

Scientific Museum.

Scientific Memoranda.

ARTESIAN WELLS.—The famous Artesian salt wells at Kissengen, in Batavia, commenced eighteen years ago, and which it was feared would have to be abandoned as a failure, has recently given the most satisfactory results. The town is located in a saline valley, nine hundred and eighty-four feet above the level of the Baltic sea. Last June the boring had reached a depth of eighteen hundred and thirty-seven feet, and several layers of salt, separated by a strata of granite, had been traversed, when carbonic acid gas, followed again by granite, was found. Finally, on the 12th ult., at a depth of two thousand and sixty-seven feet, perseverance was rewarded by complete success. A violent explosion burst away the scaffolding built to facilitate the operations, and a column of water, four and a half inches in diameter, spouted forth to the height of ninety-eight feet above the surface. The water—clear as crystal—is of a temperature of sixty-six Fahrenheit, and is abundantly charged with salt. It is calculated that the annual product will be upwards of 6,600,000 lbs. per annum, increasing the royal revenues by 300,000 florins after deducting all expenses.

What has become of the Artesian Well in Charleston, S. C. Is the boring of it entirely suspended?

IMPORTANCE OF PURE WATER FOR CATTLE.—Lawrence, in his *Farmers' and Graziers' Complete Guide*, has the following:

"Dr. Jenner, who conferred that great blessing on mankind—the cow-pock inoculation, considered that giving pure water to cows was of more importance than persons are generally aware. There were farmers in his neighborhood, whose cows, while they drank the pond-water, were rarely ever free from red-water or swelled udders, and the losses they sustained from these causes, together with the numerous abortions their cows suffered, increased to an alarming extent. One of them at length, supposing that the water they drank had something to do with producing their disorders, sunk three wells on different parts of the farm, and pumped the water into troughs for the cattle. His success was gratifying; the red-water soon ceased, and the swellings of the udder subsided; and the produce of the renovated animals increased both in quantity and quality. Other farmers followed the same practice; and in less than six months not a case of red-water, swollen udder or abortion, was heard of in the neighborhood.

FATE OF CAPTAIN TAGGART'S BALLOON.—The balloon of Captain Taggart, which wended last week, met with a singular fate, and came near burning up the whole of the buildings of a farm on Long Island. The Balloon, after it passed over this city, wended its way down to Long Island, and descended at about half-past 6 P. M., near the farm house of a Mr. Gildersleve, in the town of Huntington. The car became entangled in the fence of a lane leading to the dwelling and barn, while the balloon gently swayed with the wind above it.

When it was first discovered by a son of Mr. Gildersleve, it occasioned a good deal of surprise, and he called to his aid a brother and his wife, and his mother, to assist in securing it. A large opening was made in the balloon to permit the air to escape; but unfortunately at this moment one of the ladies approached the balloon with a lighted candle, when the inflammable gas took fire, and a violent explosion immediately followed, knocking down the whole party and burning the two young men severely on the face and hands. The ladies escaped with very slight injuries. The balloon was torn to pieces, and enkindled into a blaze at the same time, and the beautiful car with its machinery greatly damaged. The varnished material of the balloon burnt so vividly as to set the fence on fire, which, from its proximity to the barn and dwelling, would have undoubtedly communicated the flames to these also, but for the unusual exertions of the injured persons, who, in great agony, subdued

the fire, by tearing down the fence, and throwing water upon the burning fragments of the balloon. The light of the explosion was noticed at the distance of several miles, and the concussion was so great that it was sensibly experienced by the inmates of a dwelling half a mile distant.

Hydrostatics.

The properties of liquids are modified by the action of two forces, *weight* and *molecular attraction*. We can easily be led to form a distinct idea of each of these forces. Let us refer to the second, or fluids in equilibrium, which in that state exhibits some remarkable properties.

FIG. 1.

