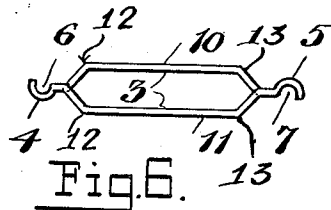
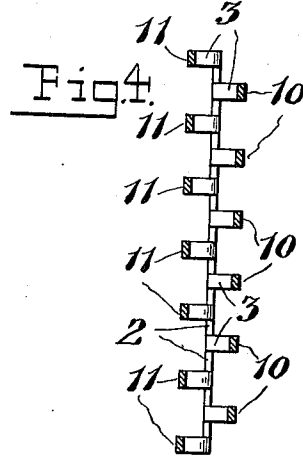
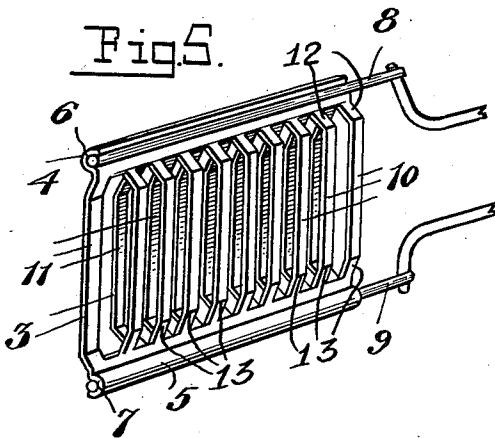
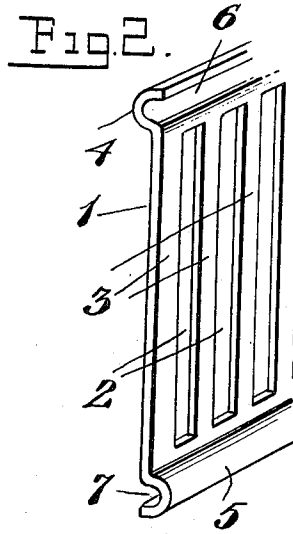
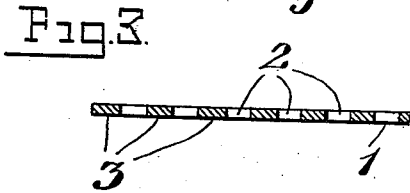
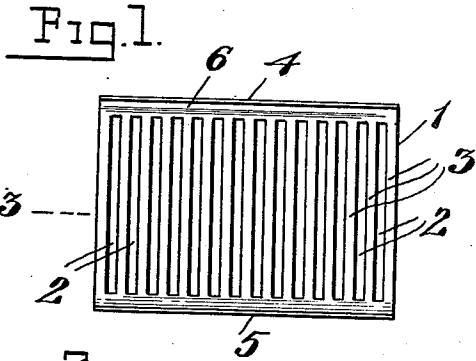


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G. H. PERRYMAN
GRID FOR VACUUM TUBES

Filed May 22, 1926



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UNITED STATES PATENT OFFICE.

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GRID FOR VACUUM TUBES.

Application filed May 22, 1926. Serial No. 110,863.

This invention relates to a grid for vacuum tubes and has for its object to provide an article of this character which can be very cheaply made; which will be extremely strong and rigid so that the possibility of the various parts shifting and changing the tube characteristics will be avoided.

It is well known that the type of vacuum tube grid in use at the present time consists of a spirally wound wire which is not only difficult to construct but requires careful workmanship with its attendant expense. Additionally, such type of grid always affords the possibility of the shifting of its parts with a resultant change in the tube characteristics.

My improved grid is formed from a single section of sheet metal by a stamping operation with the result that no great skill is required to manufacture it and it can also be manufactured very economically. Furthermore, it is of extremely strong and rigid construction, thus preventing shifting of its parts.

With these objects and such other objects as may hereinafter appear in view, I have devised the particular arrangement of parts set forth below and more particularly pointed out in the claim appended hereto.

Reference is to be had to the accompanying drawing, forming a part hereof, in which

Figure 1 is a plan view of my improved grid during the process of manufacture and showing the ribs in the same stamped out.

Figure 2 is a perspective view of one end of the partly finished grid disclosed in Figure 1.

Figure 3 is a sectional view on the line 3 of Figure 1.

Figure 4 is a longitudinal sectional view of a part of the finished grid.

Figure 5 is a perspective view of the finished grid; and

Figure 6 is a plan view of the finished grid.

Throughout the various views of the drawings, similar reference characters designate similar parts.

In the embodiment of my invention disclosed in the accompanying drawing, 1 indicates the plate from which my improved grid is formed. This plate consists of a section or piece of sheet metal of suitable thickness

and the same is fed to suitable dies which produce a plurality of slots 2 between which are formed elongated ribs 3. The slots 2 are produced transversely of the strip and simultaneously of the operation thus mentioned, the longitudinal edges of the strip are curled in opposite directions as at 4 and 5 to provide elongated continuous grooves 6 and 7 which extend from one end of the plate to the other and which are intended to receive and retain the grid-supporting wires 8 and 9 disclosed in Figure 5.

The curling or rolling of the longitudinal edges of the strip 1 acts also to stiffen and reinforce the plate and prevent it from being distorted when a subsequent operation distorts outwardly the ribs 3 as will be hereinafter described.

A reference to Figures 4, 5 and 6 will show that the next operation in the construction of the grid consists in bending outwardly in opposite directions the alternating ribs so that a channel is formed between them for the reception of the tube filament in the ordinary manner.

It will further be seen that there are two series of ribs, that is, those indicated at 10 in Figures 4, 5 and 6 and which are bent in one direction, and those which are indicated at 11 which are bent in the opposite direction. When this operation has been performed, the grid is complete and the supporting wires 8 and 9 are welded in position in their respective grooves or channels 6 and 7 which extend along the longitudinal edges of the grid as was heretofore explained. It will be noted that each of the ribs 10 and 11 is provided with a pair of bends as at 12 and 13, these bends being located adjacent to the ends of the ribs near the points of joinder of said ribs to the body of the plate. The result of this construction is that the resultant distorted ribs lie in parallelism to one another and to the body of the plate.

It will be seen that through the construction just described, an extremely rigid and strong grid is provided. The parts, consisting mainly of the outwardly bent ribs 10 and 11, are fixed in position by their integral connection to the body of the grid and cannot in any way shift and change the tube characteristics as is the case with a spirally wound wire grid.

The entire grid is produced by a simple

stamping operation and thus can be made economically, greatly lessening the cost of tube production.

Having described one embodiment of my invention, it is obvious that the same is not to be restricted thereto, but is broad enough to cover all structures coming within the scope of the annexed claim.

What I claim is:

- 10 An article of the class described consisting of a sheet metal plate provided with a plurality of spaced integral ribs, one series of said ribs being bent outwardly from the body of the plate, a second series of said ribs alternating with the first series and being bent outwardly in an opposite direc-

tion whereby a channel is provided between both series of ribs, each of the ribs of both series being provided with a pair of bends, with one bend located near each of the points 20 of junction of each rib with the body of the plate whereby both series of ribs lie in substantial parallelism with each other and with the body of the plate, and the longitudinal side edges of the body of the plate being 25 curled in reverse directions for their entire length to provide grooves for the reception of supporting wires.

Signed at the city, county and State of New York, this 19th day of May, 1926.

G. H. PERRYMAN.