

CHAPTER IV

INKING

Preliminary Considerations. The discussion of swelling has been somewhat lengthy, but not more so than is warranted by the importance of this part of the process. Correct swelling is the keystone to the success of the inking. For the newcomer to the process a particular procedure for securing correct swelling is all that is necessary, but the advanced worker should have a good knowledge of the general theory underlying the soaking operation, in order to be able to employ, if necessary, out-of-the-way methods to suit his own particular style of work. Hence, the full discussion, which may, however, be skipped in large measure by the beginner.

In this chapter, occurring as it does in the part of the present volume devoted to Technique, we shall do no more than discuss materials and technical methods of depositing and removing pigment. Having described the standard method of producing a correct reproduction of the original bromide print, we shall leave the further treatment of inking to the second section of the book, which deals with aesthetic matters. After the attainment of the ability to reproduce as accurately as possible, and in a mechanically correct way, the gradations of the bromide print, the rest is a matter of artistic ability, and is in that category of accomplishments which cannot be taught, although help and guidance may be given, and will be given, which may save much arduous self-instruction.

The apparatus and materials required for pigmenting are not very numerous, and comprise brushes, an inking support, inks, media, blotting paper, cotton wool, a palette and a stiff palette knife. Taking first the question of brushes. Generally speaking there is only one kind of brush which has any use at all for bromoil, and that is the

type specially prepared for the process. They are of the stag-foot shape as shown in Fig. 1A, and have preferably a dome-shaped working surface. The only type for which the author has any use are those similar to Fig. 1A, where the plane of the working surface is set obliquely to the axis of the handle. The square-cut shape shown at Fig. 1B are made specially for "hopping", a process which will be described later, and which, in its more energetic forms, should be rigorously avoided. When hopping is done gently the ordinary oblique-cut brushes are quite suitable.



FIG. 1A



FIG. 1B

The brushes may be purchased, made from three types of hair: fitch, imitation fitch, and hog. The prices are also in the order specified, the fitch being the most expensive. The beginner is advised to start with the imitation fitch brushes, however, as they are remarkably effective, and, moreover, do not show, to quite such a pronounced degree as the genuine article, that tendency to shed fractured pieces of hair when new. The real fitch brushes are delightful to work with, having a springiness and resilience not found in the imitation. They are, however, in every

sense of the word, a luxury, and the imitation type are all that the beginner will need. The hog-hair brushes are in a different category. The finest possible grain cannot be obtained with these brushes, but a delightful broadness of treatment is easily achieved with them. Mr. F. J. Mortimer, the well-known expert at sea and wave pictures, and also one of the pioneers in the bromoil process, was an advocate of hog brushes. The brushes sold by the Drem Company are also made of a specially fine and supple hog-hair, with which it is possible to produce a smooth texture, comparable to that obtained with fitch. Hog-hair brushes have the merit of being very cheap, and, moreover, never shed portions of their substance on the most delicate parts of the picture.

In choosing the size of the brushes to be purchased, due regard should be paid to the size of the largest picture which will normally be worked. If the ink can be got on to this area in 10 to 15 minutes in a rough fashion, showing the main features of the image, but without working up of detail, the size of the brush will be ample. Taking 12×10 as the larger limit of size, a brush $1\frac{1}{2}$ inches across the foot when new (and spreading to about $2\frac{1}{2}$ inches after some little use) will be about the right size. It is a good plan to get this largest brush of hog-hair, and to use it for roughing-in. The hog-hair is very hard-wearing and admirably adapted for this purpose. The price of such a brush will be rather under ten shillings. Brushes about half this diameter, and about $\frac{1}{2}$ -inch in diameter, will be required, and may be of imitation fitch to start with. They will be used for smoothing and working up detail where desired. When control is to be attempted it will be advisable to get a good supply of the smaller brushes, including some of the very small ones about $\frac{1}{8}$ -inch diameter, which are very useful for removing ink from localised areas. If it is intended to work for a grainy finish in the prints all the brushes may be of hog-hair.

Let us now consider the other requisites. In the first place, an inking support is necessary. Nothing is better for this than a sheet of plate glass larger all round than the largest print to be pigmented. This may be supported at a slight inclination similarly to a draughtsman's drawing-

board, and may be used just as it is, or covered with one or more sheets of damp blotting paper, to receive the print. The exact nature of the support is one of those small matters which may assume the rôle of a considerable annoyance if a few preliminary precautions are not taken.

