

Fig. 21—Chalmers-Detroit frame in plan and elevation, with double drop rear and narrowed in front

for the lower half to support but its own weight and the lubricating oil that makes the foundation for splash lubrication. These pans, if such they may be called, are pressed hot in dies, and while it is something of a job, requiring several operations, the cost is reasonable and the weight of a motor is reduced to a minimum.

NOISE RESIDES IN BELL-LIKE MEMBERS

How to employ thin, bell-like members, and at the same time abort noise, is one of the first-rate problems of designers, simply because automobiles which are noisy will not be taken to kindly. When pressed steel is used:

- (A) For the under half of motor cases;
- (B) Covers for handholes in motor cases;
- (C) Covers for housings of halftime gears;
- (D) Plates over openings of water jackets;
- (E) Housings for flywheels.

The metal being thin, of very rigid steel, and capable of making a considerable sound, must be so applied that this sound will be damped. Some of the designers resort to the expedient of applying a sheet of (thin) lead all over the inner faces of the covers, and in this way all noise is eliminated. To a considerable

extent, if a packing is applied at the joints, noise is done away with, and if the plates are zinc-coated they are relatively still. That this problem is still to be coped with to some extent may be taken for granted, although in the Ford and other examples of lower halves of crankcases there is no trouble, owing to the damping effect of the lubricating oil which rests therein, it serving as a noise-killer as well as for lubrication. It is very likely that an electroplating of lead on one face of the plates would have the effect desired, referring to other pressed steel parts than the lower half of the crankcase, and the plating of lead, while it would act just as does a sheet of the same material, would be more cheaply applied, and less of it would have to be used, so that the added weight would not have to be tolerated to so great an extent.

OTHER PRESSED STEEL MOTOR REFINEMENTS

In Pierce-Arrow automobiles, and in some other makes as well, baffle plates made of pressed steel are placed at the bottom of the stroke in the cylinders, it being the idea to eliminate excesses of splash, and since the connecting rods play in a slot in the plates, and a restricted room is afforded for oil to be sucked by into the combustion chamber. This, as well as serving in the capacity

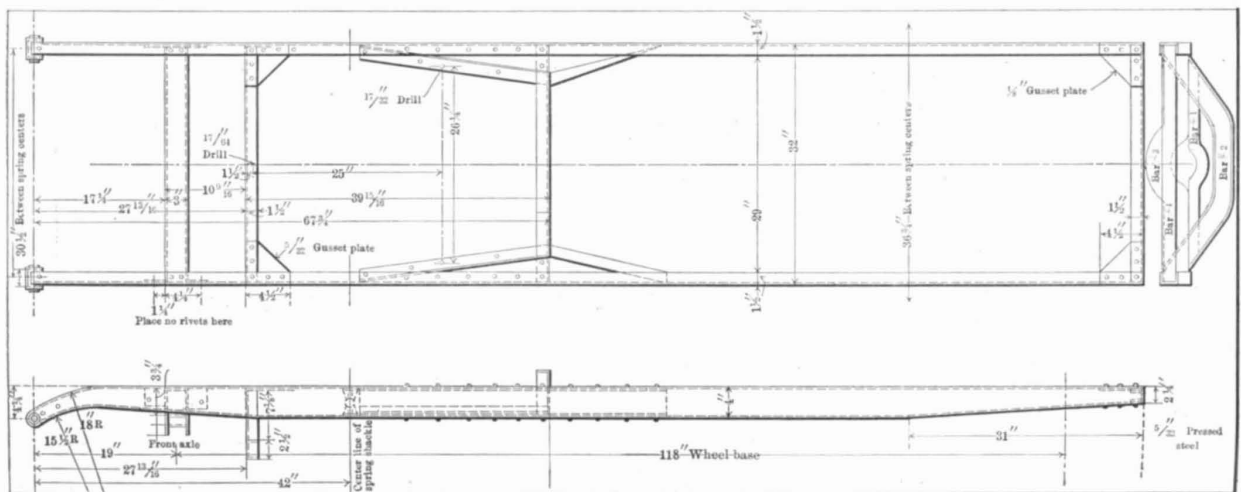


Fig. 22—Inter-State frame in plan and elevation, with four cross members, and side bars straight in front and rear