DECISIONS RELATING TO PATENTS.

U. S. Circuit Court.—Southern District of Ohio, Eastern Division.

ADAMS *vs.* THE BELLAIRE STAMPING COMPANY *et al.*

LANTERN PATENT.

Jackson, J.

Where the prior state of the art is such that the field of invention is limited and circumscribed, not admitting of any great original discovery, the invention in a patent must be strictly confined to its claim.

To constitute a patentable invention, there must be a novelty created by or originating in the mind of the inventor, and not deduced as a matter of inference, reasoning, or mechanical skill.

If the patentee did nothing more than take a lantern top, such as he could then have found in use, and secure it to the guard by a hinge and catch, substantially as lantern tops had previously been fastened to the guard, this improvement would not amount to invention.

The mere change of location of the parts of a mechanism, so long as no different or additional function is performed, does not make the change an invention, even though one of the parts thus transposed performs a double function, if the same part had been used before to perform the same functions in separate mechanisms.

While it may be true that none of the earlier lanterns are equal to that of the patentee in beauty of form or convenience for the particular use, yet if every part had been anticipated and used in some form or other for the very purpose to which it is applied in the patent and claim, the patentee could not properly be regarded as an inventor of the same.

A description in prior publications, in order to defeat a patent, must be in such terms as would enable a person skilled in the art to make, construct, or practice the invention, as he could from a prior patent or from the patent in suit.

When a prior patent had the same construction of parts, except that two catches were used to secure the top to the guard, instead of a hinge and a catch, and hinges and catches had been before used to secure tops to lanterns, then the substitution of the old hinge and catch for the two old catches required no invention, and the prior patent is an anticipation.

Where the patentee had an earlier patent differing from that in suit only in the location of the hinge, but without difference in function, the prior patent anticipates the latter, although the latter may have been in fact the earlier invention.

A patentee cannot claim the same thing described by him in a prior patent in which there is no reservation, and what he omitted to claim and reserve in a prior patent in which the invention was described he dedicates to the public. Whether the two patents cover the same thing must be determined by the scope of the claim in the later patent, rather than by the description in the specification.

If in view of the prior state of the art the patent in suit is valid, it must be for a combination of devices which amount to a new lantern, and would be infringed only by substantially a duplicate lantern.

A sale of a single license at an early date is not sufficient to establish a royalty or uniform license fee. License fees must be sufficient in number to establish the fee or royalty charged, and must be uniform, and be actually paid or secured before the infringement of defendants was committed.

License fees for the use of the patent in suit and another patent blended together would not establish a royalty as to either patent. If the license embraces other inducements and agreements which actually or probably influenced the licensees to pay the royalty, then the license would not constitute an established royalty.

NOTE.—This was a suit at law for the infringement of letters patent No. 50,591, granted to J. H. Irwin, October 24, 1865, for an improvement in lanterns, and was tried in June, 1886, before Judges Jackson and Sage and a jury. The charge was given by Judge Jackson. The jury returned special findings, as follows: 1. That the Irwin patent did not disclose invention. 2. That it was anticipated. 3. That the defendants had not infringed. 4. That there was no proof of damages.

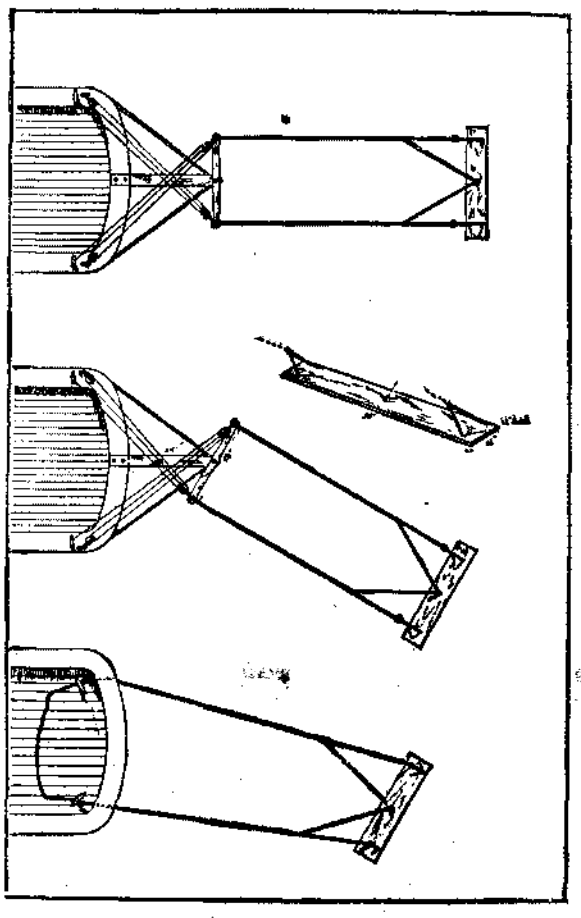
To Stop a Large Hole with Putty.

