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REMOVAL.

The SCIENTIFIC AMERICAN *Office has removed from its old location, 128 Fulton st. (Sun Building), to No. 37 Park Row (Park Building), where all letters, packages, and models should hereafter be addressed. Entrance is had to the office also at No. 145 Nassau st. Munn & Co.'s American and European Patent Agency is at the above office.*

The Bells.

What an association of ideas crowd upon the mind as we reflect upon this subject! The very name of "bells" is hallowed by the uses to which they are applied, and their sounds are replete with touching recollections. The "solemn Sabbath bell," the "curfew bell," the "alarm bell," and the "merry marriage bell," are striking terms, which indicate their purposes and qualities. The chime of bells chaunting swelling notes of sacred melody—the palpitating alarm bell giving warning of a destructive conflagration—and the curfew bell tolling the hour of departing day—thrill our hearts with emotions as varied as their sounds. Church bells originated in Italy; and of all the instances of the power of bells to touch a sympathetic chord within the human heart, the most moving is the tradition told in connection with the peal of Limerick Cathedral, in Ireland. These bells are said to have been brought from a convent in Italy, for which they had been manufactured by an enthusiastic native, with great labor and skill. This Italian, having afterwards acquired a competency, fixed his home near the convent cliff, and for many years enjoyed the daily chimes of his beloved bells. But in some subsequent political convulsion, the monks were driven from their monastery, the Italian from his house, and the bells were carried away to another land. After a long interval, the course of his wanderings brought the bell-founder to Limerick. On a calm and beautiful evening, as the vessel which bore him floated in the Shannon, he suddenly heard the bells peal forth from the cathedral towers. They were the long-lost treasures of his memory. Home—happiness—friends—all early recollections—were in their sound. Crossing his arms on his breast, he lay back in the boat. When the rowers looked around, they saw his face still turned towards the cathedral, but his eyes had closed forever on the world!

But leaving the sentimental part of this subject, we turn our pen to matters of more practical interest. Some European cities have obtained notoriety for their mammoth bells. Moscow, in Russia, has the largest, and weighs about one hundred tuns; "Big Ben," in London, weighs nearly sixteen tuns; there is one in Paris, which weighs fourteen tuns; and another in Erfurt, Germany, weighing eleven tuns, and said to be the finest toned bell in the world. We have no American bells worthy of mention on account of their size, but in tone they equal those of the oldest countries of Europe. We do not know who introduced the art of bell-casting into our country, but the reputation of the late A. Meneely, of Troy, N. Y., was very high as a bell-founder twenty years ago.

As large bells are very costly, every possible care should be exercised to render them as durable as possible. On page 222 of the present volume of the SCIENTIFIC AMERICAN, we briefly directed attention to this question; and in response, we have received a letter from Mr. G. W. Hildreth, of Lockport, N. Y. He says:—"The ordinary mode of hanging bells causes the hammer to strike in two places only, on opposite sides of the bell, and in a direct line, so as to eventually cut it in two. This result is only a question of time, averaging from three to five years."

In the year 1855, Mr. Hildreth invented a yoke for changing the striking surface of a bell, and by it a man can alter the stroke of the hammer to any other point in one minute, leaving the bell hung in the most perfect order, and thereby increasing the durability more than a thousand-fold. Such bells are now manufactured by Messrs. Jones & Co., of East Troy, N. Y.

This subject has brought to our recollection a fact in reference to hanging bells, described in our Paris letter on page 326, Vol. X. A large bell from England was in the Exhibition that year (1855), the neck of which was furnished with a spur wheel, by which its striking surface could be changed to the action of the clapper by a crank and pinions. That all bells should should be hung so as to effect such a desirable result, we believe no person will for a moment doubt, and yet we do not know where there is a single large bell in our country thus arranged. An immense annual expense is entailed in all our cities for the recasting of cracked bells, nine-tenths of which may be saved. We hope this presentation of the subject, will be the means of awakening public attention to a good reform in the method of hanging large and cheerful pealing bells.

Asphalt—Composition Roofing.

