April 17, 1934. S. M. UDALE 1,955,156

BRAKE DRUM

Filed Aug. 29, 1930

Fig. 1.

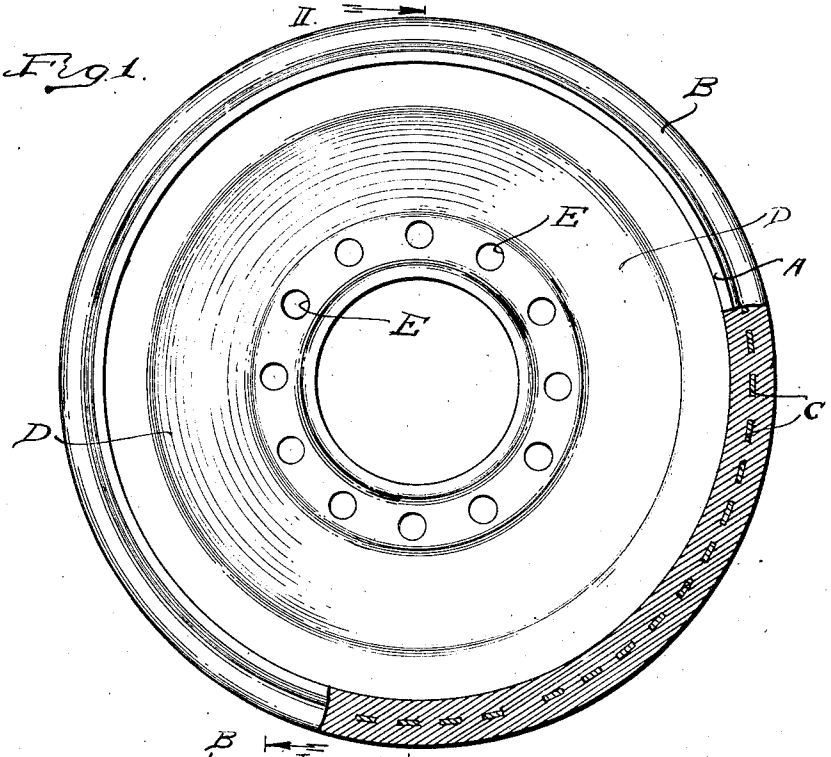
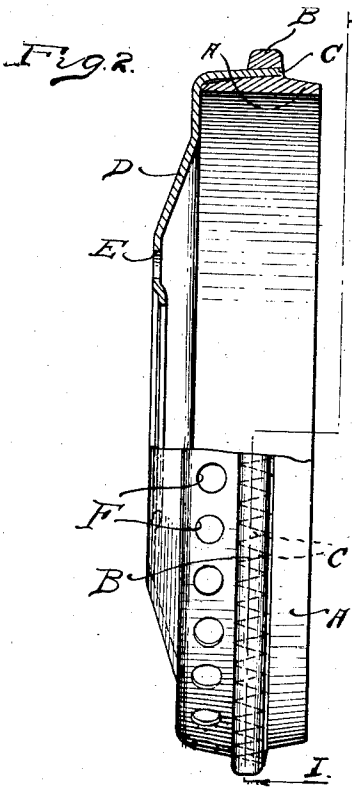


Fig. 2.



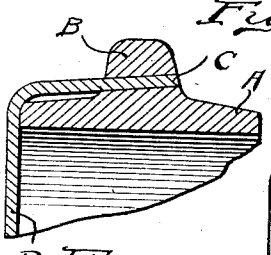
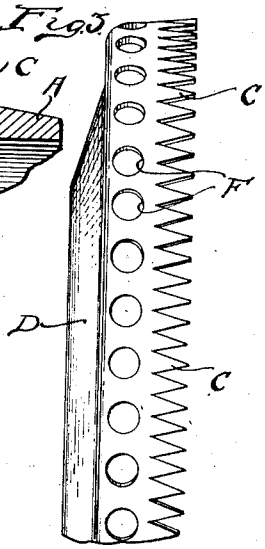


Fig. 4.

Fig. 3.



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BRAKE DRUM

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Application August 29, 1930, Serial No. 478,657

4 Claims. (Cl. 22—203)

This invention relates to brake drums for motor vehicles.

The object of this invention is to make a two piece brake drum as cheaply as possible. The brake drum being the type having a cast iron braking surface.

Figure 1 shows a brake drum in elevation partially in section on the plane 1—1 of Figure 2.

Figure 2 shows a side elevation partially in section taken on plane 2—2 of Figure 1.

Figure 3 shows an external view of the steel shell.

Figure 4 shows an enlarged detail of Figure 2.

In the figures, A refers to the brake drum proper having a flange B, cast integral with the flange B are a plurality of fingers C projecting from a stamped steel shell D. This stamped steel shell D is drilled at E with holes for holding the brake drum in place. The rim of shell D may be drilled also as shown at F—F (Figure 2).

Method of manufacture

The stamped steel shell D is placed in a metal mold E or a sand mold and the fingers C project into the matrix of the mold. Cast iron is poured in to fill up the matrix forming the brake drum. A core is provided to fill up the space in the middle of the brake drum. The fingers C are cleaned and if necessary tinned so as to insure that they will weld to the brake drum A. The inner surface of the shell D is coated with a wash consisting of a soluble silicate having clay in suspension or of other desired refractory material, at the portion where the cast iron comes in contact with it so that the casting can shrink away from the shell when it cools, (shown in enlarged sketch Figure 4). This will leave an opening of $\frac{3}{16}$'' in a 24'' drum. In order to improve the cooling of the cast iron drum the shell D can be drilled (as shown in Figure 2) after the casting has been made integral with the shell D.

Operation

However hot the drum gets it will never expand sufficiently to contact with the shell D, as the cast iron will never expand as much as when it is in molten state.

What I claim is:

1. The method of making a two piece brake drum comprising first stamping a sheet steel brake drum then serrating its outer edge, painting the inside surface of the drum with a refractory wash, then placing the steel drum in a mold and finally pouring cast iron into said mold so that the iron welds itself to the serrated edge of said drum and lies against the coated surface of said drum so that it does not weld therewith.

2. A composite brake drum consisting of a stamped steel disc, a plurality of flexible fingers projecting laterally therefrom, a cast iron ring having a cylindrical wearing surface cast integral with said fingers, said disc being provided with a plurality of openings adjacent the bases of said fingers.

3. A composite brake drum consisting of a stamped steel disc, a plurality of flexible fingers projecting laterally therefrom, a cast iron ring having an inner cylindrical wearing surface and an outer reinforcing rib, said rib being cast integral with said fingers, and said disc being provided with a plurality of openings adjacent the connection of said fingers to said rib.

4. A compound brake drum comprising a steel stamping having a flat web and a cylindrical portion projecting therefrom, said cylindrical portion terminating in fingers and being provided with openings adjacent said fingers, a cast iron cylindrical drum cast integral with said fingers, said fingers being of such a shape as to weld with said cast iron and to yield therewith when the cast iron cools.

STANLEY M. UDALE.