

it is evident that the careful storage of paper before being placed in the printing frame will prevent the absorption of moisture. Similarly the periodical drying of the pads, decidedly advantageous for other reasons, will here also be beneficial. We may remark that the opposite extreme, the making the paper "bone-dry" just before placing upon the negative will be the reverse of beneficial, as it is a well-established fact that over-dry paper will neither print nor tone satisfactorily. What is required is to prevent its arriving at the opposite extreme.

It is often felt necessary during dull weather, in the endeavor to utilize all available light, to print in the open air. *En passant*, we may say we consider this practice not to be so advantageous as is often supposed, for it must be a very defective covering that robs the light of even ten per cent. of its actinism. The result must naturally be the dropping down upon the print or the negative—the result would be the same in either case—of particles of injurious matter, soot, and, sometimes, metallic particles from sundry manufactories, the foggy atmosphere not permitting the quick deposition that would occur during dryer weather. It may be said such spots would readily be seen and removed; but, as a matter of fact, experience shows that such is not the case with at any rate the average printer; further, particles so minute as not to be noticed are quite capable of setting up a species of catalytic action resulting in a decidedly visible blemish.

If now we follow the subject to the consideration of particular and local causes, we find a multitude of sources, most of them well-known ones. Sufficient cannot be said about the need of care in the handling of hypo; unless it be used in a place far away from prints and printing, it is surprising how readily it gets into the air and injures the prints most seriously. We recently heard of an instance where the especial care taken to avoid this evil had the very opposite effect to that intended. The principal of the establishment we refer to insisted upon all his printers wearing aprons in the interests of cleanliness. One of these employees was very care-

less, and an investigation into the cause of a serious number of spots and stains showed that he had allowed his apron to be almost saturated with hypo, particles of which were blown or brushed off on to the prints, and at other times his hands touching the deceptive protection became sullied with hypo, and prints were finger-marked in consequence.

One fertile source of spots must not be forgotten—the presence of particles of iron in the paper itself, or of injurious atoms in the albumen. At one time Rives paper was very liable to this defect, some paper being almost unusable; but now it is reduced to a minimum. We have seen spots, or rather stains, produced at this time of the year through incipient stains in an unvarnished negative. The silver had set off on to the gelatine, and produced markings which would rapidly ruin the negative. To print from an unvarnished negative when the atmosphere is at all humid is simply to invite the production of stains.

We may conclude our remarks by describing the cause of a large outbreak of spots which completely puzzled the head of a very large printing establishment. Small black spots of all shapes were present in such numbers as to be the cause of serious loss. It seemed impossible to find out their origin, until one day it was observed that the damaged prints (cabinet size) all were printed in some new frames that had been put into use. A further investigation showed that microscopically minute particles of brass, produced either in finishing off the frame or by the friction of the spring in opening and shutting the back, were readily discernible. A thorough cleansing of the frames, over all the surface and into the corners, was at once carried out, and the evil was laid. So simple a cause had such widespread results that we deem it most useful to describe the occurrence, thinking the same may operate in other printing rooms. In any case, we trust the wide basis we have laid for tracing the cause of spots may be the means of enabling this evil to be mitigated, if not entirely banished. —*The British Journal of Photography.*