Overlaying.

This is the problem in all press-rooms where speed is the great desideratum. Indeed, in our get-up-and-get era, speed is such a leading point that how to make ready in the shortest time may be said to be the one great question in all our press-rooms. Many conflicting theories have found advocates. "Paste as you go" is the one that has been most generally adopted, where the very highest class of work was not called for. Wherever the high grade, or art finish, was wanted, resort has been always had to what is known as the "overlay" system; in other words, to the plan of making special overlays apart from the form and sheet, and pasting them in place on the printed tympan sheet.

While the special overlay system has always won the prize for fine work on cuts, etc., yet, with the vast increase of cut work in our day, and the prospect of still greater volume, the time spent in overlaying cuts becomes a very serious item of expense, and eyes and brains are cast about to find a speedier system that will produce as good results.

Many years ago, a very clever French Canadian—a genuine artist in his way—stumbled upon a method of using a thin, gummy paste in such a way as to represent the layers of paper that pressmen employ in making overlays. His recipe for preparing that paste was his own. With it, and his artistic taste in manipulating and spreading it, he produced wonderful results in an incredibly short time, distancing all his fellow workmen both in speed and quality. Efforts to obtain his secret failed. Even his feeder, who to some extent was in his confidence, and who is still working on presses in this city, does not know the composition of that paste. But it did its work, and well. After five, ten, fifteen, or twenty thousand impressions, it remained the same elastic yet firm coating that had been put on with brush or finger as the case might be; and the impressions taken were as fine and delicate as the most labored overlay worked out with paper.

Innumerable experiments have been made in this country to imitate the high results in finish and time which our friend, the "Canuck," accomplished, but thus far they have been measurably unsuccessful. The nearest to winning has been a preparation, or paint, in which liquid rubber or caoutchouc was a prominent ingredient. But even this, fine, delicate, and elastic as it was, left something to be desired, and thus failed to match the exquisite effects of the paper overlays; although on ordinary work it was a surprising time-saver, as, being put on with a brush wherever needed, it could be applied in any thickness or in as many layers as were required, saving most of the time spent in the innumerable cut-outs and layer on layer of pastings of the other method.

The "paint" idea has gone across the ocean and found recent adopters in Great Britain. Critical examination of cut-work that comes to us from there, and which was produced by the paint method (though without the caoutchouc ingredient, we are certain), convinces us that they are behind us, even in this. There is an immature, unfinished look about their cuts that shows the pressmen were in too great a hurry, or their "paint" was too coarse or too soft for its work; or else the pressman had not an artistic sense of the true values in the pictures.

There is little doubt that, with the enormous increase that is coming in fine illustrated work, the old method of overlaying with pasted paper will have to go, and be displaced by some method that will combine speed with finish. The "paint" *principle* looks like the thing; but the true ingredients have not yet been found. Besides, for the very highest work, it will require a genuine artist to apply it. Here is a field for study and experiment open to the pushing young pressmen of America. Those who get first on the ground will pick up the gold. It is a fair field for discovery.—*American Art Printer.*

The Long Distance Telephone.

Ithaca and New Haven are now connected, and Mr. A. S. Hibbard has in mind a novel test exhibit for this winter. He will try to have the Cornell and Yale glee clubs give simultaneous concerts in Ithaca and New Haven. The two concert halls will be connected by telephone, and then the Yale club will sing, and both the Ithaca and New Haven audiences will hear the music simultaneously. Then the Cornell club will sing in Ithaca, and the New Haven audience will hear it as well as the one 400 miles away when the singing is taking place. Spice would be added to the entertainment if a joint debate between the Yale and Cornell navies could be arranged on the Yale-Cornell boating difficulties.

