

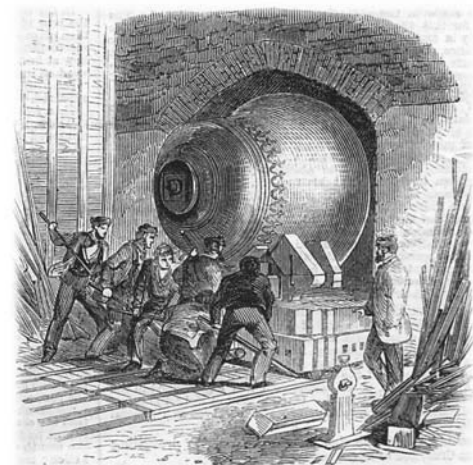
horses, belonging to Mr. Scott, and passed along the Whitechapel-road, over London-bridge, along the Borough-road, and over Westminster-bridge, where it arrived about eleven o'clock, by which time an immense crowd not only accompanied it but had collected to witness an object of so much curiosity. It is at this point that our Sketch [PREVIOUS PAGE] was taken, showing it as it descended the declivity of the bridge towards its destination.

The bell is believed to weigh about fourteen tons, but its exact weight has not yet been ascertained, and blanks have been left in the inscription to be filled as soon as this has been done. In outline it is much more graceful than the former bell, and its decoration is more in accordance with the style of the building it is to occupy. As soon as Messrs. Warner have tuned the quarter bells manufactured by them for the proving of the new note of the present bell, it will be raised to its final destination. This will have to be done sideways, the bell being rather wider than deep, and there not being room for it to pass up in the position it will hang.

16th October 1858

RAISING THE GREAT BELL AT THE NEW PALACE, WESTMINSTER

We give two Illustrations of this interesting event. Our small View [BELOW] shows the bell entering the arch, being propelled by levers upon a tramway. The larger one [NEXT COLUMN] gives a sectional view of the mode of raising the bell.



The labour of lifting the great bell – the “Royal Victoria,” “Big Ben,” or whatever its name is to be – was brought to a successful termination on Thursday afternoon. Since the first turn of the windlass, which raised it from the ground on Wednesday morning, there was not a single moment's intermission of work. The windlasses were constantly in motion, the crabs had no rest, and the bell was continually, though slowly, moving to its destined chamber. Shortly before one o'clock the bell was safely lodged in the chamber which is its first resting-place. It has been found that fresh girders must be erected for the purpose of bearing the weight of the bell before it is hung, and for this purpose some delay will be necessary. The bell will in all probability be formally hung early next week. Some particulars respecting the processes for moving the great bell are annexed.

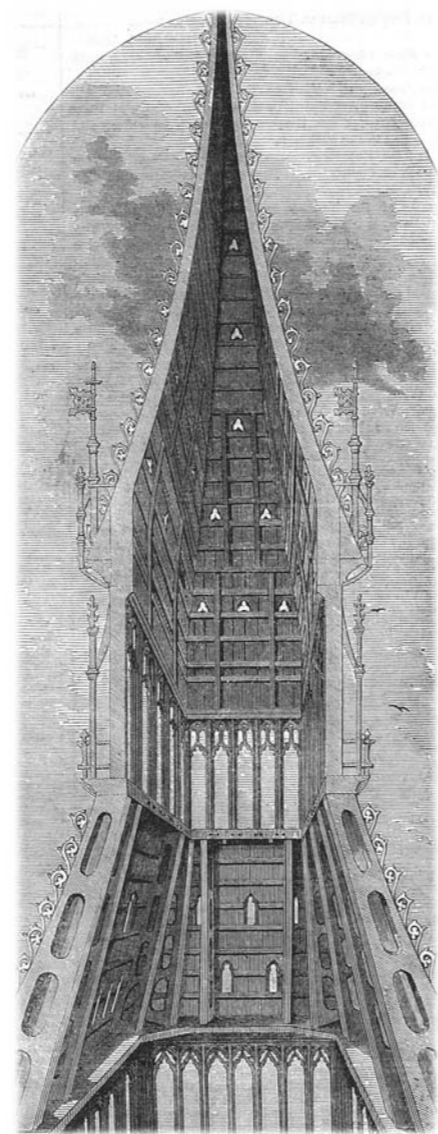
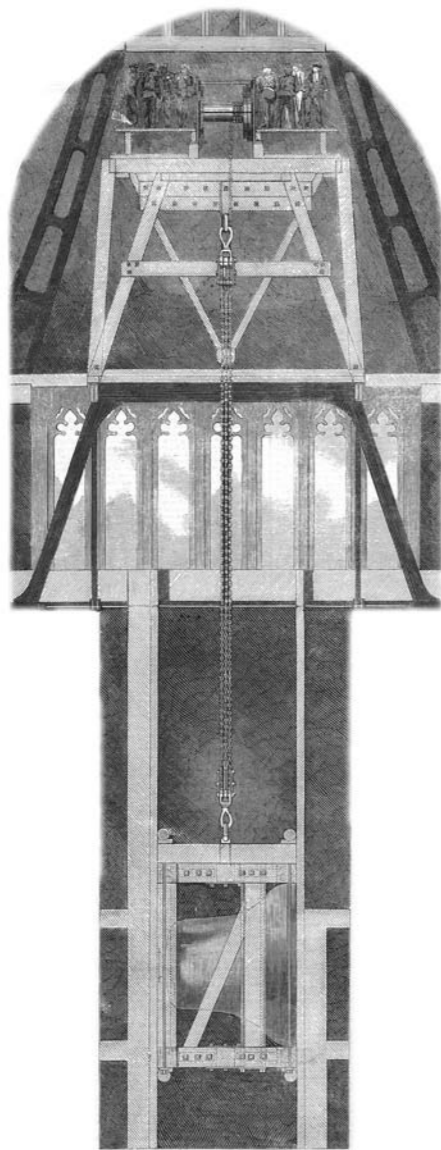
In giving some idea of the mode of raising the great bell it is necessary to mention that the shaft up which the bell ascended is in the centre of the Clock Tower, and is somewhat more than 11 feet 4 inches by 8 feet 2 inches in proportions. It extends from the ground to the clock-room upwards of 180 feet in an unbroken line. Up the angles of this shaft timbers called guides had been fixed, to ease the ascent of the cradle with its ponderous burden. One side of the shaft was fitted up with some twelve or fourteen gas-jets, to light the interior during the progress of the work. The bell, placed on its side, rested on a stout oak bottom, as will be seen in the diagram, the sides of the cradle being added during its sojourn under the lower part of the shaft. All being completed, and the centre of gravity found, the cradle was then raised by means of a fine new crab, made for the purpose, placed immediately over the aperture of the shaft. Eight men, four to each handle, then drew it up. As the drum of the crab revolved and drew up its burden, the chain which accumulated upon it was passed from the drum to a smaller crab behind, so as to prevent any possible jerk arising from the slipping of the links, and also to avoid accumulation of weight. The cradle had attached to its sides four friction-wheels, which played upon the guide-timbers – as seen in the diagram [NEXT COLUMN] – to ease the ascent. The chain was made expressly for the work, and was tested link by link. It is nearly 1800 feet long. It was made at Newcastle, by Messrs. Crawshay, and tested under the superintendence of Mr. Thomas Quarm, the clerk of the works to the new Palace of Westminster, and Mr. James, of Broadwall, Blackfriars. We