When you come across a hole while doing an old job, and one which will not pay you to spend the time of properly replacing it with a new panel or piece, we have often succeeded in effectually hiding the defect by taking small tacks and driving them into the hole in all directions, the more crooks the better for the purpose wanted, and then taking putty, mixed soft and pliable, forcing the same thoroughly all through and among the tacks, then letting the first dose dry hard, after which we reputtied until we could level it down even with the panel surface.

After the putty is dry and sanded or rubbed, if the other portion is in good condition as regards varnish, before you put the color on the putty, run a light coat of varnish and japan over it. After that dries put your color on, and you will find that there will be no sinking down of the color or color and varnish into the putty, but it will stand out equally with the rest.—*Carriage Monthly.*

TEMPORARY STEERING GEAR.

Capt. C. F. Swan, of San Francisco, has devised a very simple and ingenious plan for steering a ship or steamer having a disabled rudder, and one which is so easily constructed that we have had engravings made to show the plan. It is not patented. The main feature is the method of securing the plank or drag to the steering lines or guys. A 16 inch plank, 16 feet long and 2½ inches thick, has *iron* bridles secured to it, one arm of the bridle being longer than the other. Then, when the strain comes by the motion of the vessel, the plank is dragged at such an angle (the long arm being uppermost) that it submerges itself, no weight being necessary. The base inclines toward the ship, so the plank is kept down. The plank is veered astern by the guys. The inner ends of the guys are secured to the ends of a pivoted brace, and tackles lead from these ends to the barrel of the wheel of the ship, so that it can be steered from the wheel.



SWAN'S DEVICE FOR TEMPORARILY STEERING VESSELS.

The upper figure of the cuts shows the drag or temporary rudder towing directly astern, in line with the keel. The next figure shows it turned to one side, so as to swing the ship's head in the same direction. When the temporary rudder is swung to "port," it swings the ship's head to "port," and *vice versa.*

The bumpkin or spar projecting over the stern of the vessel is simply a matter of convenience, as the pivot could be put on the taffrail itself if necessary. In fact, even the pivoted bar can be dispensed with, but it is more labor to use the device. The third, or lower, engraving shows, for instance, how the great steamer Alaska could have been steered when she lost her rudder, and they had so much difficulty managing the huge vessel. If they had rigged the bridled plank, the guys or steering lines could have been led to the quarters, and by slacking on one line and hauling on the other, the vessel could have been steered.

The faster the vessel goes the easier she will steer, as the drag is hauled down at an angle deep under water and gives resistance. It will not "tack" a ship, because as she comes in stays she slows up, and the drag rises to the surface. But it will "wear" a ship; that is, turn her from one tack to the other by running her off before the wind. Brace lines (shown in the upper figures) help strengthen the center of the plank.

If the ship is low in the water, the guys or steering lines need not be very long, but if high out of water—say 25 or 30 feet—they should be 25 or 30 fathoms long. Capt. Swan used this steering gear on the City of Brooklyn, a 1,700 ton ship, for two days without the slightest trouble. If the vessel goes slower than four knots an hour, the drag does not do as well, as it is apt to rise to the surface, where it is not so efficient. The gear used on the City of Brooklyn did not cost over $100. The size of the drag should be in proportion to the vessel, but it should present a flat surface, as shown, and the bridles must be made as shown to be effective. A large ocean steamer could have this gear ready at hand for use in case of accident to the rudder. —*Min. and Sci. Press.*

The Wood-working Exhibit in the National Museum.

