

curved line over the stone in such manner and by such means that the convex side of such curved line is the projecting or boundary of the undressed portion of the surface, and the concave side of such curved line so described by the cut of the cutter, is the edge of the dressed portion of the surface when it meets that part which is undressed. The cutter, by the improved arrangement, as it approaches and leaves the stone in such curved line as that described, attacks and leaves the surface in a manner and with conditions different from what has been done heretofore, so that it forms a plane and well dressed surface, and a more even and true arris (meeting edge) than can be done by any other rotary stone cutter. *a a* are the foundation bolts; the letters *b b'*, and *Q*, are the steam pipes and governor; *d d* are serging drums; *O* is a belt to drive the shaft, I.

Mr. Cochran is now erecting two large and powerful machines upon this plan for granite quarries in Maine, they are to dress large blocks 10 feet in width and 5 feet thick.—Each machine will weigh 35 tons. The rotary cutters are to be three feet in diameter and will take a cut six inches deep and cut over 500 superficial feet in a day.

The improvement is a most important one, and reflects no small degree of credit upon its ingenious projector. An able company, we understand, have taken the business in hand and will carry it forward successfully.

Mr. Cochran's office is at No. 52 South street, N. Y., where all applications for rights, etc., should be made.

MISCELLANEOUS.

Discoveries in Africa.

At a meeting of the American Geographical Society held at the University, this city, on Tuesday evening, the 13th inst., Mr. Leavitt read a very interesting paper from the Rev. Mr. Livingston, a missionary in South Africa. The Rev. gentleman had made two excursions, in company with Capt. Oswald and another officer of the British Army, into the central part of the continent. Mr. Leavitt displayed a map to illustrate the paper. In 1820 a missionary had penetrated to Lattakoo, in lat. 27°; in 1822 another missionary went 200 miles further up; in 1830, Capt. Oswald and Mr. Murray went further up, to latitude 20° south. They found there a large river, (the Zonga), and a lake (the Ngami), never before known. Mr. Leavitt then read the letter of Mr. Livingston. They passed in their journey due north across the dry bed of the Zonga. Here they found numerous salt-pans or ponds. The Bushmen abound near the springs. They are a merry and honest race. For three days Mr. Leavitt was without water; travelling by night to avoid the heat. On the fourth day they struck a rhinoceros trail and followed it to the river Mataba, a small stream. They reached the Chobe on the next day. This is a deep and very crooked river. Here they found a famous old chief, Sabatone. His tribe is a very savage one. This old chief died while the travellers were there. They then went on to the Sesheke or Sikota on horseback, a distance of 100 miles. This is an immense stream; 300 to 500 yards across in the driest season. Ten days up this river is the seat of the Barotsi, once the most powerful tribe in that region. The river has many tributaries and some rapids. In this region there are many large rivers; the country is flat, and in the rainy seasons is flooded for many miles from the streams. The people here are very black, very large, and strongly developed, but peaceful. They are more ingenious than the Cape people. The Baloc tribes melt large quantities of iron, and are very good smiths. There are some tribes who have the singular custom of knocking out the upper front teeth of both sexes, at the age of puberty; some of them knock out the teeth from both jaws. These tribes have a few domestic animals, where the tsetsi, (a sort of fly which kills cattle) does not abound. Natural food is everywhere abundant. The Portuguese have never been up the Sesheke to trade, and there is a fine chance for Christian traders up these great streams. One trader lately took down 11,000 lbs. of ivory,

worth a dollar a pound on the Cape. Ostrich feathers, cattle, &c., are plenty. The people are all aware of the existence of a God, and seem to be informed in regard to future life, and rewards and punishments. There are many dialects along the Zambesi; but they have considerable analogy, and one might serve as a key to the whole. From the maps exhibited, we perceive that the Zambesi, (which is a very large river emptying into the Mozambique Channel by innumerable mouths in latitude 18° and 19° south) seems to divide into two great branches some 350 miles up; that these branches run west and then for several hundred miles north; that the branches are something like 200 miles apart, and that the country between is a rich delta, since junction streams constantly run from one branch to the other, thus forming large islands inhabited each by a different tribe; that 700 or 800 miles from the ocean the western branch of the Zambesi receives the Chobe, which is the largest river—the Ohio to the African Mississippi; that the sources of none of these rivers are as yet known; that south and west of the Chobe runs the Zonga, another very large river, neither end of which has been found, but it is supposed to empty into the Zambesi: that a hundred or two miles further south is the Limpoo River, also unexplored either way. It seems probable from these documents, that there is a large and fertile region, well watered, wooded, and peopled, on the spot generally set down as the lower part of a great desert, lying within a space bounded by longitude 20 and 35, and latitude 10 and 20. The Portuguese slave traders begin to penetrate there, not themselves, but by the black tribes who are in their employ. About two years ago some traders well supplied with English cloths, guns, &c., came into the Chobe region, but the people were not inclined to the business. The price of a boy was about eight or nine yards of calico or baize cloth. Mr. Livingston proposes to send his family home and go himself as a missionary to reside in the heart of the country.