believe we are right in saying that Mr. Quarm arranged the whole of the plan for the raising; and Mr. James has carried it out with his usual ability, aided by his able superintendent, Mr. Hart. Our large Illustration [BELOW] will explain the mode used for the ascent better than our description. The bell is seen just entering the clock-room, where it rested the first time: it was then turned mouth downwards and drawn up to the bell-chamber, seen in our Sketch [RIGHT]. The work of hoisting has been an arduous and anxious affair for all engaged, and we hope their labours will be appreciated.

The quarter bells of the Clock Tower were raised to their places last week, awaiting the ascent of their ponderous chief to commence active duties.

The crab which was constructed to hoist the great bell gives 101 lb. of power for every pound of force applied to the handle. As each handle is turned by four men, and as each man applies a force of 15 lb. without overstraining himself, an aggregate power of 12,000 lb. in round numbers is obtained at each turn of the handle. This force would seem tremendous; but then it takes ten revolutions of the handles to wind up one foot of the chain, and fifty revolutions to complete one complete round of the drum. Five hundred revolutions cover the latter with chain, when it has to be cleared, and the chain that has been hauled up transferred to another windlass. When the bell was raised from the ground to the clock-room (a distance of 190 feet) it had to be restored to an upright position, fresh arrangements to be made, and a further haulage of forty feet accomplished to the bell-chamber.

The exact dimensions of the bells are – great bell, 7 ft. 6 in. in height, 9 ft. diameter at the mouth; weight, 13 tons 10 cwt. 3 qrs. 15 lb. Of the quarters: 1st quarter: weight, 1 ton 1 cwt. and 23 lb.; 2nd: 1 ton 5 cwt. 1 qr. 2 lb.; 3rd: 1 ton 13 cwt. 2 qrs. 13 lb.; 4th: 4 tons 13 cwt. 2 qr. 13 lb. The notes of the bells are respectively – great bell, E sharp; 1st quarter, G; 2nd, F; 3rd, E (octave to great bell); 4th, B; and the reading of the chimes is, taking the notes as represented by the above figures – 1st quarter: 1, 2, 3, 4; half-hour: 3, 1, 2, 4 – 3, 2, 1, 3; 3rd quarter: 1, 3, 2, 4 – 4, 2, 1, 3 – 1, 2, 3, 4; hour: 3, 1, 2, 4 – 3, 2, 1, 3 – 1, 3, 2, 4 – 4, 2, 1, 3, when the great bell will strike the hour. The latter will be struck on ordinary occasions with a hammer, but the clapper will be available for the



announcement of great events, such as every loyal Englishman deprecates. It is expected that in calm weather the sound will be distinctly heard throughout a radius of five miles, measuring from the tower.

