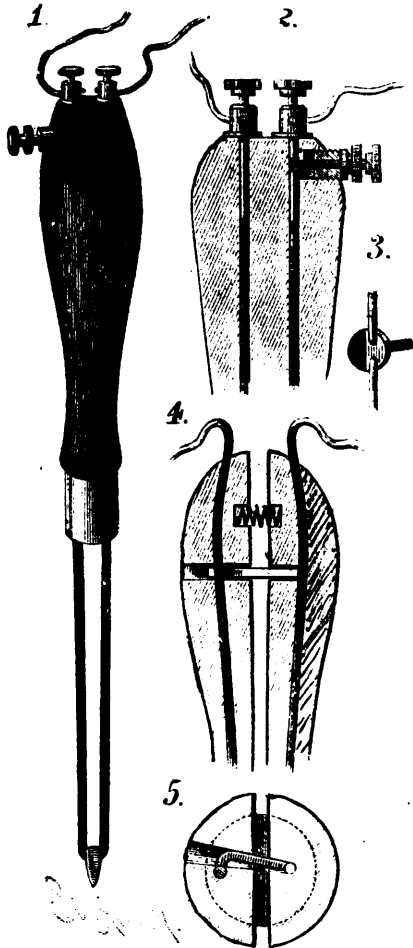


SOLDERING BY ELECTRICITY.

The engraving shows a soldering iron heated by the electric current, and capable of melting all kinds of solders, such as gold and silver solder, which have heretofore required a blowpipe to melt them. It may also be used for the more fusible solders employed in making tin ware. Now that the electric current is distributed so generally and is used for all manner of purposes it seems quite practicable to employ it for soldering.



ELECTRIC SOLDERING IRON.

Figs. 1, 2, and 3 show one form of electric soldering iron, Fig. 1 being a perspective view, Fig. 2 a section showing the switch for controlling the current, and Fig. 3 a detail view of the switch button. Figs. 4 and 5 are views of a modified form of the device. In Figs. 1 and 2 the electric conductors extend through and embrace a piece of platinum or other material offering sufficient resistance to the passage of the electric current to become heated more or less according to the strength of the current. One of the conductors is separated near the upper end of the handle, and bridged by a button made partly of electrical conducting material and partly of insulating material, so that by turning the button the circuit may be completed or broken as circumstances may require. The device shown in Figs. 4 and 5 is on the same general principle, the only difference being that the handle is split lengthwise and the two portions are pressed apart by a spring. When apart to their fullest extent a hook attached to one of the conductors touches the other conductor and short circuits the current in the handle. When the two halves of the handle are pressed together the current passes through the refractory point. When the point is heated to incandescence the tool may be used for melting either silver or gold solder. For melting soft solder the heat may be less intense.

This invention was recently patented by Mr. C. E. Ball, of Philadelphia, Pa.

THE STONE FACE OF STATEN ISLAND.

A few weeks ago, while two brothers named Hall were at work at Silver Lake, Staten Island, digging up a small tree for transplanting, they uncovered a stone of slaty rock, irregular in form, some two feet long by twenty inches wide, and about eight inches thick. The upper half had a human face, life-size, cut so sharp and natural as to be almost startling at first. The face was oval, of the old Huguenot type, with low cheek bones, fat, full cheeks, a sharp, clear-cut chin, full eyes and parted lips. Of course all sorts of stories are rife of its origin and history, some people believing it marked the burial-place of ill-gotten treasure, others that it is a stolen art gem, and others again that it is a relative of the Cardiff Giant. Whatever it may be, it is certain that it has excited considerable interest, and for this reason we give a sketch of it.



STONE FACE RECENTLY FOUND ON STATEN ISLAND.

IMPROVED OPTOMETER.

We give an engraving of a novel instrument for measuring the focal lengths of lenses, which is capable of measuring the focus of any lens from three inches to seventy-two inches, while the length of the instrument is only thirteen inches. This is effected by the employment of a convex lens of short focus which shortens the focus of the lens under test. The instrument is in some respects similar to a camera, the object being held in the short detached tube, the lens to be tested being placed between the two tubes; the image of the object is formed on a ground glass carried by the movable tube. There is a scale on the movable tube, and when the image on the ground glass is sharp, the scale indicates the focal length of the lens.

The great utility of this instrument will be understood when it is known that scarcely any spectacle or eyeglass has the correct focus marked upon it; and it is often very essential that the exact focus of a lens be known, for example, in matching a glass when its mate is broken, or in supplying spectacles which are but very little different from those already worn.

This instrument is as well adapted to testing concave as convex lenses, and it may be used by any light. It is an ornament to the show case of a dealer, and will be found very useful by any one dealing in spectacles as well as the regular optician. *Scientific American.*