



MUNN & COMPANY, Editors and Proprietors.

PUBLISHED WEEKLY

At No. 37 Park-row (Park Building), New York.

O. D. MUNN, S. H. WALES, A. E. BEACH.

TERMS—Two Dollars per annum.—One Dollar in advance, and the remainder in six months.
Single copies of the paper are on sale at the office of publication, and at all the periodical stores in the United States and Canada.
Sampson Low, Sen & Co., the American Booksellers, No. 47 Ludgate Hill, London, England, are the British Agents to receive subscriptions for the SCIENTIFIC AMERICAN.
See Prospectus on last page. No traveling agents employed.

VOL. V. NO. 14. . . . [NEW SERIES.] . . . Seventeenth Year.

NEW YORK, SATURDAY, OCTOBER 5, 1861.

INFORMATION AS TO THE PATENTABLE NOVELTY OF INVENTIONS.

The list of claims published from week to week in these columns, indicate truthfully the extent of business being transacted at the Patent Office.

It will be observed that inventors are far from being dormant, if they are not as numerous and active, as they were a year ago. Since the first of July we have received a great accession to the subscription list of this journal, and for the information of each, we would state that it is the custom, at the office of this paper, to examine models or drawings and descriptions of alleged new inventions, and to give written or verbal advice as to their patentability, without charge. Persons having made what they consider improvements in any branch of machinery, and who contemplate securing the same by Letters Patent, are advised to send a sketch or model of it to this office. An examination will be made and an answer returned by early mail. Through our Branch Office, located directly opposite the Patent Office in Washington, we are enabled to make special examinations into the novelty and patentability of inventions. Having the records of the Patent Office to search, and the models and drawings deposited therein to examine, we are enabled to give an inventor most reliable advice as to the probabilities of his obtaining a patent, and also as to the extent of the claim that it is expedient to set up when the papers for an application are prepared. For this special examination at the Patent Office we make a charge of Five Dollars. It is necessary that a drawing and description or a model of the invention should accompany the remittance. Address—

MUNN & Co., No. 37 Park-row, New York.

GOLD COMING AND GOING.

For several months exchange on England has been so low that the tendency has been to bring gold to this country, beside keeping among us all that comes from California. This is an unnatural state of things, and cannot long continue.

Prices of commodities are their values as compared with money or currency. When currency is abundant in any country as compared with other commodities, the effect is to make prices generally high. The result is that that country is a good place to sell articles in, and a poor one to buy them in. The keenness of traders perceives this at once, and merchandise is sent to the country for sale, while the products of the country are bought sparingly, if at all, for sale in other places. Hence, the exports will be small, while the imports will be large and will have to be paid for in money. In this way the currency of the world is brought to its level by a law as inexorable as that which levels the waters of the sea.

As the United States produces far more than its

proportion of the gold annually mined in the world, a portion of this *must* go abroad; consequently, the normal condition of things is for exchange on England to be sufficiently high to carry gold to Europe.

It is as undesirable as it is impossible to prevent our surplus product of gold from leaving us. The quantity of *wealth* that a nation wants is unlimited, but all the *currency* that it wants is that which is required in effecting the exchange of its commodities. When we have all the gold we want for this purpose, we act wisely in sending abroad the surplus and getting in exchange for it such articles as we need—tea, coffee, cast steel, &c. All other articles of value are just as much wealth as gold is; and, indeed, gold would have no value at all as currency were it not for the existence of other commodities to be exchanged for each other.

That exchange on England will rise to sufficient height to carry gold abroad, and will continue generally against us as long as our gold mines are more productive than those of the rest of the world, is a prophecy that may be made with absolute certainty of its being fulfilled. It is so decreed by a law of trade which cannot be overcome or evaded. It will be understood, however, that if the shipments of California gold should be diverted from New York, and made directly from the Isthmus to Europe, the great cause of exchange being permanently against us would be removed, and European exchange would rise and fall accordingly as we had more or less of our share of the currency of the world.

TRAP QUARRIES—STREET PAVEMENTS.

On the western shore of the Hudson river the lofty and well known Palisades extend for many miles. Their head reclines upon the Highlands while their feet are bathed in the waters of New York Bay. The banks of the Hudson have become classic ground by the genius of Washington Irving. How euphonious and familiar to our ears are the quaint old names of Hoboken and Wehawken. Their mention invokes recollections of quiet summer evening scenes, with swallows twittering around the pointed gables of the old Dutch villas, while an air of subdued immobility reigns over all. But these are only recollections. Modern Progress has numbered the ways and the habits of our progenitors with "the things that were." It turns not aside from its mission by pleasant recollections and rural scenes of the olden time. Its motto is "the greatest good to the greatest number," and palisade and parterre are made subservient to its behests.

