

Pinhole Photography

How to take Pinhole Photographs

Derek Drage

PINHOLE PHOTOGRAPHY

Why take pinhole photographs?

Pinhole photography enables a person to make a simple, inexpensive camera that doesn't require focusing and with it take good quality photographs. Each camera will take its own unique, distinctive images particular to its size, pinhole and film plane. Black & white photographs can be produced quickly and cheaply, and the controls concerned with the formation of a photographic image can be experienced in a creative way.



The Royal Mile, Edinburgh. Film 125 ASA on a curved film plane, 5 seconds exposure

THE DARKROOM

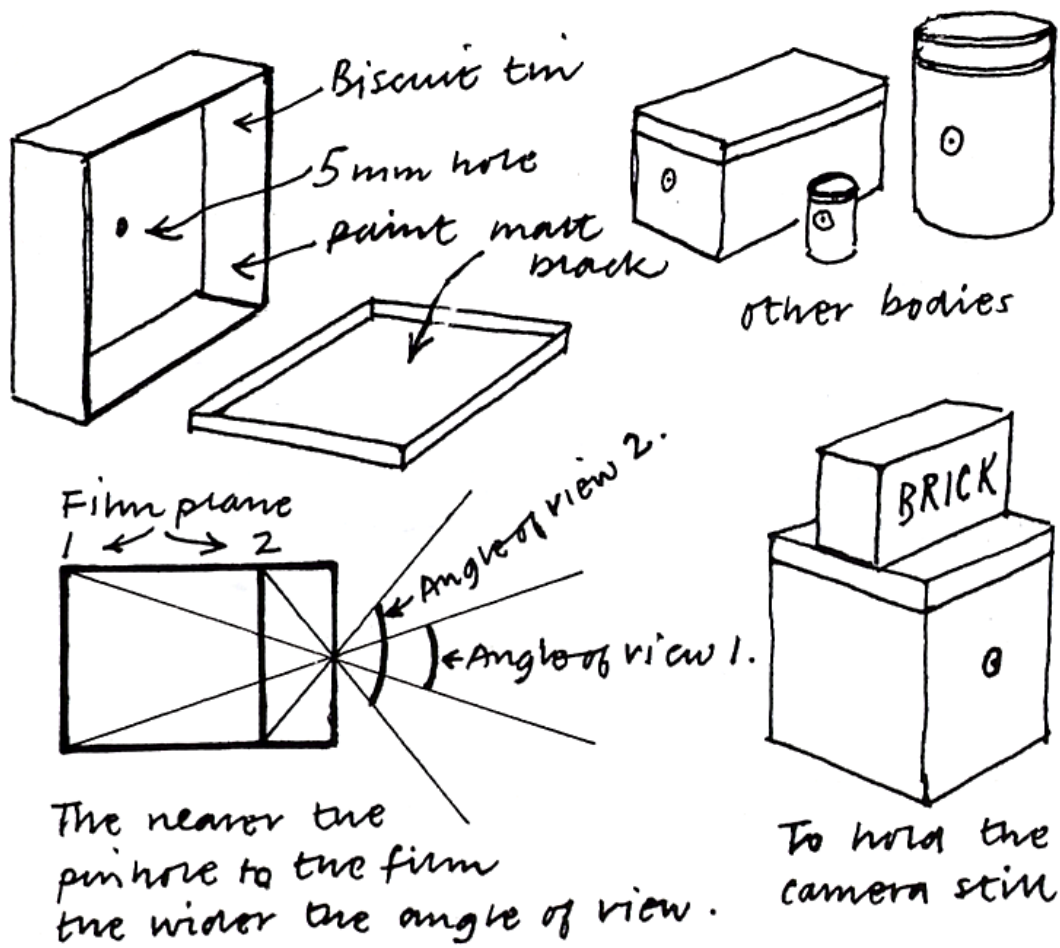
It is necessary to have a ventilated working space that can be blacked out, such as a cupboard or bathroom, for the handling and processing of film and printing paper.

