

INDIA.

The following telegram from Acting Consul-General Green was received at the Foreign Office on Thursday afternoon:—

ALEXANDRIA, Oct. 11, 1883.

The steamer Madras arrived at Suez from Bombay yesterday, with dates to the 24th ultimo.

The disbanded troops at Mooltan, consisting of the 62nd and 69th Bengal Native Infantry, mutinied on the 31st of August. Their almost total extermination was the consequence. An officer and four men were killed in the outbreak.

Lieutenant-Colonel Robertson came up with the fugitives from Powee on the 5th of September. The rebels were defeated with great slaughter.

Four emissaries of the Nana have been captured at Gwalior, endeavouring to tamper with the 25th Bombay Native Infantry, who informed their officers of their proceedings. The culprits were executed.

The Gwalior fugitives, under their leader Tantia Topse, after their defeat by General Roberts, turned towards Malwa, and occupied the town of Jula Patun, the Rajals troops deserting him. The rebels secured a large amount of treasure, and about forty guns. Tantia Topse then moved towards Bhopal, but was met and defeated by the Mhow field force, under General Michael, between Bogah and Bearo, on the 18th September. The rebels were dispersed in all directions, and thirty guns captured, with trifling loss on our part.

This telegram arrived at Malta from Alexandria by the contract steam-packet, 10.30 a.m., on the 14th October, 1883.

M. STORFORD, Vice-Admiral.

The telegraphic news from Calcutta is to the 8th of September, from which it appears the movements of General Roberts have terminated in a great success. On the 14th of August he overtook the rebels at a place near Valnahr, capturing four guns and all their ammunition, and killing 700 on the field. The rebels fled in all directions. After the fight cavalry and artillery were sent in pursuit, to cut up as many as possible, and to seize their elephants.

General Grant has driven the rebels from Sultapore, where they mustered in great force.

The latest intelligence of the Gwalior rebels is that they have succeeded in crossing the Chambal at Sagool Khan, and had reached Gossowan. Colonel Parke, who was in pursuit of them, had been misled by incorrect information, and thus missed them.

Nana Sahib is hard pressed in the jungles, where he has entrenched himself. It is stated that the Begum of Oude has offered to give up Nana Sahib, on condition of pardon.

CHINA.

Intelligence from Hong-Kong to the 24th of August states that, in punishment of the late outrage at Namtow, General Van Straubenzee, with 700 men, had sacked and burned the place. Another account states that the town was spared and the forts were demolished. The troubles at Ningpo continue. At Canton affairs, according to one source, are satisfactory; whilst in another letter it is stated "there is no change in the state of matters at Canton, nor is it known whether Sir Michael Seymour is accomplishing his mission to nurse Without dealing rigorously with the partisans of the war party, it is very doubtful if any security for the future will be gained."

Namtow was a town from which the colony of Hong-Kong was accustomed to draw provisions. It was also a centre of malcontent agitation, where the Shunkun gentry were accustomed to devise means for intercepting or diverting our supplies. The particulars of the outrage are thus stated:—"The gun-boat Starling was sent to the place, apparently at the end of August, to distribute copies of a proclamation by the Governor of Hong-Kong, informing the people of the conclusion of peace, and warning the gentry against continuation of the past annoyances. The proper authorities were not to be found, and five persons ventured to post up copies of the document in the seaboard suburbs. The people seemed friendly, but a number of Chinese soldiers rushed down on our small party, and one of our men, a sailor, was killed and another wounded. The people of Namtow, in their anxiety to excuse themselves, declare that they were powerless in the hands of a pirate and his band, and in the prevailing anarchy, had established themselves. The general intelligence does not appear to be favourable to the defence, nor admitting its probability, did not recognise it as a sufficient reason for declining the opportunity of making an example of the town where the outrage had been committed."

