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Contents.

(Illustrated articles are marked with an asterisk.)

Table listing various articles such as 'Ambulances, government', 'Army, U. S., numbers 27,000 men', 'Cervera's fleet, remains of', etc.

THE PRESENT STATUS OF THE UNITED STATES NAVY.

The Navy Department has just issued a very instructive pamphlet, dated July 1, which gives the list and stations of the officers as well as the full list of all of the vessels in the navy, including those which are building and those which have been acquired. An examination of the tables shows that we have at present 301 vessels, of which 236 are available for war purposes, the rest being unseviceable or under construction. The "Registry of the Navy of the United States," which was published on January 1, 1898, listed only 141 vessels, of which 109 were available for service, so that in the few months which have intervened between the destruction of the battleship "Maine" we have built and acquired by purchase 126 vessels, and during the same period we have only lost one—the battleship "Maine." At present, the United States navy has 11 ships which are classed as "first rate," which includes all the battleships, the two armored cruisers, the protected cruisers "Columbia," "Minneapolis," and "Olympia," and the monitor "Puritan." There are 18 boats listed as "second rate," including protected cruisers and monitors. There are 22 "third rate" vessels, including cruisers, harbor defense ram, monitors, gunboats, and dispatch boats. There are 6 vessels under "fourth rate," including the dynamite cruiser "Vesuvius" and gunboats and cruisers. We have now 36 torpedo boats built and building and authorized, but in some cases the contract for them has not yet been awarded. We have 12 tugs, 6 sailing ships, 5 receiving ships, and 12 vessels which are unseviceable. There are 33 vessels under construction exclusive of the torpedo boats, but including the torpedo boat destroyers. We have 38 auxiliary cruisers and yachts, which include the formidable "Harvard," "Yale," "St. Louis," and "St. Paul." We have 33 steamers and colliers, used for supplying coal and provisions and for transport steamers, ambulance ship, supply ships, repair ship, etc. We have 27 tugs and 15 revenue cutters, as well as 4 lighthouse tenders and 2 Fish Commission vessels, but the latter two classes will not prove of much avail in the present war, although the lighthouse tender "Mangrove" has distinguished herself. It is noticed that the three first-class battleships for which contracts have not been awarded are to be named "Maine," "Missouri," "Ohio." The names of the new 2,700-ton monitors are to be "Arkansas," "Connecticut," "Florida," and "Wyoming." The new new torpedo boat destroyers will be named "Bainbridge," "Barry," "Chauncey," "Dale," "Decatur," "Hopkins," "Hull," "Lawrence," "Macdonough," "Paul Jones," "Perry," "Preble," "Stewart," "Truxtun," "Whipple," and "Worden."

The following are the names of the new torpedo boats for which contracts have not yet been awarded: "Bagley," "Barney," "Biddle," "Blakely," "DeLong," "Nicholson," "O'Brien," "Shubrick," "Stockton," "Thornton," "Tingey," and "Wilkes." The list of officers shows that we now have 7 rear-admirals on the active list; 10 commodores, 45 captains, 85 commanders, 74 lieutenant-commanders, 325 lieutenants of all grades, 170 ensigns, 70 chief engineers, 66 passed assistant engineers, 52 assistant engineers, 18 naval constructors, 19 assistant naval constructors, as well as 15 civil engineers. The information which the pamphlet conveys regarding the officers is, of course, very slight, but we notice under "Present Duty or Station" Richmond P. Hobson, "prisoner from 'Merrimac.'" The "Expiration of last cruise or tour of sea service" being "May, 1898." Under "Civil Engineers," "Leave of Absence" is placed opposite the name of Robert E. Peary.

LONDON'S FIRE SYSTEM REVOLUTIONIZED.

