light to produce a photograph. This was well known, and yet the old misleading ways were followed. At length the patent right for France of the Vander Weyde system was bought by M. Liebert, who, of course, supposed that he had purchased also the right, not only of working the process for his own profit, but also of granting licenses to others to do so. He therefore inaugurated sittings for the press, and gave a splendid fête—a description of which appeared in the *Photographic News*—in order to give publicity to his new system, which certainly was deserving of all the honor that he showered upon it; in short he made as much noise as he possibly could, as is the case with every adventurous speculator or fashionable artist. But, on the other hand, M. Pierre Petit has done all this without having purchased anything. At the grand fête held on the 8th of June last, at the Paris Opera House, on behalf of the sufferers by the Szegedin inundations, M. Petit exhibited the whole process. It struck him that it would be an excellent occasion for killing several birds with one stone. He would give those who attended the fête the opportunity "*faire sa photographie à la l'électricité*," as says a curious song just now popular at the Alcazar; he would be largely aiding the charity; and he would be advertising the new process so as to benefit himself. But M. Liebert, who had bought the sole right of taking photographs by the Vander Weyde system in France, was not one to allow what he considered an infringement of that right. He therefore applied to the President of the proper tribunal, and having explained that M. Pierre Petit had not acquired the necessary license for working with an apparatus for producing the electric light, which was a mere copy of that of M. Vander Weyde, he obtained a legal injunction, and the services of an officer to watch and see that nothing was done by night or day in preclusion of the rights of M. Liebert. In consequence, the officer of the court, accompanied by a police officer, and carrying an officially-stamped slip of paper, presented himself at the Opera at the height of the fête. This *coup de theatre* in a place whose frequenters are accustomed to similar *contretemps* did not give rise to so much disturbance as might have been expected. Fortunately for the success of the philanthropic work, for whose benefit the operations had been undertaken, the operations were not interrupted, so that the charity was no loser.

Up to this point nothing extraordinary had taken place. All that had occurred was in regular order. The owner of the patent had obtained an injunction against a rival whom he had accused of infringing it. This may be seen every day, only, perhaps, not generally at a charitable fête in the Opera House. But the unexpected part of the affair came afterwards: M. Pierre Petit, in reply to his opponent, acknowledges that he operates with an electrical apparatus diffusing light by means of a converging pencil of rays, but he asserts that he has wronged no one, for, the system employed by him being public property in France, he had a perfect right to make use of it. For the very reason that he believed himself to have that right, he did not think it necessary to pay for it, as M. Liebert had done. In a word, he laughs at the English patents of M. Vander Weyde.

Now what will M. Vander Weyde do in this case? Will he be satisfied to be considered as having invented nothing? Will he submit to the imputation of having illegally accepted payment for licenses to work an invention the right to which up to the present no one has dared to deny him—an invention for which he had received the applause of all the world, and the honors and profits for which were thought to be legitimately his due? As may be seen, the question is a complicated and a difficult one. The courts of law are called upon to settle it, and their judgment—which, of course, will cause all rights legally acquired to be respected—is awaited with impatience.—*K. Versnaeyen, in Photographic News.*

ENGINEERING INVENTIONS.

A device for moving cars by hand, consisting of a lever having a hook for attachment to the axle and a dog pivoted to the lever and arranged so that it will engage the flange or rim of a car wheel, has been patented by Mr. William B. Newlon, of Fremont, Neb.

Mr. Stoddart Howell, of New Orleans, La., has invented an improved wharf for rivers, harbors, and lakes. It consists in the combination of metal straps with the mortised cross pieces and stringers of a wharf, and other novel features of construction, which render it possible to build wharfs of any desired length and size in a shop or inclosure and afterward to put them up very quickly.

An improvement in windmills has been patented by Mr. Francis M. Wilson, of Tekamah, Neb. It has an arrangement of an eccentric and double crank shaft, by which it is claimed a much larger percentage of power is realized than in the ordinary mills.

An improved press for baling cotton and other substances, patented by Mr. Innes T. McIntyre, of Carrollton, Miss., consists in the combination of two pivoted movable followers and two levers coupled together, and provided with tackling for moving them both in the same direction. This movement moves one of the followers up and the other down, so as to compress the bale which lies between them.

Mr. Daniel Palacios, of New York city, has invented an improved oscillating pump. The pump cylinder is connected at its lower end with a hollow rock shaft or pipe, which communicates with the pump valves. The piston rod is connected with a crank on the pump driving shaft.

