RECENT DECISIONS RELATING TO PATENTS, TRADE MARKS, ETC.

By the U. S. Circuit Court.—Eastern District of Missouri.

MANUFACTURE OF ENAMELED IRON WARE.—ST. LOUIS STAMPING COMPANY *vs.* QUINBY *et al.*

1. Where the original patent described a process of enameling iron, the gist of which consisted in a certain preparation of the iron and the application of any well known enameling mixture, it was not at variance nor incompatible with the invention described to insert in the reissue of such patent a formula as to an enameling mixture which could work out the result.

2. If the specification contains such a description as will enable one skilled in the art to accomplish the desired result, it is sufficient without attempting to speculate as to the philosophy of its action.

3. The testimony of a witness as to prior use by him of the invention patented is rendered unreliable and incompetent by the circumstance that his employers, after having the benefit of his skill, sought the right to use the patented process as soon as they heard of it; and the further fact that the specimens produced were very different from those made under the patent.

4. Reissued Letters Patent No. 7,779, granted July 3, 1877, to F. G. & W. F. Niedringhaus, for improvement in the manufacture of enameled iron ware, are for the same invention as the original patent and valid.

The St. Louis Stamping Company is the assignee of reissued Letters Patent No. 7,779, granted to Frederick G. & William F. Niedringhaus, July 3, 1877, for "improvement in the manufacture of enameled iron ware."

The claims in the original patent are as follows:

1. The herein described process of enameling iron ware by oxidizing the iron during the process of the drying of the glaze, substantially as set forth.

That phraseology is not changed in the reissued patent.

The second claim is:

A new manufacture of enamel sheet iron ware, enameled substantially as described.

In the reissue the phraseology is:

As a new manufacture, mottled enameled sheet iron ware having the oxidized base fused with the surface glaze.

By the Commissioner of Patents.

TRADE MARK.—EX PARTE THE SAFETY POWDER COMPANY.

The term "safety," applied to powder, fuse lighters, and explosive caps, naturally suggests that these explosives may be used with comparative safety, and is therefore descriptive, and is not registrable as a trade mark.

TRADE MARK.—EX PARTE THOMPSON, DERBY & CO.

The word "swing," when applied to the socket of a scythe snath which moves on a pivot, each point describing the arc of a circle, and is made fast in different positions, indicates the peculiarity of the socket with sufficient precision to be descriptive, and cannot be registered as a trade mark.

WHEEL PLOWS.—LAPHAM *vs.* BETTENDORF.

Under Rules 7 and 57 the party to an interference who first files a completed application, including petition, specification, oath, drawings, model or specimens (when required), and first fee, is deemed to be the first inventor, in the absence of all proof to the contrary, and the testimony of the other parties is to be taken first.

LUBRICATOR PATENT OF NICHOLAS SEIBERT.—APPLICATION FOR REISSUE.

1. The machine for which Letters Patent No. 94,780 were granted September 14, 1869, to Nicholas Seibert, in the form in which he constructed it, necessarily involved the use of hydrostatic pressure as a force for the expulsion of the lubricant from the lubricating cylinder; but it was designed to be a steam lubricator, and the presence of hydrostatic pressure in the device, as an operative force, was not known or suspected by Seibert until after he had obtained his patent.

2. As he who, by a lucky accident, discovers a new art, is, under the law, as much entitled to a patent as he who, by an effort of genius, invents a new machine, however inferior in merit his work may be, so, also, is he who invents a machine which accomplishes its object entitled to a patent for it, whether he does or does not correctly understand the law or philosophy of its operation.

3. Seibert's lubricator, which was operated by hydrostatic as well as by steam pressure, was his invention, although he did not fully understand the law of its operation; and he is entitled to a patent for this particular machine, whether it operates as a steam lubricator, or as a hydrostatic lubricator, or as both combined.

By the Acting Commissioner of Patents.

MACHINE FOR CLEANING SILK THREAD.—TAYLOR *vs.* MARTIN.

When the evidence in an interference develops the fact that the contesting parties are not independent inventors, but jointly devised the invention, judgment of priority cannot be had in favor of either party, but the interference will be dissolved.

SHADE HOLDER FOR LAMPS.—MARSHALL *vs.* FISH *et al.*

1. Certain motions to strike out, not the final judgments of the Examiner of Interferences and the Examiner-in-Chief, but the views properly expressed by those tribunals in arriving at such judgments, denied.

