

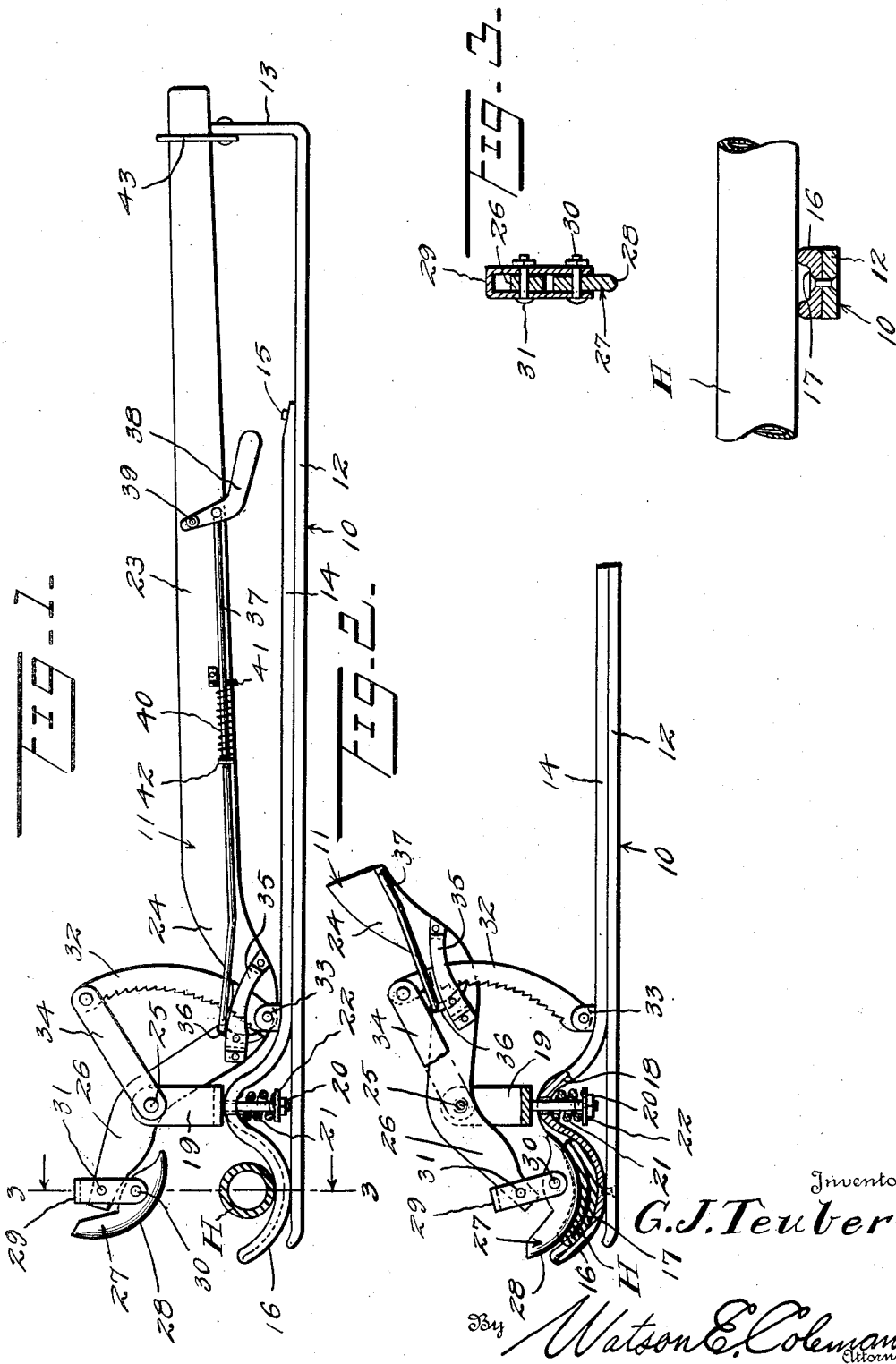
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HOSE CLAMP

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HOSE CLAMP

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2 Claims. (Cl. 251—5)

This invention relates to hose clamps and has for an important object thereof the provision of a clamp which is so constructed as to be capable of holding a hose in clamped position so as to cut off the flow of water or other liquids through the hose without injury to the hose.

