adjacent to the pivoted center of the clamping frames.

Fig. 2 is a vertical sectional view taken approximately on the line 2—2 of Fig. 1, and showing my invention in clamped position in full lines, in engagement with a flexible article, and disclosing the combined handle and keeper plate in released position in phantom.

Referring particularly to Fig. 1, my invention comprises a pair of crossed rectangular clamping frames 1 and 2 formed of wire or other rigid material and flattened intermediate their ends as at 3 and 4 to provide enlarged portions for the pivotal connections 5 at the crossing point of the frames. The outer frame 1 comprises spaced side bar members 6 and 7 and spaced end bar members 8 and 9, as seen in the drawing. A cross or snubbing bar member 10 is secured across the outer frame 1 between the side bars 6 and 7 in parallel relation to and spaced from the end or snubbing bar member 8.

The inner rectangular frame 2 is formed with side bar members 11 and 12 and disposed adjacent to the side bar members 6 and 7 of the outer rectangular frame member 1. This frame 2 also includes a lower clamping or snubbing bar 13 formed integrally with the side bars 10 and 11 and the upper cross bar 14. The side bars 10 and 11 are bent laterally intermediate the lower bar 13 and pivots 5, as indicated at 15 and 16 in the drawing to form a pair of angular disposed clamping arm portions 17 and 18 arranged to move in between the spaced adjacent side bars 6 and 7 with the snubbing bar 13 disposed parallel to and between the cross or snubbing bars 8 and 10 of the frame 1.

Sleeve members 19 and 20 are preferably loosely mounted on the bars 9 and 14 of the upper end frame members 1 and 2 to provide for easier handling of the device.

The upper or operating portions of the adjacent side bars 6, 11 and 7, 12 diverge outwardly from the pivots 5 and carry a keeper or locking handle plate 21 which is flanged along its opposite longitudinal edges as indicated at 22 to reinforce the same and prevent the presentation of sharp or cutting side edges likely to injure the hand of a person using the device when carrying or handling heavy articles or loads.

The locking handle plate is formed with apertures 23 at opposite ends thereof to receive the diverging upper portions of the spaced pairs of adjacent side bars 6, 11 and 7, 12 of the frames 1 and 2. When the handle or keeper plate 21 is disposed near the pivots 5 as seen in Fig. 1 and in phantom in Fig. 2, the distance between the bars 6, 11 and 7, 12 is considerably less at this point than the openings through the apertures 23 in the plate, which permits the clamping portion to be opened, as seen in the phantom in the drawing, to receive an article to be clamped and handled by the device.

In the use of the device, the mouth of a fabric gasoline bag or other flexible article having a

somewhat sheet-like character is inserted between the cross or snubbing bars 8 and 10, brought around the bar 10 and back along itself to a point below the bar 8. When the diverging upper portions of the spaced pairs of bars 6, 11 and 7, 12 are brought toward each other and the keeper or handle plate is moved outwardly from its position adjacent the pivots 5, the ends of the apertures 23 engage the diverging portions aforesaid, moving these same toward each other. This causes the snubbing cross bar 13 of the frame 2 to pass through between the two snubbing cross bars 8 and 10 on the frame 1, carrying the intermediate portion of the fabric or flexible article being clamped with it to the position shown in full lines in Fig. 2 and thus producing an efficient clamping effect or snubbing action on the article being engaged by the device.

The keeper plate 21 extends across the device between the adjacent pairs of side bars 6, 11 and 7, 12 and functions as a locking member, preventing the opening of the clamping end portion of the device, and also constitutes a handle member which is readily gripped by the operator, if the article being engaged is to be carried, or it may be used to pass a lashing through, if it be so desired.

The relatively wide spacing of the pairs of adjacent side members of the rectangular frames permits comparatively wide articles to be engaged, while the comparatively long snubbing or clamping cross bars between the frames provide a large gripping area which reduces the tendency for the handle clamp to tear light or easily injured fabrics, bags, covers, and the like. The handle member 22 extending between the comparatively widely spaced sides of the frames also presents a comparatively large supporting area making it possible to more readily carry comparatively heavy loads by the device with greater comfort.

Although a single preferred embodiment of the invention is shown, it is to be understood that the invention may take various forms, and is to be limited only by the appended claims.

I claim:

1. In a handle clamp, a pair of rectangular frames pivoted to each other intermediate their ends and at opposite sides, each frame having a clamping portion at one end and an operating portion adjacent the other end, said frames including spaced pairs of adjacent side bars connecting the said clamping and operating portions of the frames, and a clamping and locking handle plate member slidably disposed on the said spaced pairs of adjacent side bars and extending between the same to engage the said adjacent side bars at opposite sides of the frames and hold the same in clamping position, said plate including a handle portion intermediate said pairs of adjacent side bar portions.