2. The sole purpose of section 4,904 Revised Statutes being to enable the Commissioner to determine, by a proceeding known as an interference, whether he will grant a patent to an applicant, notwithstanding a patent for the same invention has been previously issued, or to which one of two or more contending applicants a patent shall issue, the question of priority between two or more patentees who may be parties to the proceeding need not and cannot be determined, after judgment therein has been rendered against the applicants who acquiesce in such judgment.

APPLICATION FOR REFRIGERATOR PATENT.—BATES.

1. A machine and a product, a process and a composition, an art and an article, and a "method and the means," each constitute distinct patentable subject matter, and but one of them can be the subject of a single claim.

2. Where the improvement made consists of an apparatus, it alone should be claimed, and not its functions, nor should the apparatus be claimed as "means" for accomplishing the result.

APPLICATION FOR A DESIGN PATENT FOR SPOON HANDLE.—BEATTIE.

More than one separate and independent design cannot be claimed in the same application; but, where the design is an entirety, a claim for the entire design, as well as claims for sub-combinations of the parts, is allowable.

The Mysterious in Boiler Explosions.

There is beyond question an element of mystery attending certain boiler explosions. At one time all explosions of boilers, save those which obviously resulted from shortness of water or extensive corrosion of plates, were regarded as mysterious and remarkable. Theories have been formed almost without number to account for their occurrence—in a word, to solve the mystery. The spheroidal theory of Boutigny d'Evreux may be cited as an example. When water is dropped on a hot plate it assumes the spheroidal condition, runs about in drops, and evaporates slowly. The drops are really not in contact with the plate at the time, each drop being enveloped in an atmosphere of its own vapor. When the plate cools the water touches it and flashes into steam. It was supposed that under certain circumstances water assumed the spheroidal condition in normal steam generators, and that a great development of steam ensued when the furnace plates cooled a little; so much steam being made thus in a few seconds that the boiler burst. This idea is now well known to be fallacious.

Another theory was that if a boiler was heated red hot and cold water pumped in it would infallibly explode; this is obviously the tail end of the sperodial theory. Inasmuch as the specific heat of iron is but one ninth that of water, in round numbers it follows that nine pounds of iron heated to about 1,500° must give up their heat to make one pound of steam; and it has never yet been shown how enough red hot iron could be present in a boiler to cause a development of steam with which the safety valve could not deal. Many experiments have been carried out to test the point, with negative results as far as explosions are concerned.

The electrical theory was broached. What this meant we never understood, nor did we ever meet any one who did. One gentleman promised to prevent all explosions from this cause by incasing every boiler in thin sheet copper. Another proposed to fit conducting wires to put boilers in communication with the earth. The notion that water was decomposed into oxygen and hydrogen, and subsequently recomposed with a terrible explosion, kept its ground for a long time. We believe we may say that no engineer possessing a moderate knowledge of chemistry holds such a theory now. The inspecting engineers of the various boiler insurance and assurance companies were the first to place the whole subject on a sound footing. They showed as a result of their experience that boilers burst because they were too weak to withstand the strains brought on them by the internal pressure. They proved that in the vast majority of cases furrowing, and grooving, and corrosion in all their multifarious forms, were the agents operating to bring about boiler explosions, and they carried back such catastrophes from the regions of romance to those of everyday life. There is some reason, however, to fear that these gentlemen have gone a little too far; and that by assigning all boiler explosions to one cause they are doing harm and stopping inquiry into certain secrets of nature about which we do not know quite so much as is desirable.

That by far the larger number of explosions which occur every year in England are due to weakness of the boilers which give way, either congenital or acquired, we should be the last to dispute. But it is equally indisputable that events take place now and then which quite upset all conclusions based on the idea that explosions always take place because a boiler is too weak to withstand normal strains, and these said events apparently contradict much that sound scientific authorities teach. Thus, for example, although the entrance of cold water into a red hot boiler ought not to cause an explosion, yet there is one case at least on record in which, on a pail of cold water being poured suddenly into a red hot kitchen boiler, a most violent and disastrous explosion took place. The weight of metal engaged here was, however, very great as compared with that of the water. It is also shown that explosions have ensued when water was pumped into plain cylindrical externally fired boilers, which had been allowed to run short.

