DIAMOND-WASHING IN BRAZIL, AND DIAMOND-CUTTING IN AMSTERDAM.

The diamond possesses a much higher and more uniform value than any other article of commerce. The supply has never so far exceeded the demand as to make any change in the price of cut stones. In 1843, when the mines at Sincora, in Bahia, were discovered, fears were entertained that a permanent depreciation would take place; but the very high prices which required to be paid for all the necessaries of life, and the unhealthy nature of the climate, speedily reduced the number of diamond-seekers, and the fall was scarcely felt in Europe.

The tract of country in which the Brazilian diamonds are found, extends from the village of Itambe, in Minar-Geraes, to Sincora, on the river Paragussa of Bahia, between 20 19 and 13 of south latitude. They are chiefly obtained from the numerous streams which form the sources of the rivers Doce, Arassuaky, Jequitinhonha, and San Francesco. It is also highly probable that the auriferous regions of Australia, like those of South America, contain diamonds; two from the river Macquarrie having been sent to the exhibition which was lately held at Paris.

Diamonds consist of pure carbon, and are often in the form of eight or twelve-sided crystals, the latter being the less common figure. Of their formation in the great laboratory of nature, nothing is known; but they are supposed to exist originally in the mountains, whence they are carried down into the valleys by the torrents which flow during the rainy seasons. The degradation of the rocks must be accomplished by the powerful agency of the tropic floods; and the precious gems which are thus excavacated, must be deposited in the sedimentary debris which forms the beds of the rivers before the search of man becomes successful. The parent stone or matrix is a mica schist, called Ite Columite, whose fragments mixed with earth form the cascalho, which is dug from the rivers, and in which the diamond-seeker finds his treasure. In South America, the alluvium of the rivers not only contains diamonds, but gold and platina, though both these metals are generally so finely powdered as almost to defy collection by the ordinary process of washing. The river Jequitinhonha is one of the richest in Brazil, and the works on its banks have been carried on for a long period. When the dry season, which continues from April to the middle of October, has reduced the depth of water, the river is turned aside into a canal previously formed by making an embankment, with bags of sand, over the original channel. The water which remains is then pumped out, the mud dug to a depth varying from six to twenty feet, and removed to the place where the washing is afterwards to be performed. While the dry season continues, the labor of collecting the cascalho is carried on unremittingly, so as to have a sufficient quantity to occupy the negroes during rainy months. The mud which is raised from some of the rivers contains diamonds so uniformly diffused, that a pretty correct approximation can be made to the number of carats which a given quantity will produce. It some times happens, however, that grooves are found containing large quantities of diamonds and gold. When the rainy season puts a stop to the raising of the cascalho, the scene of operations is changed to the washing-shed, near which the result of the dry season's labours has been heaped up. The troughs, called canoes, are arranged side by side. and an overseer occupies an elevated seat in front, so as to observe every movement of the working negroes Into each of the canoes, a small stream of water is introduced, to carry away the earthy part of the cascalho. Having placed half a hundredweight of the cascalho in the canoe, the negro lets in the stream, and keeps up a constant motion till the mud has been washed away and the water runs perfectly clear. The gravel is then taken out by the hand, and carefully examined for diamonds. When one is found, the negro stands upright, and claps his hands, as a signal to the overseer, who receives it from the finder, and places it in a bowl with water, which is hung in the midst of the shed. The day's work being finished, all the diamonds which have been found are delivered to the superintendent, who enters their weight in a book. Large diamonds are exceedingly rare. It has been calculated that, on an average, out of 10,000 there are seldom more than one found which weighs twenty carats, while there are perhaps 8000, each of which is less than one. At the works on the river Jequitinhonha, there have rarely been found more than two or three stones weighing from seventeen to twenty carats each in the washings of a year; in the whole diamond-mines of Brazil not more than one is found, in two years, of thirty carats. In 1851, a stone of 120⅜ carats was found at the source of the river Patrocinho, in Minas-Geraes; afterwards, one of 107 carats on the Rio das Velhas; and another of 89½, at Chapada. But the largest which has been obtained of late years is 'The Star of the South,' which, previous to being cut, weighed 254 carats.