The United States Department of Agriculture has recently issued "A Descriptive Catalogue of Manufactures from Native Woods," as shown in its collection displayed at the New Orleans exposition. As the exhibit is now in the National Museum, at Washington, the catalogue has a permanent value. It is the work of Charles Richards Dodge, and was prepared with much care, giving a comprehensive idea of the extent and importance of the wood-working industry in its varied ramifications, and containing facts of great interest to manufacturers. The exhibit is chiefly made up of manufactured articles in all stages of work, making a useful aid in the study of forestry from the economic standpoint. In forming the exhibit, many hundreds of manufacturers were asked by circular letter about the woods most commonly used, chief sources of supply, value of lumber for different uses, wastage, processes of manufacture, opinions as to future supply, etc. The answers received showed that, while the wood-manufacturing industries are rapidly using up the best timber growth in the country, it seems as if wise legislation and proper education of the people to the necessity of keeping up the old or producing new forest growth would ultimately result in restoring and preserving the more valuable kinds of hard wood.

Interesting facts are stated regarding quality of wood used, or the particular parts of the tree required for the manufacture of certain articles, the various stages of manufacture, extent of special industries, etc. In the greater number of cases, "home supply" is stated as the chief dependence, though the more valuable woods are brought long distances. A provisional classification under seven heads has been adopted. These comprise architecture and building, transportation, manufacture of implements of industry, articles relating to trade, articles for man's physical comfort, articles for education, culture, or recreation, and miscellaneous uses, not included in the foregoing.

Under the first head come house building, bridge and trestle construction, and construction of railway and telegraph lines. These industries are the greatest users of timber. For instance, the railways consume not far from 60,000,000 ties annually, according to Prof. C. S. Sargent, and the value of ties put down in 1880 amounted to nearly $10,000,000.

It is claimed that Chicago furnishes one-third of all the telegraph poles used in the United States, one-ninth of all the railway ties, and 5 per cent of the posts, supplying railroad and telegraph lines from New York State to Utah.

The uses of woods in transportation comprise ship and boat building, car building, carriage and wagon building, harness woodwork, etc. The implements of industry are divided into mining and excavating, farming and dairying, surveying, wood-working, printing and engraving, spinning and weaving, etc. The articles devoted to trade include cooperage, split and shaved woods for measures, pill boxes, baskets, etc; turned articles and veneers. The articles of physical comfort or luxury comprise house furnishing and decoration, and objects for domestic economy. Under the head of articles for education, culture, or recreation, come school apparatus, artists' materials, musical instruments, games and amusements, and toys and children's games. Under miscellaneous uses are ranked gun stocks, wooden shoes, artificial limbs, crutches, canes, surgical implements, wood pulps, etc.

The work contains many highly interesting facts as to details and processes of the varied manufactures that, employing many millions of capital and hundreds of thousands of laborers, are devouring the forests of the country at a prodigious rate. Some of the exhibits are of a novel character, showing the employment of forest products for unsuspected purposes, as, for instance, that of a manufacturing company in Wilmington, N. C., showing samples of manufactures from the long-leaved pine, comprising "pine hair" for upholstering purposes, being clean and sweet, so prepared as to preserve the balsamic odor; one bag of substitute for hair in plastering; one same pile of real pine hair, one bag of pine wool, one bottle of pine burr oil, one bag of pine dust (as a fertilizer, said to contain a high percentage of ammonia), and one bottle of pine oil. The pine wool is claimed to be the nearest approach to natural wool ever made from vegetable fiber, being intended for spinning and weaving into mattings and carpets, and taking and retaining dyes without a mordant.

Alcohol from Turpentine.

Messrs. Bouchardat & Lafont, in the *Comptes Rendus*, state that French turpentine oil reacts with acetic acid, forming several acetates of the formula $C_{10}H_{16}C_2H_4O_2$, which are of various properties. From these acetates the *savants* in question obtained various single valued alcohols, $C_{10}H_{16}O$, by heating with an equal weight of potash and five or six times the weight of alcohol in a closed vessel for ten hours up to the boiling point. By the addition of water, the combination thus formed can be separated, and can be purified by distillation in a vacuum.

What Machinery Does.