Another object of this invention is to provide in a clamp of this type means whereby the clamp can be locked in tight position so as to maintain the cut-off condition of the hose.

A further object of this invention is to provide in a clamp of this type tensioning means whereby the clamp may yield under the pressure applied thereto by the lever formed with the movable jaw.

A still further object of this invention is to provide in a clamp of this type an exceedingly simple and strong clamping structure which can be locked in clamped position and readily released by a spring pressed releasing means.

Still another object of this invention is to provide in a clamp of this type a swingable hose engaging member which is carried by the movable jaw of the clamp so that the hose will be clamped in the proper position relative to the other or fixed jaw of the clamp.

The above and various other objects and advantages of this invention will in part be described and in part be understood from the following detailed description of the present preferred embodiment, the same being illustrated in the accompanying drawing wherein:

Figure 1 is a detail side elevation of a device constructed according to the preferred embodiment of the invention, showing the device in open position.

Figure 2 is a fragmentary side elevation partly in section of the device in clamping position.

Figure 3 is a fragmentary sectional view taken on the line 3—3 of Figure 1.

Referring to the drawing wherein like numerals of reference designate corresponding parts throughout the several views, the numeral 10 designates generally a fixed clamping member and the numeral 11 designates a movable or pivotal clamping member connected to the fixed member and these two clamping members are adapted to clamp a hose H therebetween so that the water or other liquids in the hose may be cut off without turning a valve at the source of liquid or water supply and without damage to the hose.

The fixed or lower clamping member 10 comprises an elongated bar 12 which is provided at its inner or rear end with an upturned arm 13. This bar 12 comprises a base bar and is prefer-

ably flat and is adapted to hold the clamping member 10 in proper position. A second elongated bar 14 is secured as by rivets 15 or other attaching means to the upper surface of the base bar 12 and is provided at its forward or outer end with a curved fixed jaw member 16. This fixed jaw member 16 is preferably provided at its inner side with a groove 17 which is formed by providing ribs or raised portions on the opposite edges of the jaw 16.

The bar 14 is also provided at a point rearwardly of the fixed jaw 16 with a reversely curved and upwardly extending portion 18 and a U-shaped member 19 having a bolt 20 extending therethrough is mounted on the upraised portion 18. A spring 21 engages between a washer 22 and the lower side of the upraised portion 18 so that the mounting 19 for the movable clamping member 11 may be tensioned to the desired degree as will be hereinafter described.

The movable clamping member 11 comprises a lever or handle 23 which is straight for a considerable portion of its length and at a point intermediate the ends thereof and adjacent the forward end, the bar or handle 23 is provided with a downwardly curved or bent portion 24, and a pivot 25 extends through the forward end of this downwardly bent portion 24 and acts as a pivot or fulcrum for the lever 23. The lever 23 is extended, as at 26, forwardly of the U-shaped member 19, and a movable jaw, generally designated as 27, is attached to the forward end of the extension 26.

The movable jaw member 27 has a convex lower surface 28 which is of substantially the same curvature as the concave portion of the fixed jaw member 16, and this jaw member 27 is of a width to loosely engage in the groove 17 of the jaw member 16. The jaw member 27 is secured to the extension 26 of the lever 23 by means of a clevis or U-shaped member 29 having the free legs thereof secured as by a bolt 30 to the jaw member 27 at a point rearwardly of the longitudinal center of this jaw 27 and the U-shaped member or clevis 29 is secured as by a bolt or pivotal member 31 to the lever extension 26.

