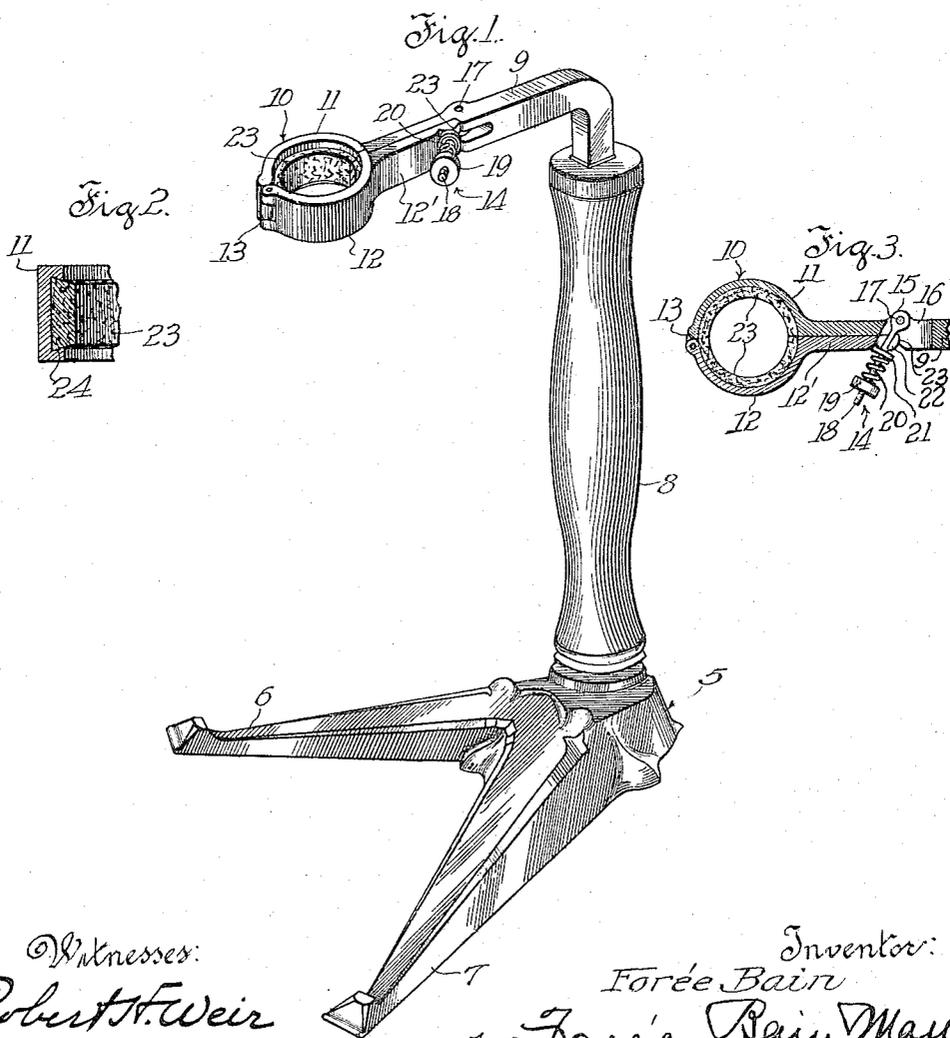


F. BAIN.
CLAMP.

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1,154,904.

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UNITED STATES PATENT OFFICE.

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CLAMP.

1,154,904.

Specification of Letters Patent. Patented Sept. 28, 1915.

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To all whom it may concern:

Be it known that I, FORÉE BAIN, a citizen of the United States, residing at La Grange, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Clamps, of which the following is a specification.

My invention relates to clamps and particularly to a type of clamp especially adapted for supporting bottles, or the like, such as are used in small stills and all-glass automatic coffee pots.

One of the objects of my invention is to provide a clamp for supporting fragile articles, such as glass bottles, having parts subject to expansion, when heated, such as the necks of the bottles as when the latter is used in stills, all-glass coffee pots, and the like, which contain liquid to be heated by the direct application of a flame to the bottle.

In such devices the neck of the bottle must be supported and held firmly by a suitable clamp, capable of exerting a yielding pressure upon the bottle, sufficiently yielding to compensate for the increase and decrease of size, due to differences in temperature.

The support for the bottle must also present a heat insulating surface, for contact with the bottle, to prevent escape of heat therefrom, thereby causing chilling localized at the point of contact, and liability of fracture when the hotter coffee or other liquid contained in the bottle comes in contact with the cooled part.

Another object is to generally improve devices of this character.

