

**New Method of Oil Printing.**

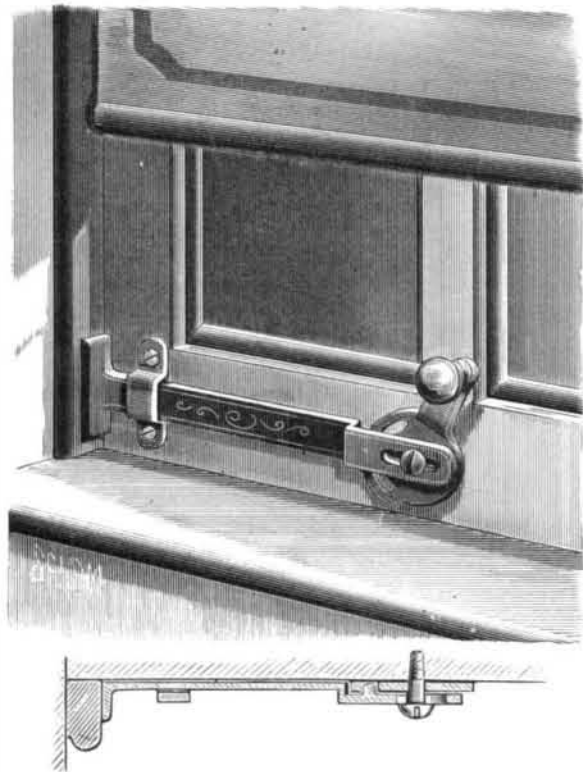
Bogaerts, of Herzogenbusch, has invented a new method of printing in oil colors, which is said to furnish a very close imitation of oil painting, far surpassing what was possible by means of chromo-lithography. It may be applied to painter's canvas, wood, or metal. The following description of his method is given in *New Discoveries and Inventions*:

The first thing to be done is to make a facsimile of the painting that is to be copied, in which the outline of each simple color is accurately reproduced. This copy is then transferred to a plate of zinc, which is cut up into as many pieces as the picture contains different colors, in such a way that each piece represents all the parts which in the original are of one color. Separate electrotypes are made from each piece, and from these the proper colors are printed in corresponding order upon prepared paper. (So far the process is similar to printing chromos.) At the end of this operation, when all the colors have been printed on the paper, the picture resembles an ordinary chromo-lithograph, and like that it is perfectly flat and smooth; the brush marks and roughness of surface noticed in oil paintings are wanting. In order to imitate this part, too, the original painting is covered with a solution of gelatine, in which are impressed with great accuracy the elevations and depressions of the painting. From this plastic copy of the surface another impression is taken in gutta percha, India-rubber, or other elastic substance, which will stretch so that it can be made larger or smaller, according as the copy is enlarged or reduced. This elastic impression is used for preparing a copper stereotype, with which a negative or depressed copy can be made in a suitable plate. This last plate, of course, will have depressions wherever the painting had elevations or raised spots, and these depressions are filled up with pigment of the same color as the raised portions of the original. The plate thus prepared is put in a press and the printed chromo laid on it, and then pressure and heat are applied to cause pigments in the depressions to unite with those already on the paper. The picture is now finished all but varnishing. To carry out the resemblance to oil painting it is afterward transferred from the prepared paper to canvas, wood, or metal. P. N.

**IMPROVED SASH FASTENER.**

The annexed engraving represents a novel sash fastener, recently patented by Mr. J. V. Risk, of Point Pleasant, W. Va. The invention consists of a bolt provided with a friction plate at the outer end and guided by a strap, and slotted to receive a screw which guides its inner end, and at the same time forms the pivot for the cam whose slot receives a pin projecting from the back of the bolt. The device is secured to the lower rail of the sash in such a position as to admit of pressing the friction plate at the end of the bolt firmly against the stop or side of the window frame.

By turning the slotted cam in one direction, the bolt is thrown outward against the frame with sufficient pressure to hold the sash in any desired position. By turning it in the opposite direction the bolt is withdrawn and the sash is free to move up or down.



**RISK'S SASH FASTENER.**

The friction plate at the end of the bolt not only holds the sash so that it will not move up or down, but it also prevents the window from rattling.

The smaller view in the engraving is a horizontal section showing the relation of the various parts.

