J. GENTILE.

CLAMP.

APPLICATION FILED APR. 22, 1921.

1,407,650. Patented Feb. 21, 1922.

Fig. 1.

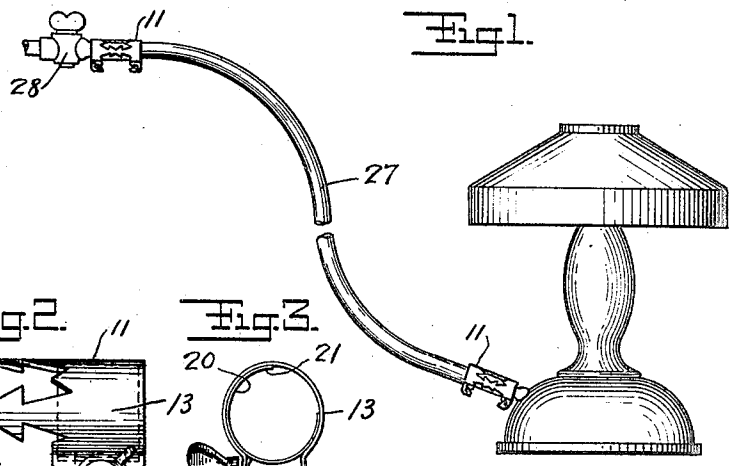


Fig. 2.

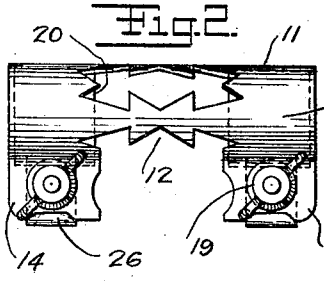


Fig. 3.

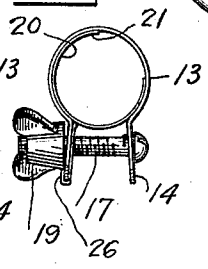


Fig. 6.

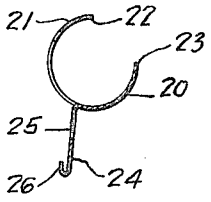


Fig. 4.

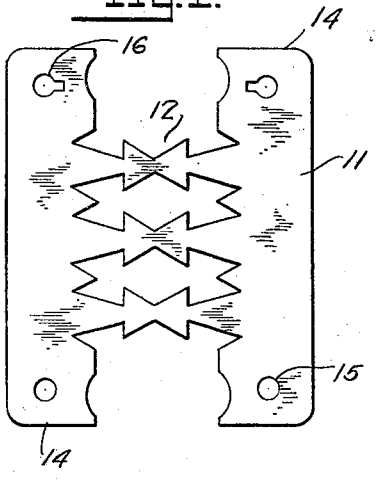


Fig. 5.

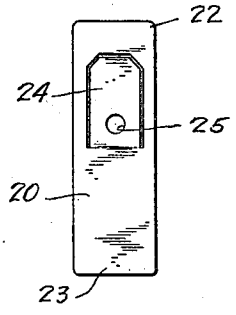
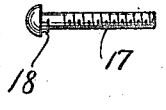


Fig. 7.



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UNITED STATES PATENT OFFICE.

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CLAMP.

1,407,650. Specification of Letters Patent. Patented Feb. 21, 1922.

Application filed April 22, 1921. Serial No. 463,518.

To all whom it may concern:

Be it known that I, JOSEPH GENTILE, a citizen of the United States, and resident of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Clamps, of which the following is a specification.

This invention relates to improvements in clamps.

The primary object of this invention is to provide an effective clamping device particularly adapted to clamp or bind the end of a flexible tube to a gas source, or appliance or fixture in such manner as to prevent the escape of the gas at the place where the tube is connected to the object, and also to prevent the accidental disconnection of the tube from the object to which it is connected.

Another object of this invention is to provide a spring clamp having a duplex clamping element and binding or spring elements disposed at the ends thereof for facilitating its binding or clamping effect.

These and like objects, such as convenience in operation, cheapness of construction and neatness of appearance, are attained by the novel construction, combination and arrangement of parts hereinafter described and shown in the accompanying drawings, forming a material part of this disclosure, and in which:—

Figure 1 is a view showing an application of the invention at both ends of a flexible tube.

Figure 2 is a front elevation of same.

Figure 3 is an end elevation of same.

Figure 4 is a plan view of the blank from which the frame is formed.

Figure 5 is a plan view of the blank from which the binding elements are formed.

