

THE GREAT SPIKE CASE.

We have heretofore alluded to the great patent case of Burden vs. Corning, Winslow *et al*, for infringement of the former's patent, for the hook-headed spike. The jury's verdict in favor of Burden was obtained in the United States Court in 1842; judgment paid at the end of execution. Suits for further infringements were had in 1848, in equity; decided in January, 1853, when defendants were enjoined from further infringement, and an account of the damages ordered to be taken and stated. In the pursuance of this order, in October, 1853, R. H. Walworth was appointed master *pro hac vice*, to take the necessary testimony. He entered upon the duties of his office in April, 1854, and has had the case in his hands ever since.

It now appears (from the *Saratoga Daily News*) that there is likely to be an end to this case; at one time this seemed exceedingly problematical. Judge Hall, of the United States Circuit Court, has ordered that the evidence on the part of the defendants be finally closed on the 15th day of January next, and that the rebutting evidence on the part of the complainants be finally closed on the 15th day of April next. This action of Judge Hall will commend itself to all who love justice, and desire to put an end to such lengthy references. It was feared at one time that the whole amount of damages awarded to the plaintiffs would be consumed before the case got out of the hands of the referee.

REFORM IN WEIGHTS AND MEASURES.
BY E. M. RICHARDS.

The only well-digested system of weights and measures is that of France. There are reasons why it would be advisable for the United States to adopt that identical plan, and not an approximately similar one; taking one of our own present measures as the standard:—1. It is already received as the medium through which scientific men of most foreign countries compare their experiments and calculations; and it is therefore already better known than any new system could be. 2. If it should be adopted by the United States, there is a strong probability that it would in time become the international standard of all the great commercial countries; indeed, of the whole civilized world. 3. It would be a step towards inducing harmony amongst the nations of the earth; for it is a truism that the more there is in common amongst them—such as language, origin, religion, government, trade, &c.—the more are the chances of rupture made fewer, and the more are the inducements to peace and reciprocal good-will multiplied.

Previous to the first French revolution, the people of France had a system of weights and measures just as defective as the English, from whom we now derive ours; it was as diverse as it well could be. Each province had its own signification for the terms in use, and one acre in one province did not mean the same amount of land as it did in another; so also of a pound, and all other denominations. There was just the same confusion in France as in England under a similar order of things. In neither country did the various terms bear a decimal relation to each other. That was about the most objectionable feature of the whole thing, as professional accountants can readily appreciate.

The French, however, being determined on rectifying this matter (but unlike the English "reform in weights and measures," which only fixed a kind of uniformity in the definitions employed throughout the kingdom, retaining the miserable heterogeneous arrangements of the various tables), went to work in the most thorough and philosophical manner. A commission was instituted during the reign of Louis XV., to determine the principles that were to govern the new arrangement. These investigations were carried on during the succeeding reign, and also under the Convention. As the result of these deliberations, it was decided that all the weights, measures and coins of France should bear certain relations to the size of the earth; so that, in case of loss, it would be always comparatively easy to restore the different standards. This was a better plan than that of depending on the motion of a pendulum; for, in opposition to the correct observation of such vibrations and the drawing of inferences therefrom, there are great practical difficulties in the way. In addition to this troublesome and unreliable method, some oversights were committed by the British authorities, in omitting to precisely define the nature of the brass made use of at certain stages of the

operations, so that a very perceptible error might readily creep into any attempt to reproduce the standard of weight if lost.

In accordance with the decision above referred to, the distance from the Equator to the Pole, on the meridian of Paris, was divided into ten million parts, and one of these parts was taken as the standard of length and called one Meter. It would be correct to say that such was the intention; but, unfortunately, some error was committed, for the aforesaid quadrant is 738 meters (about 2,420 feet) longer than they determined it to be. This error, however, makes no practical difference; yet it is a pity that the theory was not exactly carried out, or at least as nearly as the means of that epoch would have allowed, for it is likely that, although subsequent and more refined observations would have brought to light some inaccuracy in the work, the difference might have been got to less than about half a mile. From this standard was formed a decimal table of long measures; the multiples of the "meter" being designated by Greek prefixes, signifying "10 times," "100 times," "1,000 times," "10,000 times;" the sub-multiples being indicated by Latin prefixes, meaning "one tenth of," "one hundredth of," "one thousandth of," as seen by the following table:—

French Table of Long Measure (Metrical system).

Denomination.	Ratio to Standard.	Equal to English feet.
Myriameter.....	10,000 meters	32,808.3992
Kilometer.....	1,000 meters	3,280.8399
Hectometer.....	100 meters	328.08399
Decameter.....	10 meters	32.808399
Meter.....	(Standard)	3.2808399
Decimeter.....	1-10th of a meter	0.32808399
Centimeter.....	1-100th of a meter	0.032808399
Millimeter.....	1-1000th of a meter	0.0032808399

Of course the above table might be extended, if necessary; but this could hardly be required. The myriameter is rather more than six miles and the millimeter is about the 1-25th of an inch, so that the table has a very wide range—abundant for all practical purposes. The League has been retained, though it has not the same value which belonged to it under the old regime; it now equals four kilometers. The quantities of the foregoing table in daily use for determining the distances of places are the meter, the kilometer and the myriameter, as well as frequently the league.

[To be continued.]