Mr. Walesby, of Waterloo-place, writes thus concerning the quarter bells: – “The four bells for indicating the quarters of each hour at the new Houses of Parliament are, it appears, to be of such notes that we may say they would be respectively the first, second, third, and sixth of a peal of ten; or, in musical notation, G sharp (first bell), F sharp (second), E (third), B (sixth); the hour bell being the tenth, or E, an octave below the third bell. So far so good, provided that each proves satisfactory as regards quality of tone, relative pitch, &c. But, with the utmost deference to the gentlemen intrusted with the superintendence of these matters, I think their arrangement a very tedious and inappropriate one for such very large bells, the notes of which will be so grave as to render it necessary to strike each bell in considerably slower succession than is usual with any other chimes in this kingdom. The following brief and simple composition, if performed upon the bells in very slow time, would, in my opinion, proclaim the quarters in a more intelligible and melodious manner: –

	To be indicated by bells.
1st quarter	1 3
2nd quarter, or half-hour	1 2 3
3rd quarter	3 2 1 3
4th quarter, or hour	1 2 3 6-10

In order that all persons whenever they hear the chimes may clearly understand which quarter is indicated without becoming impatient of listening, I have, it will be perceived, inserted only two notes for the first quarter, three for the second, and four for the third, concluding in each instance with the third bell (E, the key-note), thus affording repose to the musical ear. There are also four notes for the fourth quarter, which, however, is distinguished from any other by the introduction of the sixth bell (B, the dominant note), which calls for and is followed by the tenth, or hour bell (E, the fundamental note), with grand effect.”

THE ILLUSTRATED LONDON NEWS

Stamped Edition, 6a.

FREE!



From 1856 to 1859, The Illustrated London News reported the story of Big Ben, the Clock Tower and the Great Clock. I am pleased to present the story here, using illustrations and original text from The Illustrated London News.

THE HISTORY OF BIG BEN AS PRESENTED IN THE ILLUSTRATED LONDON NEWS

2nd February 1856

THE NEW PALACE OF WESTMINSTER

THE majestic Victoria Tower (now nearly 250 feet high) and the slender but beautiful Clock Tower, both assume an air of finish, and we begin to think the work is fast drawing to completion; and we should be led to think so the more were the ugly excrescences, the Courts of Law, away; yet there is much to be done to complete the structure, thus far so successfully carried out by its architect, Sir C. Barry.

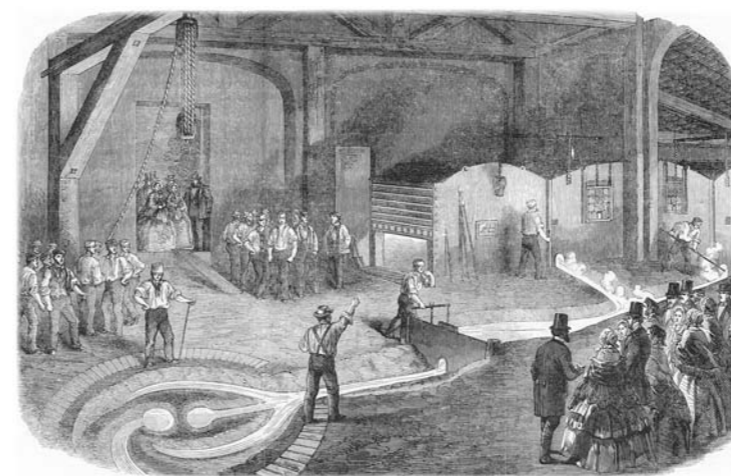
THE GREAT CLOCK, we understand, is ready for being placed in the tower; the upper portion of which we have engraved from a Sketch taken during the experimental lighting of the Clock-dial, which, we should explain, is but a rough model, made merely for the purpose of trying the power of illumination. The precise details of the dial are not at present decided: these, with the beautifully-proportioned tower and architectural details, we reserve for future illustration.

The clock has been manufactured by Mr. Dent, of the Strand; and some idea of its magnitude may be formed when we state the diameter of the face is about twenty-four feet.

23rd August 1856

CASTING THE GREAT BELL FOR THE NEW PALACE AT WESTMINSTER

THE vicinity of the picturesque village of Norton, near Stockton-on-Tees, was, on the morning of the 6th instant, the scene of an event of considerable interest – the casting of the Great Bell for the clock-tower of the new Palace, at Westminster, which was successfully accomplished at Messrs. Warner, Lucas,



and Barrett's furnaces, by Messrs. Warner and Sons, of the Crescent Foundry, Jewin-street, London, well known as the patentees of an improved method of casting church bells.

The preparation of the mould – of the method of constructing which our small engraving [RIGHT] is a representation – had occupied six weeks, and two reverberatory furnaces, capable of melting ten tons of metal each, had been built expressly for the purpose of casting this monster bell.

The lower portion of our explanatory engraving represents a section of the brick vault or pit in which the bell was cast, and shows the method of striking the core or centre of the mould which is to produce the concavity of the bell. On the floor is a circular iron plate of the requisite circumference, on which a mass of sand and loam is brought to the required shape by means of a piece of wood cut to the required section, and moved in a regular circular direction by means of its connection with a pivot running perpendicularly through the centre.