WEST COAST OF AFRICA.—The *Gambia*, Royal African mail-steamer, Captain J. M. Delamotte, arrived at Plymouth on Monday morning with mails and passengers. Amongst her passengers are the master, mate, and engineer, with a crew of 25. The cargo consists of 254 casks of gold, 3860 lb. specie, 414 puncheons of palm oil, canwood, ivory, arrow-rod, cochineal, and indigo. At Camaroon and Old Calabar trade was dull, but the rivers healthy. The *Mygdonia* and two Spanish men-of-war were there. Lieut. Glover, R.N., reports that the *Sabana* is supposed to be ashore in the Bights, and that the *Krona* have deserted her and taken the steamer's boats. The Governor of Accra had started on an expedition to Crobbow, to subdue the Ashantee chiefs who had refused to pay the poll-tax imposed by the Governor. The Niger expedition steamer *Rainbow* had passed Cape Sable, and the *Boon* had been sent to Shoober, under Sierra Leone, in the *Sphire*, to put down a disturbance between the natives, but no definite results had been obtained. The captain and crew of the *Anglo-Saxon*, of Boston, United States, are lying at Bathurst, all dead of fever. The *Gambia* passed the *Bithiope* near Santa Cruz.

NATAL.—We have received papers from Natal to the 17th of August, in the *Montezuma*. The attention of the Government is daily coming into D'Urban. The sugars made by Mr. M. Kenzie, of the new Craigie Burn Estate, Uncomas, are spoken of in the highest terms, the grain and saccharine strength being equal to the best Mauritius sugars. The yield is said to be fully two tons and a half per acre. In a few years there is but little doubt that Natal will become an important article of commerce to Natal as well as to this colony. Several of the Free State farmers had crossed the border and settled in Natal, bringing with them 10,000 sheep. They prefer the protection of the British Government to the unsettled state of the Orange River settlement. The attention of the farmers of the middle and upper districts is being drawn towards sheep-farming. Sheep are much called for, and the *Natal Mercury* writes:—"If sheep could be brought by our steamers at not more than 3s. per head, large purchases would be made in the old colony for shipment to Natal." The arrowroot crop for this year is said to be the finest in quality, and the quantity is largely in excess of former years. So high a price as £50 per ton in one instance, and in another £42, has been given. Competent judges, in comparing this year's crop with the best Bermuda, can see no difference as regards either cost or quality. The *Phoenicia*, with 117 migrants from Plymouth, arrived out on the 10th July, in 76 days.

THE SOCIETY ISLANDS.—We have important news from the Society Islands, dated at Raiatea, and Tahaa, on the 9th of June, and at Tahiti on the 12th of July. The governors of the first named islands—who have the power of appointing or deposing the King—had, it appears, taken the supreme power from Tamatoa, V., son of Queen Pomare, of Tahiti, who was elected chief of Raiatea, and had been sent to Tahiti, when he decided to return to the home of his mother, Pomare, and thus the islands were left without a ruler. In this emergency the governors offered Consul Owen, of the United States, to surrender the islands of Tahaa and Raiatea to the American Government, and handed over the letters to that effect for transmission to Washington. This movement gave great offence to the representatives of England and France, who incited a sort of revolution against the governors. In this state of affairs the French warship *Hydrophore*, under the command of the Commodore, was sent to Tahiti, and Mr. Jordan, American citizen, and his commander took Mr. Thomas to Tahiti, on account of their amercement privileges.

THE SANDWICH ISLANDS.—The news from the Sandwich Islands is dated at Honolulu on the 6th of August. King Kamehameha had commenced a system of territorial annexation, by declaring Oorowahia, in 16 to 16 deg. 48 min. N., and long 169 deg. 03 min. W. from Greenwich, and Kalanaia Island, in 16 to 16 deg. 48 min. N., and long 169 deg. 21 min. W. part of the domain of the King of the Hawaiian Islands. On the 25th of July a smart shock of an earthquake was experienced in the districts of Hana and Koolau, East Maui. On the 1st of July the anniversary of the restoration of the Hawaiian flag was observed as a general holiday all over the islands.