It is very desirable that many buildings should be constructed with flat roofs, for which common shingles are inapplicable, and tin too expensive. A composition for such a purpose, perfectly waterproof, easily applied, cheap, and durable in its nature, would be of great benefit. Quite a number of compounds have been tried for this purpose, some of which have failed to secure the desired ends, while others have been highly successful. A roofing compound of asphalt, coal tar, and sand has lasted for ten years on certain roofs, and is still as good as when first put on, while the same materials laid upon other roofs had to be removed within one year after being being laid, on account of cracks in the cement. Such success on the one hand and failure on the other with the same identical substances has occurred in every section of the country. As this composition roofing is about the cheapest known, it is highly important to discover what can be the cause of its want of success in any case, as it is very evident that if successful in one instance, it can be made so in all cases. It has been found by experience with such composition roofs, if laid upon a moist bed, or if the cement itself contains moisture or volatile oil, they are liable to crack and scale off. One or both of these causes, perhaps, contributed to the failure of the roofs alluded to.

To make such roofing, two or three layers of thick tar-paper should first be tacked down upon the boards, then brushed over with a thick coat of hot pitch, so as to render the surface smooth and expel all the air, to prevent air bubbles forming in the cement. When the pitch is perfectly dry, the asphalt composition is to be put on. This consists of 15 lbs. pitch, 25 lbs. asphalt, and 30 lbs. dry sand. The pitch is first melted, then the asphalt, as finely comminuted as possible, is added. This amount will answer for ten square feet in two layers; it should be boiled for two hours, and kept stirred during the operation, to expel all the volatile oil. When thus prepared, it is carried in buckets to the roof of the building, and poured carefully upon it in sections, set off with boards set on edge. Care must be exercised not to permit any of the sulphates of iron or sulphur to be mixed with it. A thin layer of tow or hair laid upon the pitch before the cement is poured on will render the roofing more elastic. Previous to its becoming dry, a layer of marble dust or ground chalk should be beaten into it, and on the top of this a layer of fine white sand and gravel. The object of this is to prevent the rays of the sun penetrating into the asphalt to soften it. Two layers of this composition should always be laid on—the top one after the other has become dry.

Common pitch will answer the same purpose as natural asphalt, if two pounds of coal tar is mixed with every twenty pounds, and five pounds of marble dust to every twenty pounds of dry sand. Such roofing can be very easily repaired if it cracks, but if sufficient care is bestowed in preparing and laying down the materials, no such repairs will be required for several years.

Canada Steamboat Law.

We are indebted to A. A. Wagner, Esq., of Windsor, C W., for a copy of the bill now before the Canadian parliament, for the better preservation of person and property in vessels navigating the waters of Canada. In several of its features, it resembles our steamboat inspection law, but it is more extensive in scope. In regard to the use of signals to prevent collisions on the lakes and rivers, it is exceedingly full and complete, and in this respect is superior to any statutes which we have on this subject.

It provides for a thorough system of steamboat inspection, and the examination and licensing of engineers. The boilers of steamers are all to be tested by hydrostatic pressure once per annum or oftener if necessary, as provided for by our law; and other provisions are of a similar character. In one feature this law is superior to ours, because ocean steamers and ferry boats are exempt with us from the rigid rules applied to other steamers, but this Canadian bill makes no such undemocratic distinctions.

It contains one peculiar provision, which we will quote, because it is very short and pithy. "Every steam vessel shall also be provided with a blow-valve and pipe attached to the boiler, to blow steam into the hold in case of fire."

This bill has been passed to a third reading, and is likely to become a law, as it is so good in all its particulars, and must make traveling in Canada more safe than it hitherto has been.

About the Winans' Steamer.

In commenting upon this vessel on page 110 of the present volume of the SCIENTIFIC AMERICAN, we used the following language respecting its propeller wheel:—"One great advantage of the common screw propeller over the paddle-wheel is its very limited size; now, it appears strange to us that this very advantage should have been overlooked in the design of this small vessel; with its huge screw wheel, it must offer a great amount of unnecessary resistance." We learn from the Philadelphia *Ledger* that one half of the buckets of this wheel have been removed, and that the speed of the vessel upon a late trial had been "materially increased" thereby. Fourteen feet are to be added to the hull on each side of the wheel—making twenty-eight in all—just two feet less than the amount we recommended. We still insist that the wheel is too large and in the wrong position; in short, it is a most unscientific propeller in every sense of the term.