2. In a handle clamping device of the class described, a pair of clamping frames having spaced side members, the side members of one frame being movable between the side members of the other frame, with the adjacent side members of the frames extending across each other, and pivoted to each other at opposite sides of the device, to provide an article clamping portion at one end of the device, and an operating portion at the other end of the device, with the said adjacent side members of each frame at the operating portion of the device diverging away from each other, and from the pivotal connections, to provide opposed camming means, and a movable locking handle plate apertured at each end to receive the said diverging side members of the frames, and extending across the frames between the opposite sides thereof to form a manipulating handle for moving the plate on the frames between locking and release positions, and constituting a carrying handle for the device.

3. In the handle clamping device of the class described, a pair of rectangular frame-like members, having spaced pairs of side bar members pivotally secured to each other intermediate their ends, said framelike members including parallel cooperating clamping bar members disposed across the frame at one side of the pivoted axis of the frames and shiftable by movement of said side bar members to clamp a flexible article therebetween, and a locking handle plate apertured at each end to slidably receive a pair of the said pivoted side bar members, and mounted on the side frame members at the opposite side of the pivotal axis of the frame from the location of the clamping bars aforesaid and extending across the frame between the pairs of adjacent side bars to form a carrying handle for the device and manipulating handle for the clamping members.

4. In the handle clamp of the class described, a pair of rectangular frame-like members pivoted to each other at their opposite sides and intermediate their ends, said frame-like members including spaced pairs of adjacent side bars extending across each other at the aforesaid pivotal connection, one of said frame-like members including a plurality of snubbing cross bars disposed adjacent the ends of said last-mentioned side bar members and having an operating handle portion at the other side of said pivotal center, the other of said frame-like members having its side bars bent laterally adjacent one of the extremities thereof to project between the side snubbing cross bars of the first-mentioned frame-like member when the members are brought together, said last-mentioned frame-like member having a snubbing cross bar extending across the extremities aforesaid of said angularly bent side bars, and disposed parallel to the snubbing cross bar of the other frame-like member, and shiftable handle means on the operating handle portion extending across said frame-like members and movable to lock said snubbing members in snubbing position.

5. In a clamping device, a pair of rectangular wire frames pivotally connected together intermediate their ends to form a clamping portion at one side of the pivot and an operating handle portion at the other side of the pivot, and a shiftable handle plate apertured at its ends and slidably disposed on the side bars of the frames on the aforesaid operating handle portions, said plate extending across the frames from side to side and movable from a released position adjacent the pivotal center of the frames to a clamping position remote from said pivotal center with edges of the said apertures engaging the said operating handle portions of the frames to hold the same in clamping position.

6. In the handle clamp device of the class described, a pair of crossed rectangular frame-like members pivoted to each other intermediate their ends and at their adjacent sides at the point of crossing of the said frame-like members to form diverging handle portions at one side of said pivotal connections and clamping portions at the other side, one of said frame-like members

including a snubbing cross bar disposed thereon in parallel relation to the end of the other frame between the same and the pivot connection aforesaid, the other frame-like member having its end portions extending angularly toward the first frame to project between the sides and cross bars thereof and terminating in a snubbing cross bar disposed parallel to the cross bar aforesaid of the other frame-like member, and a movable combined keeper plate and carrying handle member extending across between the sides of the frame-like members and apertured at its end portions to receive the diverging handle portions aforesaid of the frame members, with the edges of apertures in said plate engaging the exterior surfaces of the diverging handle portions to move the same toward each other to shift the frames to clamping position upon movement of the said plate away from the pivotal point of the frame members.

7. In handle clamps, a pair of interconnected rectangular frame members pivotally connected together at opposite sides, intermediate their ends, to form a clamping portion at one side of said pivotal connection and a handle portion at the other side of said pivotal connection, said frame members including an outer frame, and an inner frame extending across said outer frame at an angle thereto and mounted to move between the side members of said outer frame about said pivotal connections, said outer frame member clamping portion having a clamping or snubbing bar at its outer end, a second clamping or snubbing bar thereon between said outer bar and pivotal connection aforesaid, the inner rectangular frame having the extremity of its clamping portion bent laterally, and terminating in a cross bar adapted to move to a snubbing position between the side members and cross bars aforesaid on the clamping portion of the outer frame, and a locking handle plate slidably mounted on the handle portions of the side members of the frame and extending across the same to engage the side members upon movement of the plate away from said pivotal connection, to move said members to clamping or snubbing position, locking the same in said position and constituting a supporting handle for the device intermediate the opposite side members of the two rectangular frame members.

LEWIS G. WEBSTER.