

THE "EMPEROR" BELL

"What in the foundry-pit's deep abyss
Our hands with help of fire found,
High in the belfry of the tower
Our work to mankind wide will sound."

Schiller's Lied von der Glocke.

This famous new bell, which is to be hung in the southern tower of Cologne Cathedral, now rapidly reaching completion, after the impulse given at the close of the Franco-German war, is cast from French guns captured during that campaign, presented by the German Emperor to the committee charged with the work of completing that cathedral.

The bell has been cast at the machine works (to which is attached a bell-foundry) of Herr Andreas Hamm, at Frankenthal, an industrial town of the Palatinate; and it was only after two failures, and after untold anxiety and care, that he was able to produce the work which will hand down his name to posterity. It should be mentioned here that the first casting took place on August 19, 1873; the second, on November 13 of the same year; the third and successful cast was made on October 3, 1874.

Before describing his handiwork, let us have a look at its cradle. On entering the machine-works, we notice on the right the casting-pit, nearly 10 ft. deep, 20 ft. long, and 16½ ft. broad, with the temporary belfry, and a strong frame-work, to which the gin for raising the bell from the pit is secured. On the left is the furnace, separated from the casting-house by a wall. In the latter is an opening, permitting the running in of the molten bell metal into the mould. The usual mode of casting bells had to be somewhat departed from, probably on account of the huge size of the new bell; and we subjoin the following account of the difficult process.

In the pit a hollow core of brickwork was first erected; this received a coating of loam, and the whole was then smoothed by means of careful gauging until the exterior of the core presented the same dimensions and form as the intended bell. On this core, the so-called "false bell," or "model bell," was formed, also of loam. It had to be the exact counterpart of the real one; it received the same decorations and the same inscriptions, made partly of tallow and partly of wax. Another thin coating was then applied, to serve as a separator between the false bell and the "shell" of the bell. The latter rested on an iron ring, provided with eyes, and was bound round besides with strong iron hoops, to make it more secure. In the hollow core a fire was now lighted through an opening left at the top, and core, false bell, and shell were thoroughly dried and burnt hard; while at the same time the decorations and inscriptions of the false bell, formed of wax and tallow, melted. The shell was then lifted by means of chains, the false bell broken up, and the shell lowered again in its place, and the whole covered up. A tackle of eight sets of pulleys, which in its turn had to be raised by another set of tackle, was put up for lifting the new bell at the proper time out of the pit. The iron beam to which it was suspended had a diameter of 8 in. The furnace, with two grates at its working side each of an area of about 33 square feet, consumed at each cast twenty tons of coal. The metal was put in through an opening at the back of the furnace, on to the hearth, of an area of over 36 square feet. At the first cast, each of the twenty cannon used for the bell was pushed in resting on a truck. They weighed together about 50,000 lb. (German); to this was added 80 cwt. of tin. At the first cast the metal took from one o'clock at night until three o'clock the next afternoon before it was perfectly liquid, fit for running off; at the two following castings the time of melting was only ten hours, from five a.m. to three p.m. At the last cast, the filling of the mould took twenty-nine minutes and a half, without any mishap. But then followed four long, weary weeks of anxious waiting, before the shell could be broken; but when it fell, the master had the satisfaction of seeing that his labour had at last been crowned with perfect success.

A feeling of silent admiration steals over the beholder as he looks upon this mighty form, 10 ft. 8 in. high, of a diameter of 11 ft. 2 in., which weighs 52,500 German pounds (over 25 tons), and which will receive a clapper or hammer of 9 ft. 10 in. long, weighing 1,530 lb. The bell, which has at the sound-bow a thickness of 13½ in., tapers towards the crown to a little over 3 in. The screw passing through the crown of the bell, and through the apparatus for receiving the hammer, is of corresponding size, weighing 996 lb., and carries a nut weighing

178 lb. The six arms forming the crown are decorated with angels' heads, and end where they join the bell in lions' feet. Below the crown, in three lines running round the bell, is the following inscription in Gothic letters:—

"Guilelmus, Augustissimus Imperator Germanorum Rex Borussiae pie memor caelestis auxilii accepti in gerendo felicissime conficendoque nuperrimo bello Gallico instaurato Imperio Germanico. Bellica tormenta captiva aeris quinquaginta millia pondo iussit conflare in campanam suspendendam in hac adiutandae structurae aede exaedificationi tandem proxima.

