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# MADRAS RECORD OFFICE

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## Government of Madras

Public Works DEPARTMENT

G.O. No. 499 Press Original
B.P.—No. —Mis.—

Dated 27-2-1874 —195—.

**Not to be folded or roughly handled**

*Proceedings of the Madras Government, Public Works Department, 27th February* 1874.

No. 549. Read the following Circular from the Government of India, Public Works Department, Buildings and Roads (Civil Miscellaneous,) dated Fort William, 15th December 1873, No. 70:—

ABSTRACT.—Forwarding papers on the subject of Marezzo Marble.

No. 550. ORDER THEREON, 27th February 1874, No. 499.

CIVIL WORKS, No. 45.

CIRCULATED for information.

2. It is observed that no specimens have come to hand.

(True Extract.)

(Signed) G. W. WALKER, Colonel, R.E.,

*Secretary to Government.*

To the Inspecting Engineer for Buildings.
,, Consulting Architect.
To District Engineers.
To the Consulting Engineer for Railways.

Exd. E. C. Shunker.
Spare Copies

P. W. Dept.

CIRCULAR No. 70 PUBLIC WORKS.

# GOVERNMENT OF INDIA.

## PUBLIC WORKS DEPARTMENT.

BUILDINGS AND ROADS.
Civil Miscellaneous.

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FORT WILLIAM, DECEMBER 15, 1873.

*Copy of the following correspondence forwarded to Local Governments and Administrations, in the Public Works Department, for information.*

(By order)

*Captain, R. E.,*
*Asstt. Secy. to the Govt. of India.*

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No. 7215, dated 15th November, 1873.

*From*—CAPTAIN H. McV. CRICHTON, R. E., *Asstt. to Inspr. Genl. of Mily. Works,*

*To—Secretary to the Government of India, P. W. Dept.*

I have the honour to return the specimens of Marezzo Marble received with Public Works Department No. 459 B—C of 5th instant, and to state that I am of opinion that the cost, assumed at 1 Rupee per square foot, exclusive of all other charges, such as carriage, bed of concrete, terrace or brick, on which they would have to be laid for floors, and labour of laying, would make it undesirable to use them for such purposes as hospital floors, or for use in any way in any Military building, except, perhaps, for the floors of chancels and aisles of churches.

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Dated 25th July, 1873.

*From*—MAJOR W. F. STEHELIN, *late Brigade-Major, 67th Regiment,*

*To—Secretary to the Government of India, General Department.*

In forwarding enclosed copy* of a letter to my address from the Under Secretary of State for India, in reply to a communication from me on the subject of the Marezzo Marbles, I have the honour to state that unforeseen circumstances prevented me at the time from following out the recommendation of His Grace the Secretary of State by referring the subject to the Government of India.

* Marked A and attached.

The delay, however, has only tended to confirm my opinion of the great value and adaptability of the Marezzo Marbles for use in the climate of India, for which they are particularly suited on account of their coolness, durability and cheapness, for they are very nearly as cool to the touch as marble, their durability as great, and their beauty equal, for they are made perfect *fac-similies*, the rarest and the most common marbles being alike imitated with equal facility.

*Vide* Official Report on Marezzo marbles by Morton Edwards, Esq., marked B, and attached.

To The Secy to the Govt of Madras
P. W. Dept

Moreover, the manufacture of these marbles is not merely confined to imitation alone, for any design of original ornamentation, however elaborate, can be carried out, and which, in fact, has already been done to some extent in England, and to vouch for which, I beg to refer you to a Report* kindly furnished me by that eminent Architect, Walter Emden, Esq; I also would beg to refer to the Report† from the pen of Morton Edwards, Esq., Secretary of the Society of Sculptors, and to some valuable opinions‡ of the Press.

* Marked C and attached.

† Marked B.

‡ Marked D and attached.

I would, however, more particularly draw your attention to its very great value in a sanitary point of view for use in the hospitals of India, as exemplified in a Report§ from Surgeon-Major Russ, "The Royal Scots," a gentleman who has had a long experience of hospitals in tropical climates, in the West Indies, India, China and Japan, having done duty with the 67th and 93rd Regiments in those Stations of the British Army.

§ Marked E.

As regards the question of cost, it appears, to quote the Report of Morton Edwards, Esq., that the Marezzo Marbles are one-tenth the price of marble, and one-half the price of scagliola and enamelled slate, but practically, I may say their cost is 2 shillings the square foot, for which they are readily sold in England (subject, of course, to a reduction in large contracts) and although doubtless at first sight this may appear a large price, yet when it is taken into consideration that, when once fixed, it requires no repairs, being as durable as marble itself, it will, I think, be seen that its use for hospital walls, ceilings and floors in India will actually result in a great economy to the public purse, for it will save the expense of the large annual repairs, white-washing, &c., at present required.

I think I am justified in taking for granted that the cost of the production of these marbles will be the same in India as in England, for I have ascertained from actual data that the difference in the cost of laborers' wages in India will counterbalance the expense of importation of the raw material, for it is proposed to establish the manufacture of these marbles in India, and as it will be impossible to hope for any success in such an undertaking without the powerful support of the Supreme Government of India, I have taken the liberty to forward you six specimens of the Marezzo Marbles by Parcel Post, and to request your favourable consideration of the subject, and should it, on the face of it, appear of sufficient importance, then to beg the favour of your moving His Grace the Secretary of State for India to appoint qualified gentlemen to report upon the Marezzo Marbles, and their adaptability for use in the hospitals and other public works in India, as well as for general use among the Native Princes and Nobles of British India.

In conclusion, I may add that enquiries about these marbles have already been made by eminent Firms in India, and that the Government of the United States of America has granted a large contract for its use in the new Post Office and Treasury in Boston, Mass.

It is largely used in Paris and Belgium, and in England many works of importance have been done in this marble too numerous to mention in this communication.

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P. S.—Since I have commenced this, I am in a position to state that the Patent for the manufacture and sale of the Marezzo marbles has been sold for the large sum of $210,000.

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A.

Dated 30th August, 1873.

