

have to be satisfactorily explained before we can believe that no joint action exists in regard to the subject under discussion. Here is one of the mysteries referred to:—

The Philadelphia *North American* says:—"Printing paper of ordinary qualities sells at this moment from 20 to 22 cents a pound. Its legitimate price is about 9 cents. Between the price of paper materials and the manufactured article there is nothing like an adequate proportion. A large commission merchant recently received a consignment of rags from Havana. Knowing the exorbitant price of paper, he expected to realize a handsome sum for the consignors. He visited successively all the paper-makers in this section of the country and corresponded with those more distant. The utmost he could obtain for them was 5½ cents per pound. All the paper mills are stocked with material; waste paper for manufacture has been thrown upon the market by thousands of tons, and yet the price of printing paper is kept up by speculation, or something else, to 22 cents per pound. Here is a mystery that requires explanation. Who will give it?"

DISAFFECTION AT THE BROOKLYN NAVY-YARD

Mr. John Faron, so long the master machinist at the Brooklyn Navy-yard, has been elected Comptroller of Brooklyn, and his former office was therefore vacant. The naval authorities examined several local engineers for the position, but as they were found wanting in some respects, it was deemed expedient to send to Key West for a Mr. Cogswell, who had been or was in a similar position there. This was done, and this gentleman is now the master machinist at the Brooklyn Navy-yard. This appointment was received with a very ill grace by certain parties, and they, resolving to make trouble for the new foreman, have come together and indited the following letter addressed to the men in the Navy-yard:—

SIR—This letter is sent to you who are a workman in the Navy-yard. If you believe in loyalty to your brother workmen, mechanics and laborers, leave the yard on the very day the abolition boss commences his crusade against operatives for party purposes. The Government for which we work well and hard has ransacked the whole nation to find an abolition master machinist. Better mechanics by far than he is were examined, but their political principles did not suit Mr. Lincoln. And all New York State could not find a man fit for the dirty work of making merit secondary to party. Massachusetts bred the man, and Cogswell is his name. He tried to discharge 150 men last week, but the Acting Commandant could not sanction such a step in Admiral Paulding's absence. When that officer returns, the abolition tyrant, who has no thought for the families who he may visit with desolation in mid-winter, will make his attempt. We have no hope from Admiral Paulding, because if he interposed for us, Secretary Welles would come to the rescue. Now, we want you to lay down your tools the day the first large discharge is made, if you should escape the edict of this Cogswell, who intends to begin by discharging a batch of Democrats at a time, until all are gone. If all hands refuse to work, at once inquiries will be made, the Press will look behind the scenes, and the villainies contemplated may be exposed. In union there is strength. Remember all the firesides which may have cause to bless you, if you obey.
YOUR FELLOW-WORKMAN.

It would appear from the testimony of the letter itself, that it is high time some of the men in the yard were discharged, and that their places were filled by sensible men. We cannot think, however, that the men alone are to blame for writing and circulating such a stupid and silly document as the one referred to. We do not know Mr. Cogswell, but we do know that, whatever his antecedents may be, the plan pursued is the one of all others which will create friends and sympathizers for him, even among those politically opposed to him. This mixing of politics with the practical workings of our Government yards is a mischievous feature, and will soon lead to trouble if persisted in. The workmen of the Brooklyn Navy-yard have been unfortunate in their manifestations toward the Government; several times in the course of the war, they have been before the public on charges of disaffection, &c., and at one period numbers of them were discharged for refusing to take the oath of allegiance. From this record it would seem that the appointment of Mr. Cogswell—provided he will reform the management of the naval workshops at Brooklyn, and make them workshops and not places for political discussion and intrigue—comes not a day too soon. We sincerely hope that those persons who instigated the mechanics to this step will repent of it, and repair the mischief before it is too late. The language of the letter is extraordinary, and more fitted for the region about Norfolk than this part of the country; and if the

workmen follow the advice of their instigators and quit their employment in mid-winter, they will certainly regret it when the domestic desolation which will follow their silly acts makes itself felt.

SUPERIORITY OF CORNISH PUMPING ENGINES.

In the annual report just published of Isaac S. Cassin, Chief Engineer of the Water Department in Philadelphia, we find very strong testimony in favor of the Cornish engine over other common condensing engines for the purpose of pumping water. It is stated in the report that four steam engines are employed at the Spring Garden Works, for pumping water; three of which are common condensing engines, the fourth is a genuine Cornish engine, built by I. P. Morris & Co., at a cost of \$30,000. The total quantity of water pumped at these works in 1862, was 3,038,527,420 gallons, of which quantity the three older engines pumped 1,897,391,360 gallons, and the Cornish engine 1,141,136,060 gallons. In the performance of this work, the three common engines consumed 5,777,571 lbs. of coal, while the Cornish engine consumed only 2,547,161 lbs. It thus appears that for the same quantity of work performed the Cornish engine only consumed about one half the fuel. Mr. Cassin says respecting the operations of the latter engine:—

"By a carefully conducted and accurate experiment, made during the past year, it was ascertained that with the consumption of one ton of coal the Cornish engine, No. 4, raised 999,274 gallons into the reservoir, while with the same quantity of coal, engine No. 3, the least efficient of the three old engines, raised 517,969 gallons. Nos. 1, 2 and 3, are condensing engines, driving double-acting pumps, those of Nos. 1 and 2 delivering 160 gallons each, per revolution of the engine, and that of No. 3 delivering 150 gallons per revolution. The engine No. 3 can deliver into the reservoir 2,500,000 gallons per twenty-four hours. The Cornish engine, termed No. 4, is capable of delivering into the same reservoir 5,000,000 gallons in the same period of time—twenty-four hours. It will be seen from this comparison that engine No. 3, with a capacity of 2,500,000 gallons per day, occupying more space than engine No. 4, of double the capacity, consumes nearly the same amount of fuel." The amount required for repairs and other incidental expenses, as well as the fact that a smaller number of hands are necessary in running this description of engine, give them a very decided advantage. The Chief Engineer represents that it is in all respects the interest of the city to adopt exclusively the use of Cornish engines, similar in construction to No. 4.