The upper portion represents an iron cap of the same circumference as the iron plate at the bottom of the pit. The interior of this is coated with sand, &c., and shaped to the required section in a precisely similar manner as that adopted for the core before described, though of course inversely, as in this case it is done from the interior. The two being complete, the cap is let down over the core and riveted to the iron plate at the bottom – the space between the core and the lining of the cap forming the mould into which the metal is to run. The remaining space in the pit is then filled up with sand, pigs of iron, &c., carefully rammed down; and the necessary channels for the metal to run from the furnace into the mould having been made, the arrangements are then complete.

We now return to the operation of casting, of which our large Engraving [LEFT] is a representation. The whole of the night previous was a scene of busy industry, and early in the morning the furnaces seen to the right in the background having attained the requisite heat, their doors were opened, and the operation of charging, or putting in the metal, commenced, occupying about one hour, and in less than two hours and a half the whole of the metal (eighteen tons) was in a state of perfect fusion. On the signal being given the furnaces were tapped, and the metal flowed from them in two channels into a pool prepared to hold it, before being admitted

into the bell mould. The shutter, or gate, was then lifted, and the metal allowed to flow, which in five minutes completed the casting of the bell, the successful termination of which delighted all present, who cordially joined the workmen in three hearty cheers.

13th September 1856

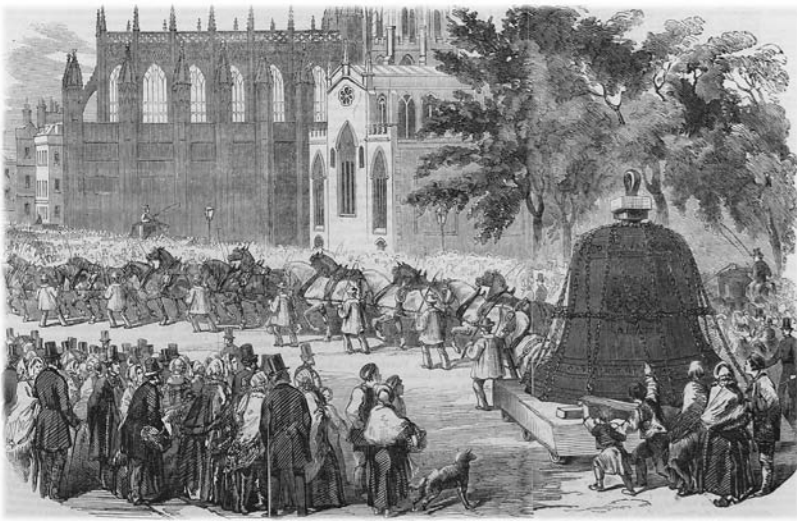
THE WESTMINSTER CLOCK BELL

IN the ILLUSTRATED LONDON NEWS of August 25, we detailed, with Engravings, the casting of this great Bell. It was raised from the pit, and was sounded for the first time with a clapper of 7 cwt. on Aug. 22. The casting is remarkably clean, and the tone is thought to be very fine by all who have yet heard it. The diameter is 9 feet 5 1/2 inches; the height outside 7 feet 10 1/2 inches; inside 6 feet 8 inches. It shrunk less than was expected in casting. The note is E natural. The bell has the following inscription running round it, just above the sound bow, “Cast in the 20th year of the reign of her Majesty Queen Victoria, and in the year of our Lord 1856, from the design of Edmund Beckett Denison, Q.C.; Sir Benjamin Hall, Baronet, M.P., Chief Commissioner of Works.” On the waist or middle of the bell are the Royal arms, and the names of the founders and patentees of the mode of casting which has been adopted for it, “John Warner and Sons, Crescent Foundry, Cripplegate, London.”

The weight is stated to be 15 tons 18 cwt 1 qr. 22 lb., or 16 tons within a small fraction; which is nearly half as much again as the great bell of York Minster, more than twice that of Oxford; nearly three times as heavy as the large bells of Exeter, Lincoln, and St. Paul's, and exactly six times the weight of “the great bell of Bow.” The four quarter bells together will not weigh quite half as much. The thickness is 9 3/8 inches

at the soundbow, where the hammer strikes, and 3 1/8 in the upper part, being very nearly 1-12th and 1-36th respectively of the diameter at the mouth, 9 ft. 5 1/2 in. The great bell was sent down from Norton to West Hartlepool by railway on Sunday, being too wide for any train meeting it to pass. The composition is 7 of tin to 22 of copper, melted twice over, as in speculum metal, to secure a perfect alloy. The metal is nearly as hard as spring steel, and much harder than is usual in modern bells, in which the proportion of tin is less than in the best old ones. This proportion was adopted after trying experimental bells of various proportions; and the shape, which is fuller at the soundbow than usual, was determined in the same way. When the bell arrives at Westminster it is to be hung for trial at the foot of the clock tower, with a clapper of half-a-ton, to be pulled by five or six men. It is finally to be hung in the open part of the spire of the tower, which was made for the purpose, in order that the sound may issue without obstruction. It is described as sounding as if it were struck with a wooden hammer, from its remarkable softness, although the hammer which has hitherto been used is of cast iron, and the bell still harder.