Mr. George Corbett, of Petrolia, Pa., has devised an improvement in oil, gas, and salt well apparatus. The improvement relates mainly to the construction of the framework that supports the moving parts of the machinery, the object being to make the framework stronger and more convenient to erect and adjust.

Mr. Francis J. Wehner, of New Orleans, La., has invented an improved compressing apparatus, the object of which is to compress semi-fluid substances, or substances of a granular character, and especially for crushing slabs of ice and forcing the pieces into a solid mass.

An improvement in pumps, patented by Mr. Cornelius E. Drake, of Avoca, Iowa, consists of a cylinder having its edges recessed to receive the packing rings, the rings being arranged so that they are kept in contact with the inner surface of the cylinder by the pressure of the water.

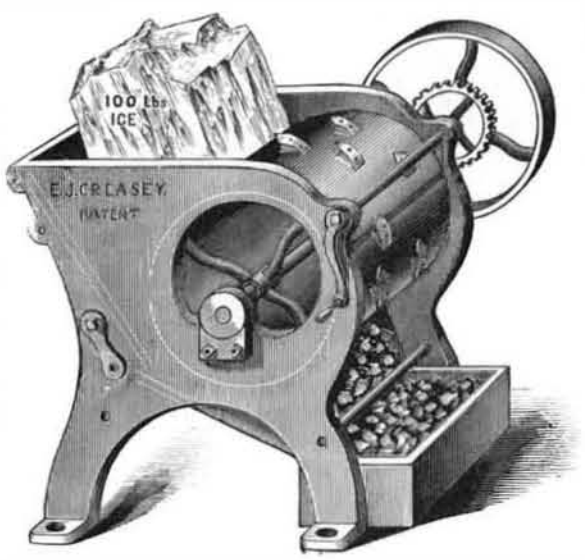
Mr. Samuel G. Munn, of Chicago, Ill., has patented an improved feed water heater, which consists of two water reservoirs connected by pipes running through a steam chamber insulated from the external air by a double shell or jacket. Pipes are provided for supplying and exhausting the water from the reservoir.

An improvement in steam packing rings has been patented by Mr. George C. Phillips, of Silver City, Nev. It consists in making segmental packing rings with recesses in their periphery, in which the water from the condensed steam collects and thus prevents them from over-heating or fusing under the heat of the steam.

Mr. William Redmond, of Greenville, S. C., has patented an improved rotary valve, consisting of two tubular valves fitted in concave seats at opposite ends of the steam chest, and communicating with the steam pipe through the side of the chest.

NEW ICE BREAKER.

The accompanying engraving represents a cheap and simple ice breaker, which picks the ice without breaking or crushing it. The size of the cut may be varied without stopping the machine. The machines are made in different sizes to suit different trades; the larger ones may be run by hand or power.



CREASEY'S ICE BREAKER.

The construction of the machine will be readily understood by reference to the engraving. The picks, which are of the best steel, are placed in a revolving cylinder or drum, and may be readily removed or replaced.

Further information may be obtained by addressing the Novelty Machine Works, 1608 S. Front street, below Tasker, Philadelphia, Pa.

Advantages of Fancy Farming.

The *Scientific Farmer* has a very sensible article on the advantages to a rural neighborhood, of having merchants and other well-to-do city people purchase homes in their midst. These people, says the writer, buy a suburban or more remote farm, bring to it of their wealth, remodel the old house or build anew, tear down or improve the old barns, and build from designs of a city architect who understands more of harmonies than uses, stock with improved breeds of cattle, the latest style of implements in endless variety, and the most expensive novelties from the seed stores, and spend, perhaps without hope, certainly without prospect, of adequate returns. Wherever fancy farms abound, there may be observed continuous improvement in their vicinity. They serve to change the habits of life of the farmer and his family. The old inconvenient methods of housekeeping give place to a more convenient system. The water from the well is brought to the house, instead of being fetched in a pail from the distant well or spring; the wood-pile is placed under a shed or into a compact pile, instead of being heaped in the door-yard; the surroundings to the buildings are "slicked up"; flowers appear, perhaps, in the door-yard; the cattle are better fed, the fences better repaired, new crops and new markets are sought, and expenditures are increased as the income grows larger and is derived from more varied sources. All this comes from the influence of the example of the finely but expensively maintained farm, whereon neither expense nor income is much considered, and which, judged from a business stand-point, must be considered a failure; judged from influences on others, is to be looked upon as a public benefaction.

