Among other great scientific achievements, A Century of Progress for 1934 celebrates the 100th anniversary of the invention of the steam hammer. Without the steam hammer, in its various forms, the gigantic automobile industry of today could never have reached its present proportions.

In recognition of the important contribution which the steam hammer has made to industry, Chrysler Motors has in operation at its exhibit at the World’s Fair, a 4,000 pound steam drop forge hammer that has attracted the attention of thousands. This massive mechanism weighs more than 60 tons and presents the only forging operation on the Fair grounds as it produces steering knuckles for Plymouth automobiles at the rate of one a minute.

The Chrysler Motors drop forge hammer delivers a blow of 15,000 tons or 30,000,000 pounds. Some idea of the terrific force with which the hammer ram strikes the anvil can be gained from the fact that it is more than equal to the force of a 2,000 pound car traveling at 40 miles an hour, striking a wall.

Just a century ago, a Scotsman named Naysmyth, invented the steam hammer. The need of it arose when steam boat builders began to demand stronger axles for their paddle wheels. Before that time such parts as made on the Chrysler Motors hammer would have been hand forged. A blacksmith would have beaten them out on an anvil—a long, expensive and inexact method.

Three units comprise the Chrysler Motors hammer assembly at the Fair—the furnace, the hammer itself and the trimmer. In the furnace, which is heated by gas and governed by an automatic heat control mechanism, special alloy steel billets are heated to a temperature of 2210 degrees Fahrenheit.

After the billet is heated to almost a molten mass, it is placed on the bottom die of the hammer proper where four operations take place, drawing out, upsetting, shaping and finishing. The forging is then passed to the trimming press which trims off the excess metal while it is still hot.

More than 100 hammers similar to the one at the Chrysler Motors World’s Fair Exhibit are used in Chrysler Motors plants throughout the country. These hammers forge parts which, because of their sturdiness and exactness, insure the safety of passengers and drivers in Chrysler Motors cars.

A red-hot forging etched against the darkness. The trimmer, the hammer and the gas furnace.
THE massive drop forge hammer is but one of many interesting exhibits in the Chrysler Motors display at the Fair. In the exhibit building proper, scores of demonstrations from the scientific to the spectacular, compete for the attention of the visitor. There is a miniature working model of the world’s largest electric furnace, where white hot steel is poured and rolled into bars which are later converted into seamless steel tubing; there is the “breathing body”—a safety steel body that turns inside out, permitting the visitor to note its rugged construction; a storage battery, like that used in all Chrysler Motors cars, although frozen in a cake of ice, lifts a Plymouth car from the floor to the ceiling; there is the famous Belgian roll, a torture machine used in Chrysler Motors plants, to give the car body and frame the severest test known to industry; upholstery fabrics are woven on an automatic loom; a wind tunnel in operation shows the advantages of the Airflow automobile design over cars of the conventional type. These are but a few of the building exhibits, while on the Chrysler Motors track and sand pits, Barney Oldfield and his drivers demonstrate the ability of Chrysler Motors cars to triumph over every possible road and driving condition.