(No Model.)

E. J. ALLEN.

DEVICE FOR SUPPORTING FLEXIBLE GAS PIPES OR TUBES.

No. 565,418. Patented Aug. 11, 1896.

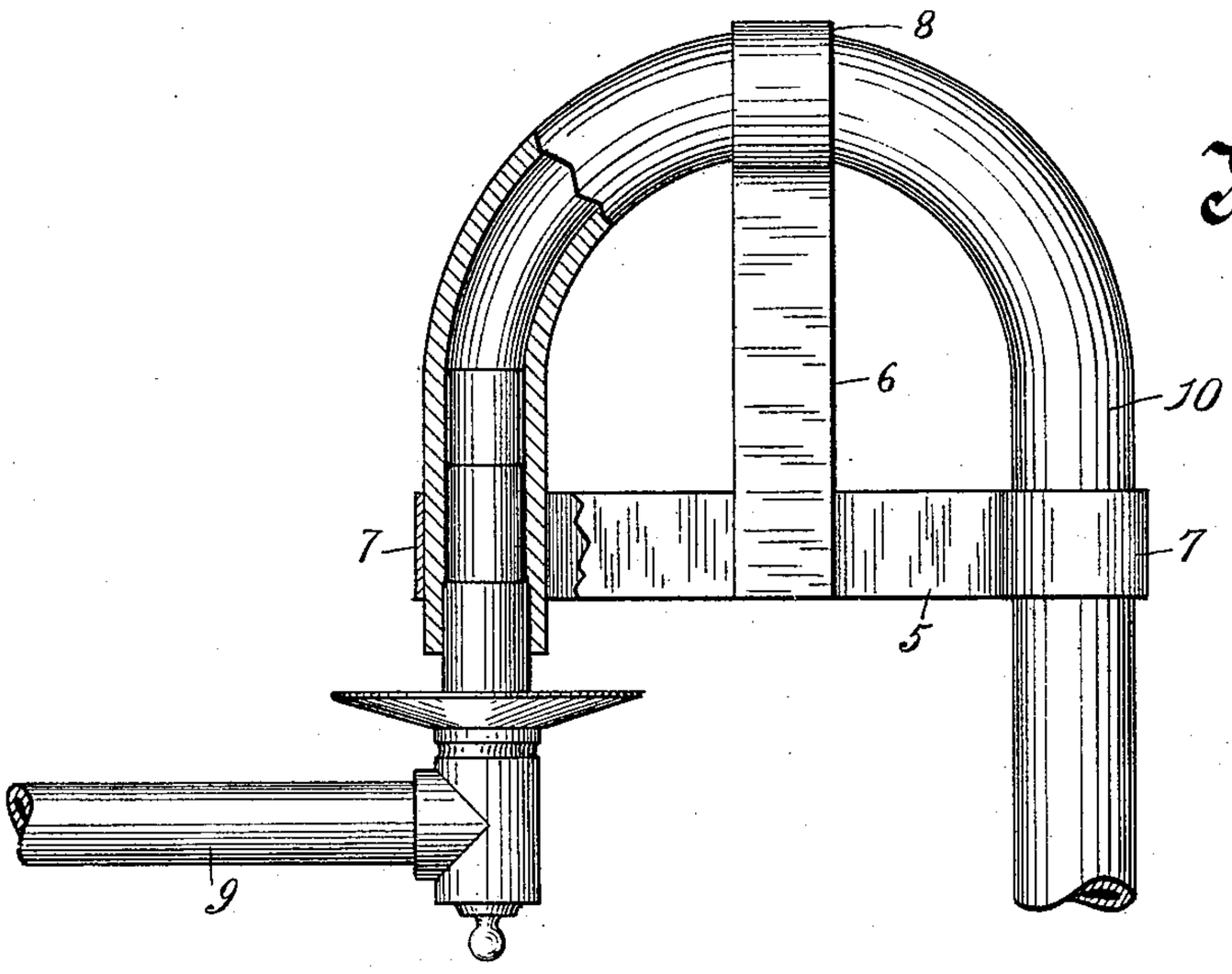


Fig. 1.