There is too prevalent a feeling of jealousy towards the fancy farmer on the part of the actual farmer, and too little appreciation of the benefits which may be and are derived from his presence. It is to this leisure class of farmers that agriculture must look for that progress which results from unrest, abundance of means, and a strong enthusiasm towards a pursuit. This man can experiment, when the poorer man cannot afford to depart from the beaten rut until better results from a departure become demonstrated. This class encourage inventors and dealers by furnishing opportunities for the trial of new things which promise well, and when through costly failure an improvement is secured, the working farmer can secure the perfected article. This class import foreign cattle and test their adaptation to our needs. They introduce new fruits and improved vegetables, which, if found deserving, soon find distribution throughout the neighborhood. They extend a knowledge of the arts of culture, and tend to distribute a practical knowledge of hot-beds and forced crops; and in addition to these more obvious benefits, contribute largely, through taxation, to the public necessities, and relieve in this way the burdens on others.

How Typhoid Fever may be Propagated.

In a recent number of the *Popular Science Monthly*, Ely Van De Warker, M.D., of Syracuse, N. Y., under the title "Typhoid Fever Poison," reports seventeen cases of the fever in an isolated suburb of the city in which there were but fourteen houses. The first case was imported; thence through the overflowing of the privy in which all the excrement of the patient had been thrown, a well became contaminated. All the persons who were taken ill used this well. It was the constant or occasional source of supply of seven of the fourteen families. No cases occurred in the households who did not drink from this well. Some cases were developed in every family who drew water from it. The families who escaped were exposed to every other influence but that of this particular well; their own water supply was the same, less the privy contamination. It is not unlikely that their own wells received some of the overflow from their own vaults, but as these were free from typhoid poison, no ill results ensued.

About eight years since, Dr. Flint, who has studied and written a great deal on the subject, became satisfied that a source of typhoid fever existed which was little dreamed of, and which at first thought would seem impossible. This source, as he then enunciated it to his home medical society (and not to his knowledge having been before suggested), is found in *ice*. If this idea is thoroughly investigated, it will not appear to be very problematical. In the first place, the poison is not destroyed or impaired by freezing (some one long ago remarked that ice often masks or conceals what it does not kill). Now, whence comes our ice supply? Often from shallow reservoirs in the midst of neighborhoods of large towns purposely made to receive surface drainage from all around, under the erroneous idea that no harm will ensue, as freezing is supposed to purify and render harmless what might otherwise be objectionable. Great quantities of ice are taken from canals, from creeks, from stagnant ponds, and from streams that are either the natural or artificial recipients of surface drainage, of the outpourings of sewers, and of uncleanliness from various sources. The danger from ice taken from improper places is not only from that which is drunk, but from its use in refrigerators and preservatories, where milk, butter, fruits, vegetables, and meats are subjected to its saturating influence as it vaporizes. Several instances have fallen under the doctor's observation where the disease, by the most careful investigation, could not be traced to any other source; and if we accept as a fact the statement positively made by Budd in the London *Lancet*, in July, 1859, that it never originates *de novo*, but proceeds from a special and specific poison, which is capable of diffusion to a great extent, and which preserves its noxious qualities for a long period, even if buried for many months, we cannot reject the hypothesis of ice infection; and it is hoped that it will be made the subject of very thorough and careful investigation.

How Business is Now Done.

The old methods of doing business are fast passing away, and whether the change is for the better or not, those who wish to achieve success must abandon the old and fall into the new. A revolution has been wrought in such matters, and the old methods are daily becoming obsolete. One hundred thousand commercial agents or drummers are now employed to travel the length and breadth of the country in the interest of their employers, and in this fast age no one, unless he holds a monopoly of some good thing, can afford to wait for customers, so great is the competition in every line or branch of business. As pertinent to this subject, the Boston *Post* says: "The ways of traffic are not the old ways; wooden ships are going out of date, and sailing vessels are giving place to steam; currency is superseded by commercial credits; the cable and telegraph have brought markets close together; railroads derive their freight profits from the perfectness of their terminal facilities; men buy and sell by sample before products and manufactured stocks are moved; prices and rates change oftener now in a day than they used to do in a week or a month; everything tends to economy of business friction, to bringing things down to the finest point by the shortest way, to the performance of the most work by the least machinery."