INFRINGEMENT OF TRADE MARK.

F. WAS a manufacturer of yeast and he used a yellow label on which he printed his name, etc. S. put up his manufacture of yeast and also used a yellow label, but printed his own name, etc., not imitating the inscription of F. The former sued for an infringement on the ground alone of the use of the paper of the color used by him, and was defeated. In this case—Fleischman vs. Starkey—brought in the United States Circuit Court for the District of Rhode Island, Judge Colt, in the opinion said: "This case narrows itself down to the question whether a label of a single color is the lawful subject of a trade mark apart from any name, figure or device with which it may be connected, so that a person who adopts a similar color upon his label may be charged with an unlawful imitation. Color often serves as the groundwork of a trade mark, and it may be a very essential element in its composition. In determining the question of infringement it is often a very important incident. But the term "mark" implies form rather than color, and it consists of some peculiar name, symbol figure, letter or device whereby one manufacturer distinguishes his goods from like goods sold by other persons. The color of a label apart from a name or device can hardly be the subject matter of a trade mark. The effect would be that a single manufacturer might acquire the exclusive right to the use of lables of a certain paper or to the colored paper in which the goods might be wrapped. This might seriously interfere with trade and with legitimate competition. Whatever views may be taken by the French courts in the cases referred to by the learned counsel for complainants, we know of no American or English authority which goes to this extent. On the contrary, so far as the point has been touched upon in the adjudicated cases which have come to our notice, an opposite conclusion seems to have been reached."

CLEANING OUT WASTE PIPES.

The annoyance arising from the stoppage of waste pipes in country houses, although very great, says the *American Artisan*, is but a small matter compared with the danger which may follow obstructed pipes. The "sewer gas," about which so much has been written and which is so justly dreaded, is not, as many suppose, the exclusive product of the sewer. Indeed, the foulest, most dangerous and deadly gases are not found in the sewers themselves, but in the unventilated waste pipes and those which are in process of being clogged by the foul matters passing through them. Any obstructions in the soil or waste pipes are therefore doubly dangerous, because it may produce an inflow of foul gas into the pipe, even though the entrance to the sewer itself has been entirely cut off.

The question is how to get rid of the accumulations in pipes partly stopped or already closed. Digging up and cleaning out is one costly remedy, often ineffectual by reason of careless workmen. The second is the plumber's force pump, which is usually only a temporary relief. In pipes leading from the house to the cesspool there is a constant accumulation of grease. This enters as a liquid and hardens as the water cools and is deposited on the bottom and sides of the pipes. As these accumulations increase, the water way is gradually contracted till the pipe is closed.

When the pipe is entirely stopped, or allows the water to flow away by drops only, proceed thus: Empty the pipe down to the trap or as far as practicable, by "mopping up" with a cloth. If water flows very slowly, begin when the pipe has emptied itself. Fill the pipe up with potash, crowding it in with a stick. Then pour hot water upon it in a small stream, stopping as soon as the pipe appears to be filled. As the potash dissolves and disappears, add more water. At night a little heap of potash may be placed over the hole, and water enough poured on so that a supply of strong lye will flow into the pipe during the night. Pipes that have been stopped for months may be cleaned out by this method, though it may call for three or four pounds of potash. The crudest kind, however, appears to act as well as the best. If the pipe is partially obstructed, a lump of crude potash should be placed where water will drip slowly upon it and so reach the pipe. It is also well to fill the upper part of the pipe with the potash as before and allow hot water to trickle upon it. Soda and potash are both used for the purpose of removing greasy obstructions, and the usual method of application is to form a strong lye and pour it into the pipe. It is better to put the potash into the pipe because the water which it contains instead of diluting, helps to form the lye. As water comes in contact with the potash it becomes hot, thus aiding in dissolving the grease. Potash, in combination with grease, forms a "soft" or liquid soap, which easily flows away while the soda makes a hard soap, which, if not dissolved in water, would in itself obstruct the pipe.