Fig. 2.

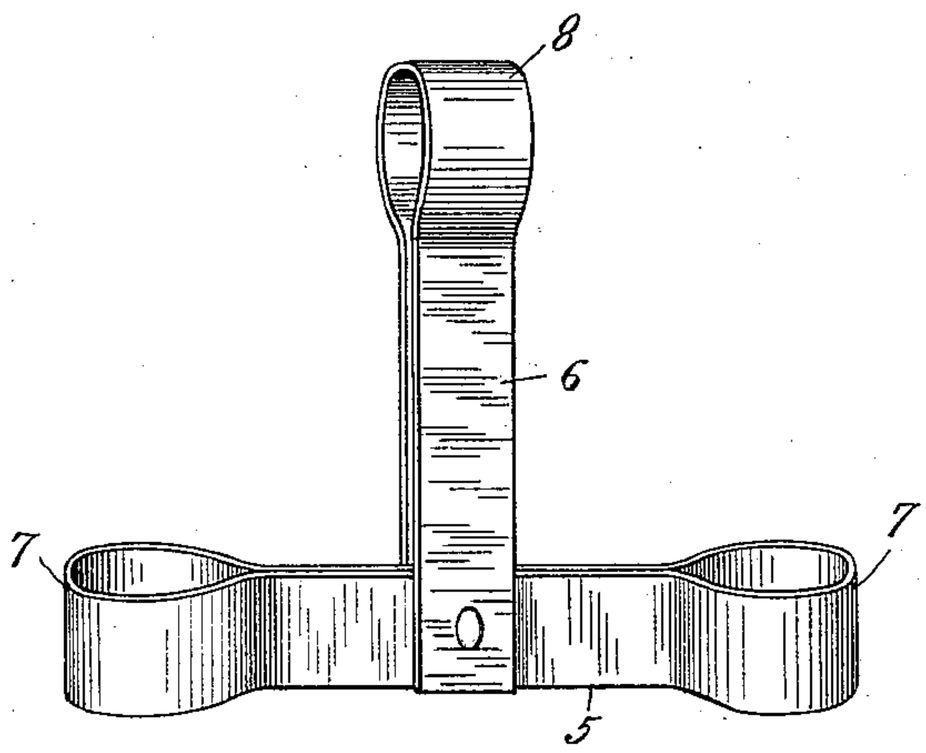
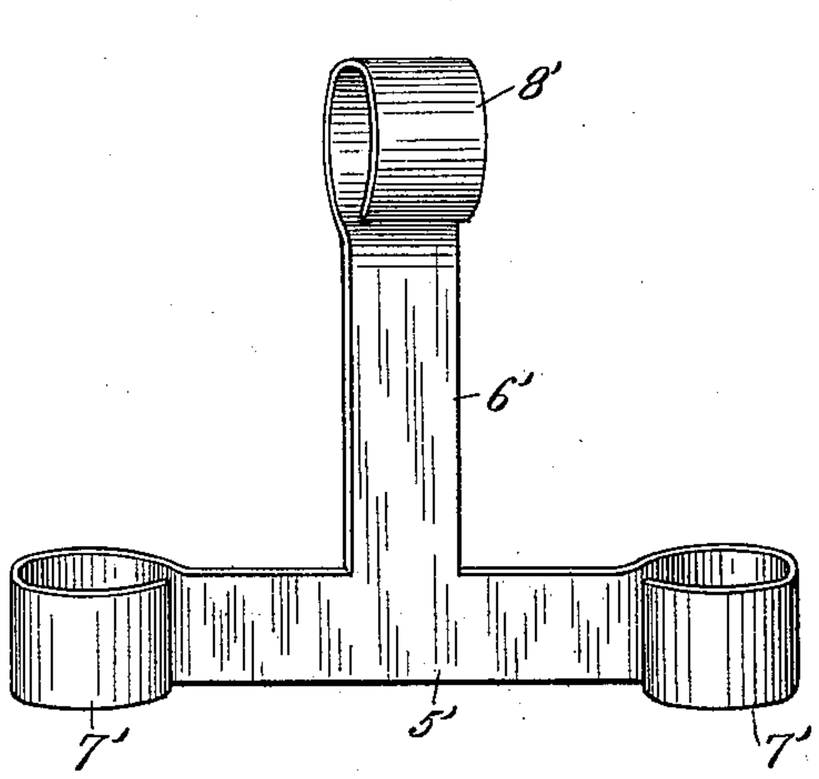
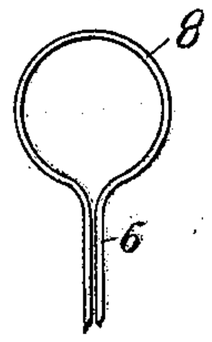