MEXICO.—Accounts from Mexico report the vomito prevailing extensively at Vera Cruz, and numbers were dying daily.

THE WEATHER.

RESULTS OF METEOROLOGICAL OBSERVATIONS AT THE NEW OBSERVATORY OF THE BRITISH ASSOCIATION. Lat. 5° 28' N.; Long. 6° 18' 47" W.; Height above sea, 34 feet.

Table with columns: DAY, Barometer Corrected, Temperature (Air, Sun, Surface, Dew), Wind (Direction, Force), Rain (Inches), and other meteorological data for Oct. 6-12.

METEOROLOGICAL OBSERVATIONS AT THE CAMBRIDGE OBSERVATORY FOR THE WEEK ENDING OCT. 13, 1883.

Table with columns: DAY, Barometer at 9 A.M., Highest Temperature, Lowest Temperature, Adapted Mean Temperature, Dry Bulb, Wet Bulb, Direction of Wind, and Rain in 24 hours.

The range of temperature during the week was 82.3 degrees.

The weather has been very unsettled during the week. Rain was falling heavily on October 6 and morning of the 7th, but on the evening of the 7th, accompanied with heavy rain, took place on the night of the 10th. Lightning was seen on the night of the 8th, and great numbers of meteors on the night of the 10th. The first frost of the season occurred on the night of the 8th, and the ground was quite white at 8 a.m. of the 9th. Although heavy fog prevailed throughout the day and night of the 13th, the comet was visible for a short time during the evening.

The barometer reading given last week at that of Sept. 30 belongs to Sept. 29. On Sept 30 the reading was 29.557 inches at 9 a.m.—J. BREES.

THE FOUR COMETS.

We subjoin the following particulars respecting the four comets which are now engaging the attention of astronomers:—

DONATI'S COMET.—Some very fine views have been obtained of the comet since the beginning of October, both telescopic and otherwise; and several remarkable changes have taken place in the appearance of the head and nucleus during this interval. As far as we are aware the comet has not yet been seen during full sunshine; and although the nucleus has been very bright, the light has hitherto been too little concentrated to be visible when so near the sun. Since October 8 or 9, the comet has been perceptibly waning in lustre; and although it still preserves nearly the same dimensions as formerly, yet its increasing distance from the sun has already commenced to tell on its brightness. From this circumstance, as well as from its approaching nearer to the horizon on each successive evening, we may abandon all hope of its visibility in the daytime, although many less numerous and less interesting comets have been seen at the height of October 2 a nebulosity was seen in the tail of the comet at the Observatory in Rome, which was duly published in the bulletin of the Paris Observatory, and considered as the probable repetition of the phenomenon many times, which occurred when, as it was known, that body fell into two portions, which have since remained divorced. It was quickly found, however, that this phenomenon was altogether due to the tail of the comet passing over the splendid cluster of stars, the *theta* in the catalogue of Messier, an object second only to the great cluster of Hercules in our sky. The publication of this telegraphic despatch, it has since appeared, was due to the absence of M. Secchi, the astronomer at Rome (but who is now at Berlin), and the simultaneous absence of M. Leverrier from the Paris Observatory. Both these phenomena might have occurred, and the comet would have passed directly through the great nebulous region of Coma Berenices. It would seem that this comet is longer and larger, if not as bright as the famous one of 1811 (at least as seen in the British Islands); the greatest length of the last appears not to have exceeded 100,000 miles, but the present one has exceeded 500,000. From the observations which have hitherto been made it would seem that this comet will return in 2100 years' time; but with comets of long period, and with the observations not yet fully discussed, calculations cannot be certain to a few centuries. After October 27 the comet will altogether disappear from our latitudes, and will probably not be seen for some days before that date. The positions of the comet between October 16 (to-night) and October 27 are as follows:—

Table with columns: October 16, 19, 22, 25, 28, and 31, showing Right Ascension, Declination, South, and other astronomical data.

Drawings and descriptions of the changes which have taken place in the comet will appear in the ILLUSTRATED LONDON NEWS on October 14.

