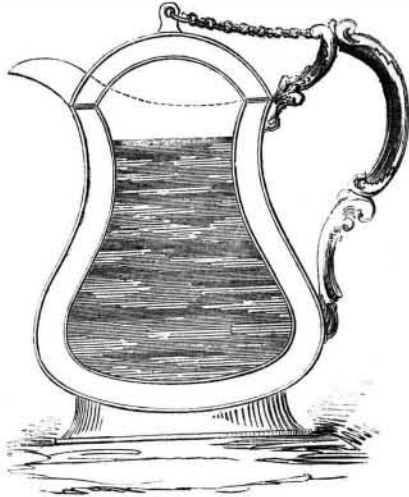


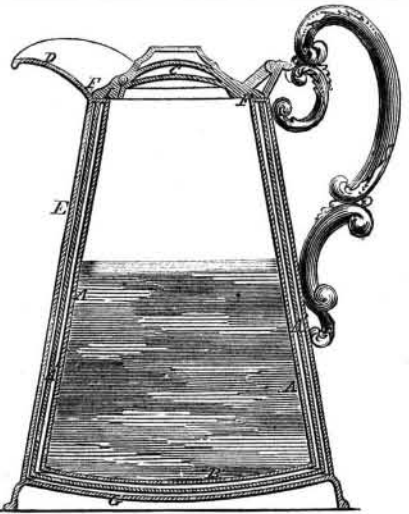
Science and Art.

Ice Pitchers.

The Egyptians, thousands of years ago, appreciated as much as we do now, cool water in summer, and they had many devices for cooling it by evaporation. The common jug of red clay, used to this day all over the East as a water bottle, is porous and unglazed, and by the evaporation of the thin film of water which is constantly permeating through the pores to the surface, the contained liquid is kept comparatively cool. The principle on which the well-known and generally-used ice



pitcher acts is very different. When we place a piece of ice in water, the heat, latent and sensible, is called forth to melt the ice, and in so doing the water is constantly kept at the same temperature as the ice, just so long as any ice remains. Now if we surround the pitcher in which the ice and water is placed with a non-conductor, so as to prevent radiation of cold, or more properly, the entrance of heat, the ice will be retained much longer, and the water will remain cooler, for a greater length of time. To do this, the double-walled vessel called an ice pitcher, and a section of which forms our first illustration, was devised by James Stimpson, and patented October 17, 1854. His claim is on the double



wall pitcher, with double sides, bottom, and lid, the lid having a chain or string attached to the handle. Well as this has answered for a long period, it was yet capable of some improvement, in order that the ice might be made to last still longer, and the water kept cool for a greater length of time. This desirable improvement has now been made by George W. Smith, of Hartford, Conn., who has added another wall to the pitcher, and made it a treble instead of a double-walled one, thus doubling its cooling powers without much extra labor or expense.

Our second illustration is a section of one of these, E G being the outside case, inside this is another, A', and with the inside case, A B, form the three walls. These cases are perfectly independent of each other, and are only connected or joined together at the top, F, on which the lid, C, rests, which is also treble-walled. To the lid there is a hinged lip, I, that opens by its gravity as the pitcher

is inclined, and allows the water to flow through the spout, D, thus rendering it unnecessary to open the lid except when the pitcher is to be replenished with ice or water.

That this is an improvement every one will see, and we have no doubt that they will be generally introduced. Specimens of these pitchers can be seen at the office of the manufacturers, Messrs. Rogers, Smith & Co., 170 Broadway, New York, or Hartford, Conn.

Removing Moles and Warts.

Messrs. Editors.—A very effective cure for moles and warts without pain is to tie a waxed thread around each, as near the root as possible, not tight enough to break the skin, or cause pain. As fast as the excrescence is observed to wither away, a new thread must be tied below the previous one; this may be done every day. In a few days the wart or mole will be gone. I have done this oftentimes without suffering pain.

F. D.

Fire Island, N. Y., June, 1858.

LOANE'S SELF-ACTING CAR COUPLING.

Fig. 1

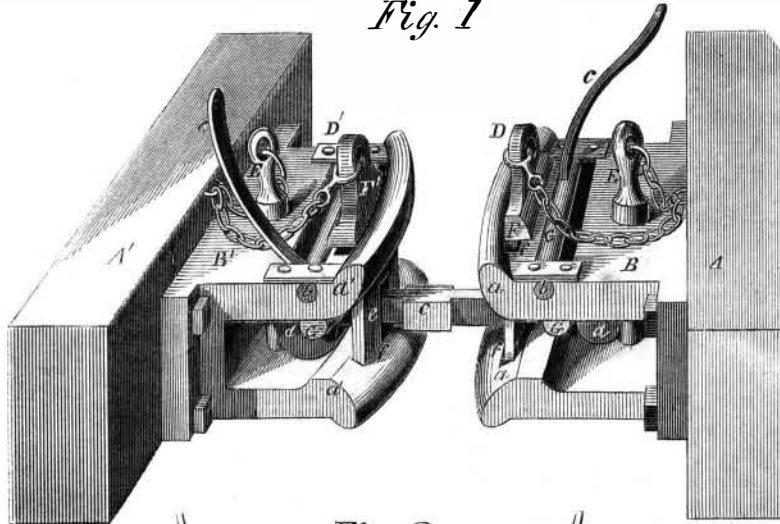
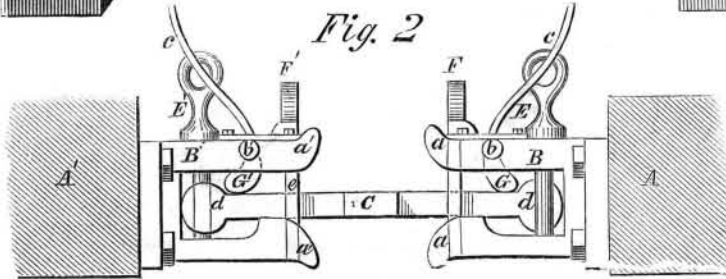


