

## NEW INVENTIONS.

## Improved Seed Planter.

Charles W. Billings, of South Deerfield, Franklin Co., Mass., has taken measures to secure a patent for an improvement in Seed Planters. He employs a rotating hopper or hoppers attached to a seed planter, and constructed and arranged in such a manner that another kind of seed may be dropped from the rotating hopper or hoppers, at greater intervals, while the corn is being planted in hills in the usual way. Corn is ordinarily planted in hills about three feet distant, and pumpkin seed is deposited at about every fourth hill. This machine deposits the corn in the usual manner, and at the same time it deposits the pumpkin seeds in the hills at the required distances by means of the revolving hoppers. There is an adjustable share attached to the machine, the point of which may be elevated or depressed, and consequently it can open a deep or shallow furrow, as may be required for different kinds of seed.

## Striking Action of Pianofortes.

R. E. Letton, of Quincy, Ill., has taken measures to secure patent for an improvement in the striking action of pianofortes. One part relates to a stop attached to each key for the purpose of arresting the hammer in its descent, after it has struck the string, and while the key is still retained. The object of this stop is to enable the player to produce a very rapid succession of strokes with the same key. There is also a notch formed in the hammer butt, to receive the point of the key lever when the hammer falls back to the aforesaid stop.

## Spindles for Mill Stones.

G. W. Mitchell, of Nashville, Tenn., has taken measures to secure a patent for an improvement in adjusting mill stone spindles, which consist in arranging spindles in mill stones whereby the bushing of the spindle in the eye of the stone is dispensed with. The improvement allows of the supplying of the spindle, at the eye of the stone, with lubricating material at all times, which cannot be done but at certain intervals in the spindles or mill stones, as they are commonly arranged and set.

## Improvement in Filing and Gumming Saws.

H. O. Elmer, of Mexico, Oswego Co., N. Y., has taken measures to secure a patent for an improvement in machines for filing, gumming, and setting saws. He employs a cylindrical cutter, having a rotary motion, and which is placed in a frame having a reciprocating rectilinear motion, and in combination with the cutter and frame there is a jointed bed, in which the saw is placed to be operated upon. Both the under and inclined faces of the teeth of the saw are filed perfectly true, and then gummed and set in the proper manner, with great rapidity.

## Smut Machine.

D. Pease, Jr., of Floyd, Oneida Co., N. Y., has taken measures to secure a patent for an improvement in Smut Machines, which consists in spreading the grain in a superior manner to other smut machines, and regulating the spread of the grain by an adjustable top, so as to allow of the machine acting upon the grain in a very superior manner.

## Music by the Magnetic Telegraph.

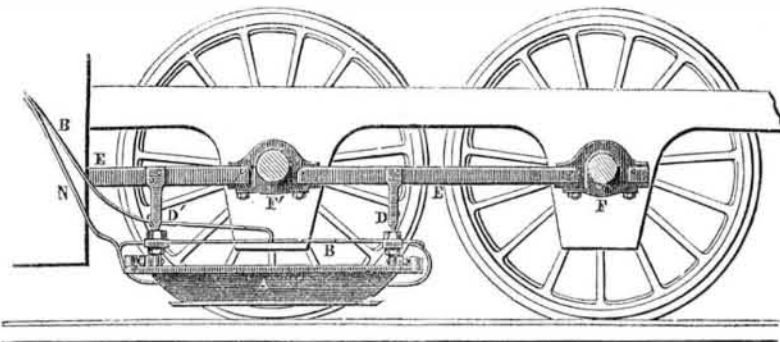
We find in the Jersey City Advertiser the following notice of an improvement in the musical art, by Mr. Levi Wilder, of that city: "This machine's utility consists in being the medium through which any person—especially those acquainted with the piano, melodeon, and other instruments constructed on this principle—may have their inspirations written down by touching keys arranged as they are on a piano. The whole affair occupies about one square foot of space. On the back part, machinery of the form and principle of the magnetic telegraph, is completely arranged, and carried or set in motion by a weight similar to that of a clock. On the front part, keys are arranged precisely as they are on a piano or melodeon, and connected with balancing machinery to the telegraphic apparatus. Put the machinery in operation the same as you would a clock, and the te-

legraphic paper moves as on a magnetic telegraph machine. Then touch the notes, or play the tune as the soul dictates, and each key you touch, and the length of time you keep your finger upon it, are marked upon the paper—thus giving you the notes of your inspirations, and enabling you to write your tune without any difficulty whatever. In connection with the wire points which mark notes on the paper, are bar points, carried by

the same machinery. This is so arranged with an indented wheel that when you make the bar in your music, it falls and leaves an impression agreeably to the notes you touch, to suit your music. The whole affair is an ingenious contrivance, and we believe could be brought into universal use with the expenditure of a little money."