The average duty (for the year) of the Philadelphia engines is very low, being only 32,998,333 lbs. of water raised one foot high to the 100 lbs. of coals. This is not half the duty which can be performed with a Cornish engine.

AN IMPORTANT PATENT SUIT—COAL-OIL LAMPS.

IRVING A. WILLIAMS *versus* JONATHAN MAYHEW AND OTHERS DOING BUSINESS AS THE "BUFFALO STEAM GAGE COMPANY."

This was an action at law brought against the defendants for the infringement of a patent granted to the plaintiff for an improved mode of constructing lamps for burning kerosene or coal oil, "known as Williams's Coal-oil Burner." The invention claimed by the patentee consists of a peculiar combination of perforated metal cylinders or plates for supplying air to the interior and exterior of the flame, with a circular hollow wick tube; and the evidence put in at the trial, on the part of the plaintiff, showed that the arrangement patented by him is essential to the beneficial operation of all lamps of the class in controversy in the suit. The defendants had violated the patent by making and selling large quantities of coal-oil lamps ("head lights") for locomotive engines.

A number of witnesses, called by the plaintiff's counsel, testified that they were well acquainted with the practical operation of the patented lamp; and that it gave a more brilliant and powerful light than any other locomotive lamp they had ever seen. They also stated that it was superior to gas and every thing else in use for "head lights," and that it enabled the engineers to see switches and objects

along the track of a railroad at a much greater distance than any other locomotive lamp previously known.

The defendants contended that the invention was not new; and their counsel put in evidence a large number of prior patents and extracts and drawings from books; also several old lamps which were alleged to have been used before the plaintiff's invention. These the counsel and the "experts" for the defense claimed were the same as the invention which the plaintiff had patented, and would answer the same purpose. They also contended that the lamps which the defendants had manufactured were, in their construction and arrangement, substantially different from the invention described in the plaintiff's patent and were therefore no infringement of it. They further set up that one Samuel E. Cleveland, of Buffalo, was the first inventor of the very lamp in controversy, and that they had become the sole owners of the right to use it by assignment from him.

During the trial a number of questions arose, of interest to all concerned in the manufacture, use, or sale of coal-oil lamps, relative to the nature and operation of such lamps and also to the extent and character of inventions which preceded that of the plaintiff.

The cause came on to be tried in the Circuit Court of the United States for the Northern District of New York, before the Hon. N. K. Hall and a jury, at Albany, on January 28, 1863. Many witnesses were examined on each side, and all the questions arising in the case were fully argued by the respective counsels.

The defendants, among other points relied upon by them, contended that the plaintiff's patent was limited to the employment of two perforated cylinders as one of the members of his combination; and that as they had employed but one, the patent could not reach over them. But the Court overruled them, and instructed the jury that, as matter of law, upon the language of the plaintiff's claim, his patent covered one, two or more of such cylinders, in combination with the other elements of his invention. They also contended that, as to the second claim of the patent, they had used less than the whole of the combination therein set forth, and that, therefore, the plaintiff could not recover under this claim. But the Court charged the jury that it was a question of fact for them to decide, whether the defendants' lamps contained substantially the invention set forth in the plaintiff's second claim.

The jury brought in a verdict for the plaintiff upon all the issues, finding that the invention was novel and the patent valid; that the defendants' assignor (Cleveland) was not the first inventor of the lamp in question, but that the plaintiff was, and that the defendants had infringed both of the plaintiff's claims.

S. D. Cozzens and A. G. Williams, of New York, were counsel for plaintiff. E. B. Forbush, of Buffalo, and M. Smith for defendants.

APPLICATION FOR THE EXTENSION OF A PATENT.

Wire-strengthened Spoons.—William Mix, of Prospect, Conn., obtained a patent on May 1st, 1849, for an improvement in making wire-strengthened spoons; and he has applied to the Commissioner of Patents for the extension of that patent for a term of seven years. The testimony will close on March 30th, and the petition will be heard at the Patent Office on April 13th.

Persons who wish to oppose the extension of this patent should attend to it without delay. Copies of the claims in this case will be promptly forwarded from the Scientific American Patent Agency upon the receipt of \$1.

PERSONAL.—We are gratified to notice that the Senate has confirmed the re-appointment of P. H. Watson, Esq., as Assistant Secretary of War. Mr. Watson has discharged the duties of this important office for the year past, with distinguished zeal and fidelity; and his re-appointment and confirmation are honorable testimonials to his fitness for the position. We could wish that all our public offices were filled with men of equal worth and integrity.

GOLD diggings are reported to have been recently made in New Zealand, which far exceed those of California and Australia in richness.