The quarter bells will now be proceeded with; the largest of them will be six feet in diameter, and will weigh about four tons, and is also to be cast at Norton, near Stockton-on-Tees.



1st November 1856

REMOVAL OF THE BELL FOR THE GREAT CLOCK, WESTMINSTER PALACE

THERE are few antiquarian subjects which have been so extensively popular as the history of Bells. And the Bells of our own day command a like share of attention; and to chronicle the casting, the naming, the removal of a large Bell, becomes an object of interest. Hence we have specially recorded the progress of the Bell for the Westminister Great Clock, which on Tuesday (last week) was safely delivered from the Wave, by which it had been brought from the foundry, alongside Messrs. Maudslay's wharf, near Westminister-bridge, those gentlemen having kindly granted the use of their crane, &c., to Mr. Jabez James, of Broadwall, for that purpose. The Great Bell which, as our readers are aware, was founded by Messrs. Warner and Sons, was afterwards conveyed on a low truck, drawn by sixteen horses, over Westminister-bridge, and safely deposited in Palace-yard. Mr. Quarm, clerk of the works of the new Palace, superintended the arrangements, and Professor Taylor and Sir Charles Barry were both present. The crowd collected in Palace-yard after its arrival was so great that the police had considerable difficulty in keeping the approaches to Palace-yard clear. In the course of the afternoon the Bell was lifted from the truck and swung under the massive frame erected for the purpose at the foot of the Clock Tower. It was then tested once or twice, and, having been pronounced entirely free from crack or flaw of any kind, it was propped up with timber to take the immense strain off the chains by which it is suspended, and so left to repose in silence after its journey for the night. All Bells, we believe, are christened before they begin to toll, and on this occasion it is proposed to call our King of Bells "Big Ben," in honour of Sir Benjamin Hall, the President of the Board of Works, during whose tenure of office it was cast.



27th December 1856

EXPERIMENT UPON THE GREAT BELL OF THE NEW PALACE AT WESTMINSTER

EVERY stage of the manufacture and erection of this magnificent Bell for the Clock of the new Houses of Parliament is replete with interest. Indeed, from the extraordinary attention paid to the fabrication of the Bell, and its involving several new theoretical views, it may be doubted whether, within memory, experimental science has been brought to bear to a like extent upon this class of manufacture.

In order fully to understand the subject of the Illustration [ABOVE], it may be as well to explain that the Bell, when placed in the Clock Tower, will be struck at each hour by means

of a hammer; while the quarters will be struck upon four smaller bells.

The scene we have represented is the first experiment made (on Saturday week) to determine the proportionate weight of the striking hammer of the large Bell, and the space through which is should fall upon the bow of the Bell. The trial was made in New Palace-yard, at the foot of the tower, and here were assembled Mr. Denison, who designed the Bell; Mr. Dent*, the maker of the Bell; and Mr. Quarm, the able clerk of the new Palace works. There were also present a few

privileged spectators. To make the experiment the ponderous hammer, of nearly, or quite, a half ton weight, was placed on a stout framework of wood, at an inclination of about forty-five degrees, and slightly touching the Bell; the hammer was then raised from this position some inches, at various times, by means of a crab, which was then thrown out of gear, and the massive hammer-head fell by its own weight, striking the Bell with great precision, and bringing out the sound to its fullest extent. We believe the experiment to have been quite satisfactory. The raising of this Bell will be the next stage for our Illustration; and when the whole work is accomplished we trust it will redound to the credit of those several gentlemen into whose hands this herculean labour has fallen.

7th February 1857

THE GREAT CLOCK

THE history of this already famed Clock dates as far back as 1844. We have, however, only space for the leading details.

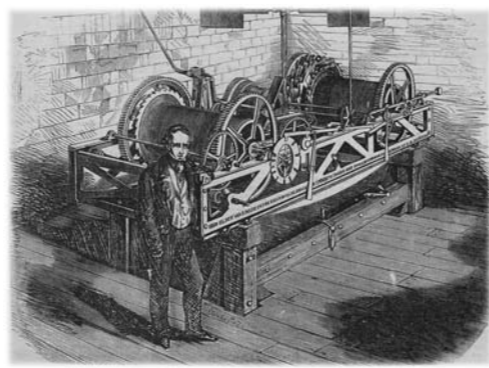
The design was furnished Mr. Dent by Mr. Edmund Beckett Denison, Q.C., &c., who has devoted much of his valuable time to the study of clock and watch improvements.