Other and further objects of my invention will become readily apparent to persons skilled in the art from a consideration of the following description when taken in connection with the drawing, wherein—

Figure 1 is a bottle support showing my adjustable clamp on the end of the projecting arm. Fig. 2 is an enlarged cross section of one of the clamping members. Fig. 3 is a longitudinal section, taken through the central horizontal plane of the clamp.

In all the views the same reference characters are employed to indicate similar parts.

5 is the base part of the supporting device, provided with angularly disposed arms 6 and 7, between which to contain the alcohol lamp, which is usually employed for heating the glass bottle and contents.

8 is the upright handle portion of the device and 9 is the laterally projecting supporting arm, containing on its end a two part clamping device 10. The neck of the bottle, to contain the coffee or liquid to be distilled, is to be included between the clamp members 11 and 12. The clamp member 12 is supportedly hinged to the clamp member 11, as at 13, and a latch 14, yieldingly holds the two members in closed association. The members 11 and 12 provide each a substantially semi-circular part jointly to encompass the neck of the bottle. When the members are closed, they are not rigidly held together but are secured by the latch 14 in such manner as to permit some relative movement of the parts.

The latch 14, is provided with a stem 15, that passes through a slot 16, in the relatively fixed arm 9, and is pivoted therein as at 17. The outer end of the stem 15 is shown to be screw threaded, as at 18, for an adjustable nut 19, which may be used to vary the tension of the spring 20. This adjustment is not necessary after the strength of the spring best adapted for the use has once been ascertained. A washer 21 rides freely over the stem 15 and is pressed toward the pivotal point by means of the spring 20. The arm 12' of the member 12, is also slotted, as at 22, and is provided on its free end with two rounding shoulders 23 and 23',—the latter not being shown—and between these shoulders the stem 15 is adapted to slide in the notch 22. When the latch 14 is in the position shown in Figs. 1 and 3, the clamp members 11 and 12 are held together thereby, some yielding outward movement being permitted by the spring 20, to compensate for any expansion of the article which the clamping members encompass. In order to open the jaws 11 and 12, or to move the latter on its hinge connection away from the former, to insert or withdraw the neck of the bottle from the clamping members, it is only necessary to move the latch 14 to the right so that the washer 21 will permit the arm 12' of the clamping member 12, to pass beyond the latch to permit separation of the clamping members.

I prefer to line the inner surfaces of the clamping members 11 and 12 with an insulating material such as cork 23, in order to thereby provide a yielding heat-insulating substance for actual contact with the

surface of the bottle, and to prevent escape of heat from the bottle by actual contact thereof with the metal supporting structure, such as the arm 9, and connected parts.

5 In placing the cork 23 in position in the clamping members I prefer to under cut the inner surface to provide a dove tail channel, as at 24, and to cut straight strips of cork in such shape at its edges as to fit into the dove
10 tail channel and then slide the cork into the dove tail portions and apply a proper adhesive to the back surface of the cork for contact with the confronting surface of the clamp member. The dove tail association
15 will be sufficient to hold the cork in place, but the adhesive will prevent the longitudinal relative movement of the parts. By this means the contacting surface of the cork with the bottle is compressed and somewhat
20 strengthened.

The cork 23 is yielding to some extent and in some instances is sufficiently so to compensate for the difference in diameter of the neck of the bottle, due to its change in temperature, but the yielding clamp 14 prevents
25 the two clamp members from being pressed together too tightly and by this means exerting too much pressure upon the neck of the bottle. The latch 14 exerts a constant
30 and definite pressure which cannot be increased to an undesirable extent, by the manipulation of the latch for the purpose of opening and closing the said members

and for this reason also it is advantageous. In the practical embodiment of my device
35 the nut 19, on the stem 15, is not necessarily adjustable, the tension of the spring 20 being determined by empirical trial, after which the adjustability of the nut 19 becomes unnecessary.
40

Having described my invention, what I claim with a view and desire to secure by Letters Patent is:—

In a clamp, the combination of a supporting arm terminating at one end in a semi-
45 circular jaw, a corresponding semi-circular jaw pivoted to the outer end of the first mentioned jaw and having a slotted extension adapted to coact with the supporting arm, said supporting arm having a through
50 opening formed therein adjacent the end of the aforesaid extension, a stem pivoted within the aforesaid opening in the arm and arranged when swung into one of its extreme positions to engage the slot formed
55 in the aforesaid extension, and a spring pressed washer on said stem adapted to engage the slotted extension and resiliently hold the said jaws in clamping position.

In testimony whereof I hereunto set my
60 hand in the presence of two subscribing witnesses.

FORÉE BAIN.

In the presence of—
GEO. T. MAY, JR.,
MARY F. ALLEN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."