DECISIONS RELATING TO PATENTS.

Supreme Court of the United States.

THE SMITH & GRIGGS MANUFACTURING COMPANY *v.* SPRAGUE, Administratrix.

Appeal from the Circuit Court of the United States for the District of Connecticut.

The first, second, third, fourth, and sixth claims of Leonard A. Sprague's patent No. 228,136, dated May 25, 1880, and the second, third, and fifth claims of Leonard A. Sprague's patent No. 231,199, dated August 17, 1880, both for improvements in machines for making buckle levers, declared invalid by reason of more than two years' public use before the date of application for said patent.

When a machine was used by a manufacturer in the regular conduct of his business by his own workmen, and in the view of such part of the public as resorted to his establishment for the purpose of buying or selling, such use was a public use.

Where the machine in question consisted in the new combinations of old elements, each of which constituted a new invention, and the machine was practically useful, and its product was used commercially and profitably in the ordinary course of business, such use was not experimental, although the inventor was engaged in the improvements by which it was hoped and expected that the machine would be made more valuable and useful.

Use by the inventor of a machine in order to devise by experiment improvements upon the same to perfect it is permissible even where, as an incident, the product of the machine is sold; but where the use is mainly for trade and profit and the experiments for improvement are incidental, then the principal and not the incident gives character to the use, and the latter is a public use under the statute, and comes within its prohibition if it takes place more than two years before the application for the patent.

Mr. Justice Matthews delivered the opinion of the court.

PHOTOGRAPHIC NOTES.

Photo-Mechanical Processes, Combined Asphalt and Albumen Process.—In the *Amateur Photographer*, Mr. Walter E. Woodbury gives the following interesting account of photo-mechanical processes:

It is only recently that these mechanical branches of photography have played any important part in England. The most useful process is, of course, the process of producing printing blocks from photographs, that can be printed with the ordinary letter press, and give to the eye the appearance of half tones. This is done by breaking the image up into a series of dots or stipple equal in number on equal spaces, but differing, however, in size in proportion to the density required in the shadows of the photographic subject that is to be reproduced, or by dots equal in size, but different in number in the same proportion, or by lines differing in thickness on the same ratio. A very large number of different processes have been patented, but it is only necessary to mention those now in practical use. Many of these, such as the Meisenbach, Winstanley, Mosstype, etc., are well known. I have recently been favored by a few phototype printing blocks, manufactured at the well-known photographic mechanical institute of Messrs. Angerer and Goeschl, of Vienna. They are undoubtedly the best of the kind. This firm work many different kinds of printing processes with an excellence not known in England. Indeed, some of our photographic mechanical printers would do well to go over to Germany and take a lesson or two in the art.

But it is not only in Germany that these processes are brought to such perfection. In France also great steps are being made. The latest improvement in this direction is a combined albumen and asphalt process of phototypy. A zinc plate is prepared in the ordinary manner, and after warming is coated with a solution of the sensitive asphalt prepared from—

Purified asphalt	4 grms.
Chloroform	90 c. cm.

If the solution is well filtered, it flows over similar to collodion. Coating is done by pouring the solution over the zinc plate, and, allowing it to run off at one corner, a very thin film is obtained. The plate is laid in a dark place to dry. In this manner a large number of plates can be kept in the dark, and if protected from dust and damp, they will keep for months. The plate, which should be from 3 to 4 centimeters larger than the negative, is next coated with the chromated albumen solution, prepared as follows:

The whites of two eggs are beaten up into froth with half pint of pure water, allowed to set, and 2 grammes of bichromate of ammonia is added, also sufficient liquid ammonia, until the solution is of a yellow straw color, and smells strongly of ammonia. With this mixture, previously filtered, the plate is entirely covered at one movement, and if it does not run easily over the asphalt film, it must be spread with a clean finger. The plate is coated a second time with this solution, and then warmed gradually over a spiritlamp, without becoming too hot. The operation of coating can be done in daylight, but the warming of the plate must not, and after the plate is dry it must be laid in a dark place to cool, for, after drying, the albumen solution is extremely sensitive to dispersed light.