ERCKE'S COMET.—This highly-interesting but small faint object is now a well-recognised member of our system, and its motions are far better known than those of many of the recently-discovered planets. On the 12th instant it entered the 12th hour of right ascension at 34.10m of north declination, and was at that morning at 4h. 10m of right ascension, and 10m of the horizon. The following morning it passed close to the star Eta in the constellation Virgo, and thence continued its course in the direction of the bright star Spica. Its period of revolution occupies only three years and four months.

FAVE'S COMET.—This is a still smaller and miserably faint patch of light, which, however, revolves about the sun in a period of seven years and a half. On the 1st inst. it was situated a little to the south-west of the star Gamma, in the constellation Gemini. It moves slowly along in the neighbourhood of the Minor, and will reach the bright star Procyon about the middle of November.

TUTTLE'S COMET.—On the 5th ultimo Mr. Horace Tuttle, a young astronomer attached to the observatory of Harvard College, Cambridge, United States, discovered a small telescopic comet near the star Capella, which has since moved across the constellation Perseus, and will attain its greatest brightness on November 15th (in the U.S.). It is highly probable that it will be all discernible without telescopic aid. This is the seventh comet which has visited our system during the present year.

SIR ISAAC NEWTON ON COMETS.

(To the Editor of the ILLUSTRATED LONDON NEWS.)

As probably few of your readers have "Newton's Principia" at hand, it will be interesting to them to read in your columns what the great philosopher has written upon the nature of comets. In the third book of the "Principia" he gives an account of the comet of the year 1680—not the one commonly known as Halley's Comet. Newton then gives a particular account of the path of this comet, with a diagram representing it, and the tail which it exhibited in several places. He shows how at first the tail did not appear at all, then how it began to appear, and how on increasing until it reached its maximum, and then decreased, until, "Feb 25th, the comet was without a tail, and so continued until it disappeared."

Then follow his remarks upon the nature of comets generally. He says:—"Now, if one reflects upon the orbit described—viz., an exceedingly elongated ellipse—and duly considers the other appearances of this comet, he will be easily satisfied that the bodies of comets are solid, compact, fixed, and durable. In the bodies of the planets, for if they were not thus, but the vapours or exhalations of the earth, of the sun, and other planets, this comet in its passage by the neighbourhood of the sun would have been immediately dissipated; for the heat of the sun is as the density of its rays—as it is, proportionally as the square of the distance of the places from the sun; and since on December 8th, when the comet was in its perihelion—i.e., the nearest point of its orbit to the sun—the distance thereof from the centre of the sun was to the distance of the earth from the same as about 6 to 1000, the sun's heat on the comet was at that time to the heat of the summer sun with us, as 1,000,000 is to 36, or as 28,000 is to 1. But the heat of boiling water is about three times greater than the heat which dry earth acquires from the summer sun, as I have tried; and the heat of red-hot iron (if my conjecture is right) is about three or four times greater than the heat of boiling water; and therefore the heat which the comet received from the sun in its perihelion was about 84,000 times greater than the heat of red-hot iron. But by so fierce a heat vapours and exhalations, and every volatile matter, must have been immediately consumed and dissipated. This comet, therefore, must have received an immense heat from the sun, and remained that heat for an exceedingly long time." Concerning the tails of comets he says—"It is further to be observed that the comet in the month of December, 1680, just after it had been heated by the sun, did not emit a much longer and more splendid tail than in the month of November; before, when it had not yet arrived at its peri-

helion; and universally the greatest and most fulgent tails always arise from comets immediately after their passing by the neighbourhood of the sun. Therefore the heat received by the comet conduces to the greatness of the tail; from whence I think I may infer that the tail is nothing else but a very fine vapour, which the heat or nucleus of the comet emits by its heat.