The thanks of the Society were returned for the paper.

Recent Foreign Inventions.

Aime N. Derode, of Paris, has recently taken out a patent for the following method of uniting cast-iron with cast-iron and other metals:—

Mr. Derode's process of uniting metals to each other consists in the employment, in conjunction with ordinary heat, of a succession of electric or electro-galvanic shocks. The metals may be operated on either in the solid or partially liquid state. The metals are first scoured with acidulated water, the effects of which may be aided by heat and electric agency, then rubbed with wire brushes, placed in contact with each other in the position they are ultimately intended to occupy, have solder applied to the meeting parts, are heated by means of a clear fire in a suitable furnace, and, while the solder is melting, a rapid succession of electric shocks is caused to act on the two metals so as to combine with the solder, to produce perfect union of the two. The solder which the patentee prefers is composed of two parts yellow copper solder, one part brass, and one six-hundredth part nickel in powder; but other may be used, and these proportions may be varied. The joint product by the process described is stated to be so perfect as to be capable of resisting a force more than sufficient, in the case of two bars of iron united together by it, to fracture the bars.

ENAMELLING CAST-IRON PIPES.—Timothy Kenrick, of Edgbaston, Warwick, England, recently took out a patent for the following method of glazing the interior of cast-iron pipes:—

For this purpose the patentee employs two compositions—one to form the body, and the other the glazed surface. The body glaze is composed of 100 lbs. calcined flints, reduced to a fine powder; 75 lbs. borax, also in powder; these ingredients are fused into a mass, and, when cold, ground in water, dried, and mixed with potter's clay in proportion of 40 lbs. of the composition to 5 lbs. clay, and sufficient water to produce a paste of a creamy consistence. The glaze is to be poured into

the tube, and the tube turned round so as to expose every part of its surface to be covered by the pasty mass. The second glaze is then applied, in a state of powder, over the whole interior surface, and the tube is then heated in a muffle until the glazes are melted. Should the whole of the interior, however, not have been properly covered with the surface glaze, it will be necessary to apply a further quantity of it, and to reheat the tube sufficiently to vitrify the additional quantity so applied. The surface glaze is composed of 100 lbs. Cornish stone, 117 lbs. borax, 35 lbs. soda ash, 35 lbs. saltpetre, 35 lbs. sifted slack lime, 13 lbs. white sand, and 50 lbs. white glass in powder. These several ingredients are calcined together, ground in water, and dried. To 45 lbs. of the mixture, in powder, is then added 1 lb. of soda ash, and they are mixed together in hot water, and, when dried, produce a powder which is used as above directed.

Great Discovery for Tobacco Smokers.

It will be seen by reference to our advertising columns that a new preparation of smoking tobacco has been offered in our market, the peculiar excellence of which consists in the extraction of the poisonous qualities, without affecting the fine flavor and aroma of the weed. The proprietors placed in our hands some time since a package of this tobacco for trial, and we can speak from experience when we say it is a most mild and delightful article. It takes away from the anti-tobacco men their chief argument, for it has no nicotine in it and can be used with safety as well as pleasure by persons whose nerves are affected by smoking. For ourselves, we intend never to be without this denicotinized tobacco, and trust that its proprietors will be liberally patronized by the public. It is for sale by Bennet & Beers.—[Richmond (Va.) Republican.]

[When the nicotine is extracted will it be tobacco? Would wheat be wheat if all the starch were extracted? Nicotine gives tobacco its peculiar flavor. We should like to see what kind of tobacco this was with all the nicotine gone.]

Iron Steamships for the Cunard Line.

A Liverpool correspondent of the New York Herald of Wednesday last week, makes the statement that the Cunard Company have sold their large ships Arabia and Persia, for some defect in their build, and that they are going to build an iron steamer longer than the Great Britain, which is to be of 1,500 horse-power, and to beat the world for speed. The fellow who wrote the letter was exceedingly ignorant of what he was writing about. No iron steamer is allowed by the British government to form part of the contract with any of the mail companies. The Oriental Company got orders to this effect more than a year ago, and one iron steamer, which they had about finished, was proscribed.