[This invention will therefore be claimed by two different persons at once.

## ELECTRO-MAGNETISM TO GIVE ADHESION TO THE WHEELS OF LOCOMOTIVES.—Fig. 1.



This invention, to give adhesion to the driving wheels of locomotives, has recently been patented in France by MM. Amberger and Cassal, and is now in the course of experiment on the Lyons Railroad. The following account of its nature, with the illustrations, has been translated for the Scientific American from the "Genie Industriel."

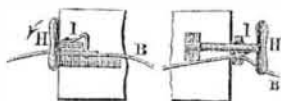
Figure 1 is a side elevation, in which is shown a portion of the tender of the locomotive, to which the invention is applied. Fig. 2 is a hollow electro-magnetic box, A, placed around the under side of each driving wheel. This box is made of brass, and encloses what may be called an electro-magnetic bobbin; it contains a number of windings of copper wire, and forms a hollow electro-magnet. It communicates with the battery (which is placed behind the tender) by the wires, B N. A similar arrangement is placed upon both driving wheels, each wheel being surrounded and running through the hollow magnet, as shown in fig. 1. E E is a strong bar, and D D' are the two supports to which the hollow electro-magnetic box, A, is secured. F F' are the

Figure 2.



two oil boxes of the wheels. The box, A, can be raised and lowered by screws, so as to keep it at the required height above the track. In front of the tender, and within the reach of the engineer, there is arranged and secured the key, H, fig. 3; this key is for breaking and closing the galvanic circuit, to set the electric current in motion and to stop it, as may be required. This key is connected with the wire or wires which form the circuit. In turning the key from right to left, the effect is to raise the spring, I, attached to which is a small piece of wood containing a metal plate, with which one of the wires is connected; by this movement the current is broken, as the piece of wood is a non-conductor. By reversing the movement the circuit is closed, and the magnetic current is again established. Wooden boxes, lined with gutta percha, are placed behind the tender; each box is divided into eight compartments, which communicate with another by means of an india rubber tube, which enclose the materials necessary to produce the galvanism.

Figure 3.



To give the driving wheels adhesion (according to the inventors), when the locomotive is desired to ascend an inclined plane, the engineer merely turns the key, H, and by that means the driving wheels are magnetized and the adhesion affected. This is an invention upon the same principle proposed, as was stated in the New York Tribune some time ago, to be applied on some of our railroads. This arrangement is certainly much superior to the one mentioned, which we took occasion to make a few remarks about. We cannot see how this principle can effect the object contemplated by the inventors. If the hollow electro-magnets attract the wheels around which they are placed, a useful adhesive effect can only be produced by rendering the tread of the wheels and the rails

magnetic, so as to promote a surface attraction. Now will this be done by this arrangement and application of electro-magnetism? The editor of the "Genie Industriel" hopes the experiment will be successful, as large sums of money have been expended upon them. The attractive power of electro-magnets is very well understood, and we cannot see any advantage to be gained by this attachment, and we believe there will not be any. As this is a subject of some importance to our railroads, we would be glad if the experiments should prove successful. We shall endeavor to obtain an early account of them, for the benefit of our readers, in the meantime the invention is here clearly set before our people.

