April 7, 1931. C. H. HISER 1,799,464

CLAMPING DEVICE

Filed Feb. 13, 1929

FIG 1

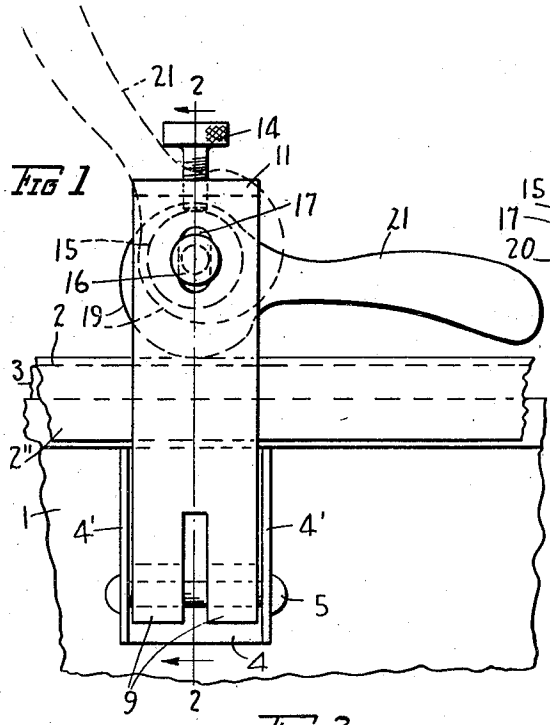


FIG 2

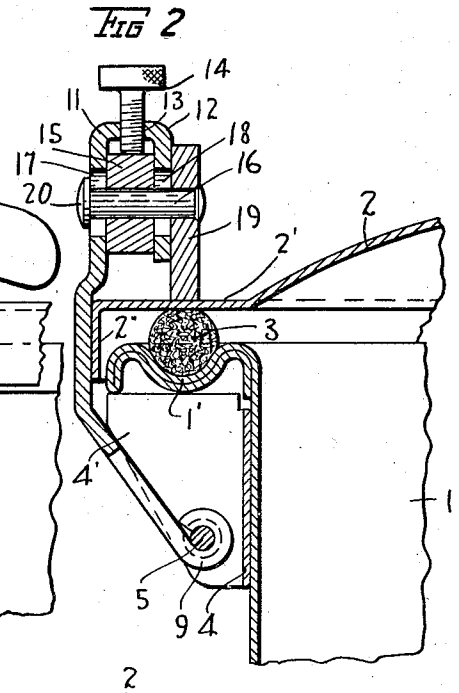
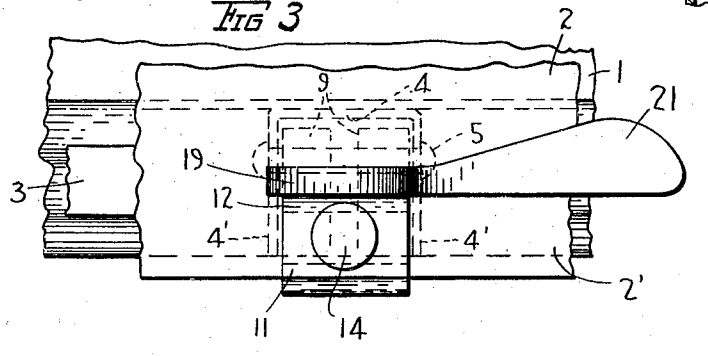


FIG 3



INVENTOR

Charles H. Hiser

BY Staley & Welch

ATTORNEYS

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UNITED STATES PATENT OFFICE

CHARLES H. HISER, OF SPRINGFIELD, OHIO, ASSIGNOR TO THE SPRINGFIELD METALLIC CASKET COMPANY, OF SPRINGFIELD, OHIO, A CORPORATION OF OHIO

CLAMPING DEVICE

Application filed February 13, 1929. Serial No. 339,714.

This invention relates to improvements in clamping devices, it more particularly relating to a clamping device of the type which employs a hinged arm and a clamping lever carried thereby.

One of the objects of my invention is to provide improved means for positioning the clamping lever relatively to the surface with which it coacts, a more specific object in this connection being to provide a clamping device, the pressure of which may be readily increased or decreased as occasion demands to meet conditions of use.

A further object of the invention is to provide for stiffening the end of the arm to which the clamping lever is pivotally connected to enable the arm at that point to resist the strains applied thereto during the clamping operation.

A further object of the invention is to provide an arrangement in a clamping device of the character referred to whereby the arm and its clamping lever will be mounted in proper relation with the surface to be clamped.

A further object of the invention is to provide an arrangement in which the brackets to which the clamps are attached to the receptacle also act to stiffen the gasket receiving grooved portion of the receptacle.

A further object of the invention is to provide a simple, inexpensive and durable clamping device effective for the purpose for which it is designed.

In the accompanying drawings:

Fig. 1 is a front elevation of a clamping device embodying my improvements shown applied to a container and its lid, a portion only of each of which is shown.

Fig. 2 is a vertical section on the line 2—2 of Fig. 1.

Fig. 3 is a top plan view of the parts.