"But," he continues, "we have had three several opinions about the tails of comets. Some will have it that they are nothing else but the beams of the sun's light transmitted through the comets' heads; so that they proceed from the refraction which light suffers in passing from the comet's head to the earth; and, lastly, that they are a sort of clouds or vapour constantly rising from the comets' heads, and tending towards the parts opposite to the sun. The first is the opinion of such as are yet unacquainted with optics; the second is liable to many difficulties (which are explained at some length); and therefore it remains that the phenomena of the tails of comets must be derived from some reflecting matter."

Newton then proceeds to show that the tails of comets do arise from their parts opposite to the sun. The first is the opinion of such as are yet unacquainted with optics; the second is liable to many difficulties (which are explained at some length); and therefore it remains that the phenomena of the tails of comets must be derived from some reflecting matter." Newton then proceeds to show that the tails of comets do arise from their parts opposite to the sun. The first is the opinion of such as are yet unacquainted with optics; the second is liable to many difficulties (which are explained at some length); and therefore it remains that the phenomena of the tails of comets must be derived from some reflecting matter." Newton then proceeds to show that the tails of comets do arise from their parts opposite to the sun. The first is the opinion of such as are yet unacquainted with optics; the second is liable to many difficulties (which are explained at some length); and therefore it remains that the phenomena of the tails of comets must be derived from some reflecting matter."

He then shows, by arguments derived from the rarity of our own atmosphere, that the atmospheres of comets may supply vapour enough to fill the immense spaces which they do; and he observes that the brightness of the tails of comets is not ordinarily greater than that of our air, an inch or two in thickness, reflecting in a darkened room the light of the sunbeams let in by a hole of the window-shutter."

The question, what becomes of the tails as the comets re-aside from the sun, answers that the tails that rise in the right position of a comet will either return again from thence to us, after a long course of years, or rather will be dissipated, and by degrees quite vanish away; for afterwards new short tails will be generated in the descent of the heads towards the sun. It is not unlikely that the vapour thus emitted may be at last dissipated over the whole heavens, and by little and little be attracted towards the planets, and mixed with their atmospheres. "I suspect, too," he adds, "that it chiefly from the comets that spirit comes which is indeed the smallest but the most subtle and useful part of our air, and so much required to sustain the life of all things with us."

He gives the following as a rough method of calculating the time spent during the ascent of the vapour from the comet's head to the extremity of the tail. He draws a right line from the extremity of the tail to the sun, and marking the place where the line intersects the comet's orbit, the vapour that is now in the extremity of the tail, supposing it to have ascended in a straight line from the sun (which is not, however, quite so), must have begun to rise from the head at the time when the head was in the point of intersection. The time occupied by the comet in moving from that place to its actual one will be the time required.

I think, sir, that whilst so many loose conjectures are afloat about comets and their tails, these extracts from the great philosopher himself will be acceptable to all who are inquisitive into the philosophical part of any tale to show how very little more we know in these advanced days of science concerning these glorious visitors to our skies than was known and explained by Sir Isaac Newton nearly two hundred years ago. I am, &c., Cambridge.

NEWS OF THE COMET.—Continental astronomers are not behind our own in the interest which they take in the comet. A telegraphic despatch sent from Rome to the Imperial Observatory of Paris on the 3rd inst. announced the appearance in the tail of the Donati comet of a nebulous body, taking the form of what may be called a minor nucleus, so that it is not unlikely that the *Maignio* comet in "the *posmos*," to observe with our own eyes the phenomenon of the comet of Biela—that is, the comet separating itself into two stars moving harmoniously in the same orbit. The Abbé Moigno informs us, that he carefully observed the comet on the 4th, in the parabolic reflecting telescope of M. Foucault, and found it to consist of a series of envelopes in the form of sharp-pointed crescents, within which blazes the nucleus, infinitely small, but intensely bright, like the carbon point of an electric light generated by a powerful Bunsen's pile. M. de Ligny, of Paris, has discovered in the primary envelope, a little to the right and below the nucleus, a very distinct nucleus, which is difficult to account for. But the most astonishing circumstance is the existence of a conical space, void of all light, throughout the tail, opening from a point at the nucleus, and spreading out on either side of the axis of the tail. During the transit of Arcturus across the tail, on the 5th, the star lost brightness considerably while immersed in the tail, and its apparently excessive splendour while in the middle of it arose probably from contrast.—*Mechanics Magazine*.

