The Great Bell of Moscow

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The Musical Times

AND SINGING-CLASS CIRCULAR.

OCTOBER 1, 1916.

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The Proprietors of THE MUSICAL TIMES offer two prizes, of the value of Fifteen Guineas each, for the best composition of—

- (1) An Anthem, with organ accompaniment.
- (2) A Part-song, without accompaniment, for four voices ; soprano, alto, tenor, and bass.

Full particulars were given in our September number, page 399.

The authorship of each composition must be indicated only by a motto, or *nom-de-plume*, written at the top of the manuscript ; such motto, or *nom-de-plume*, must be also written outside a sealed envelope accompanying the composition and containing the name and address of the composer.

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THE EDITOR OF THE MUSICAL TIMES,
160, Wardour Street, Soho,
London, W.,

and endorsed 'MUSICAL TIMES COMPETITION.'

THE GREAT BELL OF MOSCOW.

BY W. W. STARMER.

*'But who can fathom Heaven's mysterious ways?
With thy deep tones destined to mix our praise;
On solemn feasts from high Kremlin's pile,
To call a people to the sacred aisle.
Alas! condemned, e'en in thy birth, to die,
And ne'er fulfil thy noble destiny.'*

This famous bell, written about as one of the wonders of the world, like all things which attain such notoriety has suffered much from incorrect descriptions written by travellers who—while doing their best—possessed insufficient knowledge to deal satisfactorily with its technical details. For the purposes of this article, the particulars as given by Montferrand have been adhered to, as he had special facilities for making accurate measurements when the bell was moved to its present position, being the engineer employed to carry out the work.

The great bell of Moscow is the largest in the world, and was cast in 1733 by order of the Empress Anna Ivanovna to replace a very large bell of the Tsar Alexis Michaelovitch, which was destroyed by fire in 1701.

The original intention was to build a tower on the site of the pit in which the bell was cast. This tower was to communicate with that of Ivan Veliki. Galleries were to be constructed at various heights to form passage-ways between the two buildings, and these would act as ties and add to the stability of the structures.

The project was about to be carried out when a terrible fire (1737) demolished a great part of the city of Moscow, including the wooden erections which had been put up around the great bell. The blazing

rafters fell upon the bell and heated the metal to such an extent that the water poured upon the burning timbers reached the bell and cracked it. The piece of the casting thus severed weighs about eleven tons (see illustration).

In 1797 a mechanic named Guirt made an attempt to raise this colossus ; but his plans, though well conceived, were never carried out, as it was thought that in raising it, the bell would break into pieces. Again (in 1819) the raising of the bell was considered, but nothing was done until 1836. By order of the Tsar Nicholas the First, Aug. de Montferrand, an engineer of repute, was given instructions to raise the bell from its pit. The manipulation of such an enormous weight at that period was a problem of great difficulty. It was successfully done by means of twenty capstans, manned by a large number of soldiers, on July 23, 1836. Montferrand gives the following description of the ornamentation on the bell :

Considered as a work of art this bell is remarkable for the beauty of its form and for its bas-reliefs, which are of the schools of Bouchardon and of Coysevox. These bas-reliefs represent portraits at full length and of natural size, although not finished, of the Tsar Alexis Michaelovitch and the Empress Anna Ivanovna. Between these portraits, upon two cartouches surmounted by angels, two inscriptions are indicated, roughly sketched, of which only a few words without connection are legible. The upper part is ornamented by figures representing Our Lord, the Virgin, and the Holy Evangelists. The upper and lower friezes are composed of palms, treated in a broad style and with a great deal of art.

By popular tradition the metal of the bell should contain gold and silver, as it is recorded that rich and devout people threw into the furnace coins, &c., of gold and silver, but an analysis of the metal made at Petrograd at the laboratory of the Corps of Miners shows that the alloy consists of copper and tin in the proportion of 84 to 13 with traces of zinc, sulphur, &c., 3 per cent. The traces of zinc, sulphur, &c., are no doubt impurities of the metals used to form the alloy.