Mr. Hibbard, at his home in Morristown, received reports by telephone from New London during the last Yale-Harvard race. For the benefit of his guests he rigged up a couple of tin shells, each with its eight oarsmen, and by changing the relative positions of the boats at each report he kept his friends in high excitement for twenty-three minutes. At the end of the race the cheers for Yale from the spectators on the banks of the Thames could be distinctly heard in Morristown.—*N. Y. Times.*

A CINCTURE ATTACHMENT FOR RIDING SADDLES.

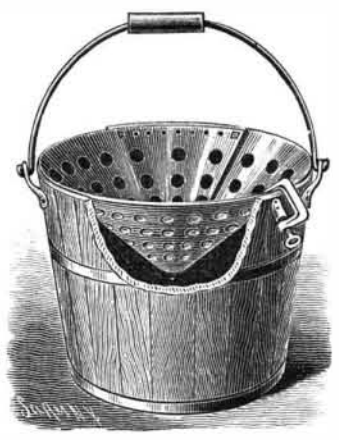
The device shown in the engraving, which has been patented by Mr. Henry Hartmann, is designed to facilitate the ready attachment of a saddle to a horse, and its quick removal. A three-bar reefing loop, shown in the small view, is attached to the cinch ring of the belly girth by means of a strap, one end of which is secured to the lower bar of the loop, while its free end is passed through the ring and up through a suitable keeper or clasp, terminating in a buckle. A second three-bar reefing loop, similar to the first one, is removably attached, by means of a metal cincture, to a ring fixed in the saddle. One end of the reefing strap is secured to the upper bar of the lower reefing loop, and is thence passed over the lower bar of the upper reefing loop, and downwardly around the center bar of the lower loop, being again carried upward over the center bar of the upper loop, the strap having perforations near its end adapting it for engagement with the buckle on the end of the strap connected with the belly girth. The cincture secured to the upper bar of the upper reefing loop is preferably of malleable steel, and its free end is passed through the saddle ring and bent downwardly. It should be sufficiently thick to hold the parts securely, but capable of being easily bent, it being designed that, after the girth is once adjusted to the horse, it will not be necessary to use the reefing strap in attaching the saddle, this operation being effected by simply pushing the cincture through the saddle ring and bending it downwardly. This attachment may be applied on one or both sides of a saddle.

HARTMANN'S GIRTH ADJUSTER.

For further information relative to this invention address Messrs. J. P. and E. P. Mitchener, Stockton, Utah.

A SIMPLE FORM OF MOP WRINGER.

The illustration represents a device to be applied to a pail of any size to facilitate squeezing or forcing the water out of a mop. It has been patented by Mr. Alexander M. Borland, of Otisville, Orange County, N. Y. The device consists of a shell, preferably constructed of sheet metal and bent to the shape of an inverted cone, the ends of the metal sheet being made to overlap so that the size of the shell may be adapted to different sizes of receptacles, and being retained in such position by pins or short bolts and suitable nuts. The inverted cone is formed with an opening at the bottom, and has quite a number of circular apertures to permit water to pass freely into the pail. The inner end of the metal sheet forming the shell is made with a decided rib extending from top to bottom, this rib being adapted to engage with the mop when the latter is placed in the device and turned around, the rib also acting as a bearing against the pressure exerted in the act of wringing the mop. The device is secured to the pail by means of a simple clamp, as shown.



BORLAND'S MOP WRINGER.

Excavating in Quicksand.

