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THE DECISION IN THE DRIVEN WELL SUIT.

Copies of the full text of this important Supreme Court decision have now been received. The patent is declared invalid because the invention had been in public use two years before Green, the inventor, filed his application. This fact was conceded by the appellants to the Supreme Court. The appellants sought to sustain the patent while conceding this much by claiming that such public use did not render the patent invalid, because it was without the knowledge or consent of the patentee. The whole case turned, therefore, on this point, which involved the interpretation of the statute of March 3, 1839, in connection with certain sections of the statute of July 4, 1836.

This question has arisen for the first time among the numerous driven well cases, and curiously enough it had never been decided at all by the U. S. Supreme Court.

As the Green driven well patent was issued prior to the passage of the patent act of 1870, it had to be judged by the earlier statutes. So as a species of farewell decision upon them, this opinion is rendered upon one of their critical points. The court finds that knowledge or consent of the patentee was not needed under the old statutes to render a patent invalid where the invention had been in public use for two years before the date of application. This decision disposes of the famous driven well litigation, which by the expiration of the patent was fast losing interest except as a matter of history.

WAR SHIPS THAT ARE WEAK AND SLOW.

Captain Bunce's report to the Secretary of the Navy on the new cruiser Atlanta shows that ship to be ill adapted if not positively unfit for the purposes of war. He has commanded her since she was in commission, and we may, therefore, be sure he had ample opportunity to study her defects. The ship, he says, is well nigh unmanageable in rough weather, and her battery is too heavy. Add to this that she is both unarmored and slow, and it remains she can neither fight nor run away. Of the sister ship Boston, like unto her in construction and armament, the same is exactly true. Capt. Bunce suggests some fifty alterations, one of which is that she be built up out of the water both forward and aft. Such changes, it is said, would cost something like a quarter of a million and perhaps much more. These alterations, though adding to her buoyancy, would in no wise improve her speed, and it may thus be seen how profitless would be the task of the constructor who should undertake them.

It ought to be said here that in no wise can the Atlanta's defects be laid at the door of the contractor who built her, and there is not a word that could be construed into such an inference in Captain Bunce's report. It was not the contractor who decided she should have low bulwarks, not he who miscalculated the position of her load line when her guns were mounted and her coal bunkers full, not he who limited her speed to sixteen knots under favorable conditions. All this was done for him by the Naval Advisory Board. What could this Board have been thinking of? Is the question that naturally suggests itself to those who rank far beneath its members as authorities on naval construction. They took for their model the Esmeralda, that admirable ship built for the Chilians by the Armstrongs, but seem to have utterly lost sight of the advantages of her wonderful speed while searching, vainly, it seems, for more stability. Speed, it has been shown, is more to be desired than heavy armor; but to an unarmored ship speed is, of course, a prime necessity, else she might find herself opposing her eggshell sides to the assault of heavy guns, and though these sides, like the Atlanta's and Boston's, were backed with bunkers filled with coals, they would, likely enough, prove at best but a sorry protection, if they afforded any at all.

But we are told: "These ships are not intended for the line of battle at all. They are simple cruisers for the protection and attack of commercial ships in time of war, and to carry the flag to different ports in time of peace. Their function is rather to keep the peace than to make war, and they are properly designated as 'the police of the sea.' They must, of course, be able to defend themselves from enemies of approximate size and similar character, and to escape by their speed from heavily armored ironclads of the enemy."

This is all very well, but with the exception of showing the flag, which our old hulks of antique type are quite able to do, these new cruisers are unable to fulfill the conditions as laid down by their apologists. They would not be able to protect commercial ships, because a reference to the muster of foreign ships shows many of them that have sufficient speed to overhaul them and power to beat them off; and as to their capacity to come up with the fast steam fleet of the European mercantile marine, it is immediately obvious that they are nothing like fast enough. As to the power of the guns of these cruisers to stand off an enemy, it were a bootless errand to inquire, because, as we have seen from Captain Bunce's report, not to mention the recent disastrous trials, they are not structurally strong enough to carry such guns.

