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## THE NEW AMENDMENTS TO THE PATENT LAWS.

We publish on another page the Patent Law Amendment Act which has recently passed the House of Representatives. We hope all our readers will peruse it carefully, with our comments thereon, and if they concur with us in thinking the first section is one which should not become a law, we hope they will use their influence in opposing the measure. By what shadow of right an inventor should be required to pay \$20 for the privilege of asking the Commissioner to revise the decision of his Examiner, is what we could never understand; but so long as there was an intermediate tribunal between the Examiner and Commissioner, wherein the inventor could seek redress for any erroneous decision of the former, without paying an additional fee, we did not deem it necessary to protest against the section in the existing law which provides for the payment of \$20 on ap-

peal to the Commissioner. But now it is proposed to abolish the Board of Examiners-in-Chief, which was created to review the decisions of the Examiners, and to apply the services and wisdom of the three, who constitute this Board, to aid the Commissioner in performing the same duties which have heretofore devolved solely upon them; in other words, they are to perform the same duties as heretofore, but in their new relation as "advisory to the Commissioner of Patents," inventors appealing to them, to correct erroneous decisions of the Examiners, must pay a fee of \$20.

Where an inventor applies for a patent and receives letters from the Department, signed by the Commissioner, he naturally supposes that he is in correspondence with the head of the Patent Office. If his case happens to be rejected, he receives a letter signed by the Commissioner, which sets forth, briefly, the reasons for the rejection. The inventor examines the cases referred to, and becomes satisfied the decision is incorrect. He writes his views upon the subject and sends them to the Commissioner, and a letter is received in reply, stating that the previous decision of the Office is confirmed. Not satisfied with this summary disposal of his case, and thinking he may not have clearly explained the difference between his invention and the cases referred to, he writes again; and then, for the first time, he is informed that if he wishes his case re-examined he must first remit a fee of \$20 in addition to what he has already paid, and the Commissioner will give the subject his personal attention.

The first section of the proposed amendments of the Patent Law, if enacted, will place an applicant for a patent, who is so unfortunate as to have his case rejected, in just the predicament above stated. We do not believe the revenue of the Patent Office could be increased by the proposed amendment, but, on the contrary, if enacted, it would deter many persons from applying for patents who can afford to pay the \$35, but who would not risk the exaction of an additional fee of \$20 before they can have the decision of the Examiner reviewed by the person—Commissioner—with whom they naturally supposed they were doing their business.

We hope the gentlemen comprising the Senate Committee on Patents, will examine the first section of the proposed amendment, and if they consult the interests of inventors, we are sure they will report adverse to its passage.

## EXPERIMENTS WITH A SUBMARINE CANNON.

On Saturday the 21st of June, a respectable number of people collected at the Club House, Jersey City, to witness some experiments with Duffy's submarine gun. This gun is the invention of Joseph Duffy, of Paterson, N. J. The gun is placed on a deck in the vessel as far as possible below the water line, with the muzzle end passing through a stuffing box in the vessel's side. Mechanism is so arranged that when the gun is forced inboard by the muzzle coming in contact with the side of a hostile ship, the gun is discharged, sending not merely the shot, but also a considerable portion of the expanding gases into the hold of the enemy's vessel. Valves are provided to prevent the ingress of water as the gun is driven inboard by the recoil.

A small model was provided for the experiment, and was placed in the bow of a skiff, about 20 inches below the surface. The boat was rowed stem on against an oak target, and as the gun struck, it was discharged, driving the shot through two 3-inch planks, and considerably shattering the target. The result was entirely satisfactory.

## CALIFORNIA STATE AGRICULTURAL SOCIETY.

We have received from O. C. Wheeler, Esq., Corresponding Secretary of the California State Agricultural Society, a communication stating that the flood in Sacramento last winter materially injured the cabinet and utterly destroyed the library of the Association. They request copies of the Transactions of kindred societies, files of papers, and specimens in natural history, to aid them in the restoration of their well-begun work of collecting the natural history of the Pacific coast, and furnishing the agriculturists, miners, and mechanics of California with such a library as will at all times meet their wants.

Nothing in the history of California is more surprising than the attention to intellectual culture which has accompanied her wonderful career. Very early after the tide of emigration commenced, free schools were established all over the State, scientific and literary associations were formed, her unparalleled mineral deposits were explored by competent geologists, and her students of natural history disputed with Agassiz the claim to certain discoveries in ichthyology.

We have no doubt that this call for contributions to the cabinet and library of the State Agricultural Society will meet with a prompt and liberal response. All parcels should be addressed to the Society, in care of O. C. Wheeler, Corresponding Secretary, and each should be accompanied by the address of the contributor and any facts that may be useful to the Society.

## LOCOMOTIVE BUSINESS IN PATERSON—A NEW DUMMY ENGINE.

The city of Paterson, N. J., has long maintained a high reputation for building locomotive steam engines. Last year this business was almost suspended, but it has since greatly revived, and is now rapidly improving. There are three large locomotive establishments in Paterson, viz.—The Rogers's Locomotive Machine Works, the New Jersey Locomotive and Machine Company, and Danforth, Cooke & Co's. Locomotive and Machine Works. In the latter there are about two hundred and thirty men now employed. One dummy engine for drawing the cars of the Hudson River Railroad through the streets of New York is now being built there. It is the third of this character provided for the same company. The two which were previously furnished have, after a long trial of their qualities, given great satisfaction. The dummy is a condensing locomotive of peculiar construction, and its object is to supersede horses in the streets of the city. Outwardly it resembles a big box on wheels, like a freight car with a chimney. This long box is made of boiler iron; it has double hollow sides which contain water, and forms the tank of the engine. The boiler, engine, condenser and pumps are placed within this box and supported on a suitable framing. The boiler is vertical and tubular, and spreads out toward the top. The engines consisting of two horizontal cylinders with their appurtenances, are placed in front of the boiler, and very nearly in the middle of the car, inside of the wheels. The cylinders are each ten by fifteen inches, and their piston rods work a transverse double crank shaft situated close to the lower part of the boiler. On the outer ends of this shaft are grooved friction pinions, each twelve inches in diameter; these gear into large grooved friction wheels, each thirty inches in diameter, and from the shaft of the latter, motion is given by connecting rods to the two front and two back driving wheels at each side. This frictional gearing, as a substitute for cog gearing for reducing the speed of the driving wheels, is an excellent arrangement. One of these dummy engines will haul thirty-four cars. The speed, of course, is slow, but this is a necessary requirement for large cities. The object of using a condensing locomotive for such a purpose, is to obviate the noise peculiar to the exhaust in the smoke stack. The cylinders of the dummy exhaust in front into a small tubular condenser, the condensing water of which is supplied from the tank. The water to feed the boiler passes from the condenser by a tube into a cylindrical iron well situated under the two feed pumps, which are placed close together between the two cylinders, and are worked from the link motion. The feed is thus always proportioned to the amount of steam consumed, which is carried at from 110 to 140 lbs. on the inch, and is cut off short. The construction of such an engine is far more difficult than a common locomotive, because it embraces more parts, and these are required to be arranged in a very small compass. Coke is used as the fuel so as to obviate smoke, and a blower is employed to furnish the draft. One beautiful large ten-wheeled locomotive for Cuba, is now about finished here, and will soon be sent away. It is furnished with two common feed pumps, a Giffard's injector, and a hand pump for the boiler. An order of fifteen locomotives for the Atlantic and Great Western Railroad—which is to tap the oil regions of Pennsylvania—is being filled up; two engines are