At a recent meeting of the New England Waterworks Association, Mr. Albert F. Noyes read the following note: "Some years ago I had occasion to make an excavation in material known as quicksand, some 15 feet deep, near buildings. If the excavations were made in the ordinary way, a settlement of the foundations would be likely to occur, so I adopted the following method, which in my case proved successful; and I see no reason why, under similar conditions, and in a great many cases, it could not be used to advantage. The excavation, as I have said, was about 15 feet deep, and about 60 feet in length and 8 feet wide. Usually below these veins of quicksand there are veins of a coarse material which form ready conductors for the water, and the vertical distance through the quicksand is usually less than the horizontal distance; the ground water has the least resistance in the vertical direction, and tends to soften and take up the quicksand with it. If the water is drawn out, or the water level lowered below the bottom of the trench, this fine material becomes compact very much like clay, and the excavations can be made with perfect safety and the use of a light sheeting. In the case I refer to I used fourteen pipes 1½ inches in diameter, and these were driven equidistant about the excavation to be made, with the ordinary perforated well point, having attached outside a fine mesh brass screen. They were driven into a stratum of coarse material from 35 to 50 feet below the surface of the ground. The pipes were ganged together and attached to a common plunger pump, and the water was drawn down. I might state that the normal level of the ground water was within three or four feet of the surface of the ground, so we had to draw the ground water down some ten or eleven feet. We found by test tubes outside of the gang that we could readily hold the water to a level which insured the excavations being made without any difficulty whatever; in fact, the banks were dry, and the lower portion of the excavation was very firm. In one case the well points, after we used them, were sold to other parties at nearly the first cost. The pipes, which were taken from the pipe yard, were returned and used over again, so that there was little loss in that way; and the whole cost of driving the pipe was about $18, so that the expense of that method was really less than sinking a well outside of the excavation in the usual manner."—*Stone.*

Collotype Plate Making.*

I do not wish to trespass on your valuable time with a long paper, but to give plain instructions and formulæ, and show results, so that any of you interested in photo-mechanical printing can go home and try it for yourselves without being confused with unnecessary matter. The first thing is some good plate glass ground with emery, such as the piece here shown. It is very simple. I take two pieces and put a little emery moistened with water between them, and rub them round and round till I get as fine a grain as possible, and then well wash and clean with spirits and ammonia, when they are ready for the first coating, which is made as follows:

Sour ale or porter	30 ounces.
Silicate of soda	3 "

This is carefully filtered, and a little poured on the plate, and spread over with the palm of the hand; then put in a rack or stand on blotting paper to drain. No heat is necessary. They ought to be done over night ready for next day, when, after a good washing under the tap, at the same time rubbing with a soft sponge, and again dried, they are ready for the second coating, which I make as follows:

Coignet's gelatine	5 ounces.
Nelson's sheet gelatine	2 "

Soak in 80 ounces of water, then dissolve, and add bichromate of ammonia 2 ounces dissolved in 10 ounces of water to which has been added one-half ounce of liquid ammonia. The plates, which have been previously described, are carefully leveled in the drying oven, and the temperature raised to about 100°, when they are carefully coated with the second preparation just described, and dried at a temperature of 150°, when the gas or hot water is turned off, and they are allowed to cool gradually. They ought not to be used till next day, and they will keep good for about one week; after that time they become insoluble. The next operation is to expose under a reversed negative either wet or dry plates; but I have never seen a dry plate negative yet that can compare with a wet collodion one, although I have had nearly twenty-five years' experience. The exposure to light is difficult to describe. The best way is to use an actinometer, and give about the same time as you would for a silver print from the same negative; but a few trials will be of more service than a book full of instructions. After the plate is exposed sufficiently, take off the backing, and expose the back to light for five or ten minutes, according to the subject. This helps to bind the film to the glass, and prevents too much relief. The plate is now put into water, and allowed to soak till all the unaltered bichromate is washed out; then give a good rinse under the tap, well clean the back, and put away to dry spontaneously. They should not be used at once, but allowed to get thoroughly hard. The plate, after being put under the tap and dried with a cloth, is soaked with a mixture of glycerine 40 ounces, saltpeter 2 ounces, ammonia 7 ounces, for about five minutes, and dried again with a cloth, and is then ready for the printing, which can either be done in a hand press or by steam. The ink is very much like litho, and the machine the same.

I don't pretend to know anything new, but I have tried to show how collotype is worked, and the foregoing is exactly how it is worked every day by one of the largest firms in the world.—*Photo. News.*

* Read before the North Middlesex Photographic Club.