**The Northwest Lumber Trade.**

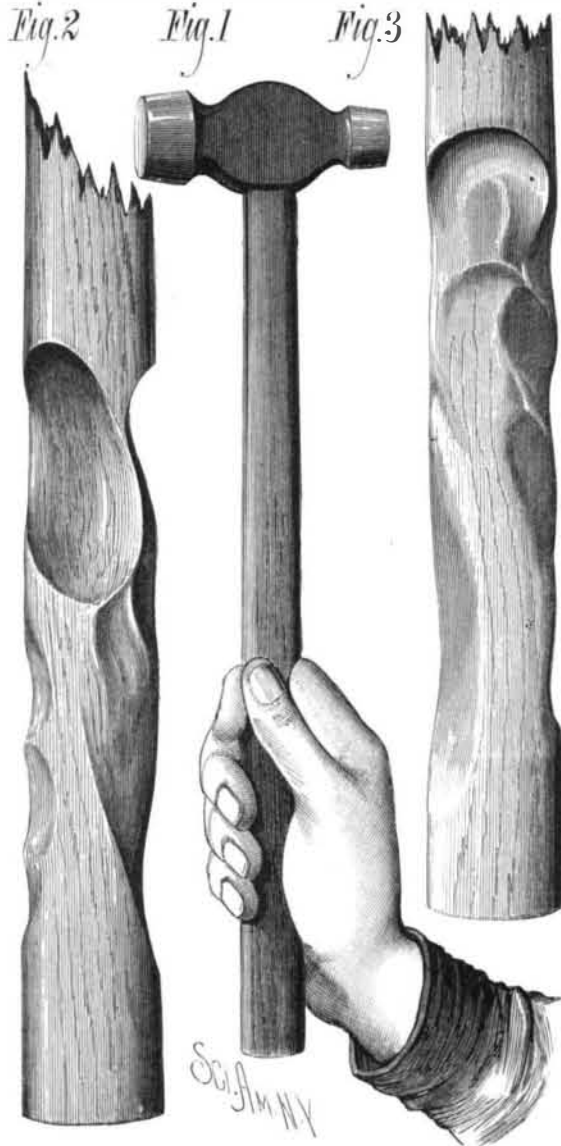
The Secretary of the Chicago Lumbermen's Exchange reported to the annual meeting, March 6, that the past year was one of the most successful ever experienced in the Northwest. The receipts of lumber were nearly 2,000,000,000 feet; shingles, 866,000,000; and lath, 104,000,000; while the

coarse forest grades by lake aggregate 2,846,000 posts, 4,200,000 ties, and a large quantity of miscellaneous stuff.

**A CURIOUSLY WORN HAMMER HANDLE.**

The worn hammer handle shown in the engraving is noticeable as an example of rapid as well as curious abrasion of a hard substance by the human hand.

The hammer was used by Michael Collins, of this city, in welding the ends of iron tubes in steam radiators. The cutting of the handle, which is of hickory, was probably



**A CURIOUSLY WORN HAMMER HANDLE.**

done by the fine scale struck off from the iron and caught by the tough skin of the striker's hand. The hammer is held loosely in striking, and every blow is attended by a slight motion of the handle under a varying gripe. The constant attrition causes the muscles of the palm and fingers to bed themselves, so to speak, in the tough wood, with an impression as perfectly reproducing the inner surface of the hand as would be obtained by squeezing a roll of putty. The oval handle is one inch in its shortest diameter, and where it is worn deepest by the thumb and forefinger only three sixteenths of an inch of wood remains. We are informed that a handle is worn in this way in the short space of three months.

**AGRICULTURAL INVENTIONS.**

Mr. Norman Mereness, of Seward, N. Y., has patented an improved seed planter and drill. This machine embodies novel combinations which insure accuracy in planting and drilling seeds, and the proper distribution of fertilizers.

Mr. William Mustart, of Jacksonville, Fla., has patented a fruit-picker and tree-trimmer, adapted to the picking of oranges, apples, peaches, or other fruits without damage to the trees, and it may be readily adjusted to act as a tree pruner or trimmer.

Mr. James M. Diffendafer, of Green Center, Ind., has patented an improved hay-rack, having a longitudinal base frame carrying two detachable inclined side frames composed of a series of posts provided at the lower ends with tenons fitting in mortises in the cross bars of the base-frame, the posts being united by longitudinal rails fitting in recesses in the inner sides of the posts, and held therein by a strip pivoted to the inner side of the posts.

Mr. Josiah L. Hughes, of Cleveland, Tenn., has patented a cotton chopper constructed with a carriage, gear-wheels connected with the rotary axle of the carriage, two shafts connected by a universal joint, radial arms being attached to the rear shaft and carrying the chopping knives. The machine has plows provided with colters for barring off the rows.

