

MCP Hardener Alloys

The hardening of aluminium alloys by inclusion of small additions of bismuth and lead is rapidly increasing. To enable such additions to be made easily and accurately Mining & Chemical Products Ltd. produce MCP Hardener Alloys which are controlled mixtures of bismuth and lead cast in the form of thin sticks weighing 1 lb. which may be thrown into the melt to provide exactly the addition required.

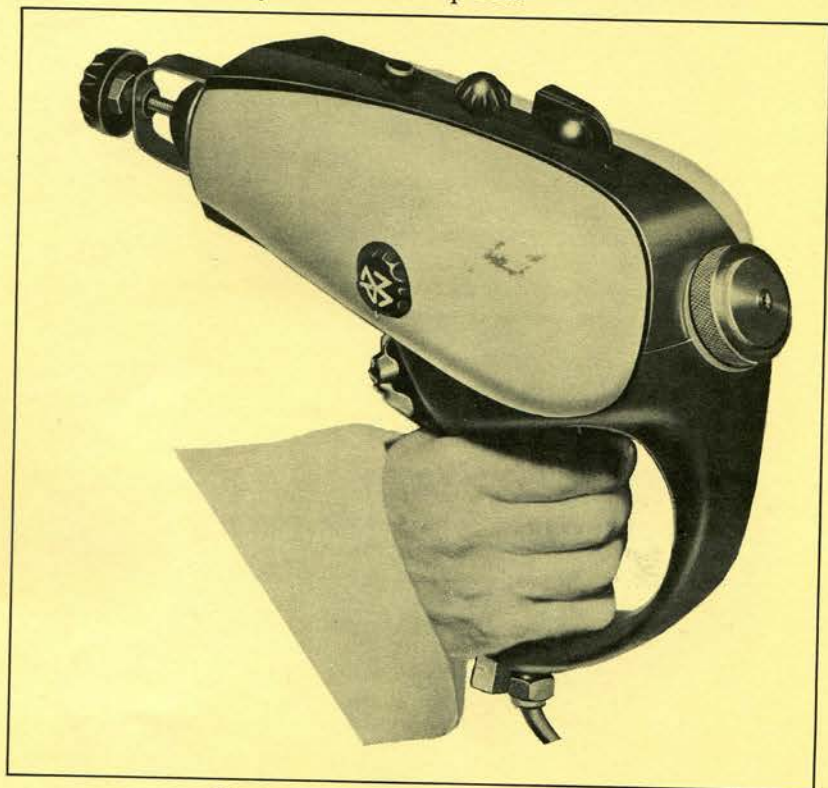


Fig. 11.—The MCP "Swift" spray gun.

The MCP "Swift" Spray Gun

The range of 'Cerro' alloys in the form of sprayed castings is finding increasing use for many purposes such as moulds for plastics, paint spray masks, master patterns for pantographic milling machines, cathodes for electroforming, duplication of master patterns etc., for filling dents and cavities in sheet metal or castings, coating wooden foundry patterns with an alloy skin, and for coating electrodes in rectifiers.

The 'Swift' spray gun has been developed specially to perform such work with maximum efficiency and incorporates a number of features found essential during many years of experience in this field and not found in other metal sprayers.

It is suitable for use with any of the standard 'Cerro' Alloys and also with any other alloys or metals melting below 300°C. (570°F.).

