DECISION RELATING TO PATENTS.

U. S. Circuit Court.—District of Maine.

WILLARD *et al. v.* COOPER. SAME *v.* THOMES.

PATENT FISHING APPARATUS.

COLT, *J.:*

In these suits the respondents are charged with infringing letters patent No. 240,630, granted to Henry E. Willard, April 26, 1881, for improvement in fishing apparatus. The object of the improvement is to provide a pocket or bag into which the fish, which have been caught in a seine, may be transferred and kept alive until they are dressed for packing. The apparatus consists of a pocket attached to the vessel's rail, and hung upon two booms which project from the side of the vessel. The booms are attached to the hull of the vessel, so as to move freely in different directions. There are guys at the outer ends of the booms, which serve to adjust them in a lateral direction, while they are raised and lowered by means of tackle extending from the masts to their outer ends. Outhauls connected with the outer corners of the bag serve to lower and raise the outer edge of the bag. Lace lines are permanently attached to the center of the head line, and run each way through grommets which are fastened to the head line. There are supporting lines connected with the center of the bag's head line, which are of use when the vessel rolls heavily. The seine is brought alongside the pocket by the seine boat. The outer edge of the seine is then fastened to the edge of the bag along the whole front of the bag, between the outer ends of the booms. This is done by thrusting the corks of the seine between the lace lines and the head line and then pulling the lace lines taut. The claim is for the pocket in combination with the seine, lace lines, grommets, outhauls, booms, head line, corks, supporters, and guys.

The defendants introduce a prior patent, granted to Benjamin Merritt, Jr., in 1858, which shows a net for catching fish attached to the side of a vessel, and stretched out upon two movable booms projecting from the vessel. Numerous witnesses are called who testify to the use of fish pockets with and without booms in connection with a seine prior to Willard's device. Many of these witnesses are not wholly disinterested, and for this reason this evidence is not entitled to the weight it would otherwise have; but, while receiving this evidence with caution, still, in view of what was manifestly old and well known, we cannot discover more than the exercise of mechanical skill in the construction of the Willard apparatus. We can find no invention in combining a fish pocket with a seine in the manner described, nor in the use of booms which are attached to the vessel in the same way as the old boat's boom, nor in the use of guys, head lines, grommets, and other well-known apparatus. In making and working a fish pocket, it seems to us these old and familiar things would immediately suggest themselves to one skilled in the art. In our opinion, Willard made no invention or discovery, in the sense of the patent law, such as entitles him to a monopoly, and therefore the bill must be dismissed.

Steam Torpedoes.

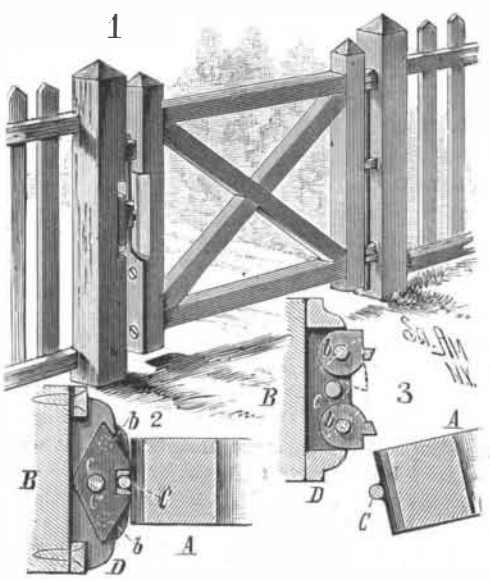
There is at the present time undergoing consideration by the British Admiralty authorities a system of propelling traveling torpedoes by means of steam instead of by compressed air, devised by Mr. Edward C. Peck, who is engaged in the constructive department of Messrs. Yarrow & Co.'s torpedo boat yard at Poplar. The torpedo is of the usual Admiralty pattern outside, the dimensions being 14 ft. long by 14 in. diameter, and it will carry in the forward part an explosive charge of 100 lb. of gun-cotton, together with the firing apparatus. The shell will be constructed of metal, and will be sufficiently strong to resist the external pressure of the water and atmosphere when a vacuum is formed within it. At about the center is a hot water reservoir, 4 ft. long and 11½ in. internal diameter, and capable of withstanding a given pressure. This reservoir will be surrounded by a coating of non-conducting material, three-fourths inch thick, and between the outside of this and the skin of the torpedo will be a space of three-eighths inch.