A novel aid binder attachment for harvesters has been patented by Mr. Mason Hedrick, of Oakland City, Ind. The object of this invention is to furnish an attachment for harvesters by the aid of which one man can bind grain as fast as a harvester can cut it. The improvement consists in adapting the driving mechanism of a harvester to compress the gavel.

An improvement in treadles has been patented by Mr.

Thomas A. Parkinson, of York, Neb. This is a compound treadle used by simulation of walking, and adapted for driving corn shellers, printing presses, grindstones, and other machines. By means of this device a constant pressure is applied to the crank shaft, and, the whole weight and strength of the operator being utilized, the power is much greater than that obtained by the ordinary treadle.

**Work Yielded by Various Substances.**

In a recent lecture at the Crystal Palace, London, Prof. Sylvanus Thompson explained the theoretic work obtained by the consumption of one ounce of various substances as follows:

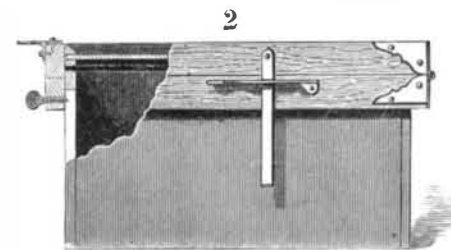
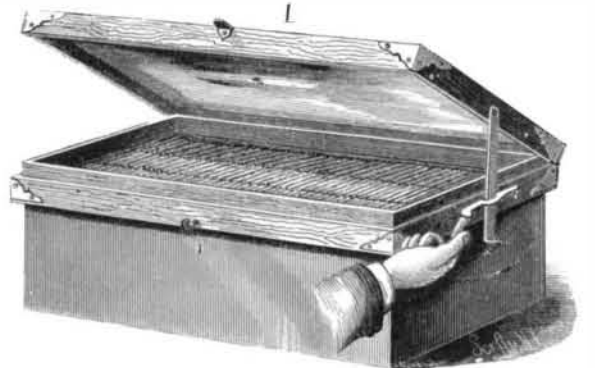
1 oz. of hydrogen gives	2,925,000	foot pounds.
1 " " coal	695,000	" "
1 " " zinc	112,000	" "
1 " " gunpowder	100,000	" "
1 " " copper	69,000	" "

**Optical Blindness to Red Light.**

A curious effect of bright white light upon the vision is recorded in a recent number of the *Journal de Physique* by MM. J. Macé de Lépinay and W. Nicati. After passing some hours in a snow field brilliantly lighted up by sunshine, it was observed that at least eight hours afterwards all gaslights, candles, and artificial lamps appeared to be strongly colored green. In other words, the red rays of such lights were not perceived. The reason of this was supposed to be the fatigue of the retina for red, which partial effect lasts longer than a similar weariness of other colors. The truth of this supposition may be proved in a very simple manner by obtaining three colored glasses—red, green, and blue—of such relative depth of color that they could be seen through with about equal visual effect with a given power of light. An observer furnished with these glasses is then to place himself at a convenient distance before one of the sight-testing placards commonly used by oculists, and consisting of a white ground printed with black characters of various sizes. If the room is now almost darkened, the blue glass will still permit the observer to distinguish the medium sized characters on the placard, while through the red screen not even the white sheet itself is perceptible. After a time, however—the same degree of semi-darkness being continued—the visual acuteness through the red glass is increased so that the larger characters on the placard may be discerned. The visual perception through the blue glass remains as at first. It is therefore clear that color blindness, of a temporary nature, to the red rays, is more persistent than in respect of the blue rays. Hence may be assigned to physiological reasons the well known fact that a prolonged or even temporary exposure of the eye to the electric light renders it for some considerable time afterward incapable of fully estimating the illuminating power of a gas flame, which is so much richer in red rays.

**NEW SHOW-BOX COVER.**

It is said that "goods neatly kept are half sold," and experience proves the adage true. The incursions of insects and idlers, the entrance of dust and moisture, seriously interfere with the profits of the retail dealer of many kinds of goods. Many contrivances have been tried to remedy these annoyances, but for one reason or another they have generally proved failures.



**LANGLES' SHOW-BOX COVER.**

We give herewith an engraving of a simple and efficient device for covering boxes of goods so as to protect them thoroughly while exposing their contents to view. This device consists of a case capable of fitting the goods box, and having a glass cover hinged to it and provided with a support that will hold it at any desired angle.

When the cover is raised it will stay where it is left until the holder is pressed upward by the finger as shown in the engraving.

This invention has been patented by Mr. Justin J. Langles, corner Common and Tchoupitoulas street, New Orleans, La.