If a bare plate glass is used, care must be exercised to see that the print does not dry off too rapidly in a warm room. In fact, the author does not counsel the use of bare glass on this account although he used this method for years. It is very easy to let the print dry to the stage where it is not taking the ink properly without its being noticed, owing to the gradualness of the change. Should it be decided, however, to adopt this system, which has the advantage that there is no danger of getting water on to the brushes when working near the edges of the print, the best plan is lightly to dry the back of the print as it comes from the soaking water, on a piece of blotting paper, before putting it down on to the glass. If the back is wet, the print will slip about all over the glass under the brush, while if it is made too dry, the same result is achieved. It must, therefore, be just sufficiently dried to leave enough water to secure adhesion to the glass. This is a small point, but one which may prove very disconcerting if not observed.

If soaked blotting paper be put over the glass as a support for the print, the danger exists that the brush, when used near the edge of the print, will pick up water from the blotting paper. This may be got over in a variety of ways. In the first place the wet blotting-paper pad, which need not consist of more than one or two sheets, should be well blotted off with a dry paper. This will get rid of most of the excess moisture. A further safeguard may be obtained by making the original print with a white margin all round, and another good idea, recommended by Fred Judge, is to superpose on the blotting paper a piece of well-damped and blotted writing paper, and then to place the print on this. This last is a very satisfactory method.

A smaller piece of plate glass serves admirably as a palette for the ink, while the best palette knife for bromoil is constituted by a stiff table knife. The author finds

those obtainable at Woolworth's and similar establishments excellent in every way for this purpose. An artist's palette knife is usually much too flexible to be of use with hard ink.

The question of inks has been discussed at some length previously, under the heading of swelling. Where media are required for use with the inks for softening purposes, several alternatives are available. Usually it is the best plan to use one of the inks made in two degrees of hardness, and to avoid the use of medium at all. With the Drem inks, two media are sold, one for relatively slight softening, and the other for marked softening. These should always be used with Drem inks. With Sinclair inks, there is the choice of Sinclair's medium (a slow-drying composition suitable for transfer), Roberson's medium (drying quickly and with considerable gloss), artists' megilp, and even pure linseed oil. A little of the last goes a very long way and great care must be used in adding it to the ink. The writer prefers megilp as being a reasonably quick (though not too quick) drying medium, and at the same time not softening so rapidly that it becomes difficult to let the ink down slowly. Megilp is suitable as a medium for transfer.

Applying the Ink. We will suppose that all these preliminaries have now been settled and the print is just ready to come out of the soaking water. The print is allowed to drain until no more drops fall, and is then put down upon the support. A clean, well-washed and fluffless handkerchief is now loosely rolled into a pad and is gently dabbed over the face of the print until no superfluous moisture remains, and the gelatine is surface dry. It may now be left for a few minutes while the two inks suggested for trial are taken (Sinclair Encre Machine and Taille Douce) and a piece the size of a pea squeezed from each tube into the opposite top corners of the palette. The hard ink is then spread out carefully into a thin film, about the area of the foot of the largest brush, with the palette knife. The brush is *lightly* dabbed on this patch once or twice, and is then worked on a clean part of the palette to even the ink over the hair tips. In so doing, a second black patch is

formed, which is the working patch. No ink must be taken direct from the first patch for application to the print.

The working up of the ink is purposely left till the print is on the inking support, as the slight drying out that takes place due to evaporation of moisture aids in obtaining an easy "take" of the first few dabs of ink. The freshly dabbed-off print usually still contains too much surface moisture to allow of really easy acceptance of ink. Blotting off with dry blotting paper, on the other hand, usually leads to the matrix losing too much water, with consequent loss of swelling and ready differentiation of tones, particularly in the shadows.

The novice should always work with a sparingly charged brush, although the most spontaneous quality of work results from using a fairly fully charged brush. This must, however, be reserved for trial by more experienced workers, because blocking up of shadows and half-tones will occur if the necessary experience be lacking. In any case, the charge in the brush must be evened up on the working patch.