THE CAMERA BODY

The camera body is best made from a strong, ready made light tight container such as a biscuit tin. A container of from 10 to 30 crns in depth will make a good manageable

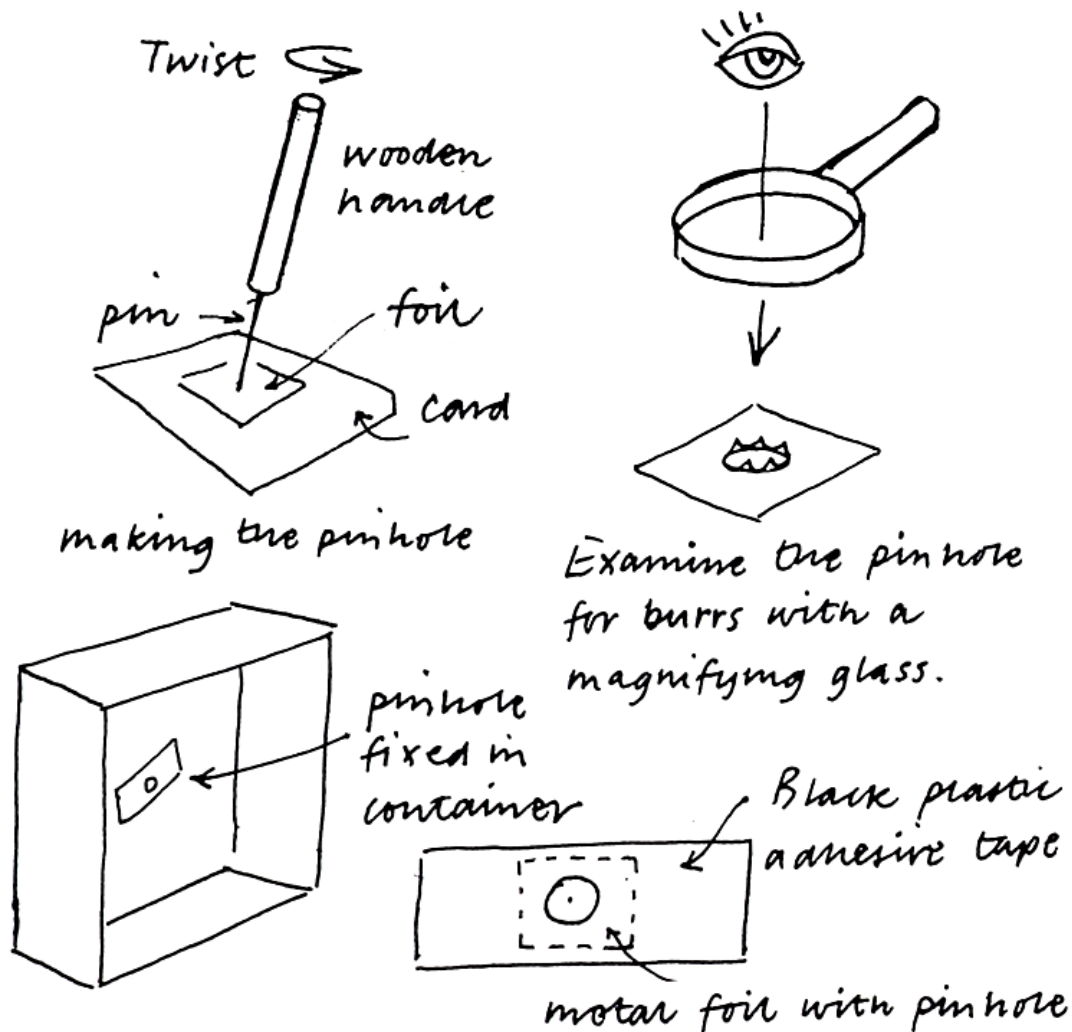
camera. The nearer the pinhole is to the film the wider the angle of view and the shorter the exposure time. The further they are apart the narrower the angle of view and the longer exposure time.

The camera body needs to be strong enough to support a weight, such as a brick, that will hold it still while the exposure is made. Poor definition caused by camera shake is the most common fault in photographs. Before making the pinhole put a hole about 5mm in diameter in the container opposite the side to be used for the film then spray or paint the inside and the lid matt black.