When a pipe is once fairly cleaned out, the potash should be used from time to time, in order to dissolve the greasy deposits as they form, and carry them forward to the cesspool or sewer. The potash is very valuable for this purpose, because, in addition to its grease solving powers, it is exceedingly destructive to all animal and most vegetable matters. The most dangerous and deadly gases appear to come from urinals and wash basin pipes, these, in many cases, seeming to be more foul than those from water closets. The decay of the soap and animal matter washed from the skin appear to be the sources of the gases. The potash will be effective in keeping these pipes clear and in this way may lessen the dangers.

PERCENTAGE.

The reckoning of percentages, like the minus sign in algebra, is a constant stumbling-block to the novice. Even experienced newspaper writers, remarks the New York *Journal of Commerce*, often become muddled when they attempt to speak of it. The ascending scale is easy enough: Five added to 20 is a gain of 25 per cent.; given any sum of figures, the doubling of it is an addition of 100 per cent. But the moment the change is a decreasing calculation, the inexperienced mathematician betrays himself, and even the expert is apt to stumble and go astray. An advance from 20 to 25 is an increase of 25 per cent., but the reverse of this, that is a decline from 25 to 20 is a decrease of only 20 per cent. There are many persons, otherwise intelligent, who cannot see why the reduction of 100 to 50 is not a decrease of 100 per cent. if an advance from 50 to 100 is an increase of 100 per cent. The other day an article of merchandise which had been purchased at 10 cents a pound was resold at 30 cents a pound, a profit of 200 per cent.; whereupon a writer in chronicling the sale, said at the beginning of the recent depression several invoices of the same class of goods, which had cost over 30 cents per pound, had been finally sold at 10 cents per pound, a loss of over 200 per cent. Of course there cannot be a decrease or loss of more than 100 per cent.; because this wipes out the whole of the investment. An advance from 10 to 30 is a gain of 500 per cent.; a decline from 30 to 10 is a loss of only 66⅔ per cent.

POWER REQUIRED IN FLOUR MILLS.

A correspondent writes to *Power*, an American scientific journal, as follows. "I have been running engines just seventeen years, and I find that there is much to learn yet. I have set up four boilers and five engines in my time. I think the more a man learns the more he finds to learn. At present I am running a 14 x 22 side slide-valve Hadley engine, and my boiler is 52 x 24 five-flue. The engine runs eight sets of rolls, seven reels and other machinery, all run eleven hours per day, and making fifty barrels of flour. I burn 2,400 pounds of Ohio nut and slack coal in about eleven hours and forty minutes. Is that wasting coal or not?" To which *Power* replies: "The first two weeks a man runs an engine, he can generally give the builder points. The next two weeks he begins to get one or two. After that he doesn't quite know it all. When he has been at it about ten years, he generally consults some one whenever anything new comes up. In about fifteen years he consults his neighbors about the regular run of affairs. You make fifty barrels of flour with 2,400 pounds of nut and slack coal; that is 48 pounds of coal per barrel, and is too much. You should make 50 barrels in *twenty-four* hours with 20 to 25 horse power. To do it in twelve hours you should have 44 to 50 horse power, and this should be got, with any decent kind of 50 horse power engine and with a respectable boiler, out of 1,800 pounds of coal. I should be very glad to guarantee to do it with 2,000 pounds. You ought to get along with thirty pounds of coal per barrel of flour if you run twenty-four hours. Rolls take less power than burrs, but there is generally enough extra finishing and cleaning machinery in a roller mill to keep the power per barrel of flour about the same with rolls as with either 'old process' or 'new process' stone milling."

THE CARRYING CAPACITY OF CARS.

Ten years ago, remarks an exchange, a standard car load on all first class railroads was 20,000 pounds, the weight of the car being 20,500 pounds. In 1881 the load on most roads had increased to only 22,000 pounds. The master car builders of the Pennsylvania road have now adopted cars to carry 60,000 pounds, while the weight of the cars will be very little increased. Instead of hauling more than one pound of car to one pound of freight nearly three pounds of freight can now be hauled for one pound of car. The substitution of steel for iron rails has made change possible. The condition of affairs makes it possible for the roads to carry freight at the low rates they receive and yet make a profit.