*From*—H. Merivale, Esq., *Under Secy. of State for India.*

*To*—Major W. F. Stehelin.

I am directed by the Secretary of State for India in Council to acknowledge the receipt of your letter of the 13th instant, on the subject of the Marezzo Marbles, the manufacture of which has been lately commenced in England, and for the supply of which it is contemplated to establish a Company in India.

In reply, I am desired to state that any application which you may desire to make to the Local Government for the use of those marbles in public works in India, should be addressed to that Government direct.

The case which accompanied your letter will be delivered to you, or your Agent, on application at this Office.



B.

## OFFICIAL REPORT ON MAREZZO MARBLE.

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7, Gower Street, Bedford Square, W. C.
*March 7th*, 1872.

The Marezzo Marble is capable of being used for a variety of purposes, both useful and ornamental, and the following are its greatest recommendations :—

1*st.*—It is so close an imitation of some marbles, that the touch only can detect the real, and then only by the peculiar coldness marble always retains.

2*nd.*—Its cheapness, and the rapidity with which it can be prepared for use or sale.

3*rd.*—Its durability—it being entirely water-proof, and almost entirely fire-proof, and not affected by any ordinary traffic.

4*th.*—It can be obtained in any size, shape, or form.

There is no doubt whatever that the trade—home, foreign, and colonial—will continue to extend; and my opinion, given after a visit to the Works, in November 1871, as to its "being adapted to a variety of purposes for which it was not then used, and that when it was better known and tested, the trade would rapidly develop," has been fully borne out by orders since executed by the Company.

The Patent marble is particularly applicable for Floors, Skirtings, Panelling, Pilasters, Pillars, Columns, Mouldings, Covings, Ceilings, Staircases, Chimney-pieces, Slabs, &c.; and can even be successfully introduced in Baths, Fountains, and out-door work: in fact, it may be used for a Paper-weight or a Palace Staircase.

I have gone into calculations as to the relative price for Marble, Enamelled Slate, Scagliola, and the Patent Marble, for several articles, and it appears to be about one-tenth the price of Marble, and one-half the price of Scagliola and Enamelled Slate; while it may be procured in any size, is easier worked, and from its lightness costs but little for carriage or fixing.

I shall confidently recommend it whenever and wherever I have the opportunity, and intend using it myself.

MORTON EDWARDS, *Sculptor,*

*Sec., Soc. Sculptors, Sec. L. and A. Soc., etc., etc., etc.*

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C.

Dated 17th July, 1873.

*From*—Walter Emden, Esq.,

*To*—Major Stehelin.

Re *Patent Marezzo Marble.*

Having used the material known as the "Patent Marezzo Marble" in various works for which I have been the Architect, I have much pleasure in giving you information regarding its uses as a building material for decoration, sanitary, and other purposes.

I have employed the patent marble exclusively in decorating the entire of the wall surfaces of a billiard-room, and in a moulded archway, with its supporting columns, forming an opening between the billiard and smoking-room. In this case the work is of a Gothic character; the wall surfaces, generally, are treated as elaborate marble inlays, with enamelled panels on which are grotesques and other figure subjects; the archway is richly moulded, and the columns have foliated caps. Here, then, we have the material applied in inlays, comprising geometrical patterns and figure subjects in the wall surfaces, as moulded work in the archway, and as relieved ornament in the caps of columns. Its general adaptability to various modes of decoration could consequently have no fuller test than in this case to which I have therefore called particular attention, as the decoration is considered extremely good in execution and most effective in appearance. The inlays are well defined, the mouldings sharp and true, and the relieved ornament crisp and all that could be looked for in the natural marble from the hands of a skilled carver.

I have used the Patent Marble in decorating a large mansion in the country, in several ecclesiastical edifices, and in many less pretentious structures; in the latter it was usually applied in self-color as an imitation of ordinary stone. In every instance of its application it has been highly approved of, and its imitation of real marble has been pronounced perfect. Chimney-pieces, pedestals, vases, and such like are manufactured in the material with much success, and are in great demand.

The manufacture of the patent marble is of the simplest and most rapid kind, and does not necessitate any machinery. Much of the work is unskilled labour, and slabs of marble can be made in a few minutes, so that the cost of production is very trifling, and a few hundred pounds suffices to put in such a stock of material as will keep many men going for a long time and at a large profit.

Cheapness, cleanliness, perfection of imitation, durability, and general adaptability to decorative purposes, as already pointed out, may be cited as amongst the recommendations possessed by the Patent Marezzo Marble.

Its employment in Hospitals must one day become very general, as the high polish of the surface and the absence from joints are the best preventions of the adhesions of infectious germs, and afford the greatest facilities for keeping the surfaces thoroughly clean.

In conclusion, I may mention that the Patent Marble is being extensively used in America, and that several Public Buildings, amongst which are the Treasury Offices at Boston, are being decorated with this material.

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## D.

## OPINIONS OF THE PRESS ON MAREZZO MARBLE.

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### The Mechanics' Magazine, June 8, 1872.

*Marezzo Marble at the Dublin Exhibition.*—The field of invention and useful application in building appliances is very wide, and cannot by any means be said to be overcrowded, although it has recently been fairly cultivated by inventors. But judging from the almost slavish adherence to precedent and routine displayed in the great mass of modern constructions, dwellings, &c., one would imagine that field was very limited, and but little explored.

We deem it, therefore, a matter worthy of special and emphatic commendation when an architect is to be found, forsaking entirely the beaten paths—*antiquas vias*—forming and realising new and beautiful conceptions and effects by the aid of some new material, or the novel application and combination of old ones.

Moreover, the material elements of his success, the means and appliances employed in the embodiment of his conception, become especially noteworthy when they accomplish effective results by a simple and inexpensive process, and furnish an important and valuable addition to building appliances of ornamentation.

We are led to these remarks by an examination of the fountain which forms one of the most elegant and attractive objects in the building of the Dublin Exhibition, just opened by H. R. H. the Duke of Edinburgh, and which has been constructed to the order of Sir Arthur Guinness, Bart., M.P., by the Marezzo Marble Company, from the designs of Mr. Walter Emden, Architect, associated with whom, Mr. J. Broomfield was the Sculptor.