The clock has been going for upwards of four years in its present position. The wheels – with the exception of the scape-wheel, weighing half-an-ounce – are of cast iron, cast with the teeth. The large wheels of the going parts are 27 inches in diameter, and contain 180 teeth; the barrel is 23 inches in diameter; the second-wheel is 12 inches in diameter. The width of the frame for the striking machinery is nearly 5 feet; and the bevelled wheels are 16 inches in diameter. The pendulum is 15 feet in length, and weighs 682 lbs. It is composed of an iron rod inclosed in a tube of zinc; the iron is pierced with holes to allow the circulation of air, and also of contraction and expansion. The escapement used by Mr. Denison is a remontoir, or gravity escapement, being more independent of the causes of vibration for the position this clock will occupy. Wire rope has been adopted, as being more economical and occupying less space. The winding wheels for the hours and quarters are of the same size as the large wheels. There is a clever piece of mechanism for stopping the winding when the clock is about to strike. The winding of each of the striking parts occupies two hours. The second-wheels are rather more than 18 inches in diameter, and contain 105 teeth. The great wheels of the striking parts, the barrels, and cam wheels, weigh 17 cwt., and are 38 inches in diameter. The levers are 19 inches in length.

The weight of the hour-bell is 14 or 15 tons; the hammer, 4 cwt.; the largest quarter-bell, 5 1/2 tons (about the size of the great bell of St. Paul's). The frame for supporting this mammoth of clock machinery is like the girders used at the Crystal Palace, 19 inches in depth, and 15 1/2 feet in length. The dials are to be 22 feet in diameter; the minute-hand, on account of its weight, and having to move nearly seven inches every half-minute, will require nearly twenty times the force to drive it as the hour hand.

The clock is capable of going eight and a half days, the striking part seven and a half days.

The accompanying Illustration [TOP RIGHT] has been engraved from a photograph by Mr. Freeman De la Motte. For the above details we are indebted to the present Mr. Dent, and his manager, Mr. Smith. A more copious description of this, the largest and most successful piece of clock machinery yet produced, will be found in the *Engineer*, for Oct. 31, 1856.



11th April 1857

THE CLOCK-TOWER AND SPEAKER'S RESIDENCE, NEW HOUSES OF PARLIAMENT

THE view chosen by our Artist for his representation of the Clock-Tower is the river front facing the Thames, from whose banks it rises majestically, and joins the residence of the Speaker of the House of Commons. This tower is an elegant object, from whichever point it may be viewed. Its grand and graceful proportions can only be estimated by an appeal to figures, and we therefore give a general idea of them. The total height of the tower to the top of the finial is 310 feet. The roof is composed of cast iron, galvanised; the finial at top is of wrought copper, gilt; and the total weight of the roof is estimated at 300 tons. The walls are of brick, faced with stone, and are three feet and a half in thickness. The area within the walls is occupied by a shaft for the weights and pendulum for the clock, and an air-shaft. There are also eleven stories of rooms and a staircase. One of the rooms will be appropriated for the confinement of those members who may be placed in the custody of the Sergeant-at-Arms. These rooms are all fireproof: from their windows there is a pleasant view of the river and the roofs and crocketed towers of the long pile of building stretching to Abingdon-street. The foundation of this tower is laid upon a bed of concrete upwards of fifteen feet deep; the brickwork commences at about fourteen feet below the level of the ground, upon the top of the concrete. The extraordinary thickness of this concrete foundation will not surprise the reader when he considers the great weight of the walls themselves; the weight of the roof; the ponderous great bell, and the four quarter bells; the necessary supports for the bells, and the large machinery of the great clock and its dials.

The walls have been erected under two contractors – the lower part to the Clock-Tower, we believe, by Mr. Grissell; the upper by Mr. Jay, the contractor at the present time for the New Palace works. The sculptural decorations are by Mr. John Thomas, of the Alpha-road; and the metal roof by Mr. Jabez James. The ornamental work in metal is partly by James and Hardman, of Birmingham. The gilding is by Mr. Crace.

The accompanying View [BELOW] has been drawn and engraved by J. and A. Williams.



17th October 1857

THE WESTMINSTER BELLS

All the Westminister quarter bells are now cast. The notes are B, E (the octave above the great bell), F Sharp and G Sharp. The B bell weighs about four tons and the three others together a little more than four tons, so that the whole peal, including the great bell of nearly sixteen tons, weighs as nearly as possible twenty-four tons, as originally estimated. If the tower and the iron beams are ready for them they may be taken up in the course of the next month, and the clock is ready to follow them.

24th October 1857

THE GREAT BELL OF WESTMINSTER

We regret to announce that the great bell cast for the clock tower of the new Houses of Parliament has, by some accident, become a ruin. It has lately been the custom to toll it a short time at one o'clock on Saturdays. Last Saturday this was about to be done as usual, but after the hammer had struck the third time it was found that the sound was not the old familiar E natural, but cracked and uncertain. A close examination proved that the bell was cracked. The crack in the bell rises perpendicularly from the rim, or lower lip, to about halfway up the side, and it is directly opposite to the spot on which the bell was struck by the large hammer.