Fig. 2



This coupling is styled self-acting, because the bolt, being placed in its proper position in one car, the instant it comes in contact with the other it couples them firmly together. It will also couple readily on a curve, and should any car of a train run off or overturn, the coupling immediately detaches it from the rest, so that it does not drag the other cars along with it, as is often the case with the present mode of coupling, thus insuring greater safety to passengers, and saving a vast amount of property.

In our engravings, Fig. 1 is a perspective view of the coupling, and Fig. 2 a side elevation. In both, A and A' represent the platform of a car, to each of which is attached the coupling head, B B', each having a horizontal mouth open at the side, in them. The lower part of each coupling head is provided with a lip or thickness at its outer edge, as seen at a a', and the upper part is turned up to allow of the easier entrance of the coupling bar, C. This coupling bar may have a square head at d, when it will be held in position by the pins, E E', and the locking jaw, G G', which swing upon axes, b b', and project through slots in the coupling heads, B B'. Each of these locking jaws is provided with a lever, c, that can be pressed by the foot, and the cars unhooked when in motion without the operator being at all endangered by contact with the mechanism. A great advantage of this mode of coupling is, that a car provided with the square-headed bolt, G, will couple with an ordinary car coupling as well as with one like itself.

The other method of coupling which is also illustrated in the accompanying illustrations is to have the head of the coupling bolt made round in its vertical section, as seen at d d, and having in the coupling head, slots, f f, through which there passes a flat holding plate, F F', in which there is a slot, e. This slot passes over the bolt, C, and prevents it from becoming unloosed in one direction, while the locking jaw, G, holds it in the other.

This coupling is remarkably simple, and the head, d, has to become worn down to the same thickness as the bar itself before there is any danger of its becoming uncoupled at an improper time; and in cases of collision, this coupling being open-mouthed is likely to catch into each other, and thus prevent the cars from jumping on to each other.

A patent was obtained March 23, 1858, by the inventor, Henry E. Loane, No. 148 Pine street, Baltimore, Md., who may be addressed for further particulars.

Trial of Steam Fire Engines.

The three steam fire engines lately built for the Philadelphia Fire Department—the "Philadelphia," "Young America," and "Hope"—made a trial of their powers a few days since, in the presence of a large concourse of spectators. The result was creditable to all the machines, but the "Philadelphia" was the winner. The "Philadelphia" threw a stream through a 1½ inch nozzle, a distance of 231 feet, the "Young America," 209 feet, and the "Hope" 212 feet. The "Philadelphia" and "Hope" were built by Reany, Neafe & Co., in Philadelphia, and the "Young America" by Abel Shawk, in Cincinnati.

Hussey's Cutting Apparatus.

On page 333 of the present volume of the SCIENTIFIC AMERICAN, we published an engraving of Hussey's cutting apparatus, and his claim dated Aug. 7, 1847, but we then overlooked the fact that his patent had been re-issued April 14, 1857, and we now subjoin the claim of the re-issue:—

"I claim the combination of a vibrating scolloped cutter, the indentations of whose edge act as a series of moving shear blades, with slotted guard fingers, the sides of which act as a corresponding series of fixed shear blades, the parts of such fingers forming the slot, being connected at the front ends only, leaving the rear of the slot open and free for the escape of material that would otherwise clog the cutter, substantially as described."

The Great Rains of 1858.

The amount of rain that has fallen over a large portion of the United States in six weeks, running from the 1st of May to the 12th of June, has scarcely a parallel. The Pittsburg Journal has given this subject considerable attention, and says that the average of observations will give about ten inches in May, and five inches to the 12th of June, or fifteen inches in forty-three days. These rains do not appear to have been local, but extend east and west at least one thousand miles, and north and south one-half that distance. No wonder the newspapers are full of accounts of rains, floods, and disasters. Fully one-third of the average of the rains of the year have been crowded into six weeks. The Mississippi and its tributaries might well appear to threaten a young Noachian deluge. No such rains have been experienced since the wet season in May, 1855, and then they were not condensed into so small space of time. It is said that some rain gages showed four and one-half inches of rain on the 11th and 12th of June alone. What the cause of these tremendous rains have been, we are not able to say. There is hardly a doubt but that we will either have an equivalent amount of dry weather, or else some other district of the globe is parched up for want of water. The remarkable fact that the annual fall of rain is so nearly equally balanced, sets at defiance all our notions of wet and dry seasons, though portions of a year are extremely wet or dry.

Rensselaer Polytechnic Institute.

We have received the Annual Register of this valuable institution at Troy, N. Y., and are pleased to find that ninety-nine students have taken hold of the advantages it affords in the past year.



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