

## New Inventions.

### Another Important Discovery.

The Pittsburgh Post thus announces another new and important discovery in the manufacture of Iron, made by a young man by the name of Adams, the Assistant Manager of the Brady's Bend Iron Works, in Clarion county, in the manufacture of railroad and merchant bars from Coke metal. "By the old method the rails were made with Charcoal pig, and would crack very much and break with one or two blows. By Adams' process, Iron can be made eight dollars per ton lower, and of a superior quality. The process is not mentioned, but the quality of the iron produced, is spoken of. The writer was shown a rail that had been put to the severest test, by putting it, while hot, into cold water; after which they tried to break it with a sledge hammer weighing 80 pounds. Forty blows were given by six men alternately, and they could not even crack it. The Charcoal Iron of the company costs from 18 to 22 dollars per ton; their "Coke Metal" costs only from 9 to 11 dollars per ton. The discovery had caused quite an excitement among the workmen, for they were under the impression that the works would have to suspend on account of the low price of Iron.

We have seen the above in a number of papers: so many discoveries in the manufacture of iron have been reported lately, that we are half inclined to set them down as reports only. It is stated that Mr. Renton, of New Jersey, has just discovered an improvement to cheapen the manufacture of iron, and Salter's process, which has been patented, has been set forth as one of great merit—one which reduces the price of manufacture a great deal, and now we have this process of Mr. Adams. By the above extract, if his process means the substitution of coke for that of charcoal, then it is not new, and with what reason it is called "Coke Metal" we cannot divine.

### Marine Salinometer.

We were shown a few days since, says the Baltimore Clipper, at the brass foundry of Wm. Peters, Esq., Pratt street, near the Bridge, an apparatus which had recently been invented by Mr. Wm. Sewell, of Portsmouth, Va., called the "Marine Salinometer," designed to indicate at all times the exact degree of saltiness in the boilers of sea going steamers. It is well known that sea water contains a certain quantity of salt, in proportion of 1 lb. of salt to 32 or 33 lbs. of water, and that when used to generate steam this salt is left in the boiler, as all the water evaporated is fresh. The salt, if left in the boiler, it is equally well known, would soon work its destruction.—Hence the necessity which exists of blowing out, at intervals, a portion of the partly saturated water from the boilers of steam vessels at sea, or plying on salt water. One of the greatest difficulties with which an engineer on a sea going steamer has to contend with, is that of maintaining the water in his boiler at a uniform density. As water will not hold in solution more than a certain quantity of salt, it is necessary, to prevent its deposit in the boiler in the form of scales, to keep the water at a given degree of saltiness, by blowing off a portion of the salt water. In vessels not supplied with Salinometers, or some such indicator, the engineers are compelled to blow off at random—sometimes not enough, and at others too much. In one extreme, the salt accumulates in the boiler to its great injury, and in the other case, a great loss of fuel is caused. To remedy the difficulty, this Salinometer is intended.

[We have seen the above in quite a number of exchanges. There may be some improvement about this instrument to entitle it to be called an invention, but as an instrument for the purpose stated, it has no claims to be called an invention, for the "Marine Salinometer," is a well known instrument.

### The Voltaic Battery.

We request particular attention to the articles on the Voltaic Battery; they are furnished by the best practical electrical engineer in the country.

### Pavements.

A new kind of pavement has been introduced for the streets of Boston. In constructing it, the ground is first prepared with a covering of lime, sand and coal-tar, to prevent an upward tendency of moisture. The pavement is composed of long and short wooden blocks set on their ends, alternately a long and short block. The spaces over the short blocks are then filled with broken or small stones, sand or lime, and hot tar is poured over the whole surface, and finally a covering of sand. The wooden blocks are each about three inches square on the surface ends, and so nearly fit the feet of

horses that, aided by the composition between the long blocks, they have a good foothold and do not slip. The surface of the blocks being small and wearing a little rounded, prevents water from entering into the wood and causing decay, as is the case with blocks of larger surface. Should the wood shrink, the composition will expand by the pressure of horses' feet and wheels of carriages. This also prevents water from penetrating into the work, and insures durability to the pavement. The Transcript says, a street paved in this fashion ten years ago exhibits yet no evidences of deterioration.

drawings of their inventions to their friends at a distance, but we have neither time nor space to devote to it. To those of our friends who desire them, we shall be ready to attend to their wants promptly, correctly, and economically.

