ABSTRACT: A hollow cylindrical radiator standing on end has a tubular burner extending transversely through its lower end. One end of the burner tube has a telescopic and slidably adjustable fit with a tee connector in a flexible fuel supply pipe. The stem of the tee is split to yieldably grip the end of the burner tube, and opens around the exterior of the cross-member of the tee. The end of the burner tube adjusts axially toward closing engagement with the exterior of the cross-member to adjust the air opening into the base of the tee and the end of the burner tube.
HEAT RADIATOR AND BURNER WITH ADJUSTABLE CONNECTION TO GAS SUPPLY LINE

DESCRIPTION

The drawings, of which there is one sheet, illustrate a highly practical and preferred form of the radiator and the connections between the burner tube and the radiator and the supply pipe.

FIG. 1 is a plan view of the radiator and burner of the invention connected into a section of a gas supply pipe.

FIG. 2 is an enlarged, fragmentary, cross-sectional view on the line 2–2 in FIG. 1.

FIG. 3 is a cross-sectional view taken along the plane of the line 3–3 in FIG. 2.

FIG. 4 is a cross-sectional view taken along the plane of the line 4–4 in FIG. 3.

The radiators and burners of the invention are designed for placement at spaced intervals throughout an orchard or other crop. They are supplied with gaseous fuel and used to protect the crop from frost damage. Fuel is supplied to the burners by one or more supply pipes from a suitable source. In the drawings, the example of the radiator 1 is a generally cylindrical metal body with tapering flutes 2 on its upper end. The top of the body is loosely closed by a metal cover 3. The burner tube 4 is supported in opposed holes 5 formed in the lower end of the body. This raises the burner off of the ground on which the body rests. Other holes 6 admit air for combustion if needed.

One end of the burner tube is clinched shut as at 7, and the other end is tapered to a flange 8 that is press fitted around the cylindrical burner tube neck 9. The tube proper has flame holes 10 located within the body at which the fuel is burned to heat the radiator.

Fuel is supplied to the burner through a suitable supply pipe having sections 11 connected to opposite ends of the cross-piece 12 of a tee-connector 13 supplied for each radiator 1. The pipe sections 11 are commonly pieces of plastic tubing of the necessary length and weight to deliver fuel to several radiators. The base 14 of the tee-connector is a cylindrical piece of tubing having a squared or perpendicularly cut end that is welded to the side of the cross-piece 12 as at 15. One side of the base is slit longitudinally as at 16 to yieldably and frictionally receive and hold the cylindrical neck 9 of the burner tube. A nozzle 17 fitted into the crosspiece of the tee-connector delivers fuel into the base 14 and the neck 9 retained therein.

The free end of the neck 9 of the burner tube is cut on a cylindrical surface as at 18 so as to conform to the surface of the crosspiece 12. As appears most clearly in FIG. 4, the end 18 of the neck of the burner tube may be adjusted into closely spaced relation from the crosspiece, or may be moved back to more widely spaced relation as shown by the dotted lines at 18B. This adjusts the amount of air that can enter the end of the neck, and permits individual adjustment of each of several burners for the best combustion and most economical operation of the burners and radiators.

It will be noted that the weight of the tubes 11 acting on the tee-connector assists in holding the radiator upright, and also prevents the burner tube 4 from rotating in the holes 5.

What I claim as new is:

1. In an orchard heating system having spaced radiators with burners therein, and a fuel supply pipe arranged to distribute fuel to the burners, fuel connections between said pipe and said burners comprising tee-connectors having tubular crosspieces connected in said pipe, tubular base stems connected in abutting relation to the sides of said crosspieces and defining openings to the exterior of the crosspieces between the abutted connections, means forming fuel delivery passages from said crosspieces and delivering into said stems, and tubular necks on said burners having frictionally restrained and adjustable telescopic engagement with said stems, the ends of said necks being conformly fitted in abutting relation to the exterior of said crosspieces and in variably closing relation to the openings formed between said stems and said crosspieces.

2. Fuel connections as defined in claim 1 in which said tubular crosspieces, said stems and necks are all cylindrical tubular elements, and one end of said necks is formed along a semicylindrical surface.

3. Fuel connections as defined in claim 2 in which said crosspieces, said stems and said necks are all cylindrical tubular elements, and said base stems are slotted longitudinally to yieldably grip the stems.

4. An orchard heating system as defined in claim 1 in which said radiators have upright generally cylindrical bodies with opposed holes formed near their bottoms, said burners being tubular elements closed at one end and supported in said holes, said tubular necks being connected to the other ends of the tubular burners.

5. An orchard heating system as defined in claim 4 in which said burner elements and necks and said base stems are generally cylindrical.