Figure 6 is a transverse sectional view of one of the binding elements.

Fig. 7 is a view of one of the clamp screws.

Stated briefly in general terms, the invention comprises a frame bent and shaped so as to form a duplex clamping element, a pair of binding or spring elements removably secured within the clamping element at the latter's ends and clamp screws adapted to increase or diminish the binding effect of these elements.

Referring now to the drawings in detail there is disclosed a frame 11 having its center portion 12 stamped in a suitable pattern so as to make the device light in weight and attractive in appearance.

This frame is made from a blank cut from a thin sheet metal plate or other suitable material by executing suitable bending, shaping and similar operations thereupon, by means of suitable dies, so as to cause the blank to assume the form of the finished frame.

Figure 4 shows the frame flattened out but the blank from which the frame is formed may depart somewhat from this shape, so long as it serves the purpose required of it in this invention.

When frame 10 assumes its finished form it has a substantially cylindrical shaped body 13. Each end of the frame is provided with a pair of spaced ears 14 projecting downwardly from and made integral with the wall of the body. One ear of each pair has an annular perforation 15, the other ear being provided with a slotted perforation 16, the former being in alinement with the latter so as to receive a screw 17. Screws 17 are provided with shoulders 18, which engage slotted perforations 16 so as to prevent them from turning with wing nuts 19 when the latter are manipulated to bring the ears closer together.

Binding elements 20 are made from suitable blanks of spring steel formed to desired shape by means of suitable dies. Figure 5 shows one of the blanks after being stamped and Figure 6 shows same after being bent and shaped to the desired form.

The upper portion 21 of each binding element 20 is shaped so as to conform to body 13 of frame 11, and the free ends 22 and 23 of which are spaced apart. Tongue 24 is cut out of the blank and has a perforation 25. This tongue is bent downward and has an upturned hook portion 26 formed at its end. When placed in position, upper portion 21 of each binding element 20 engages the inner wall of body 13, while its tongue 24 lies parallel with one of the ears 14, and upturned hook portion 26 of said tongue is in sliding engagement with the free end of the ear. When binding element 20 is in this position perforation 25 alines with perforations 15 and 16.

Figure 1 illustrates how the spring clamp may be employed. One end of flexible tube 27 is passed through the clamp and connected to the gas cock 28, and the clamp adjusted so that one end engages the nozzle of the gas cock and the other end engages the flexible tube. Then by turning wing nuts 19 upon screws 17 in the proper direc-

tion ears 14 of frame 10 are brought closer together, shoulders 18 of screws 17 preventing the latter from turning by being in engagement with slotted perforations 16.

As ears 14 of frame 10 are brought closer together in the manner described above, the diameter of upper portion 21 of each binding or spring element 20 decreases, its free ends 22 and 23 being forced to come closer together. Consequently the nozzle of the gas cock and the end of the flexible tube are gripped by the binding elements and prevented from being accidentally separated.

Binding elements 20 are held in position by means of screws 17, the latter passing through perforations 25 in tongues 24, and hook portions 26 which slidingly engage the free ends of ears 14.

A similar spring clamp is used at the other end of the flexible tube to securely clamp the latter to the fixture.

The spring clamp above described may also be adapted to clamp a watering hose to a faucet.

From the foregoing it will be seen that a neat, convenient and effective spring clamp has been disclosed which will prevent the accidental disconnection of a tube from the object to which it is connected and also prevent leakage at the connecting point.

While a preferred embodiment of this invention has been shown and described it will be understood that changes in the form, arrangements, proportions, sizes and details thereof may be made without departing from the scope of the invention as described in the appended claim.

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

A clamp comprising a frame having a cylindrical-shaped body, said frame being provided at either end with a pair of spaced ears projecting from and made integral with the wall of said body, one ear of each pair being provided with an annular perforation and the other with a slotted perforation, a pair of binding elements each of which having an upper portion disposed within and conforming in shape with, said body but having its free ends spaced apart, each of said binding elements being provided with a tongue portion bent upwardly at its free end so as to engage an ear of each pair, said tongue having a perforation in alinment with the perforations in said ears, clamp screws adapted to engage the perforations in said ears and tongues, said screws being provided with shoulders at their head portions which are adapted to engage the slotted perforations in said ears, and nuts operable on said screws adapted to bring the ears of each pair closer together thereby forcing the free ends of each binding element toward each other.

Signed at Brooklyn, in the county of Kings and State of New York this 18th day of April, A. D. 1921.

JOSEPH GENTILE.