### Improved Smut Machine.

Mr. Geo. Hathaway of Corning, N. Y., has made an improvement in Smut Machines, for which he has taken measures to secure a patent, and which appears to be a good invention, both on account of its simplicity, effectiveness and durability. He has a set of revolving arms in the inside a slat framed shell, and on each arm there are a number of longitudinal beaters made of iron. These, by revolving, beat the grain against the slatted shell, which is also made of the same iron, and a fan operated in the usual way, blows out all the impure matter, and the grain is delivered below beautiful and clean. In this smut machine, the action is a beating one, not rubbing, hence the parts do not get worn smooth and useless, but it maintains its working qualities till it is worn out. This machine can be made very cheap, because it is constructed of cheap and durable materials, and any good country blacksmith can make all its parts.

For the Scientific American.  
The Post Office.

A large proportion of the letters transmitted by mail are unpaid letters; to require all letters to be pre-paid, even at a low rate, would have, I think, a tendency to check correspondence. By lowering the rate, undoubtedly more would be pre-paid, and the dead letters would not increase with the increase of letters. Many communications are made solely to acquaint the persons addressed of their interests, or of the fortune or jeopardy thereof. And some would deem it enough to acquaint others of their personal interest, without being necessitated to defray the transmission of the information. It seems to me that the States, individually, might reduce the expenditure of carrying the mails. Before the railroads were built there was competition for the transportation of the mails: now there cannot be; and the railroad corporations may be exorbitant in their fees for their transportation. Many of the States, if not all, could probably regulate the tolls therefor, as well as tolls on turnpikes and canals. It is true that the rapid transportation by railroad is more valuable to the people than the former modes of transportation, and the proprietors should be well, but not exorbitantly, compensated therefor. As the railroads were not built expressly for carrying the mails, it is not, or should not be, required of the Government to render undue and extra aid to support the railroads, and make them good investments for stock takers. The growth of the country will undoubtedly support the important tracks—and the tracks will increase the growth of the country.

### A COUNTRY POSTMASTER.

#### Novel and Ingenious Experiment.

A cask of fine hardware and cutlery, says the Charleston Courier, accidentally fell overboard from the line ship H. Allen, lying at Boyce & Co.'s wharf. The contents of the cask were valuable, and a reward of fifty dollars having been offered by the Captain of the vessel for its recovery, it was restored to the ship's deck yesterday morning, through the exertions of Mr. Angus Smith. Mr. Smith provided himself with what he called a diving bell, by sawing in half an ordinary oil cask, then placing it over his head and shoulders, and attaching heavy weights to the edges of the inverted cask, which being air-tight, prevented the water from rushing in, his head occupying the vacuum; then letting himself down, he was enabled to remain under water from ten to fifteen minutes.

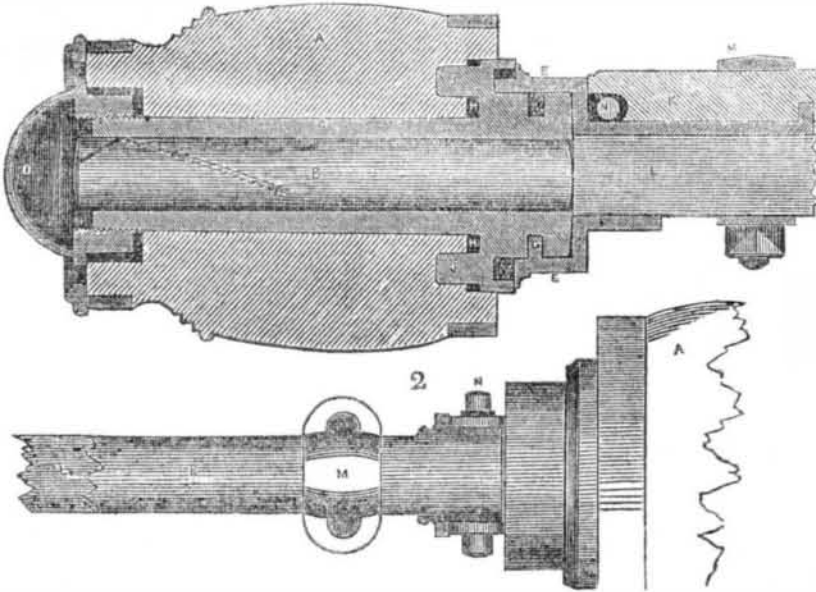
#### Iron Carpeting.