Many precautions are used to prevent the negroes from concealing the stones they find; such as frequently causing them to remove, at a given signal, from one trough to the other. Encouragements are also offered to induce them to pursue the search with great care. The negro who finds a diamond of 17½ carats is crowned with a wreath of flowers, and carried in procession to the administrator, who gives him his freedom, a suit of clothes, and permission to work on his own account. One who was present when a stone of 16½ carats was found at Tejuco, says: 'It was pleasing to see the anxious desire manifested by the officers, that it might entitle the poor negro to his freedom; and when, on being delivered and weighed, it proved only a carat short of the requisite weight, all seemed to sympathise in his disappointment.' A stone of eight or ten carats entitles the finder to two new shirts, a suit of clothes, a hat, and a handsome knife. For smaller, but valuable stones, proportionate premiums are given. Brazil sends yearly into the trade about 30, 000 carat-weight of uncut diamonds. During the two years after the discovery of the diamond-mine at Sincora, in Bahia, 600, 000 carats were sent to Europe; but in 1752, the quantity had fallen to 130.000.

The labour expended in collecting that small bag of dull glassy stones is immense. One can easily lift with the hand the product of a year's digging and washing; yet to bring them together much sweat has flowed, while the steaming negroes dug the clay under a burning tropical sun. The whip has many a time roused the flagging energies, or sharpened the search among the gravel in the washing-trough. Not a few have perished, and been laid by their comrades under the dark green tree, from whose branches hang garlands of lovely orchidœ. And to fill up the blanks which have been made in the ranks of the toiling slaves of Brazil, many have been dragged from the coast of Africa, in spite of the efforts of this country to prevent the unholy traffic. The humanity of some, however, and the self-interest of othets, have led them to frame rules which mitigate slavery in connection with the diamond-mines of Brazil. The rewards which are offered, not only prove an incentive to careful search, but impart a spirit to the labour which must render it less irksome. But the lash is still in the hand of the overseer, and numbers of the human family are kept down to the level of beasts of burthen

The process of cutting brings out the inherent beauty of the diamond, and greatly enhances its value. Even after the stone has been cut, if unskilfully done, the sparkling beauty of the gem is wanting. No change of position which the commissioners tried could make the Koh-i-noor appear, at the London Exhibition, much superior to a piece of rock-crystal; but after having been re-cut, it became one of the choicest brilliants For a long period, the Jews of Amsterdam have almost exclusively monopolised that branch of industry. At a time when they were persecuted in all the other nations of Europe, the liberal laws and flourishing trade of Amsterdam encouraged them to settle there in great numbers; and the diamond-mills were erected under the special protection which the states of Holland afforded to capital and enterprise. It is calculated, that not fewer than 10,000 out of the 28,000 Jews who live in Amsterdam depend directly and indirectly on the diamond-trade.

The Diamond-cutters' Company, under the direction of Mr. Ponso, have three factories, all worked by steam. The united capacity of the engines is ninety-five horsepower, driving 438 mills, and employing 925 workers. There are two other diamond-cutting factories in Amsterdam, the one belonging to the firm of B. L. M. Arons, conducted by Mr. Trins, having an engine of six horse-power, driving forty mills, and employing seventy people; the other is the property of Mr. Coster, with a steam-power of forty horse, driving seventy-two mills, and giving work to 150 hands. In the factories of the Diamond-cutters, Company, and that of Mr. Priss, the mills are let, those who are not shareholders, at a fixed rate for the hour or day. Mr. Coster's mills, on the other hand, are driven on his own account; and to him have been intrusted the two most valuable gems that have been cut in late years, the Koh-i-noor and Star of the South.

Having obtained an introduction, the visitor to this mill is treated with the greatest attention. He no sooner enters one of the flats, than the heads of a dozen persons are stretched forward, offering their services to explain the various steps in the process. The seats of the workmen are arranged along the side-walls of the building, and before each is a circular metal plate, revolving horizontally with great velocity. A short lever of iron rests with one extremity on the bench, and the other on the revolving plane. The diamond-polisher stops the motion, and, lifting the lever, shews the stranger that the end which rested on the mill has an amalgam placed upon it, in which the stone is fixed, so as to leave only the side exposed which is being ground. Handing the lever to an assistant, it is put into a small furnace, heated, and then returned to the polisher. The amalgam is now soft, and the diamond, having been picked out, is replaced with the part exposed which is next to undergo the action of the mill. A clever workman can keep two, or even three, small diamonds on the *schijf* at once; but the greatest care has to be taken, that they are not exposed too long. The minute facets of diamonds, so small as to require from 1500 to 2000 for a single carat's weight, can be easily overcut, and the stone destroyed. In the Netherlands division of the exhibition at Paris, rose-diamonds were exhibited which required 1500 to the carat; and that is not the limit to which the cutting can be carried.

