

**Improvement in Device for Cleaning Grain.**

The design of the machine shown in the engraving is to properly cleanse the grain from smut, straw, etc., before it reaches the grinding hopper, and it consists of a series of cones and fans combined. The grain is fed into the upper cone, A, by the spout, B, which first delivers it to a vibrating screen—not plainly seen in the engraving—but which is driven by means of upright shaft and cam or tappet, C, bar, D, rock-shaft, E, and bar and connection, F. The outer shell of the cone, A, is of perforated sheet metal containing a corresponding sheet metal core mounted on an upright shaft, to which a high velocity is imparted. From this cone the grain passes to a fan below directly under it, which separates the particles of smut and other foul matter from the grain and blows it out through the spout, G, conveying the grain by another spout to the scouring cone, H, having brushes fixed on its interior surface and containing a rapidly rotating cone, also furnished with brushes; the two sets arranged at such an angle, compared one with another, that they pass each other as the blades of shears. From this cone the grain goes to the blower, I, which drives off the remaining refuse through the spout, J. The grain in the blower, I, is delivered to another vibrating screen, worked in a manner similar to the upper one, and which may be made of such a grade of meshes, if desired, as to separate the kernels according to size. The lower ends of the upright shafts, which drive the inner cones by means of belts and pulleys, rest on suspended cross bars that may be raised to adjust the cores of the cones to the size and character of the grain to be operated upon, by means of screws, the handle of one being seen at K.

This improvement was patented June 23, 1868, by Carl Millar, Sandoval, Ill., who will reply to all communications relating thereto.

**Parton on Alcoholic Drinks.**

We do not deem it necessary to offer any apology for the republication, from the *Atlantic Monthly*, of the able article from the pen of James Parton, on the use of alcoholic liquors, entitled "Will the Coming Man Drink Wine?" We consider this article to be so complete a review of the whole subject, both from a scientific and social point of view, and such a masterly plea against the use of alcohol in any form, that it is the duty of the press, without regard to its particular adaptation to the special features of individual publications, to give it as wide a circulation as possible, and thus aid in ridding the world of its greatest curse.

We shall publish the article in two installments, the first of which we give in this number, and we cannot too strongly urge the thousands of young mechanics who weekly peruse our columns, to consider well the points so ably established in this excellent essay; and use their influence and example in helping to uproot the evil of strong drink, which is the fruitful source of more misery and crime than any other cause on earth.

**OBITUARY.****DEATH OF A WEALTHY INVENTOR.**

Edwin A. Stevens, died in Paris on the 7th inst., of rheumatism. Although for ten years he had suffered more or less from this complaint, his death at this time was unexpected. His father was a co-laborer with Fulton in the introduction of steam navigation, and Mr. Stevens early devoted himself to the study and improvement of marine machinery. The propeller screw was invented by his brother Robert L. Stevens, and his own experiments upon the double screw were crowned with considerable success. The Stevens Battery, to which the modern system of iron plating undoubtedly owes much of its origin, was built by these brothers. The estate known as the Hoboken property, was inherited by him, and by its judicious improvement he amassed an immense fortune, his estate being estimated at \$20,000,000. He was very highly esteemed by all who knew him, and by his death New Jersey loses one of her most influential and worthy citizens.

**FACTS AND CONJECTURES.**

In looking over our exchanges, we notice a request from a correspondent to an agricultural paper for information as to how much lime or impurities, in running streams, would render the culture of trout unsuccessful. And he adds, "facts are what we want, not hypotheses." Ah, thought we, how much labor would have been spared the world if that had been made the rule in the past; if, instead of sitting down to frame conjectures as to what things might be, men had set themselves to work to ascertain what they really were. Most of our readers are familiar with the story of the dispute over the question why a bucket filled with water would not overflow when a fish was placed in it. The philosophers framed all sorts of conflicting hypotheses, and grew hot in the defence of their favorite theories, until it was wisely suggested that it would be as well to ascertain what was the fact in the case. When tested, it was found that when the fish was put into the bucket, the overflow took place, and the would-be philosophers were put to shame by a simple fact. Whether this story is a fable, or otherwise, it is a type of many disputes which have seriously engaged the minds of men, whose efforts, rightly directed, might have been of great value. It is only a very

few years since a learned professor in an American college set himself to show that all the facts of the universe, and its phenomena could be determined, *a priori*, and put forth to the world a system of cosmology fully as absurd as the conjectures of the above-mentioned philosophers in regard to the fish. An eloquent reviewer of this most absurd attempt to conjecture causes that would account for universal facts, writes as follows:

"Who that believes in such a philosophy would trouble himself to spend wearisome days and nights in studying the pages of Newton and Laplace? who would scale mountains

erators of even the cheapest sort are built in accordance with it. Ventilation is also frequently secured, at least in a measure. The refrigerator herewith illustrated is not claimed to be markedly superior to every other in these respects. Its main peculiarity and advantages are convenience in construction, compactness of form, and handiness in use. The latter quality is quite noticeable, as the shelves rotate so that the dishes of food can be readily placed in the receptacle, and when required to be removed present themselves successively at the door, obviating the necessity of soiling the dress in reaching over one dish for another.