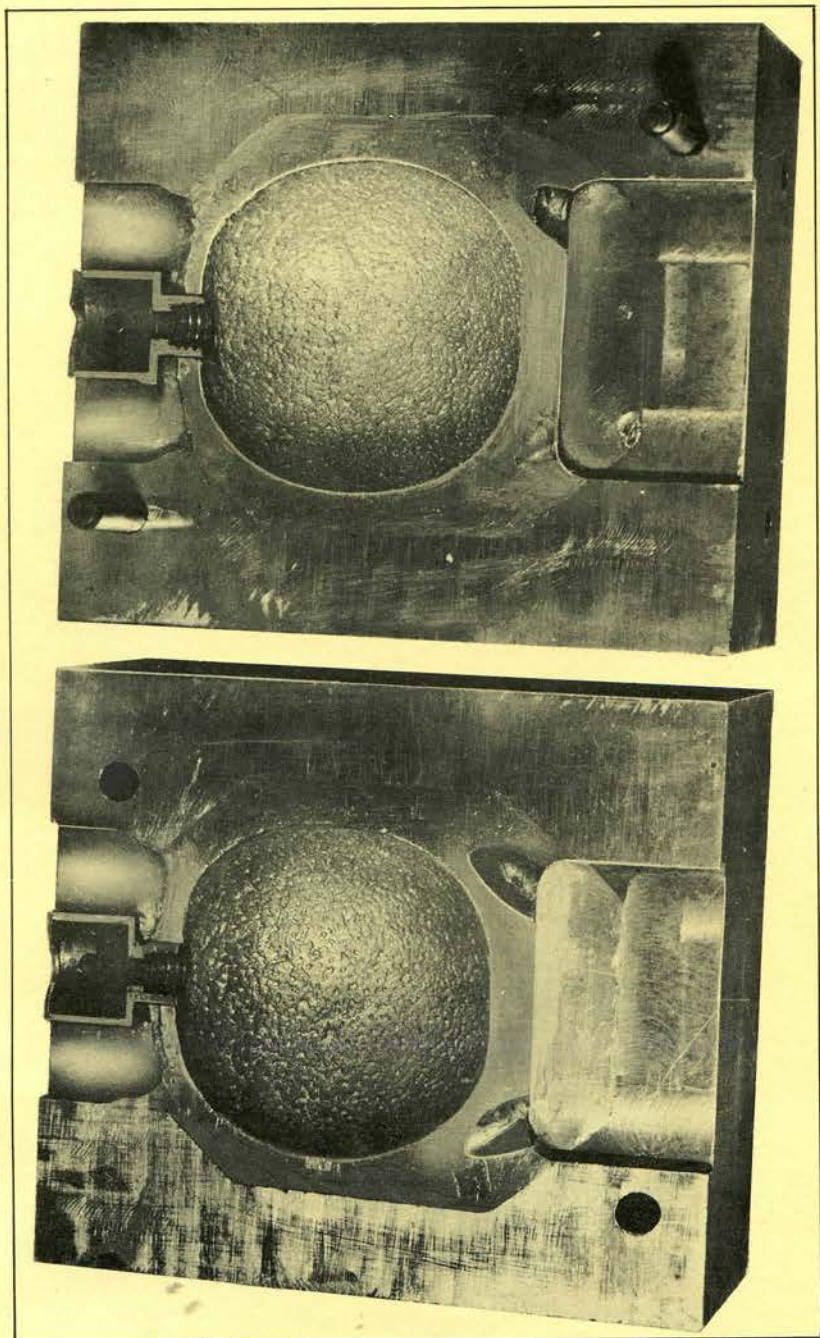


Fig. 12.—Polythene bottle blow mould produced by spraying Cerrocast against an actual orange. Note perfect reproduction of the surface of the fruit.

