Dec. 5, 1939. O. RASMUSSEN 2,182,238

METHOD OF MAKING BRAKE DRUMS

Filed Dec. 11, 1937

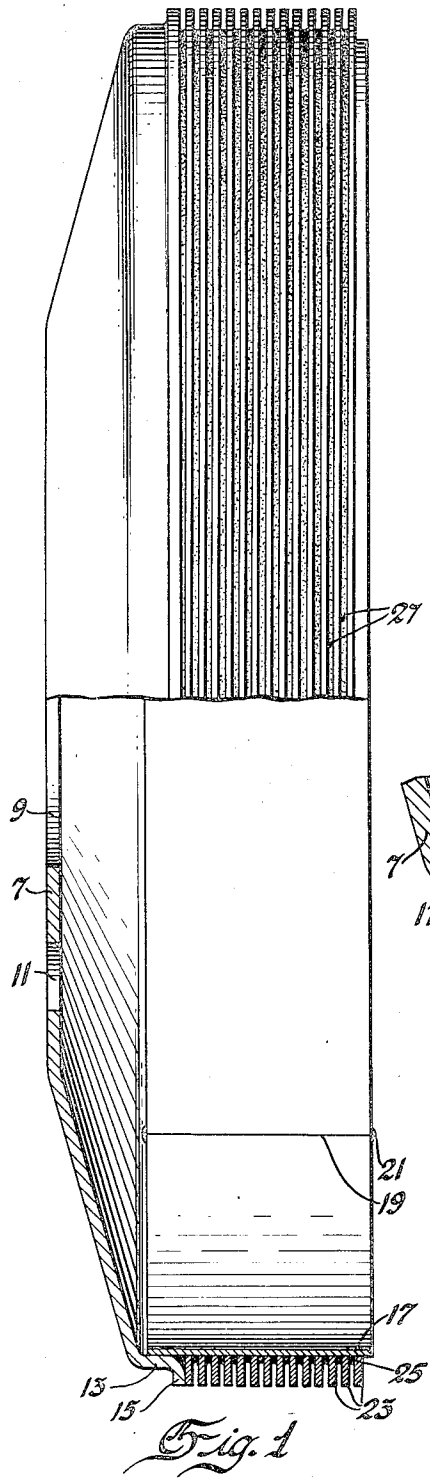


Fig. 1

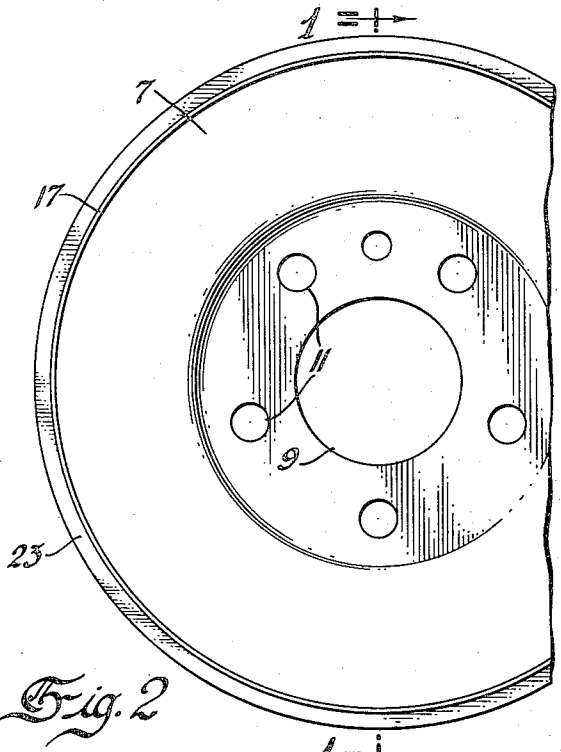


Fig. 2

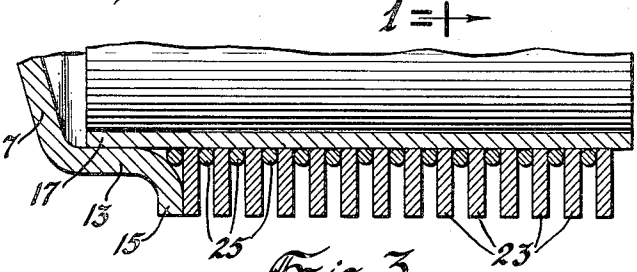


Fig. 3

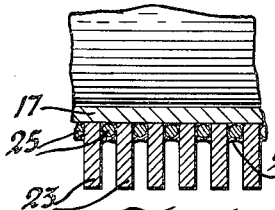


Fig. 4

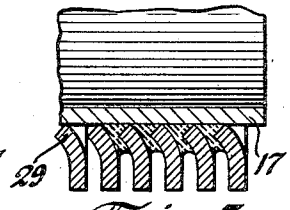


Fig. 5

Inventor

Olaf Rasmussen

By Blackmon, Spencer & Flint

Attorneys

Patented Dec. 5, 1939 2,182,238

UNITED STATES PATENT OFFICE

2,182,238

METHOD OF MAKING BRAKE DRUMS

Olaf Rasmussen, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Application December 11, 1937, Serial No. 179,259

3 Claims. (Cl. 29—152.2)

This invention relates to brakes and more particularly to an improved drum with which brake shoes are to be engaged to retard and stop the rotation of said drum.

An object of the invention is the production of a brake drum which shall cool rapidly and which shall be subject to but little, if any, distortion when subjected to the pressure of the shoes. The invention also contemplates a novel process by which a drum having the above characteristics may be manufactured.

Other objects include efficiency in operation and economy in manufacture.

The invention is illustrated by the accompanying drawing in which

Figure 1 is a view partly in elevation and partly broken away and in section.

Figure 2 is a view in elevation.

Figures 3 and 4 are sectional views showing steps in the process of manufacture.

Figure 5 is a sectional view of a modified form.

The drum comprises a closure wall 7 in the form of a disc having a central opening 9 for assembly upon a vehicle wheel. Smaller openings 11 are intended to receive fastening means. Wall 7 may be continued to form a short axial annulus 13 terminating in a radial flange 15.

A strip of steel 17 is bent into circular outline to form a rim and is assembled within the annulus 13, the major part of the rim projecting from the annulus and adapted to constitute a brake shoe engaging drum. The meeting ends 19 of the strip of steel are welded together as indicated on the drawing by numeral 21.

A continuous length of steel 23 rectangular in section and shaped as shown in the drawing is wound on edge and fitted over and around the rim to form a fin structure. This fin structure serves to strengthen the shoe engaging ring 17 and aids in the radiation of heat resulting from the frictional engagement of the shoes with the drum.