There are men still living, and some of them may be met with on the streets of Chicago to-day, who remember the time when the laboring classes were in a comparatively helpless condition. They lived poorly; were awkwardly clothed, their garments of the coarsest material, and were content with fare limited in quantity and meager in quality. In the sense in which we to-day understand popular education, it was then unknown. The time of which we speak does not extend back to a period over sixty-five or seventy years ago. The workingman gained from the soil a scanty living, or toiled hard to produce it in ill-ventilated factories, aided by the rudest tools and devices; and when his wise fellows sought to lighten his task by labor-saving machines, he fought against them, precisely as some men do to-day, and with his own hands strengthened his shackles and renewed his fealty to honest manual toil without the aid of any new-fangled machinery, which he regarded with suspicion, and did not care to understand. One of the peculiarities of those days, however, was that the laboring man did not fly off at a tangent and enter upon a strike. There were no combinations formed then, not in this country at least, to compel employers to advance wages, or to dictate to an employe what he should or should not do.

The laboring man and mechanic struggled upward slowly, and was convinced only after he was defeated. Argument did not make him give up his prejudices, but facts did. When it was shown to him that a cotton gin could clean more cotton and do it better than his own hands, he very reluctantly admitted the fact, but denied the general application of it. He fought every improvement in his condition, as he would have fought an enemy, and not until his generation and succeeding ones had passed away was he slowly educated into the knowledge that machines could do more work, and do it better, than his hands. He regarded all labor-saving machines as so many enemies, eating up the bread of himself and his children, and crowding him out of the world, when the fact was then, as now, that they are his truest benefactors; instead of depressing his condition, they elevate it; instead of decreasing the demand for his services, they increase it.

Directly and indirectly, in a hundred diverse yet directly traceable ways, machines have been the truest friends of the human race. Men lose sight of these facts in the whirl and bustle of life. They accept the spectacle of the locomotive in place of the stage coach, the steamer instead of the sailing vessel, the telegraph in lieu of the mail, the modern Winchester rifle as a substitute for the flint lock musket, and yet fail to see how greatly these inventions have added to the blessings we now enjoy. By the development of the industries of this country, and not through the efforts of politicians, America stands the leading nation on the earth. The advances made in the past twenty-five or thirty years are truly wonderful, even to the expert; and what must they be then to those whose avocations lie elsewhere, and who know little of what is taking place in mechanics?

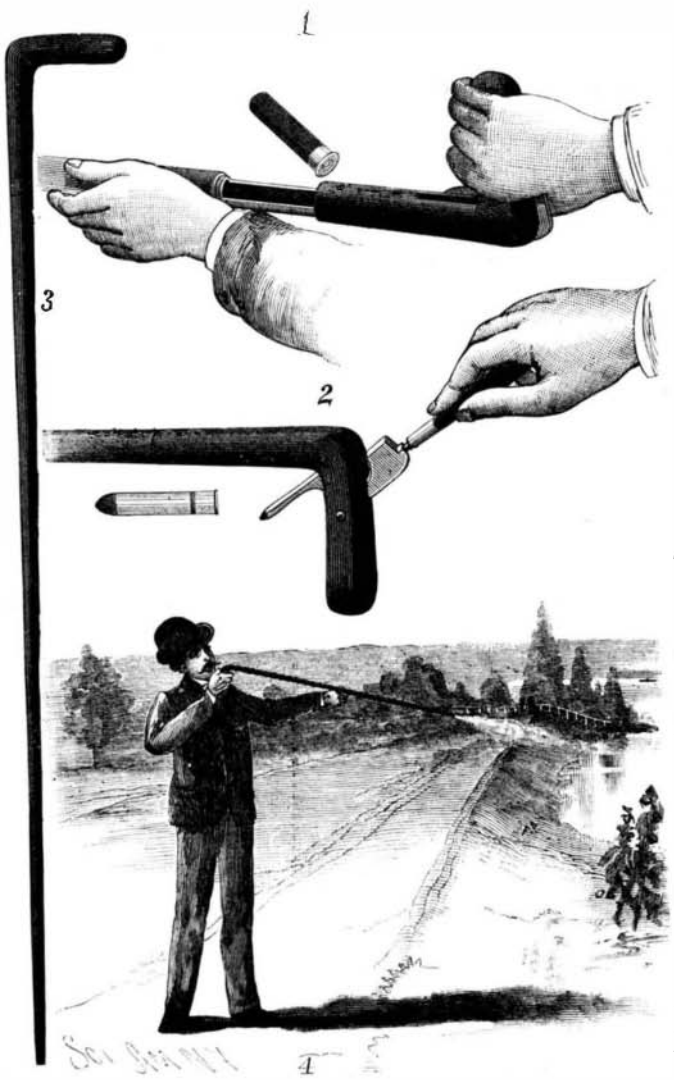
It is now possible to construct a complete sewing machine in a minute, or sixty in one hour; a reaper every fifteen minutes, or less; three hundred watches in a day, complete in all their appointments. More important than this even is the fact that it is possible to construct a locomotive in a day. From the plans of the draughtsman to the execution of them by the workmen, every wheel, lever, valve, and rod may be constructed from the metal to the engine intact.

