This invention relates to improvements in refuse eliminators and more particularly to a device of this character adapted to be interposed in the conductor pipe leading from the eaves-trough of the roof of a building to a storage tank or sewer.

It is an object of this invention to provide a refuse eliminator in the pipe from the eaves-trough which will collect leaves, twigs and other refuse passing through the conductor pipe, and employ the water accompanying such refuse to expel the same from the eliminator while allowing the water to continue through the pipe to the tank or sewer, thereby preventing the collection of any refuse in the tank or in clogging or closing of the pipe leading to the sewer.

With these and other objects in view, reference is made to the accompanying sheet of drawings illustrating an embodiment of this invention with the understanding that minor changes may be made without departing from the scope thereof.

In the drawing:

Figure 1 is a view in central vertical section through a preferred embodiment of this invention.

Figure 2 is a view partly in section and partly in elevation, taken on the line 2—2, of Figure 1, looking in the direction of the arrows.

Figure 3 is a fragmentary view in front elevation of the lower front plate of the eliminator casing.

Figure 4 is a view in transverse section of Figure 3, showing the lower end of a guide in engagement therewith.

Figure 5 is a view similar to Figure 4, showing the preferred manner of locking the lower end of a guide upon the front plate.

Figure 6 is a fragmentary view in front elevation of a guide bracket.

Figure 7 is a view in transverse section of Figure 6 showing the upper end of a guide in engagement with the guide bracket.

Figure 8 is a detail view in side elevation of a guide member.

This invention contemplates the provision of a rectangular casing having circular aligned openings 2 in the opposite ends provided with outstanding annular flanges 3 adapted to receive and be secured to sections of the conductor pipe, not shown, leading from the eaves-trough of a roof.

The eliminator so constructed may be interposed in the pipe between the eaves-trough and the ground or storage tank.

One side of the casing 1 is provided with an opening 4 spaced apart from the bottom of the casing for the discharge of refuse. A plurality of closely spaced-apart curved flat guides 5 with rounded edges are engaged at their lower ends to the front plate 6 of the casing below the opening 4 and secured at their upper ends by a bracket 7 secured to the interior of the casing wall opposite the opening 4 adjacent the top thereof to retain the upper ends of the guides between the opening 2 and that side of the casing 1. A baffle plate 8 is secured to the top of the casing 1 on the side of the opening 2 opposite the guide bracket 7 which extends downwardly and inwardly toward the guides 5 for directing such refuse as leaves, twigs, etc., which may be carried through the upper opening 2 against the curved guides.

The water traveling down the pipe above the casing of the eliminator will force the refuse deflected by the baffle 8 and collected upon the guides 5 out through the opening 4 in the casing wall, while the water will pass through the guides 5 and continue through the lower opening 2 of the casing into the pipe below the eliminator and this water will be free of all refuse.

It is preferable to form the guides 5 of commercial flat wire which has rounded edges over which the refuse will readily slide. The guides 5 are curved, as shown in Figures 1 and 8, and as they are arranged with their flat sides parallel and close together but little water is necessary to slide the refuse through the opening 4 in the casing while the water passes between the guides.

It is preferable to anchor the lower ends of the spaced-apart guides 5 to the top of the front plate 6 of the casing below the opening 4 by providing a plurality of equally spaced-apart slots 9 in the upper edge of the front plate 6 to receive the lower ends of the guides 5 and to provide a notch 10 upon the under side of each guide 5 to engage the bottom of each slot 9, as shown in Figure 4. The lower ends of the guides 5 are locked in engagement within the slots 9 by a cover plate 11 secured upon the exterior of the front plate 6, as shown in Figure 5. The slots 9 are of such depth that when the notches 10 of the guides 5 are in engagement therewith the intimated portion 12 of the cover plate 11 will singly engage the upper surfaces of the guides.

It is also preferable to provide the guide bracket 7 with spaced-apart upper and lower parallel right angular extensions 13 and 14. The upper extension 13 is provided with a plurality of deep slots 15 spaced along its free edge equally with the slots 9 in the front plate 6, the slots 15 forming fingers 16 between them. These fingers 16 are preferably bent downwardly and then back...
upon themselves, as shown in Figure 7, to receive and retain an anchor wire 17. The slots 15 are of sufficient depth to allow the upper ends of the guides 5 to be inserted between the anchor wire 17 and the ends of the slots 15. The free edge of the lower extension 14 is provided with slots 18 similar to those of the upper extension to receive the respective guides 5 and are of sufficient depth when they are anchored upon the front plate 6 and engaged in the upper extension 13 to form a rigid three-point engagement for the guides 5.

It is also preferable to form a central rib 19 upon the baffle 8 to add to its strength and rigidity. The angular portion 20 of the baffle, as well as the upper edge of the bracket 7 and the lower portion of the cover plate 11 may be soldered, spot-welded or otherwise secured to the walls of the casing 4.

It is readily seen that this invention provides a simple, inexpensive and efficient means for removing the usual refuse of the eaves-trough as it passes through the conductor pipe so that only the water strained by passing through the eliminator passes into the storage tank or sewer.

What I claim is:

1. A refuse eliminator for an eaves-trough conductor-pipe including a rectangular casing interposed between sections thereof having an opening in one side adjacent the bottom of the casing and a plurality of closely space-apart parallel curved guides anchored at their lower ends to the casing below said opening and secured by a bracket to the opposite side wall of the casing adjacent the top thereof with the lower ends of the guides anchored to the casing by providing a plurality of equally spaced-apart slots in the edge of the casing wall to receive the ends of the guides and providing notches in the under side of the guides to engage the bottoms of said slots.

2. The structure of claim 1, wherein a cover plate is provided upon the exterior of the casing wall to embrace the ends of the guides having an interrupted portion adapted to engage the upper surfaces of said guides.

3. A refuse eliminator for an eaves-trough conductor-pipe including a rectangular casing interposed between sections thereof having an opening in one side adjacent the bottom of the casing and a plurality of closely space-apart parallel curved guides anchored at their lower ends to the casing below said opening and secured by a bracket to the opposite side wall of the casing adjacent the top thereof, wherein the guides are formed of flat wire having rounded edges and are arranged with their flat surfaces parallel.

4. A refuse eliminator for an eaves-trough conductor-pipe including a rectangular casing interposed between sections thereof having an opening in one side adjacent the bottom of the casing and a plurality of closely space-apart parallel curved guides anchored at their lower ends to the casing below said opening and secured by a bracket to the opposite side wall of the casing adjacent the top thereof, wherein the guide bracket is provided with inwardly extending upper and lower extensions slotted to receive the upper ends of the said guides.

5. The structure of claim 4, wherein the guide bracket is provided with means on the upper extension to hold the guides against the lower extension to form a three-point engagement to secure the guides in rigid engagement with the casing.

6. The structure of claim 4, wherein a holding wire is provided, and wherein the fingers formed between the slots of the upper extension are bent to receive and secure wire to hold the guides in engagement with the bottoms of the said slots.

LEROY W. FRENCH.