In one form of the invention an iron wire 25 is wound about the rim 17 between the fins 23, this wire serving to space the fins. For the purpose of brazing the parts together, copper in any suitable form is introduced between the fins. This copper may take the form of a suitable length of wire surrounding the iron wire 25. It may be applied with a brush in the form a copper paste. Other forms obviously may be used. Subsequent to the application of the copper the parts are brazed together in a non-oxidizing or reducing atmosphere, the copper flowing to braze the cover 7 to the annulus 17 and also to secure the fin structure to the steel annulus. On the drawing, Figure 4 shows the parts thus brazed together, the copper being represented by numeral 27.

Figure 5 shows a slight modified form wherein the fins are formed with punched-out tangs 29, these tangs serving the same purpose as the iron wire of Figure 3 and acting to space the fins. In this form the copper is applied as before and the parts are brazed together as shown by the figure.

I claim:

1. The method of forming a brake drum comprising shaping a web with a short axial annulus, assembling an integral circular rim within and projecting from said annulus, assembling a helix of steel upon said rim to form fins, winding an iron wire spirally between said fins, inserting copper between said fins and subjecting the assembly to heat to braze said parts together.

2. The method of forming a brake drum comprising forming a web with a short axial annulus, assembling a strip of steel in circular outline within and extending from said annulus to form a rim, welding together the meeting ends of said rim, assembling around said rim a spiral steel cooling and strengthening fin structure, winding between the coils of said fin structure an iron wire, inserting a brazing material between said fins and heating said assembly in a non-oxidizing atmosphere to melt said copper and braze said web, rim and fin structure together.

3. The method of forming a brake drum comprising forming a disc, assembling therewith and extending axially therefrom a steel rim, surrounding said rim with a spirally wound steel fin structure, inserting a spacing wire of iron between said fins, winding a soft copper wire spirally between the fins of said structure, and thereafter heating said assembly to melt the wire and braze said parts together.

OLAF RASMUSSEN.