Having evenly charged the tips of the brush hairs with ink, a spot must be selected on the print for the first application of the ink. This should be a place where there is a strong contrast of tone in the image, and preferably where there is some detail in the darker tones. This will enable a judgment to be formed as to whether the swelling has been accurately adjusted to the ink in use. The brush should be dabbed two or three times gently on the selected spot, and if all is well the image should appear in moderate strength and with a reasonable amount of detail showing. Furthermore, the colour should be of good depth without any suspicion of coarseness or greyness. Underswelling when only to a slight extent will almost always be revealed by this unpleasant deadness and greyness of the colour. Overswelling will, of course, lead to a lack of receptivity for the ink, and in this case further dabbing should be resorted to with an ink into which has been well mixed just a faint trace of soft ink. In order to ensure thorough mixing the softened ink should be spread out on the palette and scraped up again several times.

Brush Strokes. We may at this point pause to consider the manner in which the brush should be applied in this case, i.e., when depositing ink evenly and in accordance with the original image, and then to go on to outline the other possible methods of brushwork designed for different purposes.

(a) BRUSH STROKE, TO DEPOSIT INK EVENLY IN ACCORDANCE WITH THE GRADATION OF THE ORIGINAL SILVER IMAGE.

With a slightly sloping pigmenting support as advocated above, the guiding principle in this stroke is to *keep the brush handle vertical*. Two methods of holding may be employed, both maintaining this position of the brush. If the pigmenting support is kept flat, the handle of the brush must be allowed to slope forward slightly away from the operator. This is a more difficult operation altogether, and hence the advice is given to slope the inking support. There are two methods of gripping the brush handle in use among experts, either of which may be tried.

(i) Between thumb and forefinger at the very tip of the handle, the brush being allowed to fall on the paper almost under its own weight, and then being gently withdrawn after allowing the hairs to splay out, under the weight of the brush. The grip must be quite loose, all the hand muscles being relaxed. As with pencil or paint brush, a fierce grip is fatal.

(ii) Between thumb and *all the other fingers*, held close together, at the base of the handle just near the hairs, the fingers being on top and the thumb underneath. The grip in this case may be a little firmer, but must never be heavy. In this case, great care must be taken to ensure verticality of the brush handle. The brush is lowered on to the paper, sufficient pressure given to splay out the hairs, the pressure relaxed and the brush gently withdrawn.

Some idea of the two grips may be gained from Figs. 2A and 2B. (See page 54.)

There is absolutely no necessity to perform the dabbing action rapidly, and provided the brush is of sufficient size work will be quite rapid with a reasonably slow dabbing. It is more important to keep the dabbing light, and to recharge the brush at regular intervals, than to work up a tremendous speed of dabbing.

(b) STROKES TO OBTAIN DENSITY IN EXCESS OF THAT CORRESPONDING TO THE ORIGINAL IMAGE.

(i) If the above method of applying ink has been practised and a certain amount of experience gained, it

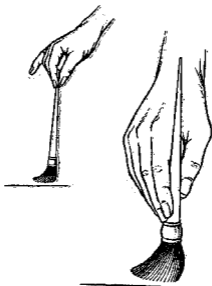


FIG. 2A

FIG. 2B

will be found that by sloping the brush forward instead of keeping it vertical, and by emphasising the spreading of the hairs, ink will take to a greater depth, and to a certain extent there will be a general deposition of ink irrespective of the original silver deposit. The second of the previously

described grips is better adapted to this end. Also, a slow and deliberate dabbing with slightly increased pressure on the paper will increase the amount of additional ink added. This is the stroke to employ for the toning down of irritating patches of light tone in what would preferably be areas of more or less uniform shadow.

(ii) A method recommended by Underberg (*British Journal of Photography*, Vol. 73, p. 480 (1926)) is useful to achieve the present aim, and also serves as a good method for general deposition of ink if followed by a few light tapping strokes of the brush to remove excess ink and to bring up the detail. The method consists in lowering the charged brush on to the paper and pressing to spread the hairs. This is followed by releasing the pressure, and applying again without moving the brush from the spot. After several pressings and releases it will be found that a dense deposit of ink is left, through which details are dimly discernible. A few light tapping strokes will reduce the image to normal density. A delightful quality of image is frequently obtained by using this method.

(c) STROKE FOR REMOVING INK ALREADY DEPOSITED.