The reservoir is to be charged with about 160 lb. of hot water, taken from the main boiler of the torpedo boat or other vessel from which the weapon is to be discharged. The water will be transferred very rapidly, at a pressure of about 400 lb. per square inch, by means of a tube fitted with the necessary inlet and outlet valves, and there will be means for raising the temperature of the water, if necessary, during its transfer from the boiler of the boat to the reservoir of the torpedo. The charging operation will not occupy more than half a minute, and it is calculated that the torpedo will keep steam at the pressure necessary for driving her engines for at least an hour after it has been charged. The quantity of water carried will possess sufficient sensible heat to supply the propelling engines with steam of a slowly decreasing pressure during the run of the torpedo. The space between the reservoir and the skin of the torpedo, as also a portion of the space in the body of the torpedo not otherwise occupied, is utilized as a surface condenser for the steam after it has done its work in the engines. By this means the weight of the torpedo will be precisely the same at the close as at the commencement of the run. The torpedo will be fitted with engines of 60 horse power indicated, and capable of propelling it through the water at a speed of 32 knots an hour. It will be fitted with the usual fins, rudders, and regulating apparatus, to insure its traveling at any required depth and in any desired direction.

The advantages of a steam-driven torpedo would appear to be very considerable. In the first place, weight is saved in the torpedo itself, and the pressure being only about one-fourth of that in the Whitehead torpedo, using compressed air, there will be no difficulty in keeping all the joints and connections tight. In the next place, compressed air will only give a three-quarter minute run, while it is calculated that steam will give a run of a minute and three-quarters. The speed with compressed air is 24 knots, and the average range 600 yards, while with steam Mr. Peck reckons on a speed of 32 knots and a range of 1,800 yards.

IMPROVED GATE LATCH.

The gate is hinged in the usual way, and is provided with a latch rod, which engages with the latch, shown in detail in the sectional plan views, Figs. 2 and 3, secured to the post. The latch, D, is composed of a frame, tumblers, *b*, pivoted in a chamber of the frame, and the plate, *c*, pivoted to the frame on the pin, *c'*. The tumblers are nearly circular in form, and each is formed with a projection and straight shoulder, the



PUGSLEY'S IMPROVED GATE LATCH.

latter serving as a stop to strike the frame and prevent the tumbler from swinging outward too far—that is, beyond the point at which the projection stands in the path of the latch rod to act as a stop to the gate, A, when the latter is closed. The front edge of the plate, *c*, is notched to form two projections, between which the gate rod, C, stands when the gate is closed. The outer ends of the plate are beveled, so that the rod will strike these edges when the gate is closed, and swing the plate back to permit the rod to pass the projection. By this arrangement the gate may be locked from either direction by turning one or the other of the tumblers to the position shown in full lines in Fig. 3. The latch rod has a spring action, so that it will pass the tumbler, which it strikes in closing the gate and swings to the position shown in Fig. 2, so that the gate will not open of its own accord. In pushing the gate open, the rod strikes the shoulder of one tumbler and swings it to thep osition indicated in Fig. 3. This action moves the rod inward, and causes it to pass the tumbler without friction.

This invention has been patented by Mr. Samuel Pugsley, of New Rochelle, N. Y.

Progress of Electric Lighting.

When the last census was taken, to wit, in 1880, the census man did not consider the electric lighting investment of sufficient importance to warrant him in collecting the data. Capital was at that time in a condition which might be called undecided, so far as the electric lighting field was concerned. The great promise that had been made for electric lighting by ill-advised persons had not then been realized, and the difficulties in the way—difficulties which, it should be said, always array themselves in the path of novel enterprises—seemed to present an insuperable barrier to the development which, at that time, was thoughtlessly promised and is now being realized. We say thoughtlessly promised because, while such development was not an impossibility in the future, the claims that were made of immediate profits were absurd, and investors unfamiliar with the field and its possibilities, who had been encouraged by these rash promises to come in, were soon stampeded.