The improved clamping device has been more particularly designed for clamping the lid or cover of a shipping case or receptacle for burial caskets to maintain an air-tight joint between the lid and receptacle. A portion of such a receptacle is indicated at 1 and a part of the lid at 2. The edges of the lid are formed with a horizontal portion 2′ having a down-turned flange 2″ along its outer edge and this horizontal portion is designed to be clamped against a gasket 3 which is seated in a groove formed in a flange 1′ extending about the edges of the receptacle. When the horizontal portion 2′ of the cover is pressed down on the gasket with sufficient pressure an air-tight receptacle is provided.

It will be understood that a plurality of clamping devices such as shown are provided about the receptacle, only one of such clamping devices being shown in the present instance. For each clamping device there is provided a bracket formed of a U-shaped metallic member 4 which is secured to the side of the receptacle 1 by spot welding or any other suitable means, the bracket being secured to the receptacle with the upper edegs of its side legs pressed as firmly as possible against the channel member 1′ so as to support this member against the pressure of the clamps when pressure is applied upon the gasket.

Hinged to a pintle 5 carried by the legs 4′ is a flat arm 8 of sheet metal, the lower end of this arm being curled into an eye 9 to encircle the pintle. The upper end of the arm is bent at the places indicated at 11 and 12 to impart to that end of the arm a U-shape, the arm being so bent as to clear the flange″, with the U-shaped portion overhanging the horizontal portion 2′. The web between the legs of the U-shaped portion of the arm is provided with a threaded aperture 13 to receive a screw 14 which forms a stop for a block 15 which is mounted upon a pin 16 which projects through slotted openings 17 and 18 in the legs of the U-shaped portion. Also mounted upon one end of the pin is a cam 19, being secured thereon by riveting the end of the pin as shown, and the pin is confined in position by this cam and also by a head 20 upon its opposite end. The cam 19 has a lever 21 by which it may be rotated to engage the horizontal portion 2′ of the lid. The block 15 is mounted between the legs of the U-shaped portion sufficiently loose so that it may slide therebetween within the limits allowed by the lower ends of the slots 17 and 18 and the screw 13. When the lever

is turned to cause the cam to impinge the horizontal surface 2′ the block moves upwardly in contact with the screw and the proper adjustment of the cam with relation to the horizontal surface 2′ may be secured by adjusting the screw which allows for the proper pressure of the cam upon the surface 2′ regardless of any inequality in manufacture.

The proportion and design of the improved clamp is such that the cam, when the arm 8 is swung to clamping position, is approximately over the center of the gasket or at a point on the horizontal surface 2′ well removed from the outer edge thereof. It will also be noticed that the pivotal point of the arm 8 is slightly within a vertical line passing through the center of the cam so that any tendency of the arm 8 to swing from clamping position with the cam in clamping relation with the horizontal surface 2′ will be resisted by that portion of the horizontal surface which is on the outside of the cam, as the arc of the circle upon which the contacting point of the cam would have to swing would necessarily pass through this horizontal surface. Therefore, if the clamping device should meet with any blow which would tend to dislodge the same, this tendency would be resisted by the horizontal surface 2′ coacting with the contacting face of the cam.

The block 15 besides coacting with the screw 13 to adjust the position of the cam also acts to stiffen the U-shaped portion of the arm under the clamping action so that there is no tendency for the outer end of the arm to bend when the pressure is applied.

Having thus described my invention, I claim:

1. In a clamp of the character described, a hinged arm, a cam lever pivotally mounted on the free end of said arm, the pivot of said lever being movable in the direction of the length of the arm, and an adjustable stop therefor.

2. In a clamping device of the character described, a hinged arm with its free end bent to a U-form, a block slidably mounted in the U-shaped portion of said arm, a stop for said block, and a cam lever pivotally connected with said block.

3. In a clamp of the character described, a hinged arm having its free end bent to a U-form, the walls of the U-shaped portion provided with slotted openings, a block mounted in the U-shaped portion of said arm, a pin carried by said block extending through said slots, a cam lever mounted on said pin, and a screw carried by the arm forming an adjustable stop for said block.

4. The combination with a container having a gasket receiving channel and a lid having a horizontal portion cooperating with said channel, a U-shaped bracket secured to said container with the upper edges thereof in close proximity to the lower side of said channel, an arm pivotally connected to said bracket having its free end overhanging the horizontal portion of said lid, and a clamping member carried by the free end of said arm.

5. In a clamp of the character described, a hinged arm with its free end bent to a U-form, a block slidably mounted in the U-shaped portion of said arm, an adjustable stop for said block carried by said arm, a pivot pin carried by said block extending through slotted openings in said U-shaped portion, and a cam lever connected with said pivot pin on the outer side of the free branch of the U-shaped portion of said arm.

6. The combination with a container having a gasket receiving channel and a lid having a horizontal portion cooperating with said channel, a bracket secured to said container with the upper edges thereof in close proximity to the lower side of said channel to support said channel, and clamping devices to clamp the horizontal portion of said lid to said channel pivotally connected with said bracket.

In testimony whereof, I have hereunto set my hand this 4th day of February, 1929.

CHARLES H. HISER.