26th December 1857



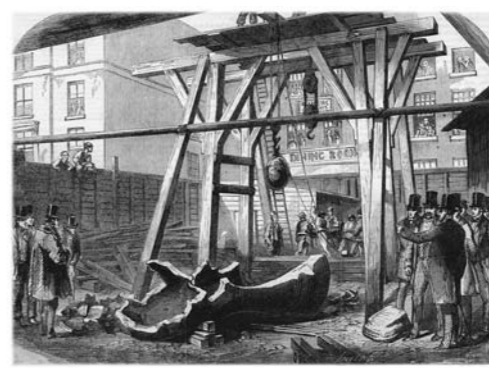
6th March 1858

BREAKING-UP "BIG BEN"

THIS is the age of great wonders, more especially in arts and sciences. Almost every country in the world has had its Great Exhibition, and overgrown London has its big bore or tunnel, its big ship, and its big bell. But success is not always proportionate to size, and the great bell for the great clock at Westminister is a case in point. The bell having been cast at Norton, near Stockton-on-Tees, had to be conveyed by railway to West Hartlepool to be shipped for London. It was too wide for any train meeting it to pass, and, of necessity, had the railway to itself. It reached Maudslay's wharf in safety, and was then drawn upon a low truck, by sixteen horses, over Westminister-bridge, and safely deposited at the foot of the clock-tower in Palace-yard. This took place some sixteen months ago. It was followed by the experiment with a hammer of half a ton weight, which fully brought out the sound. Up to this time all went merrily "as a marriage bell;" when the savans not being content to let well and bell alone, in repeating the sounding experiments, cracked Ben, though the metal was nine inches thick. Bells have the faculty of speaking, and Ben might have quoted the family motto of the then Lord President of the Council – *Frangas, non flectes* – thou mayest break, but not bend. There lay the giant of sound, reminding one of "the cracked bell" in the mystical composition known as Hogarth's "Tailpiece."

Next came the last scene in the brief history of the great bell, and poor Ben had to be broken to pieces on the spot where he was first deposited at the foot of that clock tower to which his admirers hoped he was to have given voice for centuries to come. This took place on Thursday, the 18th ult. The process by which the enormous mass of metal was reduced to fragments may be told in a few words. Ben was simply lowered from the massive framework which supported him in the corner of Palace-yard, and laid upon his side on the ground. In this position the great weight of the head of the bell caused it to sink into the earth, so as to leave its mouth, instead of being completely vertical, slightly inclined upwards, yawning like an enormous cavern. From the framework above an ordinary rope and block were fastened, and with them, by the aid of a windlass, a ball of iron weighing 24 cwt. was hoisted to a height of about thirty feet, and when the proper moment arrived suffered to fall with all its weight upon Ben.

There was something lugubrious in the attendance of the Rev. Mr. Taylor and Mr. E. Beckett Denison, Q.C., who came in a kind of mourner-like capacity to see the last of the bell on which the latter gentleman has discoursed so minutely, to the great delight of the members of the Royal Institution in Albemarle-street. The breaking-up (by the way, a few days before the break-up of the Ministry) was after the manner of pile-driving in the river hard by. The instant the heavy iron ball reached its appointed height the string was pulled, and down came the



mass in the inside of "Ben's" sound bow, and, with a crazy bellow, two pieces, one of about a ton, and one of some 10 cwt. or 12 cwt., were knocked clean out of his side. After the first blow the work of destruction went on rapidly, piece after piece was broken out till scarcely anything but fragments remained of poor "Ben," and even these were carted away as fast as possible to Messrs. Mears' foundry in Whitechapel.

The bell has now to be recast; hence "a question arises" – will the new bell retain its name of "Big Ben," or will it be called, after the new Chief Commissioner of Works, "Big John." We leave the reader to settle this "ringing of changes."