The stone having been fixed in the amalgam, which is then hardened by cooling it in water, the workman shews the visitor a little box of fine powder, of which a minute quantity is put, with a few drops of oil, on the mill. This is the diamond-dust with which alone the polishing can be accomplished, and it possesses a value of about L 60 sterling the ounce. It is chiefly obtained in the first process which the diamond undergoes after it has come from the artist, who, if it is a valuable stone, draws out a plan by which it may be cut with the smallest loss of weight. Leaving the mills, we ascend to this department, and find that the workman does everything without the aid of machinery. Having taken two small wooden levers or handles, he selects two diamonds, and fixes one in each. The rough form of the facets are then made by rubbing the one diamond against the other over a little box, which receives the powder as it falls.

The Star of the South, a brilliant of the purest water, as seen at the Paris Exhibition, was cut in the factory of Mr. Coster; and the ablest artist of the establishment, Mr. Voorsanger, had the honour of successfully re-cutting the Koh-i-noor in the workshop of the crown-jeweller at London. The *medaille d'honneur* which the imperial commissioners at Paris assigned 'pour les lapidaires diamantaires de Hollande: taille de diamants et roses livres an commerce,' was well bestowed.

The Koh-i-noor, when presented to Her Majesty Queen Victoria by the East India Company, was of an irregular egg-form, and the cutting had been so unskilfully executed, that its appearance scarcely surpassed that of cut crystal. In the sides were grooves which had been cut for the purpose of fastening it in the former setting, and near the top was a small split. To remove these without greatly reducing the weight, presented considerable difficulties, but Mr. Coster was of opinion that these might be overcome in the hands of a skilful workman. Several models were presented to Her Majesty, out of which she selected the form it now bears, that of a regular brilliant. To accomplish the work of re-cutting, a small engine, of four horse-power, was erected to drive the diamond-mills. The cutting was commenced on the 16th July, 1852, and finished in thirty-eight working-days of twelve hours each. In removing one of the flaws, the speed of the revolving plane required to be increased to 3000 revolutions in the minute, and even then the object was attained slowly. The velocity with which the mill rotates, and pressure on the lever which rests the diamond upon the plane, alone give power to the workman. That pressure may either be applied by the hand, or weights proportioned to the size of the stone and nature of the work. In cutting the Koh-i-noor, it was regulated, so as tobe capable of being increased from one to fifteen Netherlands pounds.

The process reduced the Koh-i-noor from 186 1-16 carats to 109 1-16; considerably under the average loss, which is estimated at one half or more. The Star of the South, when uncut, weighed 254 carats, and is now 125, the reduction being somewhat more than half. No large diamonds were ever before cut with so little diminution of their weight. The 'Regent,' which belongs to the crown-jewels of France, lost nearly two-thirds. But this is not the only circumstance which points out the great progress made in the art of diamond-cutting. The time required to perform the work has been very much shortened. The Regent occupied two years; while the Koh-i-noor, which is only thirty-seven carats lighter, was finished in less than six weeks; and the Star of the South, twelve carats smaller than the Regent, was cut in three months. Morever, no one can look at the cabinet of models in Mr. Coster's room without recognising the superiority of the Koh-i-noor and the Star of the South over any of the other gems which belong to the sovereigns of Europe.

The manner in which the value of cut diamonds is calculated, makes it of the greatest importance that the weight should be reduced as little as possible. A stone of one carat is valued at L.8 sterling, while one twice the weight is worth L.32; the rule being, 'the square of the weight multiplied by the price of a stone weighing unity,' gives the true value. According to this principle, the Koh-i-noor is worth about L 90,000, and the Star of the South L.125,000. But the rule is never applied to stones of a very large size; these possess a value altogether arbitrary. By cutting, the peculiar brilliancy of the diamond is brought out and its value fixed, Then the jeweller adds new beauty by tasteful setting. His skilful combination of various kinds of precious stones, so that the one may impart splendour to the other, makes the starry rays of the diamond sparkle with glory in the tiara, brooch, or necklace. During the last twenty years, great progress has been made in the art of setting, of which splendid specimens were exhibited both at the London and Paris Exhibitions. Rubies, sapphires, emeralds, and diamonds are now formed into anemones, roses, carnations, tulips, convolvuli, lilies, and other flowers. Probably, the idea originated with the glory which is seen, early on a summer morning, when the rising sun shines on the dewy flowers.