This fountain is not only colossal in scale, beautiful in design, and perfect in execution, but derives its chief interest from the material in which it has been constructed, and which is really an artificial marble, made under a patented process, simple and rapid in execution, and fully entitled in results to represent, to rival, and to supplant the natural marbles of every kind in point of effect, with great concomitant advantages and superiority in respect of cost.

Quite recently a considerable number of gentlemen interested—*quorum pars parva fuimus*—having been invited to a private exposition and view of the process and products of manufacture at the works of the Marezzo Marble Company in Shenton Street, Old Kent Road, S.E., we were enabled to realise the perfection of simplicity and rapidity of the operations, and the accurate verisimilitude of the result, which were alike astonishing. Within the short space of an hour, or an hour and a half, two perfect slabs were manufactured, each containing about 16 or 17 superficial feet, the one of "violet veined," and the other of "Sienna" marble. There would, of course, remain the drying stage, of about a day, and the finishing process for the surface, but so far as the formation of the slab was concerned, the operation was complete.

By the courtesy and intelligence of the manager, Mr. Riotti, and through the manipulative skill of the artists—for such they may be accounted—every stage of the construction was exemplified. The basic element of the whole is Keene's cement of the finest quality as manufactured by Messrs. Bazley, White and Co., which is mixed with water and appropriate body colours, and sprinkled on and over the surface of a polished glass plate, apparently in admired disorder, but really with purport and design. This suffices for the mottled and variegated effects required for the body of the work; the method of producing the veins of all sorts and sizes is really the keystone of the fabric, though wonderfully simple. Skeins of silk, steeped in suitable colours, are ravelled by hand by two of the artisans and laid upon the glass plate prior to the application of the cement, in such patterns and positions as may correspond to the natural order and arrangement thereof in the marble itself which it is sought to imitate and reproduce. After the irregular but artistic application of the hydrated cement has been completed, forming a surface of sufficient depth—say one-eighth of an inch—the skeins are lifted and removed, leaving, of course, their traces in the shape of coloured veins, varying in magnitude and tint, but permeating the depth of the mass. The thickness of the artificial marble is then increased suitably by cement of a somewhat coarser quality, and the superfluous moisture at the back taken up and absorbed by an excess of still coarser cement, so that the whole sets sufficiently to allow the glass and slab to be raised on end, so that the effect can be seen at the surface, and, indeed, to be appreciated it must be seen.



When completely dry, the slab is detached from the glass and made up to any desired thickness by a backing of coarser Keene's cement, and materially strengthened in tensile degree by the interpolation of an intermediate backing of fibrous material, coarse canvas, or other. The surface, already smooth from the glass plate, is rubbed, finished, and polished to bring out the marbling, which, as we have remarked, is marvellously exact to the real thing. For certain purposes, to enhance endurance against wear and exposure, a further process of enamelling may be, and is, resorted to, whereby a kind of hard and highly-polished vitreous surface is imported to the finished product.

"*Ars est cetare artem:*" wherefore it must be understood that, however careless and purposeless the operations of the workmen may appear to be in effecting the veined, mottled and variegated appearances obtained, they are, nevertheless, the result of special training and artistic faculty, devoted to, and developed in a perfect study of, and acquaintance with, the different varieties of marble intended to be exactly re-produced, and rendered the more difficult of acquirement, because the work, as will have been seen, is entirely done *a tergo*. In the result, the Marezzo Marble is scarcely, if at all, to be distinguished from genuine marbles.

It scarcely needs to be pointed out that though applied, as above described, to the production of flat surfaces, yet its application and manufacture are capable in an infinite variety of moulded forms and patterns, representing carved work and design of every description, with a sharpness and delicacy, and above all cheapness, almost fabulous. It has been estimated on good authority that this patent marble does not exceed one-half the cost of scagliola and enamelled slate, while far surpassing them in effect and realism, and only about one-tenth of the cost of real marble, diminishing beyond comparison in very elaborate work.

This material has an extensive range of utility in decorative work, plain, moulded or circular, superficial or solid, whether as columns and pilasters, statuary, pedestals, cornices, covings, wall-linings, tesselated pavements, floors, staircases, skirtings, mouldings, chimney pieces, console slabs and tables, panels, &c., &c. It has been employed with advantage and effect in numerous private mansions, as at Stanhope Gardens, Kensington; South Lodge, Knightsbridge, the mansion of Baron Worms; Hingham Hall, East Dereham; Gray's Inn Chambers, High Holborn; as also in public buildings, such as the Rochester Memorial Synagogue, and notably, the entrance hall of the Society of Arts, Adelphi. In fact, there has been no appliance for building and decorative purposes of recent introduction more important than this, or more capable of lending itself happily, effectively and economically to tasteful and artistic effect.

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### Daily News, May 25, 1872.

*Marezzo Marbles.*—The production of imitation marbles for the purposes of architectural decoration has now for many years taxed the inventive faculties of those who saw in the luxurious taste of the age a market for anything that could conduce to gorgeous effect at a comparatively cheap cost. The beautiful veining, the close grain, the hardness of the material, and, therefore, the adaptation to the reception of a highly polished surface, have always placed marble in the first rank of decorative building stone. Unfortunately, the scarcity of the material and that very quality of hardness, involving necessarily an enormous expenditure in workmanship, have placed it beyond the reach of anything below princely fortunes. Scagliola has been for some years used as a substitute for marble, both architecturally and sculptorially; but scagliola is expensive. The Marezzo Marble is an invention which is intended to popularise the use of imitative marble for in-door and out-door decorative purpose, and judging from what we saw on Thursday at a private exhibit at the works of the Company in Shenton Street, Old Kent Road, we should be inclined to augur a successful result. Architects, District Surveyors, Builders, Sculptors and other professional and practical men who were present were fervent in their commendations of the new material—some from personal experience, and others from what they saw. The advantages of the Marezzo Marble, as explained by the manager of the works, M. Riotti, are its cheapness, the ease and rapidity of manufacture, and its applicability to all purposes of internal building decoration—such as wall-lining, flooring, chimney-pieces, pedestals, columns, cornices—as well as statuary, fountains, and other out-of-door ornaments. During our visit we saw two slabs, one of Sienna, the other of white-veined marble, begun and finished ready for the polisher in somewhat less than three-quarters of an hour, the slabs being each about 5 feet square. The process of manufacture is a very simple one. A slab of plate glass is laid down, upon that skeins of silk saturated with the dyes representing the colours and forms of the veins in the kind of marble to be imitated are spread, upon this cement in a semi-liquidised state is sprinkled to a thickness of about the eighth of an inch. This is left to be thoroughly impregnated with the dye from the silk, which is then removed. More of the liquid cement is added until the slab acquires the requisite thickness; then it is left to dry (a process that usually occupies about 12 hours), and the slab is then lifted from the glass, and is ready for the polisher. The cost of this Marezzo marble is, we are told, about one-tenth that of real marble, and one-fifth that of scagliola for plain work; and the difference as regards marble in cornices, capitals, statuary, and other work of ornamentation, must necessarily be much greater, seeing that the material is all worked in a semi-fluid state.