On the other hand, boilers patched and re-patched, and seemingly worthless, have by the hundred done their duty for years without a catastrophe, while boilers as well made as possible, and in excellent condition—nearly new in fact—have exploded with disastrous results. So long as furrowing and corrosion are present it is easy to account for the failure of a boiler. It is when explosions of strong boilers occur that inspectors are at fault, differences of opinion arise, and we become enveloped in an atmosphere of mystery out of which it is difficult to find the path which leads to certainty. Two notable examples of this have been recently recorded in our columns: one is the Coltness explosion, when six boilers out of ten flew away at once like a covey of birds; the other is the Kersley explosion, when one boiler out of eight burst, leaving the rest intact.

As regards the Coltness explosion, that, as is well known, has been explained by Mr. Fletcher on the theory that one boiler which exploded first had the steam pipe plugged up, and consequently gave way from a sheer accumulation of pressure. We cannot find that one tittle of definite evidence was adduced to show that any such plugging took place. Mr. Fletcher is, no doubt, satisfied on this point, but we are not. In fact his theory is based on pure assumption. But, granting that he was right, how are we to account for the explosion of the remaining five boilers? One explanation is that the boilers were bedded so close that they rested against each other, and that each boiler as it gave way staved in the side of the next one to it. To make this an intelligible cause of explosion, it must be assumed that the sudden reduction of pressure on the outrush of steam through the side of the broken boiler caused so large a portion of the contained water to flash into steam that the boiler flew into pieces before the steam so produced could escape. But it is well known that the Coltness boilers were strong enough to stand a pressure of 300 pounds on the square inch, and it is difficult, if not impossible, to see how steam of any pressure like this could be produced. Only as much water would be converted into steam as would suffice to restore the pressure in the boiler to something less than what it was before the rent took place. To assume anything else is also to assume that once the process of flashing is established it will go on regardless of the pressure set up. This is a very important assumption; nay, more, it is a complete begging of the question. If it can be shown conclusively that the stored-up energy in a boiler can all be expended in flashing water into steam, if flashing is once fairly set up, without any consideration for the accumulation of that pressure which is inimical to the operation of the flashing function, then we are face to face with a new physical law which would clear away much mystery, and set boiler explosions, like that at Coltness, in a totally new light. It is a notorious fact that a great many explosions take place just when an engine is started. If we may assume that the sudden reduction of pressure sets up flashing, and that the process is continued by, if we may use the words, its own *vis viva*, then it is easy to understand why a sudden reduction in pressure may cause an explosion; but until some definite statement of facts is available, we must hold this idea to be pure, little supported, theory, and nothing else. If we are asked, how, if we reject the theories of Mr. Fletcher and others, we explain the Coltness explosion, we reply that we cannot explain it, because there is not sufficient evidence available on which to base an opinion.

In the Kersley explosion we have a boiler, insured, carefully looked after, and apparently sound, going to pieces without having given warning in the way of leakage. Here again we find boiler inspectors dealing largely in pure assumption. Mr. Hiller, the engineer of the National Insurance Company, took it for granted that an elbow pipe was broken off and let the water run out. But there is not a scrap of evidence that a cast iron pipe was broken as supposed. Mr. Baldwin, another boiler inspecting engineer, holds that Mr. Hiller is quite wrong, and that the boiler burst because the plates had become weakened by age; that they had "lost their nature," to use a word well known among iron makers. But even Mr. Baldwin finds all the plates he tested so strong that the boiler should have withstood on the lowest calculation double the pressure at which it was worked. It is to be presumed that the inspecting engineers of boiler insurance companies are the greatest authorities in existence on all that pertains to the life and death of steam generators. When we find any one of these gentlemen unable to form any opinion concerning certain catastrophes, which is not flatly contradicted by a professional brother, it would be folly to deny that there are mysterious boiler explosions—that is to say, explosions which occur from some cause or causes unascertainable. That we shall always remain in our present ignorance is very improbable. But we venture to think that the solution of our difficulties will come, not from the boilermaker or the engineer, but from an elaborate process of physical research into the laws which govern the generation and evolution from heated liquids of their steams or vapors. Many suggestive phenomena have been recorded which might serve to direct an inquirer. For example, the behavior of water heated under oil is, as shown by Dr. Frost many years ago, very curious and suggestive. Again, water may have its boiling point altered by various conditions other than those of pressure. It is not too much to say that although the more prominent aspects of evaporation and ebullition have been carefully studied, a great deal remains to be learned concerning the real nature of processes about which men speak all the more glibly the less they really know.—*The Engineer.*

AMONG the novel applications of glass is the invention of Hamilton L. Bucknill, of England, who has recently patented in this country a railway sleeper made of cast glass.