The revolution in France, at the end of the last century, nearly ruined the jewellers of Paris, and for a time gave a check to improvement. Under the imperial government of Napoleon I., some progress was again made, but the art only began to flourish after the restoration. At first, they worked with stones of the second class, such as topazes, amethysts, and aigue-marines, with which trinkets of more appearance than value could be made. Afterwards, it was found that by imitating flowers, the number of precious stones, in proportion to the size of the jewel, could be reduced without injuring the effect; while diamonds of less purity, such as those of Bahia, could be more freely used. The practice of setting diamonds in silver, and rubies in gold, so as to impart an apparent increase of size to the one, and splendour of colour to the other, became more general; and the most beautiful designs have been wrought out with the greatest neatness and taste. At no period in the history of the world have so fine specimens of the jeweller's art been produced as during the present century by the artists of London and Paris.

NEW BOOK STORE!
BOOK-BINDING OFFICE
—AND—
CIRCULATING LIBRARY.

(DAWSON'S BUILDINGS, KENT-ST., CHARLOTTETOWN.)

JOHN BENNETT STRONG begs to invite his friends and the reading public to an inspection of a select *STOCK OF BOOKS*, in HISTORY, BIOGRAPHY, aud GENERAL LITERATURE. Also, Books for the Young, Gift Books, Sunday School Rewards, &c.. &c.

In addition to his Stock of new Books, he has made a selection of the best works in LIGHT LITERATURE, for the purpose of forming a CIRCULATING LIBRARY, which he is ready to lend out at a moderate rate per volume.

J. B. S. takes this opportunity to solicit work in BOOK-BINDING, which he is now prepared to execute in every style of the Art, and in any quantity.

N. B.—Agent to the London Printing and Publishing Company.

Oct 11, 1856.—Isl&Adv2i

LOST.

ON Wednesday the 10th inst. between Charlottetown and the Queen's Arms, a Buffalo Skin, lined with checkered homespun, belonging to the front of a Sleigh. The finder will be rewarded for his trouble by, leaving it at the office of Haszard's Gazette

Sept. 15th, 1856.

DRAIN WATER PIPES.

FOR SALE at the QUEEN SQUARE HOUSE, a quantity of superior Salt-glazed Stone-ware, *Pipes, Junctions, Bends, &c.*, from 3 inches to 10 in diameter, supplying the cheapest and most efficient method of conveying water under ground.

WILLIAM HEARD.

Charlottetown, 22d April, 1856.

NEW SUPPLIES!
—AT—
George T. Haszard's Book-store.
September 24th, 1856.

GEORGE T. HASZARD, by recent arrivals, has added to his large Stock of—

Stationery and Fancy Goods,

Having received from England via Halifax, 100 reams large and small POST PAPER (ruled and plain), Note Paper (ruled and unruled, various sizes), Altas, Double Elephant, Imperial S Royal and Royal Drawing Papers, Blotting Paper (superior quality), Blue-laid, demy double folio Foolscap Paper, 26,000 Envelopes, (very low prices), 170 gross Pens, Account and Memorandum Books of every size and quality.

A few articles in PAPIER MACHIE, viz., Albums, Trinket Boxes, Card Cases, Card Trays (with or without handles), Portemonnaies, Ladies' Riticules, Tea Trays and Tables, Ink-stands, Work Boxes, &c.

In SCOTCH WOOD— Ladies' Companions, Paper Folios, Inkstands, Card Trays, Portemonnaies, Reticules and Card Cases.

—ALSO—

Backgammon and Chess Boards, Ladies' and Gentlemen's Dressing Cases, Work Boxes, (Rosewood) Ladies' Mancle Reticules, Patent Leather Measuring Tapes, Electro-Plated Tea, Dessert and Table Spoons and Forks, Ivory-handled Knives, Glass Inkstands, a large assortment of Pocket Books, Gold, Silver, German Silver and Electro-Plate Pen and Pencil Cases, Alphabet Boxes, &c.

FURTHER SUPPLIES EXPECTED.

expected per Ship Majestic from Liverpool.

To Theologians.

GEORGE T. HASZARD has on hand Dr. Kitto's Cyclopedia and general works; Dr. Chalmer's, Dr. Jay's Works; Ryle's, Bonar's and Hooker's Works, mostly complete; Pearson on the Creed, do. on Infidelity, (prize Essay); Dr. Dick's Theology; Dr. Thos. Dick's complete Works, besides a large STOCK of Miscellaneous THEOLOGICAL WORKS, too numerous to mention.

What G. T. H. has not in the above, he can supply at an early date.