Ale in London.

Quite an excitement has been produced in London by the London Times asserting that the brewers sometimes put strychnine, a deadly poison, into their beer, to give it a strong bitter taste. The brewers have denied the charge and challenged investigation.

Death from Using Chloroform.

The New Haven Register states that Mrs. Emily Norton, wife of Mr. Hart Z. Norton, of Norwalk, having been afflicted for some years with a disease of the jaw and cheek, requiring the extraction of several diseased teeth, came to this city for the purpose of having the operation performed by her former medical attendant, Mr. Park. She had last year taken chloroform with happy effect, under his care, and now insisted upon having it administered preparatory to the operation.—She was allowed to inhale the chloroform, a very small quantity, for several minutes; almost while she was saying that she felt no effect from it, and was asking for its more free administration, the doctor noticed the pulse suddenly to fail. Within three or four minutes from the time this change was noticed, all signs of life were gone, and the most vigorous efforts to resuscitate the woman, proved unavailing. The quantity of chloroform used, was much less than is commonly administered in surgical operations; and the

operator is regarded as a skillful, judicious and prudent physician.

Challenge to American Shipbuilders.

We understand that Mr. Mare, of Blackwall, has invited the commodore of the New York Yankee Club, or any gentleman in America, to compete with a vessel which he will construct, in a contest similar to that in which the America was successful last year, to come off at Cowes, in next August or September; the conditions can be referred to umpires chosen by the respective parties. Mr. Mare stakes £100 on the result. The American yachtmen must be aware that the America, built almost entirely for speed, came to England to contend with yachts already constructed to combine as much speed as would be consistent with comfort, hitherto a *sine qua non* in British yachts, and Mr. Mare, in the same spirit of courtesy and generous rivalry, as characterizes the proceedings at Cowes on the late occasion, invites the Americans to the trial; and although Mr. Mare by no means presumes that the British yacht will be successful, yet ventures to think a better test of the respective vessels will be obtained when they are both built for the same purpose.—[United Service Journal.]

Mr. Mare must be an extraordinary polished, credulous, philanthropic, and philosophic gentleman. Here he invites any American to come over to England and try a race for \$500. Will he pay the expenses over and back of any American yacht that will take up the challenge? if so, he will find a customer. America has gone over to England once on an invitation, and beat all the yachts there; it is now for Uncle John to come here and do the same thing with us—f he can; this is fair, Uncle John is a lover of fair play and is no coward, we believe, but the challenge of Mr. Mare looks very much like the defiant clarion of the barn-yard rooster. Come over here this time Mr. Mare, it is your turn now.

Great Steamship Accident.

The last news from Europe, per the Arctic contains the account of the loss of the Birkenhead, steamship, on the south coast of Africa. She was bound to the Cape of Good Hope with soldiers. The sky was clear and the sea was smooth. She struck upon a reef of sunken rocks when going at the rate of nine knots per hour. In twenty minutes a few floating spars were all that appeared of this fine vessel. Of 638 persons who were aboard, 454 were lost. The captain, like many other too confident men, was desirous of making a short passage, and hugged the shore too closely. It is a sad fact, that danger begets recklessness in those who have been accustomed to brave it with success.

Wheeling Bridge.—Explosions.

We had supposed that Chief Justice Taney was the only dissenter from the decision of the U. S. Supreme Court in reference to the Wheeling Bridge Case; but there is another dissenting judge also, viz., Judge Daniel. He has published his opinion; he takes about the same view of the subject that Justice Taney does. The judges of the U. S. Supreme Court, we believe, have exceeded their powers in rendering such a decision, and we can thus see how any body may commit errors. The chief argument against the bridge was, that long chimneys increased the speed of steamboats, and the bridge interfered with long chimneys. We hope Congress will look into this point; we have had enough, God knows, of the nuisance of western steamboats within the past three weeks. Let the West go in for railroads, and render the use of explosive steamboats obsolete.

The ponderous machine which has been built at South Boston, Mass., for the purpose of tunneling Hoosac Mountain, will be taken to Greenfield, near where operations are to commence, the latter part of this week. The machine, or borer, as it is called, weighs ninety tons.

Prince Schwartzburg, the Austrian Prime Minister, is dead. He died from a stroke of apoplexy. He was the bitter hater of Hungary, and the persecutor of the Protestant missionaries in that country. Kossuth has one enemy less now, but there are plenty more of such men in Austria.