TESTS FOR DETERMINING THE FASTNESS OF COLORS.

In order to determine the fastness of colors with which fabrics have been dyed the following tests may be made:

REDS.—Boil a small strip of the tissue to be tested in soap-water and another strip in lime-water. The color should change very little. If, however, it in either case turns yellow or brown the color is not fast.

YELLOWS.—Boil strips of the tissue in water, in alcohol and in lime-water. If in the two last solutions the tissue takes a yellow color, and the liquid a reddish color, the dye is not fast.

BLUES.—Fast blue when boiled in alcohol should not affect the color of the bath, and the color itself should not change to red or reddish brown. When dipped in a warm solution of muriatic acid and water, or alcohol, and the bath takes a reddish color, the blue is not fast.

VIOLETS.—When violet colors boiled in a mixture of equal parts of water and alcohol give up their color or change to reddish brown, or brown when boiled in dilute muriatic acid, giving a reddish color to the bath, they cannot be considered fast. Of violet shades only madder violet and a combination of indigo and cochineal are fast.

GREENS.—When boiled in dilute alcohol, fast colors should not color the bath green, yellow or blue. In dilute muriatic acid the bath should not become either blue or red.

BROWNS.—Browns which, when boiled in water, color the bath red, or, when left for a time in alcohol color the bath yellow, are not fast colors.

BLACKS.—If a dilute muriatic acid solution is colored red on dipping in it a strip of black tissue, the color of which changes to reddish brown or to brown, the color is not fast (logwood.) If the color of the tissue changes to blue, the black has a ground of indigo and its degree of fastness depends on the deepness of the indigo bottom shade. Black may be considered perfectly fast when being boiled with dilute muriatic acid, the liquid is colored yellow. To discover whether a black tissue has a bottom of indigo, boil a strip in a soda bath. If indigo is present, the tissue retains its black color or changes to blue or green, but if the black is a pure tannin black it will become brown.

HOLD ON TO YOUR TRADE PAPER.

How do you read a technical paper? By running down the column to see if there is something sensational to "catch your eye," or that specially interests you? If you pursue this course you lose the money you paid for the paper. There is nothing in a well-conducted technical paper that is not of value. All may not be equally interested in certain topics or subjects, but there is something for all, and "information" is a very elastic word. It covers all things useful; and to keep up with the times, one should read a paper carefully. A properly edited technical paper is a handbook of the period and time in which we live. It sets forth current practice in certain branches of mechanics, or engineering, or other trades that support it, and it is the only vehicle for conveying technical knowlege in an easy, assimilable form. There are times in trade when there is next to nothing doing, and though the publishers scan the horizon and the immediate surroundings closely, little presents itself worthy of note. Then the paper is dull, and the publishers are as well aware of it as the readers are; but in the course of a year it must be either a poor paper, or a poor reader, that does not give or obtain the value of the subscription. Hold on to your trade paper if you would keep up with your trade.—*Mechanical Engineer.*

THE PRESERVATION OF ROPES.

The preservation of scaffold ropes is a matter of great importance when scaffolding remains erected for any considerable time, especially in localities where the atmosphere is destructive of hemp fiber. It has been suggested that in these cases the ropes should be dipped, when dry, into a bath containing 20 grammes of sulphate of copper per liter of water, and kept in soak in this solution for four days, afterward being dried. The ropes will thus have absorbed a certain quantity of sulphate of copper, which will preserve them from the attacks of animal parasites and from rot. The copper salt may be fixed in the fibre by a coating of tar or by soapy water. For tarring the rope it is best to pass it through a bath of boiled tar, hot, drawing it through a thimble to press back the excess of tar, and suspending it afterward on a staging to dry and harden. In the second method, the rope is soaked in a solution of 100 grammes of soap per liter of water. The copper soap thus formed in the fibre of the rope preserves it from rot even better than the tar, which acts mechanically to imprison the sulphate of copper, which is the real preservative. It is not stated whether the copper treatment is equally serviceable with dressed as with plain hemp ropes.