from the upper deck, are then brought into position, and the vessel is thus secured. Pumping is then continued until the vessel is raised clear of the water. These adjustable bilge blocks are very broad, and form an unusually firm cradle, which cannot be displaced even when struck by a heavy sea. The lifting power of the dock is obtained from the pontoons only, the buoyancy of the vertical side sustaining merely its own weight.

The special feature of this dock, from which it has been named, is seen in the next operation, viz., that of depositing the vessel on the staging. Fig. 3 shows an end elevation or section of the staging, which is formed of parallel rows of vertical piles of iron or timber, capped by horizontal timbers. These rows of piers, which are erected at right angles to the shore. line, are 4 or 5 feet broad, and from 12 to 15 feet apart. To deposit the vessel, the dock is brought up to the staging, and its pontoons passed between the piers. The keel of the vessel passes clear above the middle line blocks on the staging, the outer blocks being temporarily turned down. As soon as the vessel has been brought over the keel blocks on the staging the dock is lowered, the vessel takes her bearing, the bilge blocks are immediately drawn in in the dry, and the dock is withdrawn, ready to raise or lower another vessel. A few feet variation in the level of the water can always be accommodated by the use of more or less blocking, and vessels of any breadth, how- Address MUNN & CO., 31 Breadway, corner of Franklin Street, New York. ever great, can be raised and deposited with the utmost facility. The operation of lowering a vessel from the staging into the water is necessarily the exact reverse of that of raising, which has been fully described.

It will be seen that the depositing dock is specially. suitable for large commercial ports where many vessels have to be docked, as one dock can serve any number of vessels; the number of vessels that can be accommodated is, in fact, limited only by the length of staging provided. The dock is very economical in its working, and requires much less pumping to be done than an ordinary stone dock. When a vessel is on the staging, it is fully exposed to light and air, and is in an exceptionally favorable position for being painted or repaired. The depositing dock is constructed in two equal portions, each furnished with engines, pumps, etc., complete, so that each portion can be used as an independent dock for smaller vessels; each portion can also at any time be docked on the other portion without any heeling over, so that all parts are readily accessible for cleaning and painting, thus enabling the dock to be kept in the most thorough preservation. The staging can be erected in comparatively shallow water, as it is not necessary to have a much greater depth than the draught of the dock with the vessel on it, say from 10 to 15 feet; but where the vessels are raised or lowered, which can always be done at the same spot, there must be a depth equal to the depth of the pontoons added to the draught of the vessel. Vessels can, with advantage, be built on the staging, and lowered into the water at a very small cost, without any rolling or sliding motion, and without running the risk of straining incurred by launching. The time occupied in docking a vessel of any size need not exceed one hour, and in lowering half an hour; a vessel can, of course, be raised, sighted, and refloated in less than two hours. The following are among the chief advantages of the depositing system: 1. One dock can accommodate any number of vessels by means of staging, which can be erected along the waste shores of a river or wet dock. 2. The dock can take a vessel of any size, and of a breadth too great to en ter any other fixed or floating dock. 3. Each half of the dock is complete in itself, and can be used as an independent dock for smaller vessels, and for docking the other half. 4. Each additional length of staging provides the accommodation of an additional grav ing dock at a very small cost. 5. Vessels can be built on an even keel on the staging, and can be lowered into the water without any strain, avoiding the risk and cost of launching, and saving the space required for a slip. 6. The dock, either with or without a



ESTABLISHED 1845.

MUNN & CO., Editors and Proprietors. PUBLISHED WEEKLY AT

No. 361 BROADWAY, NEW YORK.

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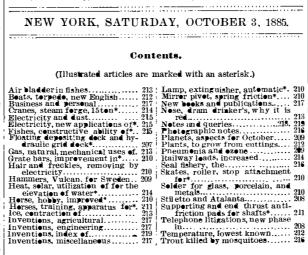


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- vessel, can be towed from place to place, for the pur- III. TECHNOLOGY.-The Chamberland Filter.-4 figures.....

A NEW PHASE IN THE TELEPHONE LITIGATIONS. It will be seen from an interesting article, with details, given in our this week's SUPPLEMENT, that a new and peculiar form of attack has been commenced against the Bell Telephone Company, being a suit brought in the name and at the cost of the Government of the United States to break and annul the original Bell patent. One peculiarity of the case is that the Attorney-General, by whose authority the suit is brought, is, or was lately, deeply interested in the stock of a rival telephone company that will shortly be enjoined and probably ruined, unless saved by this new legal dodge. Another curious feature is that, in this new suit, the Attorney-General has appointed as the lawyers to represent the Government the same lot of lawyers who have heretofore defended and been paid Clubs.-One extra copy of THE SCIENTIFIC AMERICAN will be supplied by the Attorney-General's telephone company. Thus, by favor of the Department of Justice, the lawyers of the Attorney General's telephone company will continue to battle for his interests, but will in future draw pay from the Treasury of the United States.

