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The young man's book of amusement

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Expansive Force of Freezing Water

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through the cock, and a vessel will be filled from it in a shorter time than when it is only half full, although the cock, in both cases, is equally replete with the fluid during the time the vessel is filling. From this also is understood, how a hole or leak, near the keel of a ship, admits the water much quicker, and with greater violence, than one of the same size near what the mariners call the water's edge.

The power of Water.

Let a strong small iron tube of twenty feet in height be inserted into the bung-hole of a cask, and the aperture round so closed, that it shall be water-tight; pour water into the cask till it is full through the pipe: also continue filling the pipe till the cask bursts, which will be when the water is within a foot of the top of the tube. In this experiment the water on bursting the vessel, will fly about with considerable violence.

Expansive Force of Freezing Water.

Colonel E. Williams, of the Royal Artillery, when at Quebec, made many experiments on the expansive force of freezing water. He filled all sizes of iron bomb-shells with water, then plugged the fuze-hole close up, and exposed them to the strong freezing air

of the winter in that climate, sometimes driving in the iron plugs as hard as possible with a sledge hammer; and yet, though they weighed near three pounds, they were always forced out by a sudden expansion of the water in the act of freezing, like a ball impelled by gunpowder, sometimes to the distance of between 400 and 500 feet; and when the plugs were screwed in, or furnished with hooks or barbs, by which to lay hold of the inside of the shell, so that they could not possibly be forced out, in that case the shell always split in two, though its thickness of metal was about an inch and three quarters. It is further remarkable, that through the circular rack, round about the shells where they burst, there stood out a thin film, or sheet of ice like a fin; and in the cases where the plugs were projected by freezing water, there suddenly issued from the fuze-hole a bolt of ice of the same diameter, and stood over it sometimes to the height of eight inches and a half. Hence, we need not be surprised that excessive frost should cause the ice to split rocks and other solid substances.

To make Water ascend between two Pieces of Glass, and form a regular Figure.

Procure two pieces of glass, about six inches square, join any two of their sides, and separate the opposite sides with a piece of wax, so that their surfaces may form an angle of about two or three de-