This analysis does not in any way discredit the tradition that gold and silver coins were thrown into the molten metal, but shows that in the aggregate, the amount of gold and silver—compared with the bulk of the metal—was infinitesimal. Some idea of what would be necessary for gold to show one per cent. in an analysis of the metal, can be obtained from the fact that gold coins to the value of £300,000 would have had to be thrown into the molten mass.

Gold and silver as component parts of bell-metal have no legitimate place. Gold is about as resonant as lead, and silver as cast-iron.

Copper and tin in the proportion of 13 to 4 is the best alloy known for durability, elasticity, and resonance.

All the romantic tales about gold and silver in bells, as component parts of the alloy, must be discredited. There are no authentic analyses of bell-metal—ancient or modern—which show that gold or silver has ever been used as a component part of the alloy.

Tsar Kolokol (king of bells) or Tsarine Kolokol (queen of bells) as this monster is called—is placed on an octagonal pedestal of granite near the tower of Ivan Veliki in the Grand Square of the Kremlin. It is surmounted by a ball on which is a Greek cross of

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THE GREAT BELL OF MOSCOW.

(Reproduced by kind permission of Dr. J. N. Goldsmith.)

THE BELL FAIR AT NIJNI-NOVGOROD.

gilded bronze, the total height being 34 feet. On one of the faces of the pedestal is the following inscription cut in Slavonic characters on a marble slab :

THIS BELL,
cast in 1733, under the reign of the Empress
ANNA IVANOVNA,
after having been buried in the earth for more than a
century, was raised to this place
August 4, 1836,
by the will and under the glorious reign of
The EMPEROR NICHOLAS THE FIRST.

The particulars of the bell, as given by Montferrand, are : Height, 20 ft. 7 in. ; diameter, 22 ft. 8 in. ; and weight, 193 tons.

The thickness of the soundbow is given by some as 24 in., but by others as 23 in. The latter is likely to be the more correct, for with a diameter of 22 ft. 8 in. it would then be an abnormally thick bell. Montferrand's estimate as to weight is probably much less than the actual weight. It has been computed by other writers as 185, 200, and 220 tons.

Unfortunately there are no measurements made by an expert available, and to ascertain the correct weight very accurate particulars are essential, but on the figures given by Montferrand a more correct estimate would give the approximate weight as 230 tons.

English bell metal is an alloy of copper and tin in the proportions of 13 to 4. From the analysis quoted, it would seem that in Russia a greater quantity of copper is used to form the alloy.

At current prices the metal of this bell would be worth over £25,000, and to make such a bell (of the finest metal) in this country would cost at least £40,000, exclusive of all the special provisions which would have to be made, such as new furnaces, cranes, tuning machine, &c., and which, together with fittings and framework, would bring the total cost to at least £80,000.

The note the bell should sound would be C, thus :

Moscow is indeed a city of great bells, for in addition to Tsar Kolokol, and not far from him, there hangs a 'live' bell the reputed weight of which is 110 tons. There are also many other bells of exceptional size and weight.

It was the magnificent and awe-inspiring sounds of these great bells which were uppermost in Tchaikovsky's mind when he wrote the Finale of his '1812 Overture.' How much the Russians love bells will be seen from the accompanying illustration, which represents the ordinary display of bells 'For Sale' at the Great Fair of Nijni-Novgorod. Many of these bells weigh a number of tons, and although the Russian uses are entirely different from our own, Russia is second to none in its appreciation of bells.

CONFESSIONS OF A CRITIC.

BY HUGH ARTHUR SCOTT.

I.—PÊTES-NOIRES AMONG THE MASTERPIECES.

Talking the other day to a well-known musician, and discussing our respective likes and dislikes among the masters, I was suddenly startled by his observing : 'I am going to shock you, I know, but I always think the "Eroica" a vastly overrated work. No doubt I am

wrong, and it is the outcome of some curious kink in my musical outfit—for you must understand that otherwise I love my Beethoven with the best—but somehow or other I never succeed in getting any genuine enjoyment from the Symphony in E flat. The