

HOLIDAY PASTIMES. SWIMMING.—(See page 282.)



FIG. 1.—BEFORE THE STROKE.

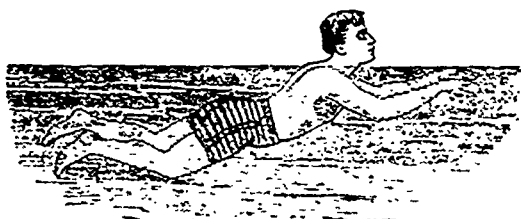


FIG. 2.—AFTER THE STROKE.

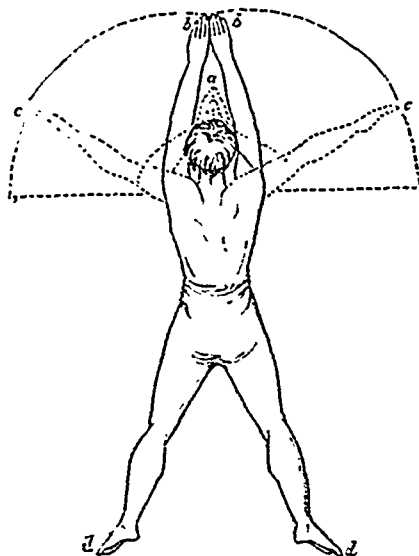


FIG. 3.—THE ACTION OF THE LIMBS.

CAUSES OF THE LOSS OF SHIPS AT SEA

A Board of Trade Surveyor, who is also a practical seaman, has just published a remarkable pamphlet on this subject. He shows among other things, that uninsured ships are rarely lost, as it is then the owners' manifest interest to have them properly laden, well found, well manned and commanded and officered by skillful men. It is otherwise when ships are fully or over insured. Their loss is then a "benefit to the owner," says the writer, "as he has nothing to lose, and many owners, for the sake of a few more tons of freight, do not mind hazarding the lives of all on board." The practice of over working the men during the day, so that they are unable to keep a proper outlook at night, is also deprecated. Building steamships with a view chiefly to their freight, carrying capacity is pointed to as the great cause of disaster, as also is the indiscriminate lengthening of steamers, with little or no strengthening. Want of a proper supply of lifeboats and under manning are also fertile causes of loss of life at sea. The under manning is attributed largely to the manner in which sailors are lodged, and fed, and treated by their officers, while the great and increasing proportion of foreign seamen in our mercantile marine would prove an important element of weakness in case of a general war.

PETROLEUM IN TURNING HARD METAL.

Mr. L. Bechstein reports that it was required to turn with the greatest precision, a piece of 29 centimetres in diameter, composed of a very hard alloy of seven parts copper, four parts zinc, and one part tin. Every ordinary mode was tried without success, when Mr. Bechstein had the idea of trying the effect of petroleum constantly applied to the cutting tools, and the alloy was then turned with about the same ease as steel tempered to straw colour; the latter, says Mr. Bechstein turns with the greatest ease when the cutters are kept moistened with a mixture of petroleum and turpentine.

NEW FACTORY

An exchange says:

The erection of the new cotton factory at Valleyfield is being rapidly carried on, there being at present over 150 men employed in connection with it. The building is 200 feet in length, 55 wide, and will comprise five stories. The beams of the second story are supported by a number of strong iron pillars, and the whole building is based upon a solid rock. The quarries are adjacent thereto, the material being an excellent limestone; the upper strata is well adapted for building purposes, and the under for manufacture of lime. The company have two steam derricks at the quarries, by which means the stones, after being blasted, are raised and placed in a convenient position for being removed to the building. From the debris they manufacture their own lime; the sand is brought from Chateaugay Basin. The building is beautifully situated on the north bank of the small channel which comes from the river above that portion of the town, hemmed back by an extensive embankment.

SHOEING OF HORSES.—As many parts of the horse's hoof are more tender than others, in the case of such animals as have very tender feet, it is the province of the shoeing smith to give ease to such parts and to throw the weight more upon those parts which are better calculated to support it, thus assisting nature in all her operations, in the animal economy. The horse in raising the fore foot for extension, the stress is put upon the flexor muscles,—in particular, the *Flexor pedis perforans*, the tendon of which is inserted into posterior part of the os pedis, or bone at the foot. The longer the toe of the shoe, and straight, the greater leverage is required against the unyielding edge of the toe. By keeping the toe a moderate length, and turning up the toe of the shoe a little, it allows the foot to be easily rotated, consequently less stress is thrown upon the flexor muscles and tendons, and more particularly upon the tendon at that part when it passes over the navicular bone, it thus lessens the tendency to navicular disease, and, if so affected, this mode of shoeing will give great relief.