The Reformation.

Sung in the 17th Ward School House, by P. Margetts, G. S. L. City, Oct. 15, 1856.

TUNE—'Rosa May.'

The reformation has commenced,
All hail! the glorious day,
May God his Holy Spirit send
To guide us in his way:
Now, brethren, the time has come
For wickedness to cease;
So live like honest Saints of God,
And righteousness increase.

CHORUS.
Then, O, brethren, come,
And let us all agree,
And strive to gain the blessings
In store for you and me.

To gain these blessings we must try
And do what we are told;
I'll tell you what we ought to do,
If you won't think me bold:
We ought to put down wickedness,
We ought to watch and pray,
We ought to build the kingdom up—
Not loaf our time away.
Then, O, brethren, come, &c.

We ought to have our houses neat,
Our Teachers to obey,
We ought to keep our bodies clean,
Our tithing always pay:
We ought our brother's character
Keep sacred as our own,
Attend to business all we can,
Let other folks alone.
Then, O, brethren, come, &c.

We ought our Bishops to sustain,
Their counsels to abide,
And knock down every dwelling
Where wicked folks reside:
We ought our Teachers to respect,
Not give them looks nor snubs;
And keep our ditches free from pots,
Likewise from stinking tubs.
Then, O, brethren, come, &c.

Now, sisters, list to what I say,—
With trials this world is rife,
You can't expect to miss them all,
Help husband get a wife!
Now, this advice I freely give,
If exalted you would be,
Remember that your husband must
Be blessed with more than thee.
Then, O, let us say,
God bless the wife that strives
And aids her husband all she can
T' obtain a dozen wives.

Now, brethren, let us study
To do the will of God;
If it's sowing, reaping, preaching,
We'll get a just reward:
Keep sacred all your covenants,
And do the best you can;
I pray that God will bless you all,
Worlds without end. Amen.
Then, O, brethren, come, &c.

[From Chambers' E'inburg Journal.]

STATUE OF PETER THE GREAT, ST. PETERSBURG.

The rapid change which Russia underwent dusing the reign of Peter the Great, her extraordinary advances under this sage legislator, are among the most important events of which history preserves the record. Proud of his glory, the nation wished to erect a monument in commemoration of his great actions, which in his own city should be a distinctive object to all posterity. In the then young state of their art, some deliberation took place before the design of the structure was decided on: during this the hero died, and the erection of the monument was consequently reserved for the reign of the empress Catherine II.

The first step to be taken was the appointment of an artist capable of undertaking such a work. The choice fell upon M. Falconet, who, in his conception of an equestrian statue, determined that the subordinate parts should bear an equal impress of genius. He found that the pedestals in general use have no distinctive feature, and adapt themselves equally well to any subject; and being of so universal application, they produce no new or elevated feeling in the mind of the spectator. He wished to make the czar appear in his principal character—the father and legislator of his people; great and extraordinary in all; undertaking and completing that which others were unable to imagine. To carry out this conception, a precipitous rock was fixed on for the pedestal, on which the statue should appear with characteristics distinguishing it from those erected to other sovereigns.

The first idea was to form this pedestal of six masses of rock, bound together with bars of copper or iron; but the objection was urged, that the natural decay of the bands would cause a disruption of the various parts, and present a ruinous aspect, while it would be difficut to insure perfect uniformity in the quality and appearance of the different blocks. The next proposal was to form it of one whole rock; but this appeared impossible; and in a report to the senate, it was stated the expense would be so enormous, as almost to justify the abandonment of the undertaking; and even if made of six pieces, as first proposed, the outlay would be excessive.

At length it was determined to transport to the city the largest rock that could be found, and add other portions to it as might be judged necessary. Still, great misgivings prevailed as to the possibility of removing the contemplated mass. The search was then begun, but with less success than had been anticipated, as the country around St. Petersburg is flat and marshy, affording no traces of stone, while the nearest mountains are in the province of Finland. A whole summer was passed in exploration; and the idea of forming the pedestal of several smaller portions was again entertained, when a large stone was discovered near Cronstandt, which it was determined to apply as the principal mass; and the task of its removal was confined to the Admirality, who, however, as well as many other mechanicians applied to in turn, refused to undertake it. The search for the smaller blocks was nevertheless continued, although no one appeared to have any definite notion of the use to be made of them in the event of their discovery.