As to the Chicago, Admiral Porter has told us over

his own signature that she is filled with machinery of a complicated kind, put into her, willy-nilly, through the agency of the four branches of the circumlocution office which furnish machinery for ships, and that a merchant steamer, which he names as carrying engines of a similar type, spends half of her time laid up for repairs. There are war ships afloat to-day, not unarmored cruisers, but line-of-battle ships, that have a record of over nineteen knots an hour. There's the Spanish ship Reina Regente, with a record of 20.6 knots over the measured mile; the Dogali, built in England for the Italian government, 19.66 knots; the Orlando, built by private contractors for the English government, 19.25; and there are others which do not fall far short in speed of nineteen knots. How could an Atlanta, or a Boston, or a Chicago protect or attack a merchant fleet with such ships at hand? They could neither fight nor fly from them. What we want are fast cruisers, at least as fast as any afloat. Yankee ingenuity, which has never failed when put to the test, ought to be able to construct them. It is certain that Yankee ambition will not be content with any others.

POSITION OF THE PLANETS IN DECEMBER.

VENUS

is morning star, and may be found near Spica during the first part of the month. She reaches her greatest western elongation on the 2d, being at that time 46° 49' west of the sun, and rising nearly four hours before the sun. Venus rises on the 1st at 3 h. 6 m. A. M. On the 31st, she rises at 3 h. 54 m. A. M. Her diameter on the 1st is 25', and she is in the constellation Virgo.

MERCURY

is morning star. He reaches his greatest western elongation on the 6th, and is then 20° 36' west of the sun. He is at that time and for a few days before and after easily visible to the naked eye. He rises at elongation nearly two hours before the sun. He is in conjunction with Jupiter on the 4th, being then 1° 35' north, and may be more readily found, the brighter planet serving as a guide. Mercury rises on the 1st at 5 h. 21 m. A. M. On the 31st, he rises at 6 h. 51 m. A. M. His diameter on the 1st is 7', and he is in the constellation Libra.

SATURN

is morning star and a most interesting object for observation as he makes his way through the cluster of stars in Cancer called Praesepe. He rises early in the evening in the northeast, and continues visible during the night. If the twin stars Castor and Pollux are familiar to the observer, Saturn is the first bright star southeast of them. Saturn rises on the 1st at 8 h. 37 m. P. M. On the 31st, he rises at 6 h. 31 m. P. M. His diameter on the 1st is 18.4", and he is in the constellation Cancer.

JUPITER

is morning star. He is a conspicuous object throughout the month, rising an hour and a half before the sun at its commencement, and three hours before the sun at its close. Jupiter rises on the 1st at 5 h. 34 m. A. M. On the 31st, he rises at 4 h. 7 m. A. M. His diameter on the 1st is 29', and he is in the constellation Libra.

MARS

is morning star. On the 12th, he is in conjunction with Eta Virginis, a star of the fourth magnitude. A good opera glass will show the planet and the star in the same field. Mars rises on the 1st at 0 h. 58 m. A. M. On the 31st, he rises at 0 h. 15 m. A. M. His diameter on the 1st is 6", and he is in the constellation Virgo.

URANUS

is morning star. He rises on the 1st at 2 h. 33 m. A. M. On the 31st, he rises 0 h. 40 m. A. M. His diameter on the 1st is 3.5", and he is in the constellation Virgo.

NEPTUNE

is evening star. He sets on the 1st at 6 h. 12 m. A. M. On the 31st, he sets at 4 h. 7 m. A. M. His diameter on the 1st is 2.6", and he is in the constellation Taurus.

At the close of the month, Saturn, Mars, Uranus, Jupiter, Venus, and Mercury are morning stars; Neptune is evening star.

Intellectual Improvement.

"The habit of regular reading, if only for fifteen minutes each day, should be steadily cultivated throughout life. Besides the leading journals of his trade, which no carriage mechanic can afford to disregard in these days, at least one good daily paper should be read; and some standard work on science, history, or biography should be kept on hand for convenient opportunities; while an occasional light novel, when the mind is too weary for more solid food, will certainly do no harm. We also recommend the SCIENTIFIC AMERICAN as an instructive weekly record of progress in all the arts and sciences, which will be found stimulating to the active mind and broadening in its influence. The constant study of that journal is a technical education in itself."

We heartily indorse the foregoing, especially the two concluding sentences, for which we are indebted to that able and most excellent periodical, The Hub.