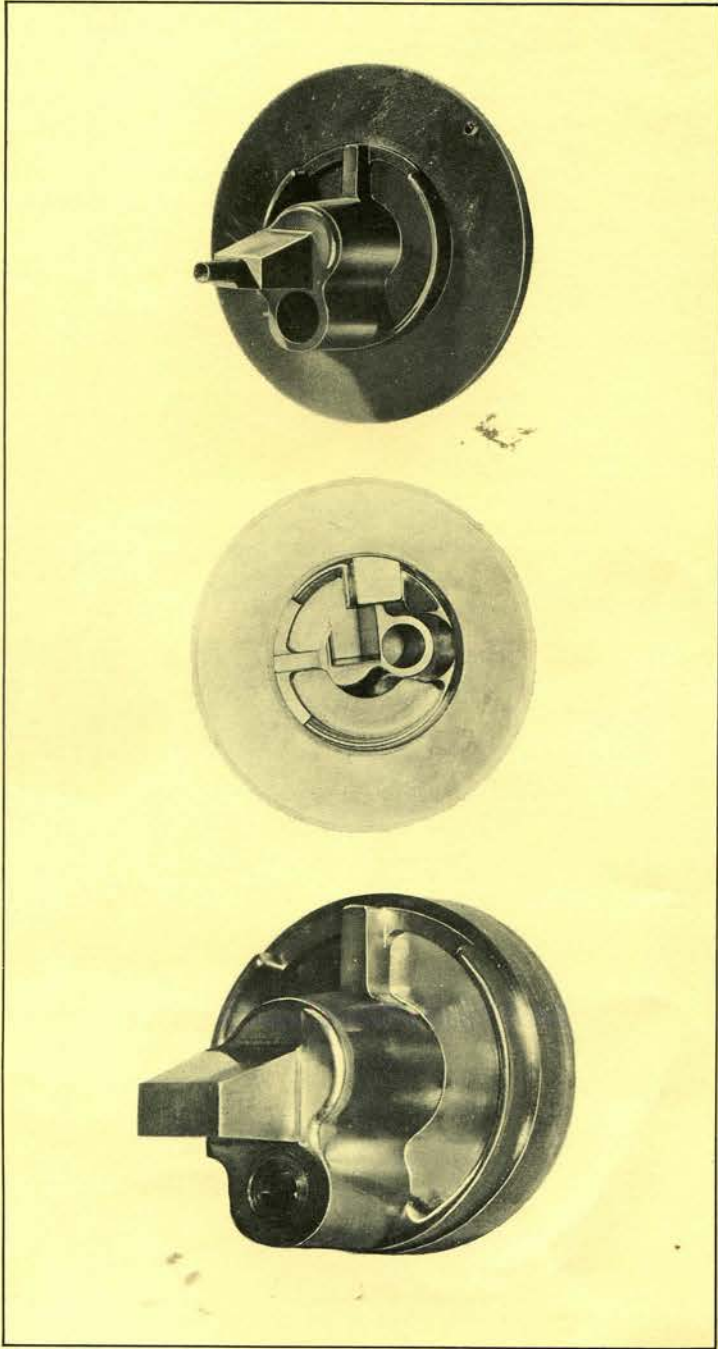


Fig. 14.—Brass master model, sprayed Cerrocast mould produced therefrom, and high fidelity pressure-cast wax pattern moulded therein for lost wax precision casting process.
By courtesy of S. Smith & Sons (England) Limited.

Tooling for Production

Duplicate patterns for ceramics, plastics, pottery, etc.; expanding outward recesses in tubing (seamless fittings); fixtures for assembly, checking, die spotting, drilling, inspection; filler for moulding and tube bending; die metal forming blocks; hold down clamp pads; masks for spray painting; nests for drill jigs; nests for irregular parts in dial feeding stations; shim-ming pads in assembly jigs; supporting delicate parts during machining or grinding; transfer templates in contour jigs; repair of wood, masonite, plaster and plastic tooling; stripper plates in stamping dies; trim dies for die castings and plastics.

Miscellaneous

Filling blow holes in castings; thermal fuses in safety devices; transfer medium in heat exchange units; heat and pressure medium in textile dyeing and drying; heat treating and tempering baths; lead screw nuts for lathes; liquid seals for bright annealing and nitriding furnaces; low temperature solder in delicate assemblies, instruments, etc., proof casting of forging dies, plastic moulds, etc.; proof testing reverse engravings; protective coating for wood patterns and core boxes; sealing adjustment screws on instruments, machines, torque wrenches, etc.; sealing joints of glass and glass or glass and metal; hermetic seals in electronic devices; vacuum systems; counter-electrodes in selenium rectifiers; shielding X-ray equipment.