Under these unexpected difficulties, the formation of the pedestal was intrusted to an officer of the corps of cadets, who had already given proofs of his mechanical skill. A native of Cephalonia, he had been compelled, for an offence against the laws, to seek refuge in Russia, where he lived under the assumed name of Lascary. He had strenuously recommended the adoption of the original design; and a few days after his appointment, he received information from a peasant of a large rock lying in a marsh near a bay in the Gulf of Finland, about twenty miles from the city by water. An examination was immediately instituted: the stone was found covered with moss; and on sounding around it, the base was fortunately ascertained to be flat. Its form was that of a parallelopipedon, 42 feet in length, 27 feet in width, and 21 feet in height—dimensions sufficiently extensive to realize the conceptions of M. Falconet, the sculptor. But when the authorities, under whose direction the work was placed, saw the prodigious size of the rock, they again hesitated, and recommended its division into smaller portions. The fear of accidents, however and the hardness of the stone, caused them to yield to the representations of the engineer, who was now favored by the support and encouragement of the minister Betzky; and the intelligence of the empress being superior to the senseless clamor raised by the envious and the ignorant, she gave orders for the commencement of the work.

A working model of the machinery, with which it was proposed to remove the rock from its situation was first made. M. Lascary resolved on effecting this removal without the use of rollers, as these not only present a long surface, which increases the friction, but are not easily made of the great diameter that would have been required, owing to the soft and yielding nature of the ground on which the work was to be performed. Spherical bodies, revolving in a metallic groove, were then chosen as the means of transport.—These offered many advantages. Their motion is more prompt than that of rollers, with a less degree of friction, as they present but small points of contact. Stout beams of wood, 33 feet in length, and one foot square, were then prepared. One side was hollowed in the form of a gutter, and lined, the sides being convex, to the thickness of two inches, with a compound metal of copper and tin. Balls of the same metal, five inches in diameter, were then made, to bear only on the bottom of the groove. These beams were intended to be placed on the ground in a line, in front of the stone, while upon them were reversed two other beams, prepared in a similar manner, each 42 feet long, and 1½ feet square, connected as a frame by stretchers and bars of iron 14 feet in length, carefully secured by nuts, screws and bolts. A load of 3000 lbs., when placed on the working model, was found to move with the greatest facility; and the inventor hoped to satisfy the minister as well as the mechanicians by its public exhibition. The former was well pleased with the experiment, and expressed his belief in the possibility of removing the stone; while the latter raised absurd objections, with the cry of 'the mountain upon eggs.'

The first thing to be done, as the rock lay in a wild and deserted part of the country, was to build barracks capable of accommodating 400 laborers, artisans, and other personn required, who with M. Lascary, were all lodged on the spot, as the readiest means of forwarding the work. A line of road was then cleared from the rock to the river Niva, a distance of six versts (12,000 feet) to a width of 120 feet, in order to gain space for the various operations, and give a free circulation of air, so essential to the health of the workmen in a marshy district, as well as to the drying and freezing of the ground—a point of much importance, when the enormous weight to be removed is considered. In the month of December, when the influence of the frosts began to be felt, the operation of disinterring the rock from the earth, in which it was imbedded to the depth of 15 feet, was commenced: the excavation required to be of great width—84 feet all round—to admit of turning the stone, which did not lie in the most favorable position for removal. An inclined plane, 600 feet in length, was afterwards made, by means of which, when the stone was turned, it might be drawn up to a level surface.

Among the objections urged against the possibility of removing the rock, was the anticipated insurmountable difficulty of placing it upon the machine destined for its transportation. But the engineer was confident, and wisely prefering simplicity to complication, resolved on employing ordinary levers, known technically as levers of the first order; these were made of three masts, each 65 feet in length, and 1½ feet in diameter at the larger end, firmly bound together. To diminish the difficulty of moving these heavy instruments, triangles 30 feet high were erected, with windlasses attached near the base, from which a cord, passing through a pulley at the top, was fastened to the smaller end of the lever, which, being drawn up to the top of the triangle, was ready for the operation of turning: each of these levers was calculated to raise a weight of 200,000 lbs.—A row of piles had been driven into the ground at the proper distance from the stone on one side, to serve as fulcrum; and on the other a series of piles were disposed as a platform, to prevent the sinking of the mass on its descent. Twelve levers, with three men to each, were stationed at the side to be lifted, and the lower extremities being placed under the mass, the upper ends were drawn downwards by the united action of twelve windlasses. When the stone rose to the height of a foot, beams and wedges were then driven underneath, to maintain it in that position, while the levers were arranged for a second lift. To assist the action of the levers, large iron rings were soldered into the upper corner of the rock, from which small cables were passed to four capstans, each turned by 36 men, thus maintaining a steady strain; while the stone was prevented from returning to its original position when the levers were shifted. These operations were repeated until the rock was raised nearly to an equipoise, when cables from six other capstans were attached to the opposite side, to guard against a too sudden descent; and as a further precaution against fracture, a bed six feet in thickness, of hay and moss intermingled, was placed to receive the rock, on which it was happily laid at the end of March 1769. As it was of great importance that all the workmen should act at one and the same time, two drummers were stationed on the top of the stone, who at a sign from the engineer, gave the necessary signals on their drums, and secured the certainty of order and precision in the various operations.