Commodore Wells, R. N., chief officer of the Metropolitan Fire Brigade, has seen fit to revolutionize the system of dealing with fires which has been in vogue in London for thirty years past. The old system offered great opportunities for a fire to attain considerable headway before it could be checked. It is pleasing to note that the total inadequacy of the old system has been seen at last and steps have been taken to remedy it. For fire purposes London is now divided into five districts, each of which has a superintendent's station and local headquarters. Every outlying station is in telephonic connection with its district headquarters. In past years the system has been that on a call being received at any station it is transmitted to the district headquarters and thence to Southwark, and directly the actual character of the fire is known the process is repeated. In the event of a very large fire, the authorities at Southwark have directed the attendance of what additional aid may be deemed to be required. The chief officer has now issued an order which announces that each station officer should be acquainted in his particular area with the nature and distribution of the buildings, fire risks, water supply, etc. This officer should in ordinary cases arrive first on the ground, and he is to have charge of the engines, ladders, and other appliances, and to send away messages as to the help required.

The fires are divided into three classes: "home calls,"

which include the fires which the station officer can manage himself; "district calls," which include all those fires which the nearest engines the superintendent can send on will be clearly able to manage; and "brigade calls," which include all those fires which will probably require the special attendance of a number of men and engines to be detailed from headquarters. As far as it goes, the new system seems to be practical, but at the same time the American system of sending out one or more full sets of fire apparatus with the full complement of men to every fire is far preferable. Every second counts in a fire, and often not only the safety of those in the building, but thousands of dollars' worth of property can be saved by the prompt response of a number of men. The trouble and expense involved in getting out the fire apparatus is nothing compared with the execution which they can do if they arrive during the incipient stage of the fire.

THE CINEMATOGRAF IN MEDICINE AND SURGERY.

Latterly several suggestions, from widely different sources, have been made regarding the employment and possibilities of the cinematograph in medicine and surgery, and while some are impracticable and based upon erroneous knowledge of the needs of the medical art, others are suggestive of real value.

For the study of continuous or prolonged abnormal acts and movements, such as the action of muscles during choreic, strychnine, or tetanic spasms, the modifications exhibited by certain reflexes, etc., it may be imagined the instrument can be made readily available; here its limitations are chiefly those bounded by the experience of the operator, or the initial expense entailed by the instrument itself. Again, contrary to general opinion, it is not necessary—not even essential—that all acts should be the result of a single continuous exposure, for the action of the instrument may at any time be interrupted, for hours or even days if desired, and again set in motion. Thus the cinematograph may be used for the purpose of recording and studying the development of rapidly growing neoplasms.

Recently, in London, England, Dr. Parchen exhibited some unique results thus obtained in a case of locomotor ataxia (tabes dorsalis). The inability to stand with the feet together and the eyes closed, and the typical ataxic gait, were demonstrated in a most remarkable way. Equally clearly depicted were the inco-ordinate movements of a patient suffering from partial paralysis; especially well demonstrated was the peculiar wasting of muscles which it is practically impossible to portray by means of ordinary photographic processes. Again, the wasting of muscles and characteristic gait in a case of hip-joint disease were as clearly, and even more impressively, depicted as though the patient had been under direct observation.

It is probable the cinematograph will prove invaluable to the medical teacher, especially for purposes of clinical demonstration and clinical comparison. Patients come and go—often are entirely lost sight of or not available at the moment their services are most desirable—but the recording film is always at hand, since it can be made both permanent and effective. It is a well-known fact in the West—and doubtless also in the East—that it is common for medical schools to retain certain rare and chronic cases as pensioners, merely that they may always be available for purposes of clinical demonstration.

Dr. Fincham, in a communication to The Amateur Photographer (London), points out that the field of the cinematograph, as regards medicine and surgery, is "rich in potentialities;" that just as the discovery of the Roentgen rays first appealed to the wonder-loving public as a scientific curiosity, and now is deemed an essential part of the armamentarium of every hospital, so in the future will this instrument be regarded as a necessity for the pictorial record of suitable cases.

Nevertheless, the cinematograph at present leaves much to be desired as regards accuracy; satisfactory records cannot be had of the finer movements, owing to the flickering of the pictures; but there is little doubt the deficiency will, in the near future, lead to the adoption of mechanical contrivances that will permit of steady impressions. One great advantage offered, even at present, is that films recording unique cases can be made permanent, and so preserved indefinitely; also they can be transmitted easily and safely to all portions of the globe for purposes of illustration and instruction.

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BY PERRY B. TURPIN.

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Table listing various articles such as 'I. BOTANY AND HORTICULTURE—How Flowers Attract Insects', 'II. DRAWING—The New System of Conventional Sectioning', etc.