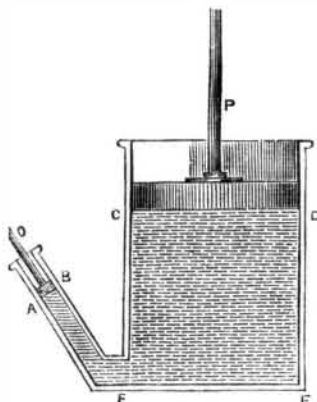
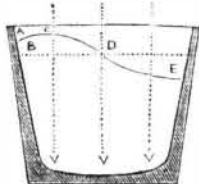


Fig. 1 is a vessel containing liquid supposed to be without weight. A B C D E F is the vessel with a solid piston, P, which exactly covers its surface. If the piston is without weight, it is clear that the liquid experiences no pressure, but suppose the piston to be loaded with 100 lbs., it would sink down into the liquid unless the liquid opposed such a tendency. If we divide the liquid into layers of inches, we will find that each layer supports the 100 lbs. as well as the upper layer, and that the base sustains that amount, and if we divide the base into 100 parts, each part sustains 1 lb. The pressure therefore is transmitted by horizontal surfaces from top to bottom without any loss: the pressure is equal at each point, and that is proportional to the extent of the surface under consideration. But the peculiarity of a liquid as differing from a solid, is, that the effects described are produced on the sides of the vessel, as well as the base. If a lateral opening be made in the direction A B, the liquid will fly out, and if the opening be made of a size equal to the

FIG. 2.



piston, P, it will require a force of 100 lbs. to prevent it from flowing out, but if the opening be 1-100th of the piston, a force of 1 lb. will prevent it from flowing out.

If a hole was made in the piston, P, the liquid would spout out upwards, according to the law of action and re-action. Liquids, therefore, transmit equally, and in all directions, the pressure exerted on any part of them, and this will explain a question often asked in respect to the pressure on different areas—many having a wrong idea of this principle. If the small piston, O, is only 1-100th the size of P, 1 lb. on O will balance 100 on P, and this will also explain the principle of virtual velocities, for if the piston, O, be pushed in any given distance, the piston, P, will only be moved 1-100th part of that distance—a gain of power from equilibrium, like that of the common lever, which lies at the foundation of the science of mechanics, is a loss of speed. It is this principle which, for simplicity and an absence of friction, gives such advantages to the Bramah press over the wedge, lever or screw, for some purposes. A liquid, to be in equilibrium, must have every point of its surface perpendicular or normal to the force which acts upon it, and each particle must experience equal pressure in all directions.

Let us suppose the surface not perpendicular to the force acting on it, but running in

the direction of figure 2, indicated by the line A C D E, while the force acts in the direction of the vertical lines, V V. In this case the horizontal layer, B D, must be pressed by the weight of all the particles above it, and this pressure, as already stated, being transmitted laterally, the molecule, D, would be thrust out, since there is no counterbalancing pressure on the other side, therefore it is thrust aside and another particle occupies its place, and other particles successively take its place until the curve, A C D, has fallen into the depression D E, and the whole surface is horizontal, with all the particles ranged in a plane perpendicular to the force, without which there can be no equilibrium.

(To be Continued.)

Cancer Treatment.

NEW ORLEANS, OCT. 27, 1850.

GENTLEMEN,—The following article in relation to the treatment of that worst of all diseases, the cancer, appeared in the *Delta*, of this city, Oct 17th, and as it contains information valuable to the world, I have thought proper to enclose it to you, with the hope that it may appear in the columns of your valuable journal, whose reputation stands high in this section.

"This gentleman, whose success in curing some of the most inveterate cancers and tumors that ever tormented humanity, may now be found at 126 Poydras street, where he is daily visited by scores of the afflicted, few of whom are sent away without hope and the prospect of a speedy recovery. In stating this much, we only declare what we see and know. Certificates of cures—of successful medical practice—are so easily obtained, that we generally attach but little importance to them. Those who present such evidences must do so on their own responsibility. In the important matter of preserving the health and life of people, we write editorially only what comes within our own knowledge.

Such is the course we have uniformly adopted towards Dr. Gilbert. We have seen enough of that gentleman's practice to convince us that he possesses an important secret or skill which enables him to master, with astonishing success, one of the most stubborn diseases "which flesh is heir to." To such a well attested reputation, no college diploma could be expected to add much strength or celebrity, and therefore Dr. G. has usually reposed upon his reputation, without seeking such adventitious aids. Those who have reputations to create may require such helps, but they have ceased to command universal confidence among the people.