We are among those who regard the Bell patent as an illegal monopoly. We believe the lower court, through some misintrepretation of evidence or failure in its presentation, awarded to Bell a discovery that, in truth and justice, belonged to another man. Phillip Reis, in 1860, was the original and first inventor of the electric telephone; he gave the invention to the public in several forms many years before Bell's device was made; his inventions were known to Bell; and now, at this late day, to have the inventions of Reis wrenched from the people and converted into a vast monopoly for the enrichment of private individuals seems like a mockery •f justice.

The manner of its accomplishment is about as follows: In the first suit judge number one, on the meager evidence then presented, concluded Reis' telephone to be good for nothing, and held Bell's patent to be valid. In the second case, judge number two would not hear additional evidence concerning Reis, as the subject had been already decided. In the third case, judge number three declined to hear the evidence for similar reasons. In the fourth case, judge number four reaches the same result; he agrees it would not be polite to the other judges to rule differently. Thus the several judges, although only one investigation of evidence has been made, have ranged themselves like so many fences, one behind the other; and the Bell people, in addition to their patents, practically control the art of transmitting speech to the ears of the judges of the lower courts.

Unsatisfactory as this state of things appears, it is, nevertheless, strictly in accordance with legal forms and precedents, and affords no shadow of justification for the scandalous spectacle which the Department of Justice is now making of itself.

Patentees are interested in this matter without regard to what they may think of this particular patent of Graham Bell. If the United States will lend its wealth and influence to carry on litigation and encourage infringement of a patent sustained by all the circuit courts, and do this upon alleged defenses which have been passed upon, and in favor of those who can avail of them in actually pending suits, but who happen to have special personal relations with the Attorney-General, and do this on ex parte presentation of the case, invention and a patent will no longer confer rights, and decisions of the courts can no longer, sustain nor protect them.

STILETTO AND ATALANTA.

It will be remembered that early in July it was announced that the Stiletto had won the race over the ninety mile course from Larchmont to New London. The race was very close, but it was supposed that she had beaten the Atalanta by several minutes. Mr. Gould promptly protested against the decision, on the ground that the Stilette, probably by mistake, had left the prescribed course, and near the finish had gone inside instead of outside of a certain buoy. A committee was appointed by the American Steam Yacht Club to investigate the charge, and after hearing rather a volu-...⁸¹¹⁹ minous testimony on the subject, decided in Mr.

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oose of docking and "depositing vessels at different points. 7. The dock cannot sink, even if all its valves be left open by accident or intention. 8. The dock can at any time be enlarged as occasion may require at the same rate per ten as its original cost. 9. With sufficient staging, one of these docks can ac- IV. commodate a very great number of vessels daily, and can, therefore, earn a very much larger dividend than any other form of dry dock.

We may add that in 1876 Messrs. Clark & Standfield constructed for the Russian government a large v. 4 depositing dock. The firm have also constructed a depositing dock at Barrow, to dock vessels up to about 3,200 tons displacement, and also another dock for the Russian government, to dock vessels up to about 8,000 tons displacement.-Iron. .

THE following is a good remedy for burns: Mix 4 ounces of the yolk of eggs with 5 ounces of pure glycerine. This forms a kind of varnish.

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A Chapter from DR. LE PLONGEON'S New Book, "Monuments

Gould's favor, and awarded the challenge cup to the Atalanta.

This decision has called forth a challenge from Mr. Herreshoff for another race between the two steam yachts, over a hundred mile course on the Hudson. from New York fifty miles up river and back again. The proposed stake is a new championship cup, to be held by the winning boat until her record is surpassed. Mr. Gould has intimated his willingness to accept the challenge, if an open water course, such as that on the Sound. over which the disputed race took place in July, be selected instead of the Hudson, as the Atalanta, it is stated, is only allowed to run at three-fourths speed on the river, on account of the of Mayax," treating of the Probable Origin of the Egyptians...... 230, numerous craft encountered, and in passing a flotilla of tow boats is obliged to slow down or even to come to a full stop, while the smaller yacht circles around them at full speed. Moreover, the Atalanta, on account of her size, requires fifteen minutes to turn about, while the Stilette can turn in two. These conditions