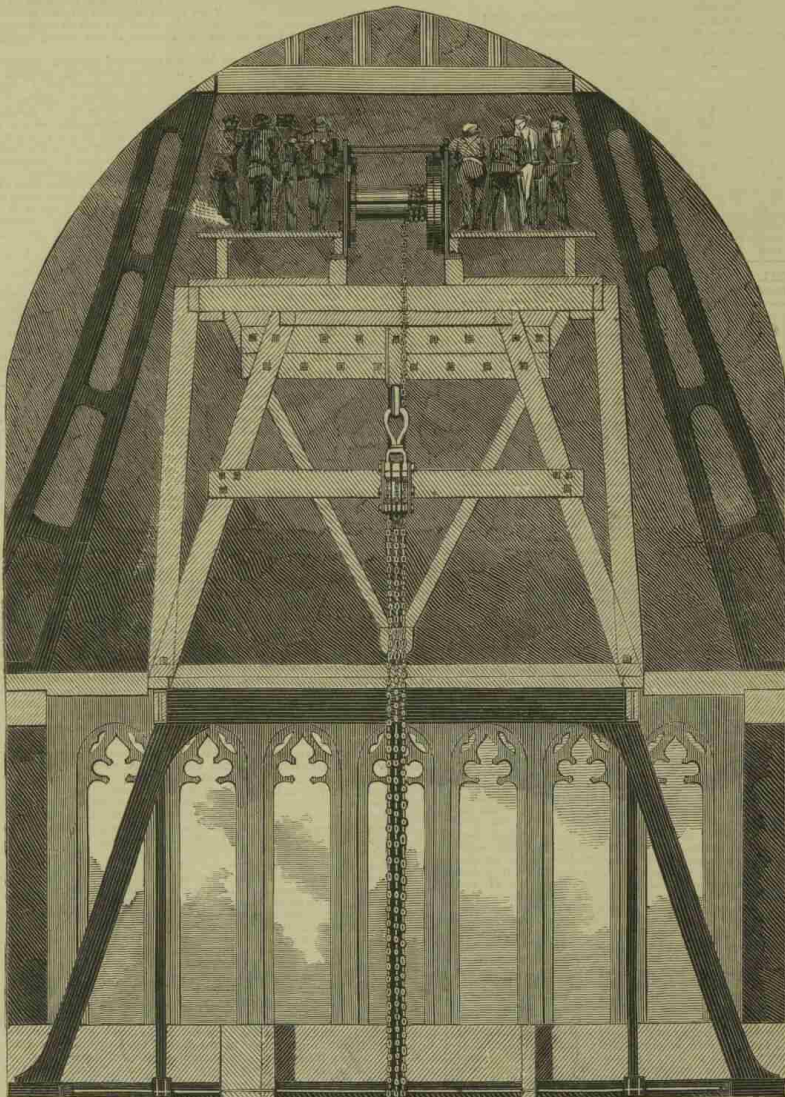
A REVOLT IN MOROCCO.—A letter from Tangiers of the 10th ult. in the *Albion* of Algiers says:—"The majority of the Moorish tribes composing the Chaouia lately revolted against their Caïd, Ouled Rachid, in consequence of the heavy taxes which he imposed on them. The Chaouia almost surrounds the territory of Casablanca, and extends to the neighbourhood of Rabat on one side, and on the other to a great distance into the interior. The sheiks of the tribes now in revolt complained to the Emperor of Morocco of the conduct of their Caïd, but obtained no redress. On receiving this information the Emperor, who is the son of the late Emperor, sent him from that fate, and any further attempt against him was suspended until the Emperor gave his orders. What those orders may be is not known, but it is probable that the Emperor may replace Ouled Rachid by another Caïd, and take the opportunity of enriching himself by confiscating the property of the rebels. The Emperor has also given orders to the Chaouia. Meantime the insurgents wander about the country and pillage every one they meet. The inhabitants of Casablanca cannot venture to go beyond the gates of the town without being liable to fall into the hands of those who are waiting for them, and are obliged to be well guarded night and day, in order to prevent the place itself being pillaged."