Iron flooring, instead of marble floors or oil cloth, is manufactured at Rochester, and used in some of the hotels.

Congress has adjourned. The doings of the last Congress, will be felt for a long time. The end of agitation is but begun.

## SCRIPTURE'S PATENT AXLE COUPLING.

Figure 1.



This is an invention patented on the 30th of last July, by Mr. E. S. Scripture, of Green Point, L. I. It secures the wheel on the axle, forming a good substitute for a collar. It prevents the admission of dirt, and gives a neat finish to the back part of the hub, and it forms a tight box to retain the lubricating material. The cap nut in front forms an oil reservoir, and it also secures the pipe within the hub, and forms a fender for it. Mr. Scripture states that a journal 7-8 of an inch in diameter, with his improvement, will, without bending, resist the oblique action on the carriage wheel, as long as a journal one inch in diameter—as arranged in the usual way. The inventor was awarded a first premium at the late State Fair, at Albany—the silver medal and diploma.

Figure 1 is a perspective view, and figure 2 is a plan view of the attachments and inner end of the hub. The same letters refer to like parts. A is the hub; B is the journal of the axle; L is its continued square part; C is the pipe or axle box in the hub; E is a top box formed with a tongue running along the top of the axle bar, L; it has its inner end turned up to take into the wooden axletree, K. J J are projecting pins on the flanch of the pipe, C; they run into the hub; H is a washer of india rubber introduced between the flanch and the hub. The lower box, E, is a

half circular box, nearly like the top one, E. G is a nib entering a groove around the end of pipe C; the chequered groove beside it represents a lubricated gasket; N is a pin or key passing through bars to secure the lower section box, E, in its place. By pulling out this pin, the axle can at once be drawn out of the hub; O is a hollow cup, containing lubricating material; it screws on the box and not on the axle. There is a spiral groove in the axle, so that the lubricating material is carried back along the whole journal of the axle. M is a strap and nut, which connect the wood axletree with the upper section box, E. By the use of the elastic india rubber washer, H, the box, C, is made to take a more even bearing, and it prevents a rattling of the parts. The cup, O, holds both the hub and its pipe together, and furnishes an easy way to replace the pipe when worn out. The upper section box, E, entering the hub, prevents dirt, &c., from getting into the axle box. The wheel cannot run off the axle at all, owing to the nib and flanches of the section boxes resisting lateral motion. The gasket keeps the lubricating material from coming out. The claim is for the section boxes, E E, as constructed and combined with the axle box.

Letters addressed to the inventor, Mr. Scripture, will be promptly attended to.

### Preparation of Butter for Keeping.

The following is said to be a good plan for preparing butter for long keeping:—

Into a clean tinned copper pan put any quantity of butter, say from twenty pounds to forty pounds, and place it over a gentle fire, so that it may melt slowly, and let the heat be so graduated, that the melted mass does not come to the boil in less than about two hours. During all this time the butter must be frequently stirred, say once in about five or ten minutes, so that the whole mass may be thoroughly intermixed, and the top and bottom change places from time to time. When the melted mass boils, the fire is to be so regulated as to keep the butter at a gentle boil for about two hours more, the stirring being continued, but not necessarily so frequently as before. The vessel is then to be removed from the fire and set aside to cool and settle, still gradually; this process of cooling is supposed to require about two hours. The melted mass is then, while still liquid, to be carefully poured into a jar in which it is to be kept. In the

process of cooling there is deposited a whitish cheesy sediment, proportioned to the quantity of butter, which is to be carefully prevented from intermixing with the preserved butter.

### Notice.

Inventors and Machinists who wish duplicates of their drawings, will be pleased to learn that we are enabled to duplicate for them one hundred or more copies of the drawings which we furnish for the Patent Office. The charges are moderate—from ten cents per copy, to one dollar or more, according to the amount of labor to be performed. We are led to believe that the arrangements we have made will be fully appreciated by our numerous machinists and inventors, when they realize the benefits which they will derive from the gratuitous circulation of their drawings among their friends, or among those who write to them upon the subject of their machinery or inventions. A great deal might be said of the utility and benefit derived by inventors, who are able to send duplicate