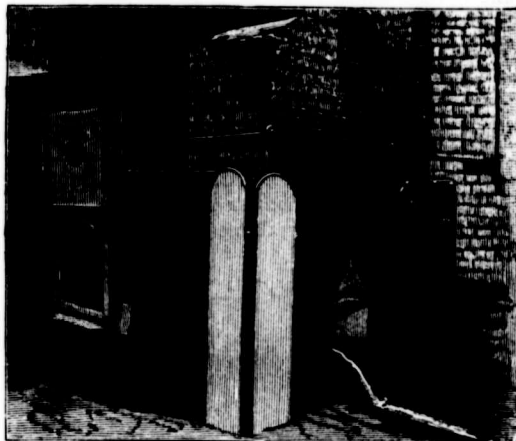




AT WORK WITH THE "CROOK."

proportions of the bell, and, being carefully swept round and round the clay, the crook soon produces a perfect circular mould of the proportions required for the interior of the bell. The core is then baked hard.



FURNACE.

By a former method of bell-making a coating of loam and haybands, the thickness of the bell, was next formed over the core, and moulded by the crook to the shape of the outer side of the bell. Over this mould the cope was formed, the inside being the exact copy of the outer side of the bell. When dried, it was removed; the haybands and loam representing the proposed bell itself were also removed; and when the cope was smoothed inside, and any device or lettering added, the cope could be let down over the core, and the vacant space remained to be filled up by the molten metal.

But by an improvement of this process iron cases or moulds are now generally used for the copes—an arrangement which prevents the constant breaking of the clay; but the essential feature of the core and the cope remains unchanged. The core is built up on an iron plate and moulded to shape as before, while the iron cases are set on their heads and lined with loam to the required thickness. They also are then shaped with the crook, and swung on their side. Any lettering

or decoration can now be moulded in the soft loam. When dried in the oven at the end of the moulding-room, the iron-case cope can be clamped down over the solid core, leaving the requisite space between for the thickness of the bell. A set of iron cases of various sizes lies about the large moulding-room, and by regulating the thickness of the loam inside the cases, they are rendered suitable for different-sized bells.

The core, with the cope over it, is generally placed in a pit with the moulds of other bells, and earth or loam rammed hard all round. The molten metal can be conveyed in plumbago crucibles from the furnace, or, if the casting be very large, the clay door to the furnace is knocked away, and the metal pours forth in a fiery stream, flashing off coruscating sparks, to the channel leading to the apertures communicating with the bell moulds below.

In another large room lie a peal of bells on their heads, with their mouths gaping wide upward, waiting to be examined and tuned before being sent away to their church. The sound is modulated by shaving off a few curls of metal inside the bell, an instrument being used for this purpose which works something like the crook.

The largest bell of this peal is the big tenor, weighing $25\frac{1}{2}$ cwt.; but here is one larger still, weighing 30 cwt. It is a Jubilee bell, and on its shapely side behold! a fine portrait of the Queen appears, with the memorable dates 1837-1897, and beneath runs a suitable inscription setting forth that the peal is to celebrate Her Majesty's Diamond Jubilee.

Almost any decoration indeed can be moulded on bells, from a simple lettering to ornate figures; and the great "Czar" bell of Moscow—probably the biggest bell in the world—exhibits somewhat elaborate decoration. Its weight is more than 198 tons; but its side is broken, so that it is useless for sounding purposes, and it is mounted on granite and used as a sort of chapel.



TUNING THE BELLS.