Every rivet may be driven in the boiler, every tube in the tube sheets, and, from the smoke stack to the ash pan, a locomotive may be turned out in one working day, completely equipped, ready to do the work of a hundred horses. This is only possible by the use of machines, guided and controlled by human intelligence, by a close system of supervision, and accurate economy of time and force, and a thorough knowledge of business. As the number of machines annually produced, and the mechanical facilities for making them, are increased, statistics show that the number of workmen is always augmented. Machines do not supplant workmen, but create a demand for them. If a workman is taken away from one position, it is only to find employment in another contiguous one. The opponents of machinery may say that if machines had not been employed, more men would have been needed; but it is easy to see that the production would decrease, fewer machines would be made, and fewer men needed to make them; for it is the province of the machine to supplement man's labor, to elevate him, and to increase his earnings, instead of the reverse. A man with a pair of stocks and dies may cut, by hard labor and a low rate of wages, one hundred five-eighths of an inch bolts in one day; but give him a modern bolt-cutting machine, and he will cut four thousand bolts per day, and cut them better than with his hands alone.

The machine shop is one of the promoters of civilization. The arts of politicians are subordinate to it. Without the aid given by machines, their schemes would fall dead; without the locomotive and printing press, and the telegraph, they could not reach the ears of men in certain lines of thought. The ability to design a machine that will execute with automatic precision any given form requires a special development of brain power, and this development is by no means confined to the operator, but is shared by many persons. One machine leads to another, and as a consequence the intelligence of men turning out machinery of a high class is very marked, although they are unknown, for the most part, except locally. The machinist speaks through the work of his hand and brain. He adds to the population of the world when he sends forth a machine capable of increasing its working force; he frees his fellows from the bondage of mere handwork, and sets them higher problems to solve. In every way he advances the cause of his race, and leaves the world richer by his labors.—*Western Manufacturer.*

A WALKING STICK GUN.

The cane from which this illustration was made is apparently a plain, black walking stick, although when taken in the hand it will be noticed that it is a little heavy, and the handle has a cold, metallic touch. Fig. 1 shows the removal of a cartridge that has been used,



A CANE THAT CAN BE USED AS A GUN.

and the aperture in which a fresh cartridge is placed in loading, this aperture being disclosed on pulling up or out on the handle when the trigger is at half cock. The trigger lies in the under side of the handle, and is made to obtrude therefrom, the hammer at the same time being lifted by the use of a small lever, about the size of a lead pencil, the point of which is inserted in a little hole at the bend in the handle, as shown in Fig. 2, this lever itself constituting the ferrule of the cane, in which capacity it prevents the mouth of the barrel from getting clogged up with dirt. To load this cane gun, the previous cartridge having been removed as stated, it is only necessary to put in a new cartridge, push the handle part and the main part of the cane together, and twist the handle till the two portions are in line, as shown by arrows. Unless these arrows are in line, the hammer will not work to discharge the cartridge, which is of the central fire pattern. There is no reason why a good specimen of firearms as well as a serviceable gun cannot be made after the manner shown in the article from which our drawings were made.

