

INFORMATION RELATING TO STEAM ENGINES.—We oftentimes receive letters from correspondents requesting us to tell them the horse-power of their engines; this we can easily do when the diameter of piston, the pressure of steam, and the velocity of piston are given; but unless this is done we cannot give them the required answer. To such enquirers the following would be useful information:—The unit of a "horse power" is 32,000 lbs lifted one foot in a minute. To calculate the horse power of any engine, multiply the area of piston in square inches by the pressure of steam in pounds on the square inch, and by the velocity of the piston and divide the product by 33,000; the result is the nominal horse-power of the engine. It is the common practice, however, to deduct the fourth of this as being expended on the engine itself, that is absorbed by friction, and not given out to the machinery which the engine may be driving. For this reason some engineers use the divisor 44,000 in estimating the horse power of their engines. This is the case with the Clyde engineers, (the builders of the Cunard steamers,) the engines of which are rated lower than the American ones of the same power.—*Scientific American*.

THE BASIN OF THE ATLANTIC OCEAN.—The basin of the Atlantic Ocean is a long trough, separating the Old World from the New, and extending probably from pole to pole. This ocean furrow was probably scored in to the solid crust of our planet by the Almighty hand, there the waters which he called seas might be gathered together so as to let the dry land appear and fit the earth to the habitation of man. From the top of Chimborazo to the bottom of the Atlantic at the deepest place yet reached by plummet in the Northern Atlantic the distance in a vertical line is nine miles. Could the waters of the Atlantic be drawn off so as to expose this great sea-gash, which separates continents and extends from the Arctic to the Antarctic, it would present a scene the most rugged grand and imposing. The very ribs of the solid earth, with the foundations of the sea, would be brought to light, and we should have presented to us at one view in the empty cradle of the ocean, "a thousand fearful wrecks," with that dreary array of dead men's skulls, great anchors, heaps of pearl and inestimable stones, which in the poet's eye, lie scattered in the bottom of the sea, making it hideous with sights of ugly death. The deepest part of the North Atlantic is probably somewhere between the Bermudas and the Grand Banks. The waters of the Gulf of Mexico are held in a basin about a mile deep in the deepest part. There is at the bottom of the sea between Cape Race, in Newfoundland, and Cape Clear in Ireland a remarkable supple, which is already known as the telegraphic plancaut. A company is now engaged with the project of a subma line telegraph across the Atlantic. It is proposed to carry the wires along this plant an from the eastern shores of Newfoundland to the western shores of Ireland. The great circle distance between these two shore lines is 1600 miles, and the sea along this route is probably nowhere more than 10,000 feet deep. [Prof. Maury.

HOW TO HAVE NO WEEDS TO PULL.—Stir the ground often and they will never get big enough to pull. A loose top soil can be stirred up a half dozen times with a hoe in the time required to go over it once in the pulling process. The growth of all plants will also be greatly promoted by frequent stirring of the soil.

PRESERVATION OF MILK.—The following method is recommended for the preservation of milk, either at sea or in warm climates: "Provide pint or quart bottles, which must be perfectly clean, sweet, and dry; draw the milk from the cow into the bottles, and as they are filled, immediately cork them well up, and fasten the corks with packthread or wire; then spread a little straw on the bottom of a boiler, on which place the bottles with straw between them, until the boiler contains a sufficient quantity. Fill it up with cold water; heat the water, and, as soon as it begins to boil, draw the fire, and let the water cool gradually. When quite cold, take the bottles and pack them with straw or sawdust in hampers, and stow them in the coolest part of the ship, or in a cool place. Some years since there was a Swedish or Danish vessel at Liverpool, having milk on board, preserved in this manner. It had been carried twice to the West Indies, and back to Denmark, and been above 18 months in the bottles; nevertheless, it was as sweet as when first taken from the cow." *New Monthly Magazine*. On this subject the Editor of the *Chemist*, in the May number remarks, "We lately lectured at the Royal Institution, Milk preserved by M. Mabbro's process, and which had been prepared by the Abbe Moigno to Mr Barlow who alluded to it in his lecture on preserved meats and vegetables. This milk was one year old, and was as sweet as when first drawn; a considerable quantity of cream had collected in the neck of the bottles."

RULES FOR THE PRESERVATION OF SIGHT.—The eye should never view an intense light. The light of a flame should never fall upon any part of the eye during use. Bodies of all colours, should be equally viewed, and, as to regarding a bright or primary colour, repose should be sought by looking at a tertiary colour. An unsteady flame is hurtful during reading or writing. The eye is liable to damage from being employed on black objects by artificial light, because it is insufficient for the pupil. The observation of objects at the reflecting angle, is hurtful, from the intensity of the light. All coverings to lights are injurious, as the clearness of the flame is diminished; and ground glass shades are particularly detrimental. Reading during railway travelling is hurtful, because of the constant unsteady motion, which is imparted to the book. The observation of close objects during rapid locomotion is trying and detrimental to vision. Glasses of neutral tint, blue or green colour, may be employed to protect the eyes from a bright sun in the middle of the day; but they are injurious when the light is not painfully intense. Rapid transitions from darkness to intense light is liable to be followed by blindness.—*Smiles on the Eye*.

GENTLE PROFESSIONS.—Now-a-days, parents entertain a silly notion that their children must be instructed in a genteel profession; they repudiate the "vulgar" notion of bringing a boy up as a carpenter, cabinet maker, shipwright, or in fact any occupation that involves labor. He must be educated for the church, the bar, the law or for the post of civil engineer—hence those professions are overruled, and hundreds, nay, thousands of young men are a burden upon their families, being unable to find anything to do. Copyists, as a class, are badly paid for their service; but as theirs is a mechanical occupation requiring little exercise of the mind it cannot reasonably be expected that they should receive the wages of a carpenter or any other skilful mechanic. Genteel professions in a few years, will not be sought after by fathers and mothers for their sons, as a good investment for the capital expended upon their education.