The engraving exhibits the refrigerator in perspective with the door opened and a portion of the side broken away to show the interior. The outside, which is of an octagonal form, is of wood, as usual, and the inside of zinc, the space between being left either empty or filled with a non-conducting material as desired. The inside is of circular form in its cross section, and under the ice receptacle in the upper part has a series of slatted shelves supported on central pivots at top and bottom on which they turn. The ice is placed on a disk covered with zinc, the edges of which do not touch the inner surface of the refrigerator, but the disk is supported by lugs secured to the walls. The ice disk is double, and just below its lower edge is a gutter around the interior of the cylinder, to receive the drippings from the ice, which are conveyed through the bottom of the refrigerator to any convenient receiver by one or more pipes passing down by the inner wall. The cover is double and has perforated ventilators in each section which convey away the gases arising from the food. The slats of the shelves may be removed for cleaning. This unique contrivance is the subject of two patents obtained through the Scientific American Patent Agency, bearing dates, August 27, 1867, and July 7, 1868. Orders and applications for further information may be sent to the patentee, Anthony B. Sweetland, Fitchburg, Mass., assignor to himself and James Daley of the same place.

**Are Locusts Poisonous?**

We find a number of items in the newspapers this year claiming that locusts, their bite, sting, or eggs, are poisonous. In Georgia it is stated that a young lady lost her life by rubbing her teeth with a twig (of *cornus Florida*, probably, as that is frequently done) in which a locust had deposited its eggs. And somewhere in the West, fishes are said to have been poisoned by berries in which locusts had deposited their eggs, and which had fallen into a stream. And the following items we find in the papers:

"Locust eggs appear to be very deadly in their poisonous effects. A party of little boys was recently killed by eating mulberries in which they had been deposited, and so rapid was the work of the poison that they died under the trees from which they took the berries.

The death of a little girl at Kimmswick, Mo., resulting from the sting of a locust, is noted by the local papers."

Now, "e'en from our boyish days," in the south and southwest, we were familiar with all kinds of locusts, handled and played with them constantly, and knew other children to do the same, and the worst thing we ever knew or heard about them was their intolerable music. This idea of their being poisonous is a new one to us—but, then, this is Presidential year, and it may be that the locusts have become inoculated with the "poison of politics," hence the trouble!

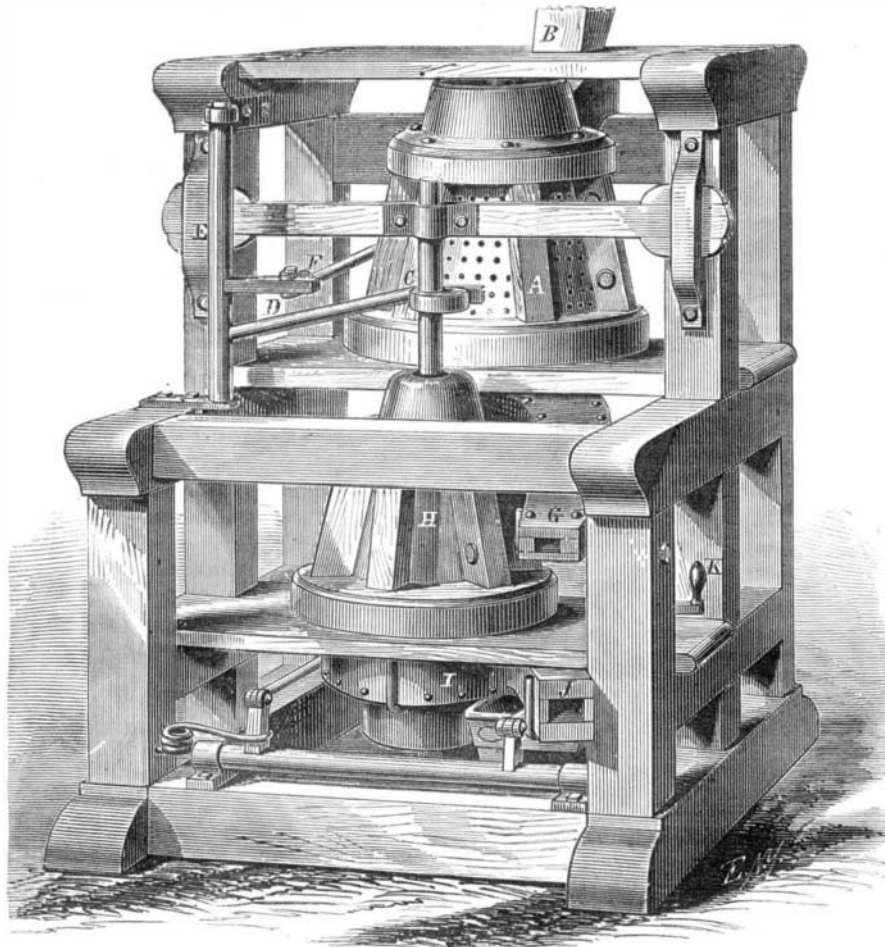
If, however, the locust is really poisonous, it should be known, and our readers will confer a favor by reporting their observations on the subject.—*Medical and Surgical Reporter.*

