Dec. 3, 1929. R. H. BEACH 1,737,633

HEATING UNIT

Filed Jan. 13, 1928

Fig. 1.

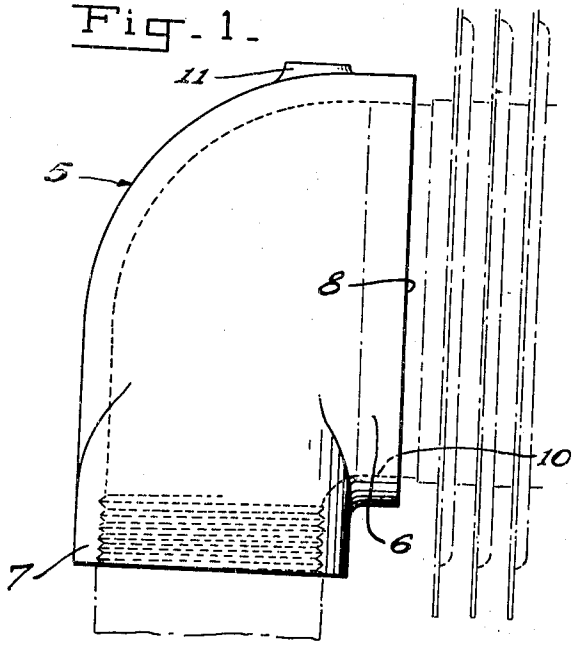


Fig. 2.

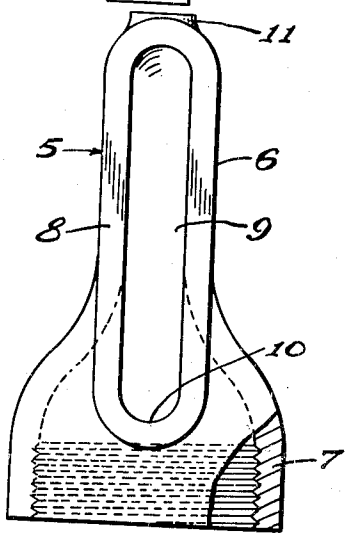


Fig. 3.

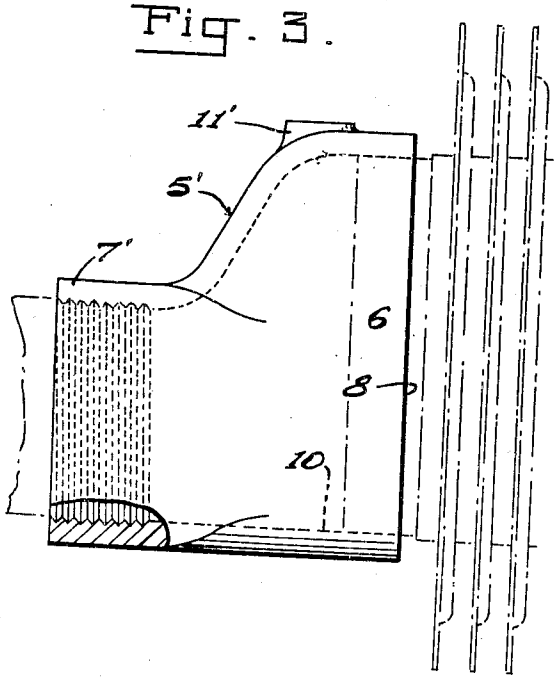
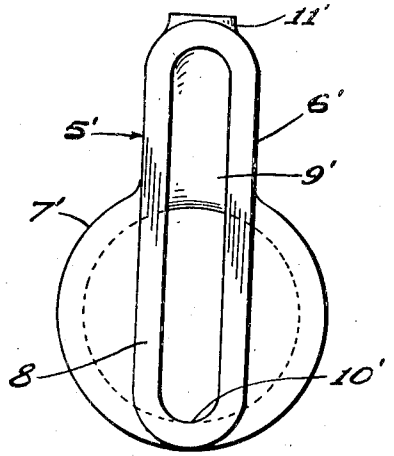


Fig. 4.



Inventor

Ralph Hamilton Beach

By Percy H. Moore

Attorney

Patented Dec. 3, 1929

1,737,633

UNITED STATES PATENT OFFICE

RALPH HAMILTON BEACH, OF ROYAL OAK, MICHIGAN, ASSIGNOR, BY MESNE ASSIGNMENTS, TO INTERNATIONAL RADIATOR CORP., OF PORT CHESTER, NEW YORK, A CORPORATION OF NEW YORK

HEATING UNIT

Application filed January 13, 1928. Serial No. 246,538.