17th April 1858

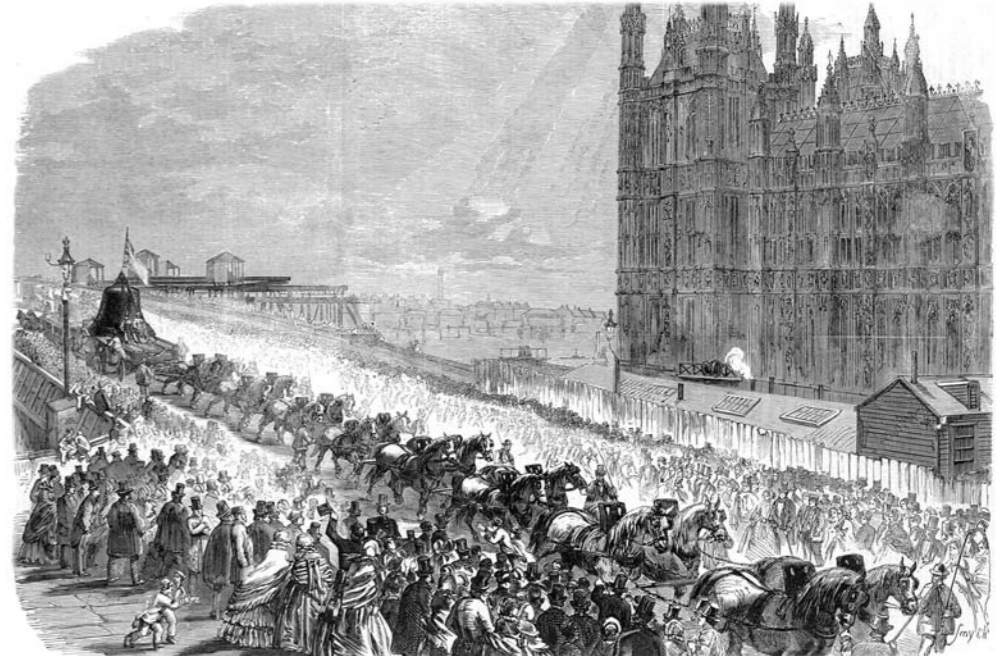
RECASTING OF THE CLOCK BELL FOR THE NEW HOUSES OF PARLIAMENT

THE recasting of the great Bell for the Clock Tower of the new Houses of Parliament took place at the bell-foundry of Messrs. Mears, Whitechapel-road, on Saturday last. The old bell was begun to be broken on the 17th of February last, and the operation lasted nearly a week.

The pattern of the new bell was begun in November last, from a drawing given by Mr. Denison; and the making of the mould commenced on the 18th of December, and was continued without interruption till about three weeks ago, when it was finally put together and rammed up.

The mould consists first of the core, which is built up of bricks, covered with clay, and formed to the shape of the inside of the bell, by means of a board, called the sweep or crook, travelling round a centre. When this is well dried, by a fire on the inside, what may be called a clay bell is made upon it, the outside of that being "swept" out by another crook in the same way. This also has to be thoroughly dried before proceeding to the next operation, which is the making of the cope, or outside mould, of the bell. This is made of clay or loam, held together with iron bands, and fitted with hooks to lift it when it is dry. When it is lifted it brings the clay bell with it, holding by means of the thin beads which may be seen round all large bells, and technically called "wires." The clay bell is broken out of the cope, which is then put down again over the core, and in this instance was bolted down between a large iron plate under the core and a smaller one on the top of the cope.

The pit was 13 feet deep, and, the extreme height of the bell being 7 1/2 feet, there is a considerable space left for a dead head, or pressure of metal, which is essential to produce sound casting at the top. After the cope is put on and bolted down, the pit is filled with sand and well rammed, and this operation

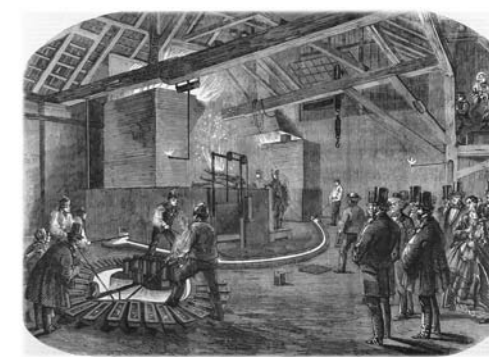


occupied twenty-seven men four days.

The metal was melted in three furnaces, holding together very nearly eighteen tons, of which nearly sixteen tons was the metal of the old bell, and the rest new metal, previously run into ingots, in proportion of seven of tin to twenty-two of copper, as in the former bell. The larger pieces of metal remained in the furnace about twenty hours, and the smaller ones about ten hours. Mr. Mears still uses only wood fuel, as the old founders did, which does not melt the metal so quickly as coal, but is supposed to be better in its action.

An operation was performed here for the first time in bell-founding – viz., blowing hot air into the mould during the whole of the day before casting. This is now usually done in large castings of brass or gun metal, and Mr. Denison wished to have it done with the former bell, but Messrs. Warner thought it unnecessary. On this occasion it was made one of the conditions of the contract. As soon as the metal in the furnaces was pronounced hot enough, the hot air was cut off and the airhole filled up.

The fountains of metal were opened at twenty-seven minutes to eight p.m., and the mould was filled up in twenty minutes, the workmen regulating the supply as seen in the Engraving [BELOW]. Nothing can be known of the success of the operation for two or three weeks from the time of casting, as it will take a fortnight to cool. We shall give full particulars of the exact dimensions and weight of the bell hereafter.



5th June 1858

THE GREAT BELL FOR THE HOUSES OF PARLIAMENT

THE Bell, of the casting of which we gave an Illustration about a month ago, having been dug up and proved to be perfectly sound, was on Friday morning week safely conveyed from Messrs. Mears's Foundry, in Whitechapel, to the foot of the Clock Tower, where it is now suspended on the same framework which bore its unfortunate predecessor. Though it has not yet been struck by a proper clapper, there is no question that the note is far superior to the former one, whilst the vibration of the ponderous mass is so perfect that sound can easily be produced from it with the knuckles only. The bell was hoisted without accident on Friday morning, between eight and nine o'clock, on to the truck belonging to Messrs. Maudslay, the men having been occupied all night in adjusting the tackle, and getting it out of the foundry into the street, where a considerable crowd had remained during the whole of the proceedings. It was then taken in tow by sixteen powerful

*Note from Guy Fox: The Illustrated London News has made a reporting error! Mr. Dent made the Great Clock, not the bell. Mr. Warner made the bell. Although I'm not sure who was present at the testing of the bell, I assume it was Mr. Warner.