Meantime the machinery for the removal had been made. Of the lower groove beams already described, six pairs were prepared, so that when the rock had advanced over one pair, they might be drawn forward and placed in a line in advance of the foremost, without interrupting the movements. The balls were laid in the grooves two feet apart; the upper frame, intended as the bed for the rock, placed above: the mass, weighing in its original form 4,000,000 lbs., was then raised by means of powerful screws, and deposited on the frame, when it was drawn up the inclined plane by the united force of six capstans. The road did not proceed in a direct line to the river, owing to the soft state of portions of the marsh: in many places it was impossible to reach a firm foundation with piles 50 feet in length. This naturally added to the difficulties of the transport, as the direction of the draught was frequently to be changed. Piles were driven along the whole line on both sides, at distances of 300 feet apart: to those the cables were made fast, while the capstans revolved; two of which were found sufficient to draw the stone on a level surface, while on unequal ground four were required. The rate of motion was from 500 to 1200 feet daily, which, when regard is had to the short winter days of five hours in that high latitude, may be considered as rapid. So interesting was the spectacle of the enormous mass when moving, with two drummers at their posts, the forge erected on it continually at work, and forty workmen constantly employed in reducing it to a regular form, that the empress and the court visited the spot to see the novel sight; and, notwithstanding the rigor of the season, crowds of persons of all ranks went out every day as spectators. Small flat sledges were attached to each side of the stone by ropes, on which were seated men provided with iron levers, whose duty it was to prevent the balls, of which fifteen on a side were used, from striking against each other, and thus impeding the motion. The toolhouse was also attached, and moved with the stone, in order that everything might be ready to hand when required. Experiments were tried with balls and grooves of cast iron; but this material crumbled into fragments as readily as if made of clay. No metal was found to bear the weight so well as the mixture of copper and tin; and even with this the balls were sometimes flattened, and the grooves curled up, when the pressure by any accident became unequal. The utility of rollers was also tried; but with double the number of capstans and power, the cables broke, while the stone did not advance an inch.

The work went on favorably, when it was suddenly checked by the sinking of the stone to a depth of 18 inches in the road, to the great chagrin of the engineer, who was suffering under a severe attack of marsh fever. He was not, however, disheartened, and speedily remedied the accident, spite of the idle clamors of the multitude; and in six weeks from the time of first drawing the stone from its bed, he had the satisfaction of seeing it safely deposited on the temporary wharf built for the purpose of embarkation on the banks of the river, when the charge fell into the hands of the Admiralty, who had undertaken the transport by water to the city.

A vessel or barge 180 feet in length, 66 feet in width, and 17 feet from deck to keel, had been built with every appliance that skill could suggest, to render it capable of supporting the enormous burden. Great precautions were now necessary to prevent the possibility of the falling of the rock into the stream: water was let into the vessel until she sunk to the bottom of the river, which brought her deck on a level with the wharf; the rock was then drawn on board by means of two capstans placed on the deck of another vessel, anchored at some distance from the shore.—Pumps and buckets were now brought into use to clear the barge of the water with which she had been filled; but to the surprise and consternation of those engaged, she did not rise equally: the centre, bearing most of the weight, remained at the bottom, while the head and stern, springing up, gave to the whole the form of a sharp curve: the timbers gave way, and the seams opening, the water re-entered rapidly: 400 men were then set to bale, in order that every part might be simultaneously cleared; but the curve became greater in proportion to the diminution of the internal volume of water.

M. Lascary, who, from the time the rock had been placed on the deck of the vessel, had been a simple spectator of these operations, which occupied two weeks, now received orders to draw it again upon the wharf. He immediately applied himself to remedy the error—which had been committed in not distributing the weight equally—without removing the stone. He first caused the head and stern of the barge to be loaded with stones, until they sank to a level with the centre; the rock was then raised by means of screws and beams of timber, diverging to every part of the vessel, placed under and against it; and on the removal of the screws, the pressure being equal in every part, she regained her original form. The water was next pumped out, the stones removed from the head and stern, a ship lashed on each side of the barge, which, on the 22d September, arrived opposite the quay where it was intended to erect the statue.