MORNING POST, MAY 24, 1872.

*Marezzo Marble.*—A material which promises to be very useful in the hands of architects and decorators has recently been introduced under the name of Marezzo Marble, and owing to the many desirable qualities it is known to possess, publicity is all that is required to give the composition that prominence which it so well deserves. It is not necessary to describe to the general reader the process by which it is produced, though it is not by any means intricate; but the result may be said to be an accurate imitation of any kind of marble which may be desired. Among the most important of the advantages which are claimed for the compound are beauty, durability, easiness of manipulation, a high polish, and a much lower price than that at which any material at all approaching it can at present be offered. In order to convey an idea of the multiplicity of uses for the "Marezzo" one has only to think of the large number of articles at present made of marble, such as table-tops, chimney-pieces, cornices, pillars, brackets, fountains, &c; and as regards its adaptability in this last-named respect, visitors to the Dublin Exhibition will have a striking proof in the presence of an exceedingly large and beautiful composition which will be on view there for a time, but will afterwards be removed to be fixed at one of the seats, in Ireland, of Sir Arthur Guinness. The portion of this fountain at present complete is now at the works, Shenton Street, Old Kent Road, where, on Wednesday last, it was seen and much admired by a large number of Architects and others who had been invited to view the works and witness the mode by which the so-called marble is produced. After these gentlemen had had an opportunity of thoroughly investigating the mode of manufacture, statements were made by the manager and others as to the advantages of the new material, and criticism was invited. Opinions were given by all kinds of practical men, but not one was adverse, all agreeing that Marezzo Marble was an important discovery, and that its uses were more than manifold. Time alone can test its durability, but there is every probability that that which so truly tries all things will only confirm the good opinion already entertained so widely for the Marezzo. It is calculated that it is about one-tenth the price of marble, and one-half that of scagliola and enamelled slate.

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MORNING ADVERTISER, MAY 23, 1872.

*The Patent Marezzo Marble.*—This is the title of a new material which has been recently introduced to the notice of the public by the Patentee for the ornamentation of buildings, and its manufacture and application seem fully to justify the commendation bestowed upon it by gentlemen who are regarded as authorities on the subject; and such certainly is our own impression of the invention after having witnessed its manipulation yesterday, in company with several Architects, Surveyors and gentlemen connected with the decorative art in relation to buildings, at the new and enlarged works erected in Shenton Street, Old Kent Road, for the purpose of carrying out the process by which the marbles in question are produced.

It is not our intention to go into detail in respect to the manufacture of these marbles; suffice it to say that they are worked out with great speed and accuracy from a petro-vitrifying fibrous concrete, capable of resisting great pressure and the hardest blows. They bear an exquisite polish, quite equal to the rarer and most costly foreign marbles in brilliancy and elegance of appearance, whilst they can be delivered in the market at one-fourth the price; and in many cases at a cost less than painting or graining, and not exceeding asphalte. They are applicable to all decorative purposes, and they can be manufactured into every conceivable shape into which marble is, or can be applied.

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THE IRISH TIMES, JUNE 6, 1872.

*Article on the opening of the Dublin Exhibition.*—As the visitor enters the nave from the Statuary Hall, he first sets eye upon the new central fountain upon which a great amount of skill, taste and inventive power has been bestowed, and which forms one of the handsomest and most interesting objects which the building contains. The plan of the basin consists of a number of curves following gracefully one into another, and forming a line of beauty for which there is, perhaps, no distinct name, but the *foci* of whose extreme points would lie upon an ellipse of small eccentricity, with the major axis running transversely to the Statuary Hall. The bottom of the basin is oval, polished and water-tight. Three pedestals of about 4 feet high, and surmounted by massive circular granite slabs, highly polished and finished, and about 7 feet in diameter, are placed at equal distances within it, and are lightly covered with water. The centre pedestal is surmounted by a splendid white Marezzo marble figure, of great height, representing St. Patrick crushing the toad beneath his foot. At foot, the statue is surrounded by four female figures, each of a different marble, and each typical of one of the Provinces of Ireland. The interetical spacings between the allegorical figures are occupied by groups of classic *nautili*, illustrating their famous motion by oars and sails composed of the arms, and raised mantles of the pretty molluscs themselves. The two remaining pedestals of the basin support figures of St. Michael, finely cut in alabaster; and above all the sets of statues, there play tall jets of water falling in feathering spray to the reservoir below. This reservoir, for some distance below the water line, is paved with pure white tiles, and the rim is bordered with polished Marezzo marble. The fountain can be powerfully and



beautifully lighted. At either end strong jets of oxyhydrogen light or lime light throw their rays upon the water; and at the sides four black reclining figures bear torches in their hands over the brink. The fountain can also be lighted under the water as well as over, and this is arranged in such a manner as to produce a very remarkable effect.

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THE DUBLIN DAILY EXPRESS, 6TH JUNE, 1872.