But there were men with brains, as well as capital, in the electric light business. It was enough for them that the prospects were bright, without that they got an immediate profit. The demand for the light increased as the apparatus for its distribution was perfected, and as improvement was constant, the business grew. At first, as we have said, it was slow, then faster, until finally it sprang into public favor at a bound, and is now recognized as one of the best paying industries. We say that its rise and progress have been phenomenal, and if any one doubts it let him study the following figures, which we have carefully collected from the best known sources, and are approximately correct:

Amount of investment in voltaic arc plants in the United States on Nov. 1, 1886	$37,000,000
Incandescent plant	15,000,000
Investment by manufacturers of arc and incandescent plants	20,000,000
Invested in manufacturing other apparatus connected with electric light apparatus, including conduits, cables, etc.	15,000,000
Invested in the manufacture of carbons, about	5,000,000
Estimate of the value of patents, as made at the Patent Office by experts	15,000,000
Total	$107,000,000

And how long has it taken for this vast sum to be attracted to the electric lighting field? Only six years! Looking at the rate of progress, we find that from 1881 to 1882 the business of supplying electric light almost doubled, and has doubled year by year ever since. It cannot, of course, go on at any such rate as this much longer, for, as we know, the doubling process, if continued, mounts soon into infinity.

We find that there are over 650 local electric lighting companies in the country to-day.

We have been to no little pains to collect data looking to a reliable estimate of the number of arc lights now aglow in the country, because so many conjectures have been made and so much haphazard guesses indulged in. This has not been an easy task, because of the disinclination of some of the arc companies to give their returns. From this survey we discover that at least 125,000 voltaic arc lights are now lighted nightly—a very pretty showing truly!

In the incandescence field, a careful estimate, throwingout all figures of projected installations and sticking closely to what is really being accomplished to-day, we find that there are about 640,000 and some odd incandescence lamps aglow to-day in the United States.

The question as to electric lighting popularity has always been one of economy. No one ever doubted that electric lighting would be popular, but many did doubt if it would ever be cheap enough to be generally used. Happily, the cost of distribution, the cost of apparatus and of lamps, has become less and less yearly, indeed, we were about to say monthly, for those who are watching the movement have been surprised to see how quickly one improvement has to give way to another. To-day the cost of an electric lighting plant is less than one-half what it was six years ago, and there is every reason to believe that six years from now almost an equal decrease in cost will have been attained.—*Electrical Review.*

Platinum Ores.

The importers' price for refined platinum has risen steadily since 1883, when it was $6.50 to $7.50 per ounce, according to quantity bought. It is now worth $7.50 to $8.50.

The most important sources of platinum are the hydraulic mines at Nizhne-Taglsk and Forgo-Blagodat, in the Ural Mountains. About 80 per cent of the world's production comes from this source. Next in importance are the gold washings of the Pinto, in the United States of Colombia. About 15 per cent of the entire product comes from this source. It is also found in Brazil, Borneo, Hayti, Peru, India, Australia, and in the sands of the Chaudiere River, in Quebec. It has recently been found in a quartz vein in New Zealand. The interest in the deposit lies in the fact of the extreme variety of platinum in place.

Platinum has been found in small quantities in various parts of this country, associated with free gold in placer deposits, but it is only from the placers of California that it has been produced in merchantable quantity, which amounts to between 100 and 200 ounces per annum, and is sold at 75 cents per troy ounce. It contains about 85 per cent of the metal, and is shipped to London to be refined.

The platinum used in this country comes almost entirely from Russia, and the imports amount to between 2,000 and 3,000 pounds annually.

Platinum "ore," as it is called, contains iridium, rhodium, gold, copper, and iron. It is sometimes, though seldom, found crystallized in cubes and octahedrons, but more usually in rounded or flattened grains, or "sand," having a metallic luster. It is very rarely found in place, but mixed with placer gold sands.

The principal consumption of platinum is in the manufacture of chemical apparatus, but within the past few years the use of incandescent electric lights, and also gas jets made luminous by a heated platinum spiral, have caused an increased demand for the metal, and the steady rise in price during the past three years may be referred to this cause.—*Georgetown Courier.*