

# THE PHOTOGRAPHIC NEWS.

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### PHOTOGRAPHS IN PRINTING INK.

The production of a photograph direct from the negative, in the very material which has always been regarded as the type of permanency and pictorial stability—printing ink, is unquestionably a master stroke of ingenuity. This has been the result desiderated from the time that silver prints have been found to fade. As carbon process after carbon process has been tried with more or less of success, as one method after another has been suggested for securing permanency in silver prints, it has been the repeated ejaculation, "If we could only get photographs in printers' ink, in the material which gives durability to printed books and engravings!" Mr. Pouncey has solved this problem. Whatever may have been the merits or demerits of his former processes and his former claims, we are bound to state that his present process, just protected by Her Majesty's royal letters patent, is as beautiful and simple as it is ingenious.

The term "photograph in printing ink" is at first sight suggestive of a photo-engraving or a photo-lithograph. But let the term be distinctly understood: by the process to which we refer, a print is produced direct from the negative in printing ink, just exactly as a print, by the ordinary method of printing, is produced in silver. This process does not in any way clash with photo-lithography or photo-engraving, although it may possibly be found a valuable adjunct to both, as a method of getting the image on the stone or plate. At present they are valuable for the rapid reproduction in large numbers of all subjects which can be represented in the conventional gradation of stipple or hatching. Even if half-tone be eventually satisfactorily secured in negatives of all classes, from nature, they will not be put on the stone or plate for production by the printing press, except when large numbers are required. But in Mr. Pouncey's new process he aims at superseding the use of silver for single prints, whether the subject be portrait, landscape, or reproduction.

We have, just before writing these remarks, exposed and developed, in conjunction with Mr. Pouncey, two portrait negatives, one very soft and thin, and the other very dense. The light was one of the worst we have had this summer, misty and yellow, only one degree removed from a fog. This of course interfered with the certainty of our operations, and materially prolonged the exposure. Nevertheless we obtained two good prints. The time of exposure usually required in sunlight with an ordinary good negative, Mr. Pouncey informed us, is about twenty minutes or half an hour. On this occasion we exposed for about two hours; possibly a quarter of an hour longer, in the bad light we had, might have been an advantage.

In the point of weakness, common to most carbon processes, these prints are faultless. The gradation of half-tone is amazingly perfect in every part. Every gradation in the negative appears to be accurately registered. So far as we can see at present, the colour or tone of the prints is the chief point in regard to which we should desire modification.

The material used is, as we have said, printing ink, and the colour of the print is, therefore, gradations of black. Now when these gradations are formed by stippling or hatching, giving a perfect black and perfect white in small points, or fine lines side by side, a variety of agreeable tones of pure grey are produced, varying in depth of tint according to the state of subdivision of the points or lines and spaces. But when the gradation is produced, as we have it here, by gradations of depth in continuous tints of black printing ink like a wash in water-colour painting, the greys appear to have a very slight greenish brown or olive tinge, which we scarcely like. This, it will readily be seen, is, however, a matter entirely under control, the exact colour of the ink being a matter in the hands of the operator, a warmer tint being easily obtainable. Another difficulty which has existed, Mr. Pouncey is just surmounting. We described one of these prints we received some months ago; and we then said that something more was desirable in the purity of the lights or whites. Mr. Pouncey informed us at the time that this was a matter chiefly depending on the quality of the paper. A sample of paper he has recently obtained will, he believes, entirely remedy this difficulty. One of the prints we have just tried is upon it, and shows a considerable improvement upon the former print, and will, probably, leave little to desire. Nevertheless, in points of detail, as to the exact material and tint desirable for different subjects, it is probable that enlarged experience will bring improvements.

Now as to the process. In another column we publish the specification of the patent; but it may, nevertheless, be interesting to give a brief summary of the manipulations, and the principle upon which they are based, here. It is somewhat singular that upon two of the oldest facts in photography this process is founded: upon the fact that bitumen of Judæa becomes insoluble in its ordinary solvents when exposed to the action of light—a fact known to Niepce as early as 1827, if not earlier to some of our own savans; and upon the fact that bichromates, in combination with organic matter, become insoluble under the action of light, a fact discovered by Mr. Monge Ponton, in 1838. Almost every carbon process and method of photo-lithography and photo-engraving yet propounded has been based upon one or the other of the facts we have just mentioned.

The merit of Mr. Pouncey's process consists in the novel and ingenious application of known facts, and in further development of these facts. The properties of bichromates and of bitumen of Judæa were known, but it was not known that these substances might be so incorporated, or combined, with ordinary printing ink that it should become insoluble after exposure to light. This is what he discovers. In many respects his new carbon process resembles others. He takes lamp-black or other carbonaceous pigment—a fatty matter, such as tallow and turpentine—the materials composing printing ink; to these he adds bitumen of Judæa, or bichromate of potash, or both; these materials are ground together, and thoroughly incorporated. The pro-