In its article on the opening of the Dublin Exhibition says:—With regard to the fountain of beautifully finished Marezzo Marble which is in the central part of the nave facing the apse, and the colonnade or sculpture hall, its enclosing rim is made up of curves of contrary flexure, with four circular granite bases at equi-distant spaces, on which there are reclining negro figures bearing ornamental lamps. Within the rim there is at either side of the centre of the basin a group of four storks standing amidst water plants, and supporting a basin, from which there springs a sprite or Naiad child bearing a tuft of shamrock containing an ornamental water jet. In the centre of the fountain there is a group rising to a height of about 20 feet above the floor. Around the base of this group there are four figures, emblematic of the four Provinces of Ireland, each seated on a nautilus, with sails set and extended oars. The base carries a large ornamental basin rising above the figures already described, and through the basin there passes a shaft, around which descending serpents are coiled. The group is crowned by a figure of St. Patrick trampling under foot a toad stool and banishing the serpents from the soil. The right hand is extended, the left grasps a staff, above which is a cluster of shamrock leaves containing large ornamental water jets. Nothing but an actual inspection of this artistic structure could give any adequate idea of the wonderful beauty of design which pervades it, and of the extremely pretty arrangement of the folds of the drapery and the colouring of the different portions. The half-robed negro figures are peculiarly handsome, considered as works of art, and the moulding of the allegorical groups representing the Provinces is something over which any one may profitably spend half an hour. ... ... The rim is composed of violet vein marble, the central shaft of a splendidly rich Irish green. The basins are of Italian marble; the serpent coiled round the shaft is of Egyptian green, and the figures, nautilus shells and sails are in tints closely approaching those of nature, and producing an imposing effect. ... The whole of these beautiful designs have been originated and executed by Mr. Walter Emden, a London Architect.

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BUILDERS' WEEKLY REPORTER, MAY 24, 1872.

*Patent Marezzo Marble.*—On the 22nd of February 1868, we wrote: "Among recent improvements and inventions for the ornamentation of buildings, we have no hesitation in placing the patent Marezzo Marble in the foremost rank. The progress of taste can offer no better proof than the success which this invention has met with since its introduction." This opinion has been fully borne out by the increasing demand for the new marble, which has become so great that much enlarged premises in Shenton Street, Old Kent Road, have been erected for its manufacture. On Wednesday a large number of Architects, Surveyors, Builders, and gentlemen connected with the decorative arts in buildings, were present by invitation to witness the process of manufacturing the Marezzo Marble, and to inaugurate the new and spacious building erected by the patentee. Several slabs of marble were made in the presence of the spectators, and explanations given as to the ingredients forming it. The manufacture is simple enough, the veins being produced by an ingenious contrivance. The cement used in the process is Keene's, which possesses the valuable property of not drying too quickly. A slab of three-quarters of an inch thick takes about 12 hours to thoroughly dry, and is then so hard that it can be polished equal to the finest natural marbles, and capable of bearing a greater strain and a heavier weight than that which it so successfully imitates. This new marble is quickly made, and therefore it can be delivered in the market at about 1s. 6d. per square foot, which is something like one-fourth less than real marble. It was stated by the manager (Mr. Riotti) who was specially courteous and willing to afford the fullest information upon every point connected with the manufacture, that the Marezzo Marble can be placed in many cases at a less cost than painting or graining; but this must be a mistake. We have no doubt that it is applicable to all decorative purposes, and that it can be manufactured into every conceivable shape into which marble is or can be applied. Perfect *fac similes* of all the different varieties of natural marble can be produced in this material, the colours being blended and veined through the whole thickness and depth as in marble itself, not being mere surface-like graining, or the colour floated on enamelled slate. It can be sawn, dressed and polished equal to the very finest and most costly marble. It can be made in any form and of any size, and there does not seem to be any limit to its usefulness. The new material has been used in the entrance-hall of the Society of Arts, Adelphi; the columns of the Memorial Synagogue, Rochester; the corridor of Gray's Inn Chambers, High Holborn; large winding staircase in a mansion at Stanhope Gardens, Kensington; large columns for Hingham Hall, East Dereham; and it has been recently approved by the Authorities in connection with the new General Post Office. It may be stated in addition that the marble is particularly applicable for floors, pilasters,

chimney-pieces, and in fact, to adopt the words of the report of Mr. Morton Edwards, Secretary of the Society of Sculptors of England, "the invention may be used as a paper-weight or a palace staircase." In addition to the manufacture, there was an exhibition of various articles produced by the process, and amongst them was a fountain on a colossal scale, and of an exceedingly elaborate character, which is being constructed to the order of Sir Arthur Guinness, Bart., the eminent Dublin brewer, for the forthcoming Exhibition in that City. The design is by Mr. Walter Emden, of 8, Adam Street, Adelphi, Architect to the Dublin Exhibition building, the sculptor being Mr. J. Bloomfield. The fountain, when erected, will be 40 feet high. It was much admired, not only from the effective and appropriate character of the design, as well as for the beauty of the workmanship. In the course of a *dejeuner* given on the occasion, and which was efficiently presided over by Mr. John Lilwall, Parliamentary Agent, of Walbrook, and the Secretary to the Company for the occasion, the value of the patent Marezzo marbles was warmly advocated by Mr. Walter Emden, the Architect, Mr. A. J. Hiscocks, District Surveyor of Wandsworth, Mr. Hall, Architect, and other gentlemen, all of whom believed that its application could have a very extended operation in middle-class buildings as well as in large establishments like those referred to above.

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THE ENGINEER, MAY 31, 1872.

*Artificial Marble.*—Last Wednesday week a party of Engineers, Builders, and Architects, inspected by invitation the process of making the Marezzo Marbles at the works in Shenton Street, Old Kent Road. These artificial productions so much resemble real marbles, that even people who call themselves judges of marble are sometimes deceived by them, so that the first impression is that they must be made at great expense in the shape of artistic ability, however cheap the materials used may be. But, in fact, a most elaborate system of "veins" of different colours is made in a minute or two by any ordinary workman at no expense at all.