Fig. 3.

Fig. 4.





Witnesses.
C. N. Keeney,
Anna V. Faust.

Inventor.
Emily J. Allen,
By Benedict and Morsell
Attorneys.

UNITED STATES PATENT OFFICE.

EMILY J. ALLEN, OF MILWAUKEE, WISCONSIN.

DEVICE FOR SUPPORTING FLEXIBLE GAS PIPES OR TUBES.

SPECIFICATION forming part of Letters Patent No. 565,418, dated August 11, 1896.

Application filed January 27, 1896. Serial No. 576,962. (No model.)

To all whom it may concern:

Be it known that I, EMILY JANE ALLEN, of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented a new and useful Improvement in Devices for Supporting Flexible Gas Pipes or Tubes, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

My invention has relation to improvements in devices for supporting flexible gas pipes or tubes.

Heretofore difficulty has been experienced in successfully connecting the end of a flexible gas tube or pipe to the tip of a gas-burner. These pipes or tubes are necessarily extended up from a gas-stove or drop-light to the burner, which of course is located at a greater elevation. Now if it is attempted to merely fit the tube over the tip of the burner the weight and heft of the tube will in a great many cases have a tendency to pull the tube entirely off the tip. Again, as the diameter of the tips or gas-burners vary, it is possible that the flexible tubing will fit so loosely over the tip as to make a very insecure connection, or, on the other hand, the tube may be found too small for the tip. To obviate these difficulties special gas-tips are provided for making this connection, especially in the use of gas-stoves, while in the case of drop-lights the tubings are usually provided with end metallic extensions adapted to fit the tip of the burner.

The object of my invention is to provide a support for the upper end of the flexible gas pipe or tube which will adapt said pipe or tube to securely fit the tip of any gas-burner without any danger whatever of its becoming disconnected.

With the above object in view the invention consists of the devices and parts or their equivalents, as hereinafter more fully set forth.

In the accompanying drawings, Figure 1 is an elevation, parts broken away, showing the device applied to the upper portion of an ordinary flexible gas pipe or tube, said pipe or tube, in turn, being fitted to the tip of a burner. Fig. 2 is a detail perspective view of the device illustrated in Fig. 1. Fig. 3 is an edge view of a fragment of one of the arms, and Fig. 4 is a perspective view of a modified form.

My device consists of a horizontal arm 5 and a vertical arm 6, extending from a medial point of the horizontal arm. The latter arm is provided at opposite ends with clamping-loops 7 7 and the vertical arm at its upper end with a clamping-loop 8. These respective arms are preferably made of spring metal, and in Figs. 1 and 2 each arm is shown as composed of two thicknesses or layers, which layers lie adjacent to each other longitudinally and are bulged or curved out at the extremities of the respective arms to form the clamping-loops 7 at the ends of the horizontal arms and the similar loop 8 at the end of the vertical arm.