Cui victoriosissimi principis pietissimae voluntati obsecuta societas perficiendo huic templo metropolitano constituta F. C. P. IX. Pontifice Romano Paulo Melchers Archiep. Coloniensi A. D. MDCCCLXXIV."

"William the Most Illustrious Emperor of Germany, and King of Prussia, in pious remembrance of the heavenly aid granted him in the fortunate course and conclusion of the last French war, has ordered, after the restoration of the German Empire, a bell to be cast from captured cannon, of the weight of 50,000 lb., which is to be suspended in the house of God, now nearly completed. In accordance with this pious desire of the victorious prince, the society formed for the completion of this cathedral has caused it to be cast, under the Roman Pontiff, Pius IX., and the Archbishop of Cologne, Paul Melchers, in the year of our Lord 1874."

Under the figure of St. Peter is the following inscription:—

"Voce mea coeli populo dum nuntio sortes
Sursum corda volant aemula voce sua.
Patronus qui voce mea templi atria pandis
Janitor et coeli limina pande simul."

"Send I with brazen lips to the peoples heavenly message,
Souls upwards soar, leaving earth; join, full of ardour, in song.
Thou, who through my deep voice of the fane the portals wide open'st,
Ope thou of heaven the gate, heavenly guardian, as well."

Opposite to the image of the apostle, is the German Imperial coat of arms, beautifully executed, with this verse below:—

"Die Kaiserglocke heiss ich,
Des Kaisers Ehren preis ich,
Auf heil'ger Warte steh ich;
Dem deutschen Reich erheh ich,
Dass Fried' und Wehr
Ihm Gott bescheer'."

Emperor Bell I am named,
The Emperor's name make famed:
On holy ward I stand,
For German Fatherland
I pray? God grant it hence
Peace, welfare, and defence!"

In the first-named inscription is also the archiepiscopal coat of arms. The mottoes have Gothic borderings, successfully designed and executed. The pleasing appearance of the bell is further enhanced by parallel rings round it. The note sounded by the bell was to be the deep C, but according to the test committee it is C sharp; and it will, consequently be found not to be in tune with the other bells of the cathedral tried with them. However, should this prove to be the case, the evil, the founder is confident, may be remedied by somewhat planing down the sides.

The Emperor Bell, which was shipped at Frankenthal on the 15th of April, arrived safely at Cologne on the 8th of May. The somewhat lengthened voyage, which was interrupted at the principal towns along the Rhine, to give the inhabitants an opportunity of viewing the monster, was successfully performed. The transport from the wharf to the southern tower was accomplished without accident on the 13th of May, under the special supervision of Herr Hamm, amongst the excitement of thousands of spectators. A wagon had to be expressly made for moving it from the foundry on board a sailing-barge on the canal leading to the Rhine, and this was used again on its arrival at Cologne, for its transit from the river to the cathedral. An idea may be formed of the difficulties attending it when it is stated that it took eleven hours to move the mass a distance of 350 paces on a level roadway.

We may add in conclusion, that the new bell, next to those of Moscow (both not now in use, weighing respectively 193 tons and 63 tons; the former broken in 1737, the latter fell in 1855); that at Peking, said to weigh 53 tons; and that of Novgorod (31 tons), is the largest in existence. It exceeds in size by far the largest of our English church bells: Big Ben, of Westminster, weighing only 14 tons; York Minster bell, 10½ tons; Old Tom, of Oxford, 7½ tons; Exeter Cathedral bell, Great Tom of Lincoln, and St. Paul's bell, having a weight of 5½ tons and 5½ tons respectively.—*The Builder.*

St. Thomas is putting up gas works, which are to be in operation next September.