Not the least difficult part of the work, the debarkation, remained to be done. As the river was here of a greater depth than at the place of embarkation, rows of piles had been driven into the bottom alongside the quay, and cut off level at a distance of eight feet below the surface: on these the barge rested; and, to prevent the recurrence of the rising of the head and stern when the supports should be removed, three masts, lashed together, crossing the deck at each extremity, were secured to the surface of the quay.

It was then feared that, as the rock approached the shore, the vessel might heel and precipitate it into the river. This was obviated by fixing six other masts to the quay, which projected across the whole breadth of the deck, and were made fast to a vessel moored outside; thus presenting a counterpoise to the weight of the stone. The grooved beams were laid ready, the cables secured, and at the moment of removing the last support, the drummers beat the signal: the men at the capstan ran round with a cheer; the barge heeled slightly, which accelerated the movement; and in an instant the rock was safely landed on the quay.

Such was the successful result of an undertaking, extraordinary in its nature and the circumstances in opposition to it.

An example is here afforded to those who may have to struggle with difficulties in mechanical art, that will stimulate them to attempt what may appear impossible to the timid and unreflecting. He who contends successfully with the adverse opinions of men of learning and the blind prejudices of the multitude, achieves a moral as well as a physical triumph, deserving of high praise and imitation.

It is to be regretted that the effect of this unrivalled pedestal was marred by the diminution of its size. Under the directions of the artist who had so successfully formed the statue, it was pared and chiseled, until the weight was reduced to 3,000,000lbs; and the outline, instead being left bold and broken, as best suited the character of the group, was made smooth and uniform.

It forms, however, one of the chief attractions of St. Petersburg, standing 'in the square opposite the Isaac Bridge, at the western extremity of the Admiralty. Here the colossal equestrian statue of the founder of this magnificent city, placed on a granite rock, seems to command the undivided attention of the stranger

On approaching nearer, the simple inscription fixed on it, in bronze letters, 'Petro Primo, Catharina Secunda, MDCCLXXXII,' meets the eye. The same inscription in the Russian language appears on the opposite side, The area is enclosed within a handsome railing, placed between granite pillars.

The idea of Falconet, the French architect, commissioned to erect an equestrian statue to the extraordinary man at whose command a few scattered huts of fishermen were converted into palaces, was to represent the hero conquering, by enterprise and personal courage, difficulties almost insurmountable.

This the artist imagined might be properly represented by placing Peter on a fiery steed, which he is supposed to have taught, by skill, management and perseverance, to rush up a steep and precipitous rock, to the very brink of a precipice, over which the animal and the imperial rider pause without fear and in an attitude of triumph. The horse rears with his fore-feet in the air, and seems to be impatient of restraint, while the sovereign, turned towards the island, surveys with calm and serene countenance his capital rising out of the waters, over which he extends the hand of protection.

The bold manner in which the group has been made to rest on the hind legs of the horse only, is not more surprising than the skill with which advantage has been taken of the allegorical figure of the serpent of envy spurned by the horse, to assist in upholding so gigantic a mass.

This monument of bronze is said to have been cast at a single jet. The height of the figure of the emperor is 11 feet, that of the horse 17 feet. The bronze is, in the thinnest parts, only the fourth of an inch, and one inch in the thickest part; the general weight of metal in the group is equal to 36,636 English pounds.'

NAVIGATION.—The great secrets of navigation are contained in a small compass. When navigators are desirous of knowing the depth of the water, they usually drop a line for information, and it has generally lead in the end to the obtaining of the sought for knowledge.

Ships that directly oppose the authority of the winds by endeavoring to fly in their teeth, are put immediately in irons, and becoming cross-humored under such circumstances, have a certain stern way about them. Vessels in a high wind are addicted to low gambling, and do nothing but turn up coppers, and pitch and toss, while the gale lasts.

Ships go to divers parts of the earth, especially when they visit the pearl regions; those who go down to sea in ships, are not apt to turn up again. Sailors are lawless persons, taking anything they require, when they can get it; in fact they sometimes take the sun and moon. Ships are not usually provided with gardens, though they have have many small yards. Steamers are likely to predominate over other descriptions of vessels, as they are more prolific, having a greater number of births.

They seldom fall, though some of them make a great many trips. Clipper-built vessels are dis-