A large sheet of plate glass is first laid horizontally on a table, then a skein of tangled silk, knotted at the opposite ends and soaked in colouring matter, is pulled out into a rough rectangular form, the rectangle being crossed in all directions by the tangled threads, and laid upon the piece of glass, the knots lying beyond the edges of the glass. This first skein is coloured to form, say, the blue veins; then another skein, soaked in other colouring matter, may be laid over it to form other veins. Then some Keene's cement, lightly coloured, is sprinkled over the skeins with the fingers, to further add to the marbling effect, and after two or three sprinklings, it may be of different colours, the silk is quite covered by the wet layer of cement. Then the silk is pulled out by being lifted vertically upwards through the cement. More cement is then added, and the mass is smoothed by a trowel. Next, some fine cement is laid on, and over this a layer of canvas to give strength to the film, now about a sixth of an inch thick. Then comes a thick backing of coarse cement, making the whole five-eighths of an inch thick. On turning up the slab of plate glass, and looking at the face of the layers of cement, as fine a specimen of marble is seen as anybody need wish to view, all made in a few minutes. It is left on the glass twelve hours to dry, and is afterwards enamelled and polished. It is not impossible that many a householder who thinks he has a fine marble mantlepiece might, by boring a little below the surface, be somewhat surprised to come upon a layer of canvas inside the stone.

Nobody gave a verbal description of the process shown last week, but all questions put were freely answered by managers and workmen. Mr. Davey, of the Marezzo Marble Company, and Mr. Richmond were said to be the inventors of the process. We put several questions as to the durability of the marble, there being no doubt as to the perfect character of the imitation, and were told that it had been found to be durable enough so long as it had been tried, namely, about five or six years. It was stated that the oldest specimen of it was an inlaid floor at the Office of Messrs. Baseley, White, and Brothers, Millbank Street.

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SOUTH LONDON CHRONICLE, MAY 25, 1872.

*Marezzo Marble.*—A very interesting afternoon was on Wednesday spent near the canal in the Old Kent Road, when, at the invitation of the Directors of the Company, a number of gentlemen met in Shenton Street on the occasion of the opening of new and enlarged works for the manufacture of the Patent Marezzo Marble. The process has been in operation for about four years, but during that period, for reasons best known to the former proprietors, public attention has been but little drawn to the splendid results obtained.

The process which was witnessed on Wednesday was very simple; but of that we have not now to speak, except to remark that its simplicity is an element in favour of the shareholders. The results are what we have particularly to draw attention to, and these are very surprising, the more surprising from the simplicity and ease with which they are brought about. Any kind of marble is imitated, and as Mr. Hall, F. S. A., observed at the *déjeuner* which followed the inspection, the Company need not confine themselves to imitation, but may apply the promptings of art to the process with good results The article thus manufactured when placed cannot be told from real marble, and this we say not of ourselves—for we



are not connoisseurs in the matter of marble—but the testimony of gentlemen eminent as Architects, and others competent to judge, all tended to the same conclusion. Its application is as varied as marble itself, and of its capability in this respect evidence was afforded on Wednesday, when various objects were exhibited. Among the things showed were the parts of the colossal fountain which is being constructed to the order of Sir Arthur Guinness for the forthcoming Dublin Exhibition. Some of the pieces which were completed presented a very fine appearance, notably the marble edging of the large basin, the majolica work and Sienna marble of which the pedestal is composed, and the figure of St. Patrick, which is to form the upper portion of the entire work. The chief feature of the process, in our minds, is its adaptability for ornamental purposes in our dwellings, as by its small cost persons of moderate means will be able to enjoy the luxury of a beautiful article to replace the present ugly wooden fire-places; of a marbled wall-space instead of paper, thus affording beauty and cleanliness; of doors which will never want painting or varnishing; and of various out-door ornaments instead of the ugly plain brick-work or daubs of plaster which disfigure our dwellings. Of its suitability for wall-coverings any one may be convinced who will take the trouble to visit the Society of Arts' house in the Adelphi, where the hall has been lined with the marble for the last four years, and bids fair to realise in this case the oft-quoted line of Keats, "A thing of beauty is a joy for ever."

At the *déjeuner*, held in the new premises, Mr. John Lilwall presiding, loyal and patriotic toasts were warmly responded to, and toasts proposing success to the concern and the health of the chief workers were cordially drank. In the course of the speaking, some valuable critical remarks were made by Mr. Hall, F. S. A., and Mr. A J. Hiscocks, F. R. I. B. A., District Surveyor of Wandsworth and Putney, both of whom gave their testimony to the beauty, apparent durability, and worth of the material.

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SOUTH LONDON COURIER, MAY 25, 1872.

*Opening of the New Marezzo Marble Works, Old Kent Road.—Interesting Exposition of the Manufacture.*—On Wednesday afternoon a number of gentlemen connected with architecture and building, assembled by invitation at the Patent Marezzo Marble Works in Shenton Street, Old Kent Road, on the occasion of the opening of the new and enlarged works for this novel manufacture, which, should it eventually succeed, must completely revolutionise the prices hitherto paid for marble, which is such an important article in decorative building.

The Patentees of this new invention undertake to produce imitation marble which is as hard and bears a polish equal to that of the finest marble, whilst in colour and vein the imitation is singularly perfect. The entrance-hall of the Society of Arts has been lined from floor to ceiling with this new material, and it has also been recently approved by the Authorities in connection with the New General Post Office.