My invention relates to improvements in heating units, having particular reference to improved pipe connections for such units as are disclosed in my copending application Serial No. 164,947 filed January 31, 1927, and Serial No. 207,755 filed July 22, 1927.

It is in some instances desirable to meet heating requirements by employing one section radiators, the length of which may vary according to service conditions. In practice, such sections consist of somewhat flattened, elongated tubes closed at one end and formed with an aperture at the opposite end, which apertured end is adapted to be fitted and secured in a pipe connection element in service connection with the supply line for the heating medium employed. As these radiator sections are disposed horizontally in service and are of the type wherein condensation is drained back through the supply line, a particular form of pipe connection fitting is required, and the present invention deals with such connections.

The primary object of this invention is the provision of an improved pipe connection fitting adapted to connect a radiator section with its heating medium supply line, and formed to permit maximum drainage of condensation irrespective of the relative service positions of the supply line and radiator section. Other objects will be apparent from the description to those skilled in the art.

In the accompanying drawings Figure 1 is a side elevation of a pipe connection formed in accordance with the principles of the invention.

Figure 2 is an end elevation thereof from the right of Figure 1.

Figure 3 is a side elevation of another form of connection as constructed within the province of the invention.

Figure 4 is an end elevation thereof from the right of Figure 3.

The form of connection illustrated in Figures 1 and 2 is adapted for use in heating systems employing one section radiators and wherein the supply line inlet is vertically disposed, the radiator section being horizontally positioned. The connection comprises an elbow casting 5 having a major body portion 6 of a flattened tubular formation in correspondence with the cross sectional configuration of a radiator section (not shown) with which it is to be employed. The inlet end of the casting is formed in an enlarged head 7 provided with an internally threaded annular bore for reception of the supply pipe (not shown), which head gradually tapers inward above the threaded portion into the side walls of the body portion 6. The radiator end of the casting, designated as 8, terminates and lies entirely within a plane parallel to the axis of the bore in the head 7, and at a short distance spaced laterally from the head. This end 8 is formed with an aperture 9, the bottom 10 of which coincides with the bottom of the passage through the casting and which is disposed in a plane at right angles to the axis of the bore in the head 7, spaced inwardly of the casting relative to the inner terminal of the threaded portion of the head.

In service, the inlet end of a radiator section is secured in the conventional manner in the aperture 9, with the body portion 6 disposed in vertical position, so that the radiator section extends horizontally from the connection. At its high point the top of the casting may be provided with a boss 11 for mounting an air vent cap if desired for use in connection with the system.

The form of connection illustrated in Figures 3 and 4 is adapted for use in heating systems employing one section radiators and wherein the supply line inlet is horizontally disposed, as well as the radiator section. In the illustration and description of this form of connection like reference characters are employed to designate like parts as in the form previously described, being primed for clarity. In all respects except the disposition of the head for receiving the supply pipe the two forms of casting are similar. In this embodiment the head 7′ has the axis of its bore disposed at a right angle to the plane of the radiator end 8′ of the casting 5′, the major body portion 6′ rising above the head and carrying at its high point the boss 11′ for an air vent as in the previously described form. As the bore of the head 7′ registers with the aperture 9′ of the casting, the bot-

tom of the internal passage through the casting, as at 10′ parallels the axis of the bore throughout. The diameter of the head 7′ is substantially one half the length of the radiator end 8′.

In both forms of the connection it will be apparent that maximum drainage of condensate is secured, as the casting provides no portion wherein trapping may occur.

While in the description and illustration of these embodiments of the invention I have described and shown certain details entering into the construction thereof, it is to be understood that any desired changes and modifications may be made in such details as will fall within the scope of the invention as it is claimed.

I claim:—

A pipe connection for radiator sections comprising a casting provided with an internal passage therethrough, said casting having a major body portion formed at one end as a flattened tube, adapted for connection with the correspondingly shaped end of a radiator section and the other end of said body portion being formed as a rounded tube for connection with a supply or return pipe, the bottom surface of the flattened tube portion terminating and lying entirely within a plane above the highest point of the drainage side of the pipe connecting end whereby trapping of liquid in the radiator section will be prevented.

In testimony whereof I affix my signature.

RALPH HAMILTON BEACH.