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INTERESTING FACTS CONCERNING THE GOODYEAR PATENT CASE.

A correspondent writes to us as follows:—"I am credibly informed that the rubber monopoly company have agents out in all directions, apparently very earnest in securing signatures to remonstrances against the renewal of the Goodyear patents, which petitions they propose to retain quietly in their possession, thereby preventing the popular indignation reaching the ears of the authorities who are to decide the case." We are somewhat suspicious that this system of tactics is now being carried on, though we have no personal knowledge on this point. It has recently been said in our hearing that there are a few well-known parties who act as though they were opposed to the extension of the patents; and yet, in reality, they are working for the interests of the "combination." It appears from some of the testimony now in the hands of the Committee on Patents, that this collusion game was practiced at the time when the application for the first extension of the patent was pending before Commissioner Holt. One of the witnesses—Hon. Thomas A. Jenckes, now Chairman of the Committee on Patents—testified that the opposition from a certain quarter was "not in reality but only in form." Another of the counsel for the extension testified that he was apprehensive that if Commissioner Holt supposed that certain parties were in any way colluding to obtain the extension, its defeat would be certain. These sham remonstrants go around like "one of old," and call on the people to see their zeal; and in so doing they divert public attention from that active opposition which otherwise would be earnestly and honestly made against the present application before Congress. The scheme is an adroit one; and its author ought to file his caveat for it; but what will the public think of the impudence—to say nothing of the moral turpitude—involved in such transactions?

There are other facts, connected with the case before Congress, which are of interest to the people. The Committee on Patents in the House of Representatives is composed of the following-named gentleman, to wit, Hon. Thomas A. Jenckes, of R. I. (chairman), Leonard Meyers, of Pa., Warren P. Noble, of Ohio, John H. Hubbard, of Conn., and John W. Chanler, of New York city. Mr. Jenckes was at one time counsel for H. H. Day, and fought the Goodyear patents with all his might. Mr. Day appeared in opposition to the first extension of the patent before Commissioner Holt; and yet with his (Day's) consent, his leading counsel, Mr. Jenckes, favored that extension. We understand that Mr. Jenckes now favors the second extension of the patent by Congress; and he therefore does not act on the committee to hear the case. Mr. Meyers, another member of

the committee, is also a retained counsel in the india-rubber interests; and he therefore also declines to act with the committee. In stating these facts we do not intend to cast suspicion on the honorable intention of either of the gentlemen named—they are, no doubt, men of high integrity; but we regret that the composition of the Patent Committee is such that two of its members cannot act with their colleagues in hearing a case of such magnitude and importance.

Of the three remaining gentlemen of the committee, we understand that Mr. Hubbard is acting as Chairman. Mr. Hubbard is an upright man; but he has no power in this case to send for "persons and papers," which he ought to have. We call upon Mr. Hubbard to apply to the House for power to send for "persons and papers," if he wishes to dig down to the foundations; for unless he does this he will only get a partial and one-sided view of the facts.

We are pleased to notice that the opposition to the further extension of the Goodyear patent is increasing. On Monday last Senator Cowan presented the remonstrance of the Legislature of Pennsylvania, and we notice that the various railroads in the country are sending in remonstrances to the same effect. This is the true way to defeat the application; Congress cannot in the face of a strenuous opposition vote another extension.

INSPECT YOUR STEAM BOILERS.

Boiler explosions are becoming remarkably prevalent. Scarcely a day passes but what, from some part of the country, remote or near, we receive intelligence of a great disaster. It is perhaps, inevitable that some boilers should explode, out of the vast number in daily use on land and sea, in the factory and on the rail; it would be strange indeed, if that curse of humanity—carelessness, was not felt in its magnitude; for, reason and theorize as we may, it is a well-settled fact in the minds of scientific and practical men, here and abroad, that to this cause most of the accidents with steam may be traced. It is carelessness that makes boilers on bad plans of poor workmanship and material; it is carelessness which omits the thorough inspection which boilers should have every thirty days; it is carelessness which permits crown-sheets and flues to be burnt from scarcity of water, and water-bottoms, legs, and fire boxes to be bent, burnt and distorted from deposits of mud, scale, or refuse that is suffered to accumulate; it is carelessness which allows safety valves to be jammed or overloaded, feed pumps to look after themselves, braces to be slack where they should be taut, and the pins in the braces not turned, or bent over, so that they cannot slip out; such cases have been known. It is more than carelessness which allows imperfectly welded wrought-iron sleeves for the socket bolts to be used to cover the same, for the water has free access through the open seams and destroys the bolt as quickly as if there was no "protection." Cast-iron sleeves are now used in the best shops, and besides being a perfect protection to the socket-bolts, they are more durable and much cheaper. From the first hours of its practical operation until the day of its final condemnation, a boiler is constantly growing weaker, and it should be so cared for that the work it is obliged to do is proportionate to its strength each year. To ascertain what the strength is, we must test it, and this can be done in a simple, cheap, and expeditious manner by water and heat. If a boiler be filled full of water up to the very safety valves and all apertures closed, when a fire is built in the furnace, the water will be expanded, and raise the valve, if the boiler is strong enough to withstand the strain, but if it is not, the weakest part will be shown and sometimes sheets are torn out by this method. Steam is not generated from the water during this test, and if a rupture does take place in the boiler no one will be injured by it. The safety valve must be loaded to the utmost limit of strain that it is supposed the boiler will bear; and if the test is favorable, only three-fourths of the load on the safety valve must be employed for the working pressure.