The proceedings of the gathering on Wednesday were rendered especially interesting by the manufacture of several specimens of this marble in the presence of the company assembled, the process being no less astonishing than satisfactory to the several gentlemen present who witnessed the practical carrying out of this remarkable manufacture. Whilst the process is simple, the results achieved are marvellous. The *modus operandi* consists in a large sheet of glass being laid flat on frame-work. (On this occasion the glass was 5 feet square, containing 25 feet.) In the first instance, thin wire and cord are irregularly laid on the surface of the glass, so as to form the veins in the large slabs of marble which in a few minutes is to be produced. The material used, consisting of a liquid —and which we are informed is Keane's cement—is then spread over the whole surface of the glass to a depth of about half an inch, covering the veins. This being done, the veins are carefully drawn out, and the apertures thus left spreading over the surface are filled in with dry cement of various colours, which is sprinkled along them. A further coating of liquid cement is then placed over the entire area of the intended slab, and this is followed again by dry cement being thrown upon it, and the whole becomes set and perfectly hard in a few minutes, the surface being smoothed down during the process of hardening. The slab which has now been produced is then at once lifted up from the frame-work, and the face of the glass discloses beneath its surface a most artistic and beautiful face of marble, exactly resembling the genuine article. The glass is then removed from the artificial slab of marble which has thus been produced, and the process of polishing the face having been effected, the slab, both in appearance and touch, bears such a close resemblance to real marble that it is impossible to distinguish the imitation from the real, the former having been produced with such delicacy of colour and perfection of marking. The time occupied in producing this slab, containing 25 feet, was about half an hour from the commencement of the process. In addition to witnessing this interesting process, the company were also invited to inspect a colossal marble fountain of an exceedingly elaborate character, which is being constructed at the works for Sir Arthur Guinness, M. P., for the forthcoming Dublin Exhibition.

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CITY PRESS, MAY 25, 1872.

*The Patent Marezzo Marble.*—An exposition of the beauty of this material, its adaptability to decorative purposes, and the mode by which it is manufactured, was given when a select number of gentlemen on Wednesday visited the works of the Company, and the opinions generally expressed were highly favourable.

### Art Journal, May, 1868.

The specimens we have seen bear a polish equal to that of the finest marble, and in colour and vein the imitations are perfect. The difference, for instance, between antique and modern Sienna, is shown in the manufacture; and on placing a piece of marble by the side of the imitation, the tint is found to be identical—the character of the veining being rendered exactly, insomuch that the difference between the material can be determined only by examination.

The application of Marezzo Marble is much more extensive than that of scagliola. There are, for example, certain stones which cannot be imitated in scagliola, but these can be represented in this material.

The objects formed by the manufacture are chimney-pieces, pilasters, columns, pedestals, consoles, skirtings, mouldings, &c. The imitations which we have had an opportunity of examining are those of Egyptian green, Irish green, *vert-vert*, *jaune fleuri*, and *griotte*— a very peculiar production, and so highly crystallized that the substance of the stone appears to be seen through glass.

The material seems susceptible of any variety of design. When it is considered in the form of pedestal and cornices, we are led to *suppose* its appearance in other moulded forms, to the diversity of which there is no limit. The slabs can be prepared for facing walls in the same manner as marble is employed; but here presents itself the question of cost, which, we are assured, would be less than that of scagliola, with the advantages of superior durability and surface. This opens at once a wide field for the application of the material to the ornamentation of public buildings and private dwellings.

The entrance to the house of the Society of Arts, in the Adelphi, has been recently decorated on this principle; and there a more perfect judgment of its effect can be formed than from seeing it in fragments; although never was marble imitated with such delicacy of colour and perfection of marking as are presented in these specimens. Under any circumstances, this ornamental product cannot but prove of value.

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### Stock Exchange Review, January, 1872.

*Marezzo Marble* is a beautiful and durable imitation of the genuine marble, resembling the latter so closely that even good judges often fail in detecting it. It imitates every vein, every spot, and the exact colour and shading of the kind of marble it is intended to represent to perfection; it is harder than marble, and bears the most exquisite polish. Heat and the atmosphere do not affect it; and it is much more manageable than real marble. When we say that Marezzo sold at one-sixth of the price of the real material, will bring to its proprietors a profit of at least 200 per cent. on its manufacture, investors can judge for themselves of the elements of success embodied in the undertaking.

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### The Iron Times, January, 20, 1872.

The *Marezzo Marble* manufacture is one of the simplest, yet the most beautiful ornamental invention of our time. It supplies a surface equal to the most costly marble, and indeed is superior to it, as more easily cleaned, at a rate little exceeding that of our asphalte pavement. It is almost as cheap as graining, far more elegant and nearer to truth, and 20 times as durable. Some exquisite specimens of it may be seen in the hall of the Society of Arts at the Adelphi, where it is practically applied.

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### Investors' Guardian, August 19, 1871.

If any one were to say to the passenger in Threadneedle Street, gazing admiringly on the Val de Travers pavement, that it was within his power to cover the walls of his house with the finest marbles—if he be a man of wealth—or if a tradesman, decorate the front of his shop with a classically-beautiful ornamentation, at no greater price per yard than that at which the Val de Travers stuff is laid down—*viz.*, about a shilling a foot—he, a stranger to manufacture of Marezzo Marble, and what has been done by it, and at what trifling cost—would feel inclined to deny the assertion, considering himself as still liable to the tasteful ignorance of the painter and the grainer for his walls, his halls, his corridors, his chambers of reception, his ball-rooms, his pillars, pilasters, and *façade*.

Nevertheless, whoever may come within the entrance halls of the Society of Arts House, in the Adelphi—a place that should be oftener visited by all of us, and a Society worthy of more universal and more generous support—will see marble panels of violet vein, with Bardiglio mouldings, bordered by rich antique jasper, and with Egyptian green skirtings, an arched doorway also of Bardiglio marble, with chimney-piece and ornamentation for clock included (we quote the professional description of the *Builder*), all of Marezzo Marble, "the effect of the whole harmonizing with the mosaic pavement, and the result a very handsome apartment." All this has been up nearly four years. Let it be contrasted with the costly, but less beautiful, marbling of the Foreign Office Hall and staircase, and the man of true taste will give the preference to the Marezzo.



This manufactured marble, which can be executed to any shape or size (within ordinary use), from a table to a chimney-piece, and from a column to a tombstone—or rather, we should say, a monument—is a cheap substitute for marble, while it is its equal in elegance, durability, and resistance to atmospheric influences. If it cost twice or even thrice the price of painting or graining on a staircase, or outside a house, it has the advantage, nevertheless, of not fading, decaying, or requiring renewal. A little water at any time will restore its brilliancy, and it shines bright and polished, when only clean, as a schoolboy's face after his soap and water on a summer holiday morning.

