

ribbon comprising a plurality of connected lengths arranged in peripherally spaced relationship around a center axis within the tube, means providing for the connection of the ends of said ribbon with an external source of electricity, said ribbon having spaced portions located out of the main path of flow of electricity and projecting toward and contacting the inner surface of the tube to maintain major portions of the ribbon out of contact with said inner surface, and insulator means arranged within said peripherally spaced lengths of ribbon.

3. An electric heating element comprising a tube of heat resistant transparent material, an electric conductor within said tube in the form of a thin metal ribbon having an edge flange and having spaced portions which are out of the main path of flow of electricity projecting toward the inner surface of the tube, said ribbon comprising a plurality of connected lengths arranged in peripherally spaced relationship around a center axis within the tube, means providing for the connection of the ends of said ribbon with an external source of electricity, and means having longitudinally spaced insulating members thereon maintaining said spaced projecting portions of the ribbon adjacent the inner surface of the tube, the lengths of the conductor being positioned between the edges of the spaced insulating members and the inner surface of the tube with major portions of the ribbon out of contact with said tube surface.

4. An electric heating element comprising a tube of heat resistant transparent material, an electric conductor within said tube in the form of a thin metal ribbon having an edge flange and having spaced portions which are out of the main path of flow of electricity projecting toward the inner surface of the tube, said ribbon comprising a plurality of connected lengths arranged in peripherally spaced relationship around a center axis within the tube, insulating means having longitudinally spaced insulating discs thereon provided with peripheral notches, the lengths of the conductor ribbon extending through said notches and adjacent the wall of the tube with major portions of said lengths out of contact with said tube surface, and means providing for the connection of the ends of said ribbon with an external source of electricity.

5. An electric heating element comprising a tube of heat resistant transparent material, an electric conductor within said tube in the form of a thin metal ribbon having an edge flange and having spaced portions which are out of the main path of flow of electricity projecting toward the inner surface of the tube, said ribbon comprising a plurality of connected lengths arranged in peripherally spaced relationship around a center axis within the tube, a rod extending axially of the tube, insulating discs at longitudinally spaced intervals around said rod, the lengths of the conductor ribbon being positioned between the peripheries of said discs and the inner surface of the tube with major portions of the length of said ribbon out of contact with said tube surface, and means providing for the connection of the ends of said ribbon with an external source of electricity.

6. An electric heating element comprising a tube of heat resistant transparent material, an electric conductor within said tube in the form of a thin metal ribbon, said ribbon comprising a plurality of connected lengths arranged in pe-

ripherally spaced relationship around a center axis within the tube, means providing for the connection of the ends of said ribbon with an external source of electricity, said ribbon having spaced portions located out of the main path of flow of electricity and projecting toward and contacting the inner surface of the tube to maintain major portions of the ribbon out of contact with said inner surface.

7. An electric heating element comprising a tube of heat resistant transparent material, an electric conductor within said tube in the form of a thin metal ribbon, said ribbon comprising a plurality of connected lengths arranged in peripherally spaced relationship around a center axis within the tube, means providing for the connection of the ends of said ribbon with an external source of electricity, metal fingers projecting from said ribbon toward the inner surface of the tube, and insulator means maintaining said ribbon lengths in peripherally spaced relationship.

8. An electric heating element comprising a tube of heat resistant transparent material, an electric conductor within said tube in the form of thin metal ribbon, said ribbon comprising a plurality of connected lengths arranged in peripherally spaced relationship around a center axis within the tube, means providing for the connection of the ends of said ribbon with an external source of electricity, metal fingers projecting from said ribbon toward the inner surface of the tube at spaced intervals, and means having longitudinally spaced insulating members thereon maintaining said connected lengths of the ribbon in peripherally spaced relationship, the lengths of the conductor being positioned between the edges of said spaced insulating members and the inner surface of the tube with major portions of the ribbon out of contact with said tube inner surface.

9. An electric heating element comprising a tube of heat resistant transparent material, an electric conductor within the tube in the form of a thin metal ribbon, said ribbon comprising a plurality of connected lengths arranged in peripherally spaced relationship around a center axis within the tube, metal fingers projecting at spaced intervals from said lengths toward the inner surface of the tube, means having longitudinally spaced insulating discs thereon provided with peripheral notches for receiving the lengths of said ribbon, and means providing for the connection of the ends of said ribbon with an external source of electricity.

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