American Oilcloth.

We learn from the Philadelphia *Ledger* that the oldest concern in the United States for the manufacture of oilcloths is that of J. Potter, located in the above city. About 110,000 square yards of floor-cloth, 300,000 yards of stair-cloth, and 350,000 yards of table-cloth, are made in it annually. It is also stated that the manufacture of American carriage-cloth has been so much improved during the past four years, that it now surpasses any that is made in Europe.

Machine for Casting Type.

David Bruce, Jr., of Brooklyn, N. Y., obtained a patent, June 7, 1845, for the above purpose, and for which he now seeks an extension. The patentee is to be heard at the Patent Office, on the 23d of May next, and objections to its extension must be set forth in writing at least 20 days before the day of hearing.

The New Postmaster-General.

A correspondent of the *United States Gazette*, in speaking of the appointment of the Hon Joseph Holt to the office of Postmaster-General, says:—"No division of sentiment exists as to its fitness and excellence. His past career has been identified with the bar, where he acquired fame as an orator and jurist in the southwest, and that sort of distinction in the profession which enabled him to retire from it in full maturity of his powers, with all the conceded honors which a lifetime has not often achieved. After withdrawing from practice, he traveled in Europe several years, and then settled in Kentucky among his own kindred and connections by marriage, both of the families being among the oldest and most distinguished families in the State. He was invited by Mr. Buchanan to take the Commissionership of Patents, and reluctantly yielded to the solicitations of some of his friends, who knew his value and rare abilities. In that responsible office he acquired a reputation never surpassed by any of his predecessors, and his opinions stand out from the ordinary routine as examples of clear and conspicuous reasoning and beauty of diction which give relief to that dreary monotony which pervades official documents. My attention was first attracted to his remarkable powers by accidentally reading his justification for extending an india-rubber patent, in which the whole range of art, inventors, and their rewards, was treated with a masterly skill and culture which at once established his position here with those who, like myself, only knew him through this public medium."

The report referred to above was published on pages 350 and 358, of the last volume of the SCIENTIFIC AMERICAN, and attracted an unusual degree of attention at that time.

A correspondent of the New York *Tribune* also says:—"He sets about his work like a man who is in earnest. He may be seen at the Department before the usual hour for the gathering of the clerks, and seems already to have inspired them with at least the policy of reforming their habits of indolence and carelessness. Taciturn, observing and industrious, he is not likely to be bamboozled as some of his predecessors have been by the todyism of subordinates, whose chief aim is to get possession of the Postmaster-General, and then use him for selfish or doubtful purposes. He is difficult of approach, and not at all given to familiarity, so that every man will be expected to keep his place, and to perform his duty. In starting the retrenchment which has already been introduced, he has exhibited a perfect indifference as to the clamor of politicians, which may be considered a good sign."

The Business at the Patent Office.

The business of the Patent Office is now going forward with the usual vigor. The law empowers the Chief Clerk to act as the Commissioner of Patents whenever there is a vacancy in the Office. We make this explanation for the information of those who have written to us, under the seeming misapprehension that no business could be done until Mr. Holt's place is filled by a new appointment.

SUGAR CANE CUTTER.—Since the appearance of the article on page 204 of the present volume of the SCIENTIFIC AMERICAN, under the caption of "Sugar Plantation Inventions Wanted" a great many correspondents have written to us proposing plans to meet the wants of the planters, as thus indicated. Many of them desire more information upon the subject. We hope our correspondent at St. James, La., will allow us to publish his address, so that these enquirers may have an opportunity to get some practical facts necessary for the elucidation of this subject.

SLEEPING CARS.—The Baltimore and Ohio Railroad Company have placed several sleeping cars upon their road—one for each of the western express trains.