

No one knows who first discovered that a stream of molten lead will form into spheres when it is dropped and allowed to fall freely from a considerable height. The sporting arms and ammunition industry depends upon this useful phenomenon for the manufacture of the lead pellets used in shot shells.

Today Olin Industries has two shot towers, one at East Alton, Illinois, and one at New Haven, Connecticut, producing untold millions of tiny lead pellets for the company's famous red shot shells which are sold everywhere under the familiar Western and Winchester brand names.

Although the principle of making shot has remained unchanged, there have been innumerable improvements in the lead alloys and in the equipment in a highly efficient and uniform manner.

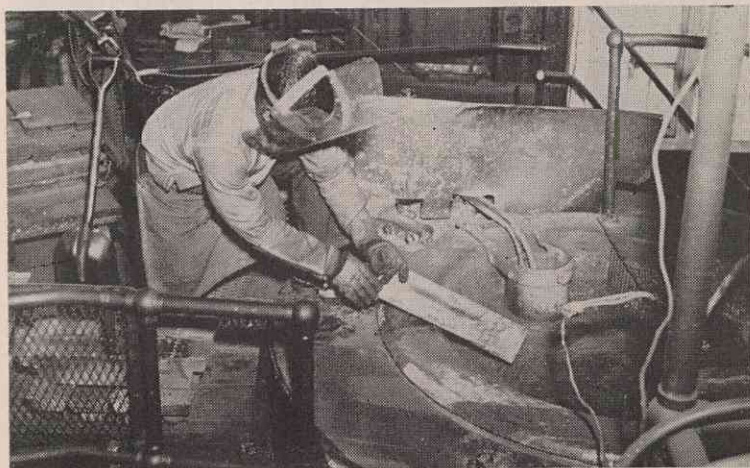
Gravity plays an important role in the production of shot. The operation begins when a

molten alloy of lead, at a temperature of 700° Fahrenheit, is poured into a shot pan with a perforated bottom. The size of the perforations determine the size of the pellets which are to be formed.

As the molten metal flows through the pan, an automatic hammer strikes the pan and shakes droplets of lead in a continuous stream into a tank of water. At the East Alton shot tower shot falls 190 feet, at New Haven 154 feet.

The surface tension of the falling droplets forms them into spheres and by the time they strike the cushioning water, they are hard. The hardness of the shot is determined by the alloy of the lead and falling into cold water has no affect upon hardness.

All of the pellets are not perfect spheres so it is necessary to sort out the culls. Another simple but ingenious idea is used to sort the imperfect from the perfect shot. Raised to the sorting department of the shot towers by an endless bucket



*Lead pig slides into melting pot on ninth floor of Winchester shot tower. Pot has capacity of 11 tons, temperature maintained is about 700 degrees Fahrenheit.*

*A dropping pan for No. 6 shot, containing 2,400 holes through which molten lead pours and is separated into droplets.*