RAISING THE GREAT BELL AT THE NEW PALACE, WESTMINSTER.

On the next page we give two illustrations of this interesting event. Our small view shows the bell entering the arch, being propelled by levers upon a tramway. The larger one gives a section, view of the moving of the bell.

The la-var 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 grinders must be erected for the purpose of bearing the weight of the bell before it is hung, and for this purpose the grinders will be placed on its side, rested on a strong cast-iron block bottom, as will be seen in the diagram, the sides of the cradle being added during its sojourn under the lower part

Image © Illustrated London News Group



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—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 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. The work of hoisting has been an arduous and anxious affair for all engaged, and we hope their labours will be appreciated.

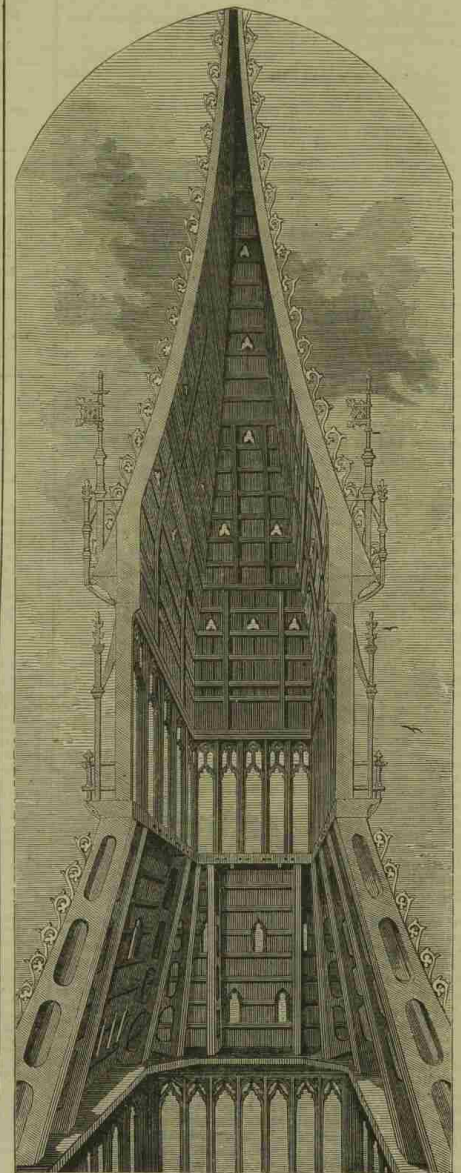
The quarter bells of the Clock Tower were raised to their places last week, awaiting the ascent of their ponderous chief to commence active duties.

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 qrs. 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

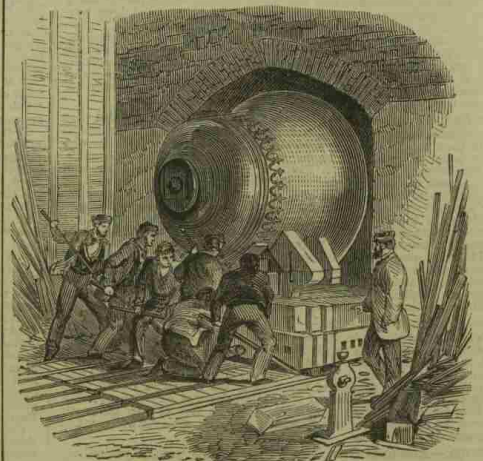


SECTIONAL VIEW OF THE CLOCK TOWER.

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 keynote), 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."



MOVING THE GREAT BELL.