**The Union Pacific Railroad.**

We draw attention to the article from S. D. P., in this issue, relative to this great international work. Being well acquainted with the writer, knowing his superior means of information, and having the utmost confidence in his honesty of purpose, and facilities for obtaining facts, with a talent for presenting them as they really are, we commend his article to our readers as a fair statement of facts which may have been more or less distorted to serve the purposes of stock gamblers.

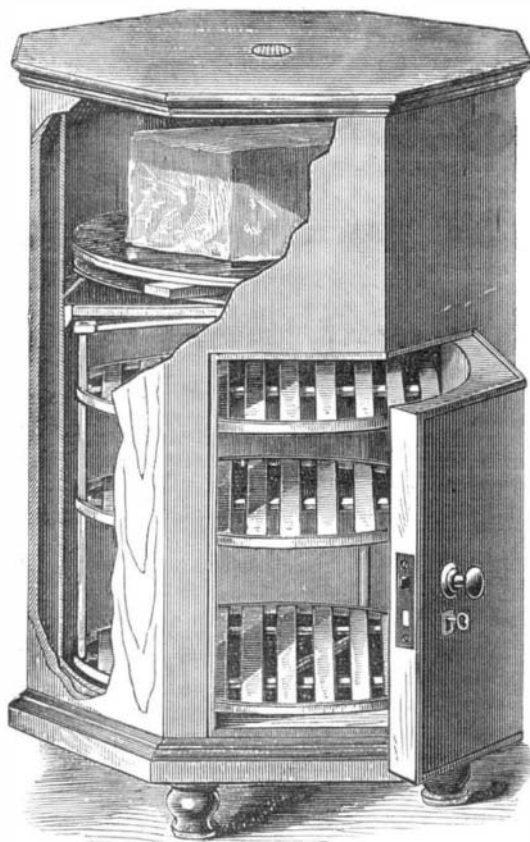
JUDGE B. F. JAMES, of Illinois, recently appointed Examiner-in-Chief of the Patent Office, has received his commission and entered upon the discharge of his duties. Judge James, for the past seven years has been Principal Examiner in the class of civil and railroad engineering, and his long experience qualifies him for the position to which he has been appointed. The notice of this appointment was accidentally left out of our last week's issue.

In boring an Artesian well at Chicago, a vein of water was found at the depth of 1,200 feet. The direction of the flow was ascertained by lowering into the bore, by means of a fine wire, a long lead plummet. The weight would descend steadily until it reached the stream, when it would be suddenly jerked in the direction of the flow.

**MILLAR'S PATENT SMUT MACHINE AND GRAIN CLEANER.**

and penetrate into the frozen regions of the poles in search of knowledge? who would torture Nature in crucibles, drown her in acids, consume her in flames, stretch her upon racks, crush her under weights, in order to wring from her the secrets of her being, when he believes that all he can thus learn can be deduced from pure reason?"

The age for conjecture is past. "Facts are what is wanted," and hypothesis is worthless except as it leads the way to the discovery of realities. Less abstract speculation, less thought upon the imaginary, and more work, more attention to the real, the tangible, and the practical, is the tendency of the time.

**SWEETLAND'S PATENT ROTARY SHELF REFRIGERATOR.**

The principle of the preservation of ice in refrigerators, that of prevention of rapid evaporation by inclosing it within non-conducting walls, is generally understood, and refrig-