The Marezzo Marble is, moreover, capable of all colours, whether of the cheapest or the costliest of marbles—the *vert antique*, the *jaune fleuri*, the *griotte*, the charming *breche violette*, the sunlighted Sienna, or the ruddy warmth of the glowing *Isabel*, the brightest and the noblest of Spanish marbles. For elegance of colour and delicacy of tint, a specimen now at our Office, two feet square (which we saw made at the Factory on Thursday last *in five minutes*) will be pronounced by the connoisseur unrivalled.

It must be remembered that this Marezzo Marble is not alone beautiful, but it is also cheap; that it is easily manufactured, without heavy or expensive machinery, from materials, of small cost, with comparatively little labour—much less than that of making, melting grinding, and polishing glass; that it is applicable to all the uses of ordinary life - as slabs, chimney-pieces washing-stands, and tables; and therefore will be an article always in call.

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### The Architect, August 14, 1869.

It is a method by which all kinds of marbles may be imitated with speed and accuracy, the durability, strength and economy of the product being also great recommendations. The new marble has a fine polish: the colour and veining are perfect; its varieties know no limit but that of Nature; it can be made up into any shape, as chimney-pieces, pilasters, columns, skirtings, mouldings, panels, &c.; and it competes with scagliola, in that its use is wider, imitating all marbles.

The use of some worthy substitute for marble has long been a desideratum, as the expense of the real material is so great, when properly worked up into all the requirements demanded of it, that it cannot be indulged in by other than the wealthy. Henceforth, true taste in middling circumstances will be able to realize its desires, equally with high art in the most sumptuous palace. To architects and builders this new invention will afford the means of rich decoration, hitherto in many cases unattainable. We lately had an opportunity of visiting a mansion at South Kensington, where large quantities of Marezzo are being used. Along the sides of nearly the whole of the magnificent winding staircase, panels of various marbles are laid on, the imitation being so true as to deceive the eye and finger of the initiated—indeed, the only tell-tale is the cement back; but this being hidden after fixing, the illusion is complete and decided. Throughout, the processes are those of highly-skilled hand-labour.

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### The Builder, July 11, 1868. (Third notice).

The entrance hall of the house of the Society of Arts, in the Adelphi, has been lined from floor to ceiling, including skirting, wall-covering, and cornice, with this new material—Marezzo Marble It is somewhat similar in appearance to scagliola, as we have had occasion to observe when describing it on a previous occasion; but its application appears to be more extensive, it takes a good polish, and is said to be moderate in cost.

The decoration of the Society of Arts consists of panels of violet vein, with Bardiglio mouldings, bordered by rich antique jasper, and with Egyptian green skirtings. The soffit of the arched door-way, to the left of the entrance, is executed in one piece, representing a beautiful formation of Bardiglio marble. The chimney-piece and ornamentation for the clock are included. The effect of the whole harmonizes with the mosaic pavement, and the result is a very handsome apartment.

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### Building News, April 3, 1868.

We have recently seen specimens of Marezzo Marble, and there can be no doubt about its utility and beauty for the ornamentation of buildings. Its close imitation of marble is surprising. Unlike scagliola, it is made of cement, but fibre being mixed into the material, makes it strong, capable of receiving hard blows without being broken, and renders it more easily moved from place to place. It can be made to any size. Any kind of marble can be imitated and executed with such a finish, that it requires a well-trained eye to distinguish it from the genuine article. It can be applied to a variety of forms, such as panels, mouldings, chimney-pieces, columns, &c. It is enduring, and not subject to discoloration by its close contiguity to jets of gas. The cost of material is much cheaper than any other imitation of marble.

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### Builders' Weekly Reporter, February 22, 1868.

Among recent improvements and inventions for the ornamentation of buildings, we have no hesitation in placing the Patent Marezzo Marble in the foremost rank. The progress of

taste can offer no better proof than the success which this invention has met with since its introduction. Its merits were brought prominently before the Society of British Architects at their opening meeting in November last.

At the Show Rooms, 483, Oxford Street, can be seen some remarkably fine specimens of this NEW MARBLE—for to the eye and touch it has all the appearance of the genuine article. One of the chimney-pieces, a perfect imitation of jasper marble, is, indeed, a very beautiful work of art.

As a perfect substitute for marble, the Patent Marezzo supplies a want long felt by architects, decorators, and builders in the ornamentation of principal rooms, corridors, and halls of public buildings. Its application can be seen in the corridor of the Gray's Inn Chambers, Holborn. It is intended to decorate the entrances to the Society of Arts' House, Adelphi, with this Marezzo.

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See also, *Daily Telegraph*, November 30, 1867; *Builder*, December 14th, 1867; *Weekly Times*, December 22nd, 1867; *British Trade Journal*, June, 1868; *Leeds and Midland Counties Advertiser*, January, 1869; and *Oxford Times*, January 16th, 1869.

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PRIVATE.

JUNIUS UNITED SERVICE CLUB.

*London, 31st August*, 1872.

I have carefully inspected the Marezzo Marbles at the Company's works; and am most favorably surprised in its adaptability for use in Hospitals, especially in warm climates.

As it is not porous, and therefore could not retain infection, can be produced in any form, from neutral tints to the most beautiful blending of colours, so as not to hurt, but please the eye of an invalid: and is so cheap, I am of opinion that it should be freely used in the construction of Hospital walls, ceilings and floorings; and would supply a great sanitary desideratum which I have noticed in Hospitals in the West Indies, India, China and Japan.

I am of opinion that wards lined with Marezzo Marble, and occupied by cases of any infectious disease, however virulent, might safely be re-occupied by other patients, or by people in health, without the slightest risk, after the marble had been wiped with a damp cloth.

Marezzo Marble is likewise admirably adapted for baths, which could be safely used by people in health and those suffering from contagious disease alternately after the simple precaution of wiping the bath dry.

A. C. RUSS, M. D., N. B., L. R. C. S. E.,
*Member, P. Society.*

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No. 459 B—C, dated 5th November, 1873.
*Endorsed by P. W. Dept.*

Copy, with enclosures in original, forwarded to the Inspector General of Military Works for information and for an expression of his opinion.

2. Specimen of the marbles accompany, the return of which is requested together with the original papers.

Mr 1874 Depr.

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