It has never been proved beyond question that a steam boiler exploded from any of the theories put forth in each disaster. Some persons have a passion for "explaining" matters that they do not understand by something else they are ignorant of; and we have had hydrogen gas brought forward as an agent in causing explosions; water suddenly flashed into steam

as another; electricity for another; and so on, through the category. These are simply excuses on the part of some one at fault for the disaster. After a boiler has exploded, it seems almost supererogatory to go and look at it, and say what caused the disaster. We have heaps of smoking ruins, iron bent and blackened and in most cases each part is a fac-simile of every other explosion; the torn sheets are gravely examined and the conclusion arrived at is that "somebody was to blame."

We have no desire to treat the matter with levity, but is it not time that we had more careful superintendence of steam boilers and fewer inquests? In some cases, the cause of the accident may be pointed out after the explosion but in such it might have been done equally well before. As we have before remarked it is to be expected that some boilers will explode in spite of all inspection, just as cannon do with the most careful gunners, but it is a part, and a most important part of an engineer's duty to be thoroughly convinced of the soundness and strength of his boiler. When we see how seldom accidents of this kind occur to marine boilers we have positive proof of the value of thorough oversight and watchfulness; and we feel that we cannot speak too strongly or too often in the SCIENTIFIC AMERICAN, upon the necessity which exists for prompt, thorough, and frequent inspection of steam boilers.

AIR SURFACE CONDENSERS.

An experiment in surface condensation by means of a current of air, has just been made at Hecker's flour mills in this city, which will be of wide interest to the users of steam engines. The deposits of sediment from the Croton water have proved to be so great an inconvenience that Mr. Hecker determined to make an effort to overcome the difficulty, and naturally turned his attention to the plan of procuring pure distilled water by means of surface condensation. The East River is near his mill, and the expense would not be great of obtaining an ample supply of salt water as the medium for condensing the fresh water to be used in the boilers, but after a thorough consideration of this method, Mr. Hecker decided to make the experiment of condensing with a current of air.

Some frames each 2½ by 7 feet were made of strips of wood 2 inches square, and covered on both sides with plates of sheet iron, weighing 17 ounces to the square foot—No. 24 of the English gage. These frames or boxes are placed on end by the side of each other with a narrow space between for the passage of air. The exhaust steam is admitted to the interior of the boxes, and a current of air is drawn between them by means of a fan. By drawing the air, it is expanded and its temperature is lowered, while if it were pushed through the spaces, it would be compressed and its temperature would be raised. By drawing the air there is also a saving of two-thirds of the power required to maintain the current, as proved by the experiment described on page 148 of our current volume.

As it is not the design to produce a vacuum, but simply to save the water of condensation for repeated use in the boiler, minute openings are made in the top of each condensing box so that the pressure within the box may always be just equal to that of the atmosphere upon the outside.

On trying the apparatus described, it was found that each foot of surface would condense one pound of steam per hour; the air entering at 60° and issuing at 90°. The experiment was so satisfactory that Mr. Hecker is going forward to construct an apparatus of this kind for his six engines. About 10,000 feet of condensing surface will be required.

PUBLIC INSTITUTIONS OF BOSTON.—We have received a copy of the seventh annual report of the directors of the public institutions of the city of Boston, which contains an emphatic and positive contradiction of the statements published in the various journals of the country concerning the treatment of prisoners and others. The directors say that the false assertions put forth were only instigated by the malice of some of the inspectors, and have no foundation in truth, and the directors aver that their standing in the community and honorable reputations as individuals are sufficient proof of the truth of their assertions.