## Deafness and Blindness.

At the recent meeting of the New York State Medical Society, held in this city on the last days of last month, Dr. Peet, of the New York Deaf and Dumb Asylum, read a most interesting paper on the diseases under his charge. With respect to the number of deaf and dumb persons in different countries, Dr. Peet said, that it bears a pretty certain ratio to the population in all countries and at different periods, being from 350 to 800 to 1,000,000 of inhabitants. In some parts of Switzerland, however, there is one deaf mute to every 400 inhabitants, being connected with cretinism. In Baden there is 1 to 500. In other parts of the continent, and this country, there is about 1 to every 1,000 or 1,900. There are at least 1,000,000 deaf-mutes on the face of the globe. We know but little with regard to the number of deaf-mutes on the Eastern

Continent, but there is reason to believe the proportion is about the same as elsewhere. Climate has considerable influence in the production of this infirmity, as well as hereditary tendency. Deafness has been transmitted through three generations. The recent census returns in the United States show that among the free blacks there is a smaller proportion of deaf-mutes than among the whites, while the opposite is true with regard to blindness. The ratio is about 1 to every 1,900 inhabitants, taking the State together, though the ratio varies in some sections.—But as the paper will soon be published, we forbear further extracts. It was regarded by the Society as the most valuable contribution on this subject yet given to the world, and measures were taken to have a large pamphlet edition published and circulated.

## Syracuse Salt.

In the "Syracuse Star" of the 2nd inst., a correspondent signing himself *Philo*, in a letter from Washington, dated June 27th, criticises the remarks we made on page 301, Scientific American, respecting the improvements which had been made in the manufacture of salt by Mr. Howd. He says:—

"It will be news to the Salt Pointers, that no pure salt was made until Howd's works were erected. It has been supposed that by solar evaporation as pure an article of salt could be made as any in the world; and it has been supposed that as pure an article could be made by boiling, as was ever manufactured in Howd's works. If any one will take the analysis made by Prof. Cook, they will see that his salt is no better than the common boiled, nor is it as good for packing purposes, for the reason that it is lighter than any other salt made. It dissolves quicker than any other salt. The crystals are less solid; and although the crystals may be as white as 'driven snow,' it does not contain anything like the amount of pure chloride of sodium per bushel as the solar evaporated or boiled.—The age of humbug in salt has passed, and people begin to know what salt is without the aid of any newspaper puffs in 'Scientific Journals,' the editors of which know nothing of the subject upon which they attempt to write."

The age of humbug in salt has not yet passed away, nor will it while this critic has any interest in miserable modes of making it. The Africans make good iron, but is that an evidence of their acquaintance with the best modes of making it? No, and yet they believe their's is the best mode. It is so with any process or manufacture. How much information do the men in general possess who have charge of and make the salt at Syracuse? We happen to know something about some of them personally, and happen to know something about different modes of making salt. The very authority, Prof. Cook, to whom we were referred, proves Howd's salt to be the very best quality of salt made. The salt made by Howd's process, Prof. Cook says, is remarkably pure. Now the solar made, and especially the salt made by boiling at Syracuse, no man who knows anything about it could say it was remarkably pure, unless he plainly told an untruth. Prof. Cook makes the following remarks about Howd's salt:—

"Some interesting peculiarities in the manufacture of salt have been shown this season by the apparatus of Mr. S. B. Howd, of Syracuse. He takes brine directly from the wells and heats it in closed vessels to the temperature of about 280° without allowing it to boil. (Saturated brine boils at 326° in open vessels.) By this means the impurities are precipitated to an unusual amount, and with proper apparatus are then blown off. The brine thus purified is then forced through valves into the main or steam boiler, there brought to saturation, then it is admitted to open vats or evaporating reservoirs and the salt allowed to form; the further evaporation of the brine being continued by means of the exhaust steam from the engine. The salt made by him is remarkably pure."

Well, it, according to Prof. Cook, the authority to whom this critic refers, an unusual amount of impurities are precipitated, it follows that the invention of Mr. Howd makes a purer salt than any heretofore made at Syracuse. We have no personal interests to subserve; we welcome every improvement and recommend it. The reference given condemns the critic whose audacity of reference is of a very superior stamp to his candor.

## A Good Cement.

I have found gum shellac, dissolved in alcohol, very excellent for joining broken vessels, it makes them nearly as durable as if they were cemented by heat. I have been using, for years, a mortar which was broken and mended in this manner. It was broken in pieces, and could not be then replaced. I applied the gum, and bound the parts firmly together until the cement was perfectly dry. I then put it in use and have continued to use it ever since. C. B. F.

The National Institute at Washington has been presented with the flag that waved over Fitch's first American steamboat in 1789.