ACCORDING to a pamphlet on lubricators published by Messrs. MacArthur & Jackson, of Glasgow, a first class oil should stand exposure to a temperature of boiling water in a water bath of six hours without showing any appreciable loss by evaporation; its flashing point should not be below 300°; and it should not congeal at a temperature of several degrees below zero. For cylinder oils, whether pale or black, the flashing point should not be less than 500°.

Locomotive Headlights.

A statement purporting to have originated with "a railway official" is going the rounds of the press, in which the affirmation is made that there is more danger in the use than the absence of headlights on locomotives. It is admitted that the headlight is good on yard engines, but the alleged official is made to say:

"On a road engine the headlight is of no earthly use to the engineer; it obstructs the vision so that he cannot see his switch lights, and I think that every thinking engineer will come to the conclusion that he would rather run in the night without a lamp than with it, as he can see better in the dark. Red cannot be seen distinctly under such a powerful light when the engine is running rapidly. A green light under the brilliant illumination of a headlight appears yellow, and a blue light appears pale. I know of accidents which have occurred from this cause, and the eyesight of every engineer having a night run is put under a terrible strain by continually gazing ahead into such a light surrounded by such dense darkness. The new electric headlight put on the market a few years ago was a success as a light giver, but it has not been generally introduced, simply because railroad managers know that headlights on road locomotives are practically useless, and that a more powerful light would be positively dangerous."

Mr. Toucey, General Superintendent of the New York Central and Hudson River Railroad Company, says that "all that is simply nonsensical. The headlight is necessary, and this company recognizes that fact in its general rule that 'all trains and engines running after dark must display the white headlight in front of the engine.' As for that statement about the electric headlight, I am not aware that the electric headlight has ever been successfully applied for use on a locomotive. The oscillation and jarring of the engine would certainly have a tendency to throw the carbon points out of line, and that would stop the light. If that could be overcome, there would be no objection to its use in the fact of its greater brilliancy. It is not needed, however. The present light is brilliant enough, and is undoubtedly of service."

Mr. Wm. Buchanan, superintendent of motive power of the New York Central and Hudson River Railroad Company, said: "The road locomotive certainly needs a headlight when running into stations. And in going into and through a yard where there are several tracks, it is necessary to enable the engineer to see ahead that his track is clear and the switches set rightly. He is then, of course, going at a reduced rate of speed, and can stop if he sees anything wrong. While running on the road at full speed, the headlight throws its rays on the track so as to illuminate it clearly 150 or 200 feet ahead. Seeing that far would not give the engineer time to come to a full stop before reaching a sighted obstruction, for it takes six or eight hundred feet to halt a heavy train, dependent, of course, upon the grade and condition of the track, the speed and the weight of the train, but it would give him time to slow up very considerably and reduce danger. The headlight is useful in running through towns and villages, where speed is generally somewhat slackened, not only to enable the engineer to see what is ahead of him, but to give warning to persons on the track or near it of the approach of a locomotive, and to signal gatemen to close the approaches to roads on the grade of the track. As for the illumination from the headlight obstructing sight of the switch lights, that is not true. I have been a locomotive engineer and know that it is not, and if I were going out again to run an engine at night I am very sure that I would want a headlight. The colored switch lights are not in the line of white light thrown by the headlight, but to one side, and are seen clearly far beyond the limit that the headlight's rays reach. A red or green light can be distinguished a mile or a mile and a half away, while, as already said, the headlight only reaches 150 or 200 feet clearly."

In response to a question whether the whistle of a locomotive could not advantageously be done away with, Mr. Buchanan replied in the negative. It would always, he thought, be needed, so long as there are grade crossings. The bell is not always sufficient to give warning of the approach of a train.—*New York Sun.*

A New Solvent of Urinary Calculi.

At a recent meeting of the French Therapeutical Society, a specimen of pichu, or piche, was shown by M. Limousin. In its native country (Chili) it was believed to disintegrate urinary calculi. M. Limousin expressed the belief that piche acted especially on the mucin which held together the different elements of calculi and dissolved it, and lessened vesical catarrh, a belief which, in consequence of the resin it contained, was shared and confirmed by M. Dujardin-Beaumetz. A fluid extract has been prepared, of which four dessertspoonfuls represent 30 grm. of the plant—the dose generally administered in 24 hours.