In Fig. 1 the lower end of the vertical arm is soldered to the horizontal arm, while in Fig. 2 it is shown as riveted thereto. Any suitable means of connection may of course be adopted.

In Fig. 4 is illustrated a modified form of construction, in which the two arms composing the device are constructed from one piece of metal. In this view the numeral 5′ indicates the horizontal arm, and 6′ the vertical arm. The clamping-loops at the ends of the horizontal arm are indicated by the numerals 7′ 7′, and the clamping-loop of the vertical arm by the numeral 8′. These loops, it will be seen, are formed merely by bending around the extremities of the respective arms into loop form, leaving the edges of said loops free, so as to allow for expansion and contraction of said loops for the purpose of adjustment to different sizes of tubes.

Fig. 1 shows clearly the application of my device. In this figure is illustrated an ordinary gas-burner (indicated by the numeral 9) and an ordinary form of flexible gas pipe or tube, (indicated by the numeral 10.) In adjusting the parts the gas pipe or tube is first passed through one of the end loops of the horizontal arm of the device. It is next passed through the loop at the end of the vertical pipe, (which loop, as will be clearly seen, is disposed at right angles to the plane of the loops of the horizontal arm,) and is then passed through the opposite loop of the horizontal arm. As all of these several loops are expansible, it

will be readily seen that the tubing or pipe can be passed therethrough without difficulty, even though the pipe be somewhat larger than the loops when in their contracted form. Finally the gas pipe or tubing is fitted over the tip of the burner, as clearly shown. As the loop 7 or 7′ permits of expansion, the adjustment to the tip can be readily effected, and when so adjusted the contraction of the loop will firmly bind the tube or pipe to the tip.

In Fig. 1 the loop of the horizontal arm is shown as surrounding that part of the tube or gas-pipe which fits around the tip of the burner. This is the preferable arrangement for the reason just explained. However, the gas pipe or tube could be drawn some distance through the loops 7 or 7′, so that when said pipe or tube is adjusted over the tip the loops 7 or 7′ will be above the tip. Either adjustment will secure successful results, but the one shown is the preferable.

It will be seen that the tube is engaged at opposite points, and supported by the vertical arm about centrally of the point where the gas pipe or tube curves. This serves to support the pipe or tube and relieve it of the strain which would otherwise be caused by the weight of almost the entire length of tubing, and consequently it is next to impossible for the tubing to become accidentally detached.

The simplicity of the device and the readiness with which it can be connected to and disconnected from the tip of an ordinary burner will be apparent. Particularly in the use of gas-stoves will my device be found of advantage. It is frequently convenient to remove a small gas-heater from one room to another. As now commonly connected, it is impossible to do this, as the flexible pipe or tubing requires a special tip forming a permanent connection between the tubing and the burner.

My device is adapted for connection to any gas-burner.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A device for supporting flexible gas pipes or tubes, consisting of a horizontal arm having end loops arranged in a vertical plane, and a vertical arm extending medially from the horizontal arm and having at its extremity a loop disposed at right angles to the plane of the loops of the horizontal arm, substantially as described.

2. A device for supporting flexible gas pipes or tubes, consisting of a horizontal arm having end expansible and contractible loops arranged in a vertical plane, and a vertical arm extending medially from the horizontal arm, said vertical arm provided at its extremity with an expansible and contractible loop disposed at right angles to the plane of the loops of the horizontal arm, substantially as described.

3. A device for supporting flexible gas pipes or tubes, comprising a horizontal arm, and a vertical arm extending medially from the horizontal arm, said respective arms composed of two thicknesses or layers of metal, said layers lying adjacent to each other longitudinally of the arms, and bulged or curved outwardly at the extremities of the arms to form end expansible and contractible loops, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

EMILY J. ALLEN.

Witnesses:

ARTHUR L. MORSELL,

ANNA V. FAUST.