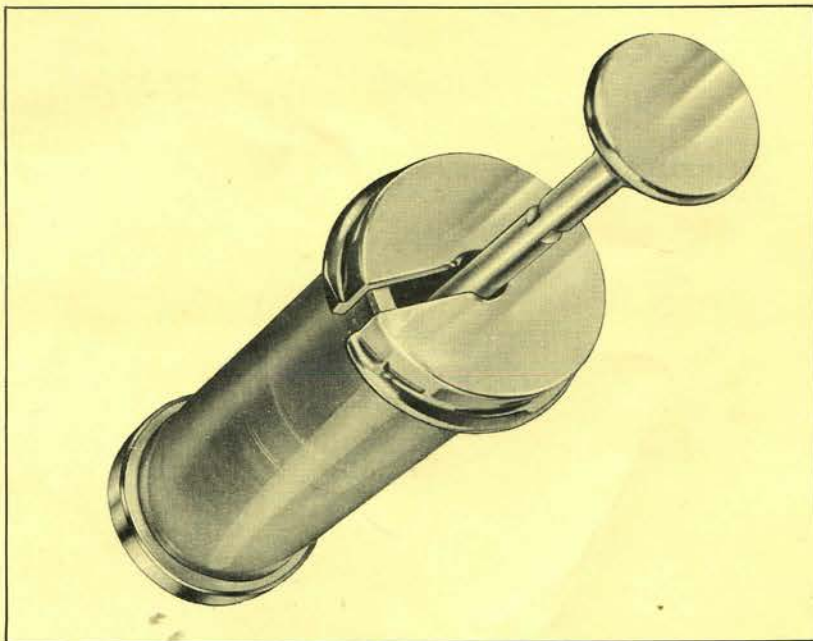


Fig. 16.—Surgical syringe with metal end caps hermetically sealed to glass barrel with MCP Bismuth solder.

By courtesy of F. Froud & Sons Limited.



Fig. 9.—Producing Cerrotru dip-cast mould on metal master pattern.

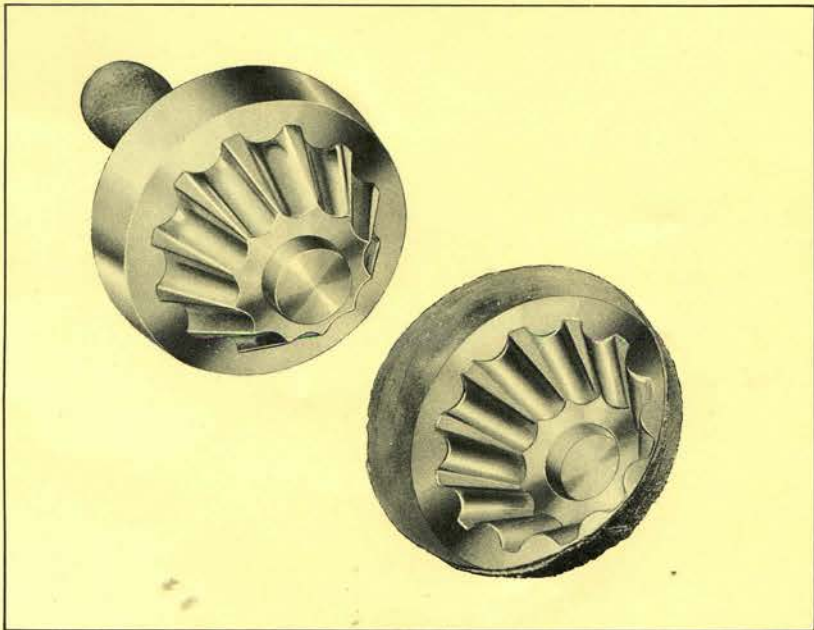


Fig. 10.—Metal master pattern and Cerrotru dip-cast mould produced thereon.