

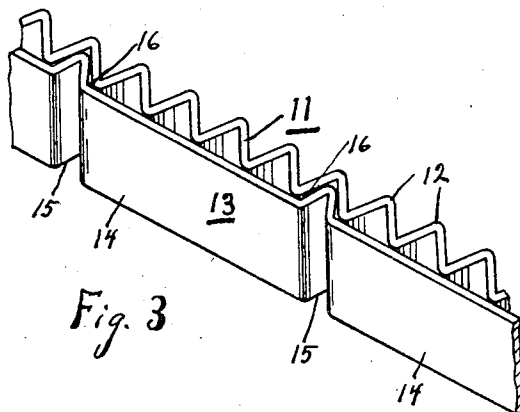
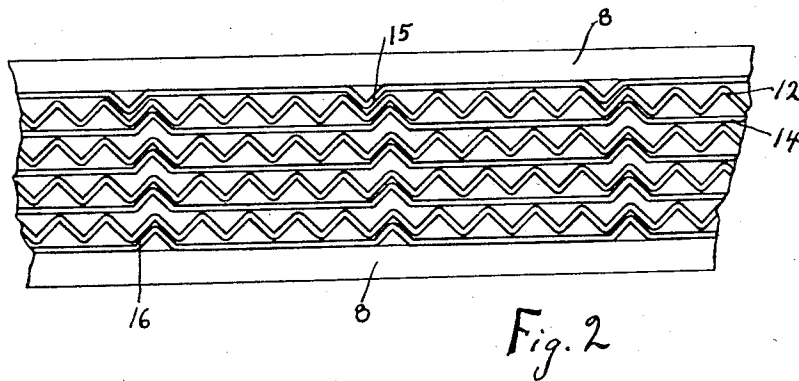
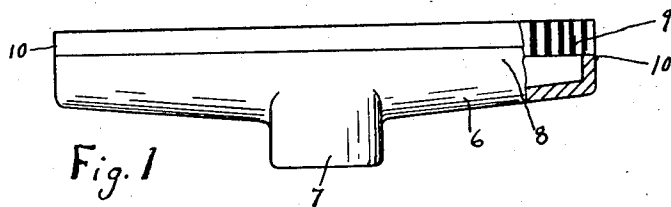
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2,435,391

RIBBON BURNER

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WITNESSES:

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RIBBON BURNER

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3 Claims. (Cl. 158—116)

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The present invention relates to ribbon burners, and its object it to provide an improved strip or ribbon for use in making up the grid of the burner, which is generally inserted within a long and narrow opening within a cast mixing head in the burning of gas.

Another object of this invention is to provide means for allowing for the expansion and contraction of the burner element to prevent the distortion thereof.

In the accompanying drawing wherein the preferred form of the invention is shown:

Fig. 1 is a side elevation (with a part broken away) of a burner head embodying the present invention;

Fig. 2 is an enlarged fragmentary part view of sufficient portion of the improved grid in showing the arrangement thereof, and

Fig. 3 is an enlarged perspective view of sufficient portion to show the form of the strips of which the grid is comprised.

In both Figs. 2 and 3 the thickness of the strips and crimping has been exaggerated for clarity of illustration.

In the drawing, 6 indicates a conventional type hollow cast burner head for distributing the gas and has an inlet 7 for combustible mixture and a long narrow gas discharge passage in the top side, the passage being formed by said walls 8. Mounted in the said passage is a grid 9 comprising a plurality of specially formed metal strips arranged side by side in abutting relation for dividing the issuing gas stream into a multitude of small streams. The grid is made up from two different transversely grooved strips, one strip having wide angular grooves equally spaced throughout, the other strip having a narrower angular groove at different intervals throughout. For easy machining of the groove in the top of the burner head, it is desirable to have the groove run across the entire top and to have the groove extend from one outside end to the other outside end of the burner head 10 so that the ends of the grid 10 can be welded to the burner head for holding the grid in position within the head and for sealing the ends of the grid, preventing the burning of gas when not desired.

As best shown in Fig. 3, strip 11 comprises equally spaced transverse grooves 12 which are uniform in shape through its entire length, and strip 13 comprises alternating flat portions 14 and transverse angular grooves 15 at intervals thereon and so shaped to fit within the angular grooves 12. The angular grooves 15 are formed at a lesser angle than the angular grooves 12

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providing spaces 16 between the angular grooves 12 and the angular grooves 15 to compensate for the difference of expansion and contraction between the strips 11 and 14 and for the difference of expansion and contraction between the said strips and the burner head 6. There is a wide variation in the amount of expansion and contraction because of the differences in the kinds of materials used.

These features are of considerable importance and of great advantage, and I wish to claim the same herein broadly.

What I claim is:

1. In a ribbon burner having a grid for dividing a gas stream into a multitude of small streams, said grid comprising a plurality of metal strips made of a combination of two alternate strips having transverse angular grooves of different depth and spacings and arranged side by side to form a grid one of said strips having wide angular grooves uniform in size and equally spaced throughout, the other strip having straight portions and narrow and shallow angular grooves uniform in size and spaced at intervals and when the strips are arranged side by side each narrow groove will nest within one wide groove to form a grid, the space between the two different angles on the said strips being means for allowing for the expansion and contraction of the straight portions of the strips.

2. In a ribbon burner having a grid for dividing a stream of gas into a multitude of small streams, said grid comprising a combination of two differently grooved strips, one of said strips having wide transverse angular grooves equally spaced and of equal depth formed throughout the length of the strip, the other strip having alternating straight portions and single transverse angular grooves throughout the strip, said angular grooves of said other strip being of a lesser angle and narrower than and of a lesser depth than the grooves of said one strip, the two said strips being positioned in side by side and contact relation, the lesser angular grooves nest within the wide angular grooves on the said one strip to form a complete grid.

3. In a ribbon burner having a grid for dividing a stream of gas into a multitude of small streams, said grid comprising several pairs of two differently transversely grooved strips, one of said strips in each pair having wide angular grooves equally spaced and of equal depth formed throughout the length of the strip and the other said strip having alternating straight portions and single angular

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grooves of a lesser angle and narrower than and lesser depth than the grooves of said one strip, and the said strips being positioned side by side, each small angular groove fitting within one of the large angular grooves on the said first strip.

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