The high ridge constituting the Palisades is formed of hard trap rock, and is an excellent enduring material for street pavements, a purpose for which it is now much employed. Stretching for several miles behind Jersey City and Hoboken, the face of the palisade ridge has been converted into a series of quarries. Commencing at the lower extremity and traveling upward to classic Wehawken, we hear before us report after report as of marksmen at practice; and mingling with these sounds is heard the clink of drills and hammers. Soon we come in view of quarrymen in squads drilling and blasting, and others busily engaged with hammers in breaking and shaping the rifted trap into small and rectangular blocks. These quarrymen appear to have selected some very inconvenient spots for operation and to have passed by others more favorably located. A few inquiries and a close examination of the rock explain the cause of this. All the rocks in the ridge are not of the same quality. Those which are selected are hard and close in the grain and of a bluish gray color. These are very durable; those which are coarse in the grain and splintery, are left untouched. Extending for several miles, pile succeeds pile of these small blocks, all ready for use, and no superior material for pavements can be found anywhere. We conjectured from appearances that sufficient material had been quarried here to pave several cities, yet the Palisades can furnish trap cubes to cover the streets of every city on this continent without being missed. And it is so conveniently situated, also, that vessels can take in their cargoes at the very foot of the rocks, directly opposite the city.

The blessings of well-paved streets are beyond computation, and according to present appearances New York will soon be the best paved city in the world—

a gratifying evidence of our intentions to "mend our ways."

Fourteen years ago every street in the city was paved with cobble stones. In 1848 a section of Fulton street, and another in Broadway, were laid with what is called the Russ pavement, consisting of large granite blocks laid upon a bed of hydraulic cement. This was really the first step toward an improvement in street pavements, but from the first the SCIENTIFIC AMERICAN discountenanced the use of the large blocks, and recommended small granite blocks for the purpose. By reference to page 292, Vol. V. (June 1851), illustrations will be found of several kinds of pavements, the defects of large blocks there clearly shown and the city authorities strongly urged to adopt what is now called the "Belgian pavement." At that time there was not a foot of such pavement in the city; now the miserable cobble stones have been raised from a great number of our oldest streets, and have been supplanted by the "Belgian pavement;" continued progress is now being made to pave every street in the city in the same manner, and in a few years hence this most desirable result will be realized.

SIR WILLIAM ARMSTRONG—IS A PATENT A MONOPOLY?

Sir William Armstrong possesses the happy faculty of rendering himself exceedingly conspicuous. Several years since, Mr. Joseph Whitworth, the distinguished machinist of Manchester, was employed by the British government to make experiments with cannon, and he succeeded admirably in his endeavors to construct superior rifled artillery. An official committee, it has been stated, was appointed to examine and report on the subject, but from some cause not yet explained to the public, the committee failed to do its duty, and in the interval of its silence, Mr. William Armstrong brought a breech-loading rifled cannon before the English cabinet, and had the good fortune to gain the favor of "the power behind the throne." His cannon was soon afterward lauded to the skies by the British press as the greatest gun ever invented by man, and Mr. William soon afterward, through the grace of her Majesty the Queen, became Sir William Armstrong, and was appointed government constructor of artillery, and a large fund placed at his disposal. It has since transpired that his guns have been surpassed in range and accuracy by those of the neglected Mr. Whitworth, and that what was held to be essentially new and good in them, was invented by Capt. Blakely and others, whose patents he has been accused of appropriating.

Sir William Armstrong, however, is an extraordinary man, for he has appeared before the public again in the new character of a reformer of law, and the London *Times*, as before in the case of his cannon, appears to be blinded by the smoke of his discharges. The subject to which we allude is the British patent system.

At a recent meeting of the Institution of Mechanical Engineers, held in Sheffield, Sir William, in his opening address, as President, denounced the patent laws as legalizing monopolies. His language has been reviewed in a brilliant and unanswerable argument by the London *Engineer*, which we published on page 167, present Volume of the SCIENTIFIC AMERICAN, and to which we can add nothing. Our object at present in calling up the question is to correct a general misconception respecting the nature of a patent, into which the London *Times*, Sir William Armstrong and many persons in our own country, we believe, have fallen.

Those periodicals in England which have echoed the sentiments of Sir William, demanding the abolition of the patent system, have based all their principal arguments upon the idea that a patent is a monopoly, and that patent laws are of the nature of a protective and really a prohibitory tariff system. We assert, without the fear of successful contradiction, that a patent is not what is strictly known as a monopoly. A person whose profession has not led him to examine into the nature of inventions and patents, is very liable to be ignorant of this subject; and we thus account for the absence of intelligence in its treatment by the London *Times*. A monopoly, in the strictest sense, means an exclusive power—a grant to practice an art or trade, or enjoy a revenue which is already public property, and which is *well known*.