In order to provide a means whereby the lever 23 may be held in clamping position with the hose H between the two jaws 16 and 27, I have provided a rack bar 32 which is preferably formed on an arc with the pivot 25 as an axis and this bar 32 has its lower end secured to a lug 33 and the upper end thereof is held in rearwardly offset position from the pivot 25 by 55

means of a link 34. The rack bar 32 is disposed at one side of the lever 23 and closely adjacent the downwardly offset portion 24. A guide bar 35 is secured to the lever 23 across the lower portion of the offset portion 24 and loosely engages about the rack bar 32 so as to hold this rack bar 32 against lateral movement relative to the lever 23. A pawl member 36 is pivoted to the guide bar 35 and an elongated pawl operating member 37 has one end thereof secured to the pawl 36 and extends longitudinally of the lever 23. The opposite end of the pawl operating rod 37 is secured to a rock lever 38 pivotally mounted, as at 39, on one side of the lever 23 at a point intermediate the ends of this lever.

The pawl operating rod 37 and the lever 38 are constantly urged forwardly by means of a spring 40 which engages about the rod 37 engaging at one end against a guide lug 41 secured to the side of the lever 23 and at the other end engaging against a stop 42 mounted on the rod 37.

The lever 23 when in released position has its rear or inner end resting on the upstanding arm 13 and is held in released position by means of a hook or locking member 43 which is secured to the upper portion of the extension or arm 13.

In the use and operation of this hose clamping device, the hose may be resting upon the ground and will normally be expanded by reason of the pressure of the liquid therein. When it is desired to cut off the flow of liquid, the hose is placed on the fixed jaw member 16 with the base bar 12 resting upon the surface of the ground. The locking member 43 may then be swung to released position and the lever 23 raised. If desired, one foot may be placed on the base 12 and the lever 23 then raised so as to lower the movable clamping member 27 and the lowering of this member 27 will compress the hose H between the two jaws 16 and 27 with the hose H engaging within the groove 17 of the fixed jaw 16 and the movable jaw 27 holding the hose in this groove. The water or other liquid will then be cut off and the lever 23 can be maintained in its clamping position by the dog or pawl 36 engaging the teeth of the rack bar 32.

When it is desired to release the lever 23, the releasing lever 38 is swung in the direction of the lever 23 thereby contracting the spring 40 and swinging the pawl 36 away from the teeth of the rack bar 32. When the lever 23 is swung upwardly into clamping position, the pressure of the jaw

32 will contract the tension of the spring 21 so that there will be a degree of movement between the mounting 19 and the fixed jaw member 16. In this manner, the movable jaw 27 will not have a tendency to cut into the material of the hose and the two clamping members can be more firmly clamped onto the hose than if a solid mounting is used for the movable clamping member.

The upturned arm 13 is a safety arm in that it prevents the lever 23 from rocking downwardly and striking the foot of a person resting on the lower lever 12.

What is claimed is:—

1. A hose clamp, comprising a pair of elongated levers, one of said levers comprising a fixed lever, a base bar secured to said fixed lever, a concave clamping jaw carried by the forward end of said fixed lever, said concave jaw having a longitudinal groove on the inner concave face thereof, said fixed lever having an upwardly offset portion rearwardly of the concave jaw, a U-shaped member mounted on the upper side of said offset portion, a bolt extending through the U-shaped member and the offset portion, a tensioning spring engaging about the bolt to tension the movement of the U-shaped member relative to the fixed lever, means for pivotally securing the other lever between the parallel legs of the U-shaped member, a convex movable jaw secured to the forward end of the said other lever, a clevis secured to the convex jaw member and the said other lever to pivotally secure the movable jaw to the said other lever, an arcuate toothed bar, means for securing the toothed bar to the fixed lever and to the U-shaped member, a guide member secured to the said other lever and engaging about the toothed bar, and a spring pressed pawl carried by the said other lever and engageable with the toothed bar to releasably hold the other lever in clamped position.

2. A hose clamp comprising a pair of clamping members, a U-shaped bearing member, means for pivotally securing the bearing member to one of the clamping members, a threaded bar secured to the bight of the bearing member and slidably engaging the other of the clamping members, a bearing tensioning spring disposed about the bar, a nut threaded onto the bar and engaging the spring to tension the spring, and releasable holding means for holding the clamping members in clamped position.

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