The plate is then exposed under a negative for about 1 to 1½ minutes in the sun, and from 10 to 20 minutes by diffused light. A long four-sided box is placed over the printing frame to prevent unsharpness in places where the two plates are not quite even. After the exposure the plate is laid in water in which a quantity of aniline violet has been dissolved. After about 20 minutes the water will have penetrated the film and colored it. That part of the film not affected by the light may then be lightly washed off with a soft sponge. The plate is then dried and exposed to the light for 20 minutes in sunlight, or from 3 to 5 hours by ordinary daylight. The lines of the drawing become thereby insoluble, while the asphalt film underneath the red albumen still remains soluble. Before the development of the asphalt picture, the albumen film must now be removed. This is done by laying the plate in a weak solution of acetic acid about 1-25. When the last trace of the drawing has disappeared, and the plate looks exactly as before, it is dried carefully. The developing is done by laying the plate for about 10 minutes in a mixture of benzol and olive oil. By this means the insoluble parts are washed out. If the developer is too weak, a little turpentine is added. The plate is then laid in warm water, and the grease entirely removed. The plates are then etched in the usual manner, mounted on suitable wooden blocks, and are ready for the printing press.

Perseverance an Important Factor.

In any line of business, the man who uses reasonable economy and has the ability to give fair management and the perseverance to hold on will, in a great majority of cases, make a success; while, on the other hand, the one who rushes into whatever he has undertaken with a spasmodic endeavor to win all at once, as a general rule wastes his energies and often fails for sheer want of perseverance. The editor of the *Industrial Gazette* has observed that the man who starts in to do a day's work, and attempts to do as much in one hour as ought to be done in two, will usually find it necessary in a short time to take a rest, and while he is resting will lose valuable time which he evidently feels that he ought to make up, judging from the spasmodic efforts he will make when he starts in to work again. But, at night, the man who works steady, but perseveringly, will be found to have accomplished the most, while usually he will also be found in a much better condition to commence again the next day.

So it is in business. One will seem to hustle around and make a considerable to-do over what he is doing, and after wasting his energies in accomplishing what, by taking a little more time, could be done with very little effort, and then, because, as he thinks, he fails to meet the success he imagines he should, becomes discouraged and is ready to make a change to something else. This, in a majority of cases, proves a loss, and, in consequence, he does not succeed as the energy he displays would seem to warrant. Another man, while he may not make a great display of his energies at the start, will go to work more systematic, and will have better opportunities to economize, and in many cases to manage better than when he attempts to rush matters. If he will but observe, he will be ready to take advantage of any favorable circumstances that may arise. It always seems that the man who is constantly shifting about is always making a change at the wrong time, when a little perseverance would have brought him through all right. In all lines of business there are fluctuations, ups and downs, and in order to succeed we must persevere. It is when the odds seem against us that it seems the most important to persevere.

Distillation of Peppermint Oil.

It is now nearly ten weeks ago since the last bundles of peppermint herb were distilled at Mitcham, Eng. The crop, which at the commencement of the season gave every indication of falling much below the average, began to show signs of improvement just before the plants were ready for cutting. A few days' rain at that period had an excellent effect upon the growing plants, and after all the quantity of oil obtained was not very much less than last season's, and of exceptionally good quality. Just when the distilling period was drawing to a close we had occasion to inspect one of the principal works in Mitcham, conducted by a French pharmacist, who undertook, in his own words, to retrieve the fame of the Mitcham essential oils in the eyes of his countrymen, at the instance of a syndicate of French peppermint consumers, pharmacists and confectioners. According to this gentleman, English peppermint, always much esteemed in France, had of late years acquired an unenviable distinction by reason of the sophisticating processes to which it was so frequently subjected. When, therefore, a practical pharmacist, who, moreover, had acquired considerable experience of the essential oil industry at Grasse, announced his determination to start a distillery at Mitcham, the principal French consumers of English peppermint readily promised him their support, and as a matter of fact the bulk of the peppermint oil manufactured at his distillery finds its way into France.