USE OF SCENTS BY THE ANCIENTS.—Constantine the Great provided fragrant oils to be burned at the altars of the larger churches in Rome; and St. Paulinus, of Nola, a writer at the end of the fourth and beginning of the fifth century, tells us how, in his times, wax tapers were made for church use, so as to shed fragrance as they burned:—"Luminu ceratis adolentur odora papyris." A perfume in common use, even to this day, was the invention of one of the earliest of the Roman nobles, named Frangipani, and still bears his name. It is a powder or satchel, composed of every known spice, in equal proportions, to which is added ground iris or orris root, in weight equal to the whole, with one per cent of musk or civet. A liquid of the same name, invented by his grandson, Mercutio Frangipani, is also in common use, prepared by digesting the Frangipani powder in rectified spirits, which dissolves out the fragrant principles. This has the merit of being the most lasting perfume made.—*Piessé's Art of Perfumery.*

GLOBES AS SHADES FOR GAS-LIGHTS.—A patent has recently been taken out by Charles Bacon, of London, for making globes for lights double with a space between the outer and inner surfaces for containing water, or any clear liquid, or if a colored light is desired, a colored liquid may be used. An inside common shade may also be employed according to the invention, when surrounded with a double globe containing a fluid between the sides. The gas-burners may be arranged in triangular, quadrilateral or other form around the inner globe or globes; and the other double globe filled with liquid may also be used. Thus the light will be reflected from one globe to the other, increasing its power in a remarkable manner by the concentration of its rays.

It is found that the prairie stone, existing in such large quantities just back of Chicago, will make gas as well and as freely as the best coal, yield 50 per cent of pure saltpeter, and a residue be left of as good lime as can be found anywhere. Won't there be a balance that will do for "currency" out West?

APPLICATIONS FOR THE EXTENSION OF PATENTS.

Horse-power.—Daniel Woodbury, of Rochester, N. Y., has applied for the extension of a patent granted to him on the 26th of August, 1846, for an improvement in the above-named class of inventions. The testimony will close on the 30th of this month; and the petition will be heard at the Patent Office on the 13th of August.

Sash-fastener.—James Jones, of Rochester, N. Y., has applied for the extension of a patent granted to him on the 3d of September, 1846, for an improvement in the above-named class of inventions. The testimony will close on the 7th of August next; and the petition will be heard at the Patent Office on the 22d of that month.

Stove.—John H. B. Latrobe, of Baltimore, Md., has applied for the extension of a patent granted to him on the 5th of September, 1846, for an improvement in the above-named class of inventions. The testimony will close on the 17th of August next; and the petition will be heard at the Patent Office on the 1st of September.

Sewing Machine.—Elias Howe, Jr., of Brooklyn, N. Y., has applied for the extension of a patent granted to him on the 10th of September, 1846, for an improvement in the above-named class of inventions. The testimony will close on the 3d of August next; and the petition will be heard at the Patent Office on the 13th of that month.

IMPORTANT TO PATENTEES.—It has just been ascertained that an amendment was incorporated into the civil appropriation bill, on the eve of the adjournment, by Senator Davis, of Mississippi, which strikes directly at the mechanical genius of the country. It positively prohibits the purchase, either by the Navy or War Department, of any patented article, however necessary it may be, for the use of those departments, without special authority of Congress, naming, at the same time, the article required. The action of Mr. Davis in this matter, in injecting into the civil and legislative bill matter which could not have been adopted in either the navy or army bills, is unheard of in the history of legislation. It was enacted during the late session of Congress, that all purchases and contracts, when the public exigencies do not require an immediate delivery of the articles, shall be made by advertising for proposals respecting them. No contract or purchase is hereafter to be made, unless the same be authorized by law, or under an appropriation adequate to its fulfillment, except in the War and Navy Departments, for clothing, subsistence, forage, fuel, quarters or transportation, which, however, shall not exceed the necessities of the current year. No arms or military supplies whatever, which are of a patented invention, shall be purchased, nor the right of using or applying any patented invention, unless the same be authorized by law, and the appropriations therefor explicitly set forth.—*N. Y. World, July 8th.*

We have not seen the bill to which this extract refers, and of course, we give it as it appeared in the *World*. It seems to us to be an exceedingly harsh and unwise provision, because an exigency may arise in which an important invention for war purposes may be imperatively demanded, and yet it could not be purchased by either the Navy or War Department without calling a special session of Congress to make a specific appropriation for it. The Washington correspondent of the *Herald* says that there is a report in that city that the recent *snap* judgment law of Senator Davis, forbidding the purchase by the War or Navy Departments of any kind of patented arms, does not apply to Colt's pistol. This is a mistake. It applies to every patented article, of whatever name or description, required or likely to be required by either of the departments, from a horseshoe nail to an Armstrong gun or Ericsson propeller. The idea of collecting tolls at the Patent Office from inventors, and then making a law forbidding the purchase of their inventions, especially when they are declared to be the most valuable created, is not only ridiculous but severely unjust. This law of Senator Davis' may have grown out of the fact that when he was Secretary of War he purchased Maynard's primer, at a cost to the government of \$75,000, which has proved a total failure. An improvement on this invention has been suggested by Secretary Floyd, which, if successful, may save the government from loss.

CORRECTION.—A Boston correspondent states that the new steamer, *Massachusetts* (described on page 19 of this volume), was not built by the Atlantic Works, but by Harrison Loring, of the City Point Works, Boston.