Whilst, however, a diploma is by no means needed by Dr. G., it is no little credit to the institution which, appreciating his great skill and success, voluntarily confers upon him this parchment distinction. Such was the case on the occasion of his late visit to Memphis, when the Medical College at that place came forward and conferred upon him their diploma. This was an evidence of good sense and liberality in the college. We trust that the public will not have the less confidence in the Doctor on account of this distinction. If they have, we can only recommend them to call and see some cases he has now under his charge, one in particular, of an hereditary cancer, which was rapidly devouring the unhappy subject, and was given up by the most distinguished physicians in the country, but which now, under his treatment, is rapidly recovering, and will be entirely well in a few days."

We have before noticed Dr. Gilbert's success in curing the cancer, in our columns. We have no disposition to puff any man, but we would not refuse our aid in extending a knowledge of a successful treatment of this shocking disease, and we are assured the authority is sufficiently good to warrant us in vouching for its accuracy.

The Charleston S. C., Sun says: a Convention of Manufacturers is to be held in the city of Richmond, on the 18th instant, to prepare a suitable memorial to be presented to Congress at the commencement of the ensuing session, setting forth all the facts believed to be the cause of the present extremely depress-

ing state of manufacturing industry, and urging the necessity of a speedy revision of the tariff laws.

Philadelphia Art Union.

It gives us pleasure to learn that this excellent institution is in a flourishing condition. Its subscribers for the present year have already exceeded the expectations of its managers, and the list is constantly increasing. The subscribers' plate, this year, is the finest that we have seen executed in the country: A. H. Ritchie, of New York, is the artist. It is worth the whole subscription price, and this we have heard not a few say, when admiring it, in this city.

LITERARY NOTICES.

MARINE AND NAVAL ARCHITECTURE.—Number 11 of this incomparable work, by John W. Griffiths, Marine and Naval Architect, has just been issued, and we would remind those who may be desirous of obtaining this work, but who have not yet become subscribers, that the next number completes the volume and they should at once send in their subscriptions.

We understand that Mr. G. has made proposals to the Navy Department to build a war steamer in one of the Navy Yards, using for her frame 60 per cent. of such timber as has been cut for steamers' frames, but which has been condemned in consequence of its exclusive adaptation to heterogeneous models. The vessel he proposes to build to be able to make a passage, in ordinary weather, from this city to Liverpool within nine and a half days; one of the conditions of the proposal is, that he have the entire control of the construction of the hull and engines. He also proposes to build a sailing ship, under similar circumstances, that shall be able to out-sail any vessel of the same amount of displacement in the navy of the United States.

ICONOGRAPHIC ENCYCLOPEDIA.—Part 13 of this unrivalled work on Science, Literature and Art, just published, by Rudolph Garrigue of No. 2 Barclay st., is now before us, and like its predecessors, maintains its high character of excellence. It contains beautiful plates of the Chinese, and other Asiatic nations, the North American Indians, and Africans, in various positions, exhibiting their manners and customs. Twelve more numbers will complete this work, which will then form the most beautiful encyclopedia in our language.

Shakespeare's Dramatic Works, Phillips, Sampson, & Co., publishers, Boston; Dewitt & Davenport, New York, Agents.—Number 27 contains "Troilus and Cressida," embellished with a beautiful engraving of the latter.

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The Publishers of the SCIENTIFIC AMERICAN respectfully give notice that the SIXTH VOLUME of this valuable journal, commenced on the 21st of September last. The character of the SCIENTIFIC AMERICAN is too well known throughout the country to require a detailed account of the various subjects discussed through its columns.

It enjoys a more extensive and influential circulation than any other journal of its class in America. It is published weekly, as heretofore, in *Quarterly Form*, on fine paper affording, at the end of the year, an *ILLUSTRATED ENCYCLOPEDIA*, of over FOUR HUNDRED PAGES, with an Index, and from FIVE to SIX HUNDRED ORIGINAL ENGRAVINGS, described by letters of reference; besides a vast amount of practical information concerning the progress of SCIENTIFIC and MECHANICAL IMPROVEMENTS, CHEMISTRY, CIVIL ENGINEERING, MANUFACTURING in its various branches, ARCHITECTURE, MASONRY, BOTANY,—in short, it embraces the entire range of the Arts and Sciences.

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