This is the operation usually known as "hopping." There is no objection to this practice provided it is indulged in quite gently, but vigorous hopping to lighten blocked-up shadows is altogether to be condemned, upsets all chance of transferring, and generally results in damage to the gelatine. Gentle hopping may be effected with the ordinary oblique-cut brushes, but straight-cut brushes are made specially for hopping, and are sometimes used attached to a spring wire handle specially adapted for this purpose. The whole idea is, however, in these days of specially prepared papers, quite unnecessary.

The gentle lightening of tone and increasing of contrasts advocated here may be practised as follows: take a clean brush of suitable size, having regard to the size of the area to be dealt with. Apply this to the print with a snatching motion as if physically dragging the ink off the paper. Actually the stroke is similar to the depositing strokes, but the upward motion instead of the downward move-

ment is emphasized. Above all, there must be no violent impact of the brush on the gelatine; it is merely placed on the surface of the print and jerked off again. Apart from actually reducing the tone depth, the contrast between adjacent parts is heightened, and the definition is made sharper.

The actual amount of ink removed by hopping depends on the state of the matrix. If there is any reluctance for the ink to come away, a short re-soak in cold water, followed by gentle dabbing off of excess moisture, will result in a great improvement in this respect.

Much more might be written regarding brush technique, but beyond giving these few suggestions for practicable starting methods no useful purpose is served because each worker will subconsciously develop a style of his own which will contribute towards the originality of his work, and no amount of printed description would make that method useful to an artist aiming at a different type of result.

Working up the Picture. Returning now to the print we were inking, and having satisfied ourselves by the first few dabs that all is well as regards the swelling, we must proceed to cover the whole print over with ink and to work up the image to its final depth and quality. Using one of the methods described for depositing the ink, the whole area should be gone over methodically, giving one or two dabs at each spot, and being careful not to allow any dense portion to become blocked up. Re-charging of the brush should take place every few dabs, or as often as is indicated by the refusal to give up more ink. Should the print after a few minutes' working show a tendency to become smudgy, and to take the ink more or less evenly, re-soaking is indicated.

Re-soaking is one of the greatest aids towards securing bright, clean and untroubled inking. A good motto for the pigmenter would be: When in doubt, re-soak. In particular a re-soak soon after starting inking is usually advisable because before the matrix receives a primary covering of ink over its whole area water seems to evaporate more quickly. At any rate, it will often be found that a re-soak

is indicated five minutes after starting, whereas another will not be necessary for perhaps twenty minutes. Re-soaking need not be at the original soaking temperature, but will be quite successful in cold tap water as a general rule. In fact, if the original degree of swelling was not complete at the selected temperature, the use of cold water for re-soaking will prevent the production of an increased relief, which is not desirable at this stage.

When the print area has become completely covered, and the image is showing up in an uneven and blotchy way, the brush should be gently worked over the entire print without re-charging, until the original dabs are all worked out, and the image has assumed almost its final appearance. A little more ink may be added where necessary, and a little light hopping employed to reduce depth locally, or to impart gradation to a sky. The main highlight of the picture may be hopped up to almost pure white. There will usually be a slight residual grain in the image, not at all unpleasant in most cases. If desired, even this may be worked out, especially if a very little, slightly softer ink be used for the purpose. In general, however, a slight and even grain is a sign of good workmanship, and by no means to be despised.

It will be observed that no mention of the use of a softer ink is here made, the print being inked throughout with ink of the same fluidity. This is easily possible if the soft type of print previously described is used as the basis. It is recommended that one consistency only of ink be employed at first, but if, for any reason, this does not appear possible, by all means let the beginner soften his ink from time to time, in each case giving a short soaking at a temperature, say, 5° F. higher than that previously employed, and carrying out the addition of soft ink or medium with great care, so that too much is not added. The more advanced methods of inking, in which the use of soft ink plays an integral part, will be dealt with on a later page.

POINTS TO REMEMBER IN INKING A BROMOIL

- (1) Use only the special bromoil brushes, and have one, at least, of a good size.

- (2) Slope the inking support a little.
- (3) Work always from the ink patch to the ink distribution patch, and never direct to the print.
- (4) Hold the brush vertical and with a light grip—dab slowly.
- (5) Never "hop," except very gently.
- (6) Re-soak the print whenever inking hangs fire—an early re-soak is often necessary.
- (7) In the initial stages try to avoid softening the ink.