The distilling and rectifying process adopted at the Mitcham works, though in no material point differing from the methods usually followed, may be described in a few words: The stem and leaves of the mint or the leaves alone of the lavender are placed in a huge iron container or still and covered with water. A fire is then lighted under the container, and when the water in the latter commences to boil, the steam is forced through the only exit, viz., a worm-shaped pipe which has been fixed to the still before the heat is applied. This pipe runs into a cooling vat, where it is surrounded by cold water, and then the vapor passing from the still, which carries the essential oil with it, is condensed, the oil being at the same time liquefied. Oil and water together are then drawn from the worm by a tap and left to separate, the oil being subsequently drawn off. The steamed-out part of the plants is put aside, dried in the air, and burned, but, especially just after the distilling season, the accumulation of this waste product causes much inconvenience. The peppermint oil is usually sold as it comes from the still, this being the cheapest variety; but in another part of the works there is a rectifying apparatus in which the more expensive grades of oil are treated, in order to remove the resinous matter and improve the color. The oil which first runs out of this apparatus is placed aside and sold as "triple rectified;" the bulk following forms the second quality, and the remainder is simply "rectified" oil. After each distillation, or if a different material has to be distilled, the container is cleaned and the odor of the preceding, which still adheres to it, destroyed by boiling water rendered alkali.

A large proportion of the mint is raised on land belonging to the works, but part of the material is bought from farmers in the neighborhood, and it is said that the acreage devoted to the crop by growers in Mitcham and the surrounding villages is increasing every year. This year nearly 3,000 pounds essential oil of peppermint were distilled at the Mitcham works, about 360 pounds being obtained from the white mint, the most prized variety, which of course is always distilled separately. This oil of white mint sells at 45s. to 50s. per pound, but the cultivation of the white mint is not likely to extend in the same proportion as that of the black—the former only containing about one-half the percentage of essential oil of the latter. Besides, white pepermint is a crop which is particularly sensitive to climatic influences, and suffers more severely from drought or frost than does the black mint. Of course, the quantity of 3,000 lb., large as it is, only represents a fraction of the whole of the oil actually distilled at Mitcham. There are several works in that district, and many farmers are in the habit of getting their crops distilled at some of these, paying a royalty for the use of the stills. Lavender is also an important crop in Mitcham. At the distillery which we have described, only the leaves of the plant are placed in the still, the stems being thrown away, as they are thought to render less fragrant the aroma of the oil of the leaf. The lavender crop this season has been the best for about ten years, and nearly 500 pounds of oil were obtained at the distillery. The proprietors are endeavoring to extend the growing of this crop and to induce farmers to try the cultivation of new products.

Chamomiles were a total failure this year, and only 30 or 40 pounds of oil were obtained from Mitcham flowers. This had all been sold as soon as it was distilled. We were shown a fine sample of beautiful deep green color and penetrating odor. Their oil averages from 30s. to 40s. per pound in price; but this year the firm were able to make 80s. per pound for the small quantity which they distilled.—*Chem. and Drug.*

Books for the Insane in Asylums.

Some weeks ago we published a short appeal suggesting that books should be contributed to the insane asylums of the country, in order to form libraries for the unfortunate inmates. Already one result of the suggestion has been heard from as far off as Texas. The North Texas Asylum at Terrel is now forming a library, and has sent our editorial with comments to the local journal, which published it as an appeal to the public of Texas for this most deserving charity. The asylum has now nearly 300 books as a nucleus of a library, and receives regularly over 78 newspapers. Besides these, hundreds of copies of periodicals have been donated to it. This we cite as an instance of what can and should be done in this direction. Almost every house has some books to spare, which are of no value to any one. Many would be glad to directly foster such work were their attention called to it. Unfortunately, every State can find plenty of field within its own borders for the exercise of this labor of love. We hope that the work now inaugurated may be continued, and that an insane asylum without books may soon be unknown in America.