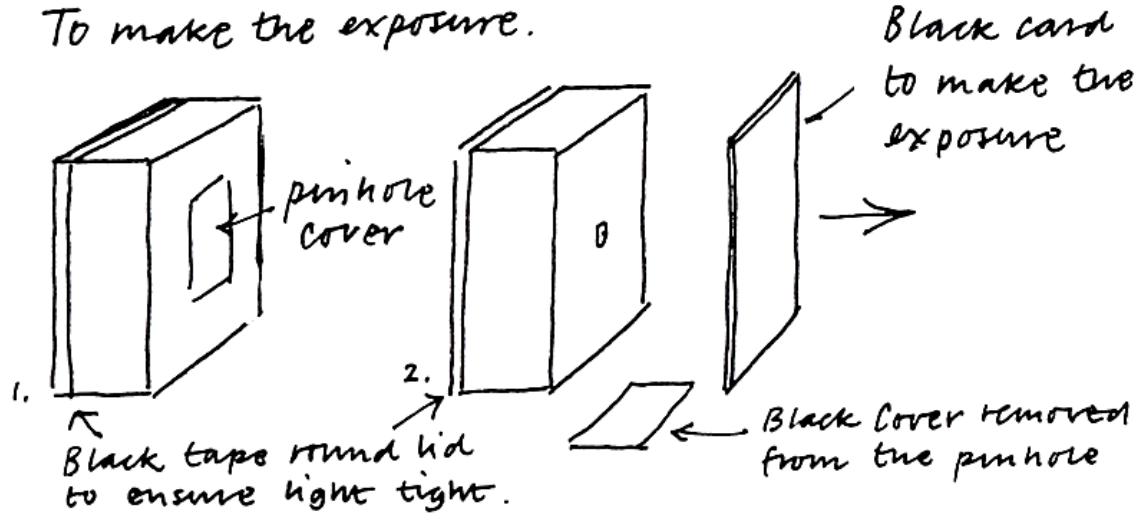
THE PINHOLE LENS

The pinhole can be made from the aluminium foil used for pie containers or milk tops (wrapping foil is too thin), or better still brass shim. Place the foil on a piece of card and using a pin or needle 'drill' a hole into it about 4mm in diameter. Remove the burr formed on the reverse side of the hole with very fine, preferably used, carborundum paper. Examine the hole with a magnifying glass to make sure that it has a good clean edge. The hole should be perfect and further work with the pin and carborundum paper may be found necessary to obtain this. Fix the foil with the pinhole over the hole previously made in the camera body with black adhesive tape.



The Shutter

Cover the pinhole with a piece of black paper held in place with adhesive tape. This can be removed to let a controlled amount of light into the camera to make the exposure. It is better to make the actual exposure with a piece of black card in front of the camera to avoid camera shake caused when uncovering the pinhole.



The Focus

A pinhole lens has an infinite depth of field and therefore the image will always be in focus.

The Film Holder

The simplest method of holding the film in position is by using adhesive putty. Alternatively retaining guides can be made from black card and glued into position to act as a negative holder. This gives a more positive location for a fixed size of film or paper but it doesn't allow for different negative sizes.

The Viewfinder

With a little practice aiming the camera at a subject can be done surprisingly accurately without any viewing device.

THE EXPOSURE

Exposures are best made under bright light conditions so keeping the exposure times within reasonable limits. Some tests for exposure need to be carried out in the beginning. A camera with a 4mm pinhole 10 cms away from the film 125ASA when an exposure of 1/125 of a second at F11 is estimated, such as on a bright sunny day, would require about a 5 second exposure. Bromide printing paper 5 ASA, would require an exposure of about 3 minutes. These estimated exposure times would be multiplied by 4 if the distance from the pinhole to the film was doubled i.e. 20cms



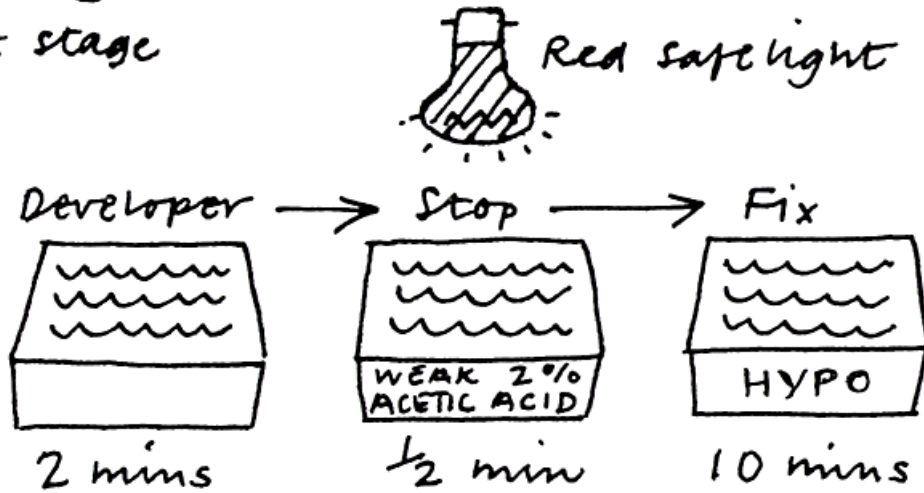
Edinburgh Castle- Film 125 ASA on a curved, acutely angled film plane. Exposure 15 seconds

THE NEGATIVE

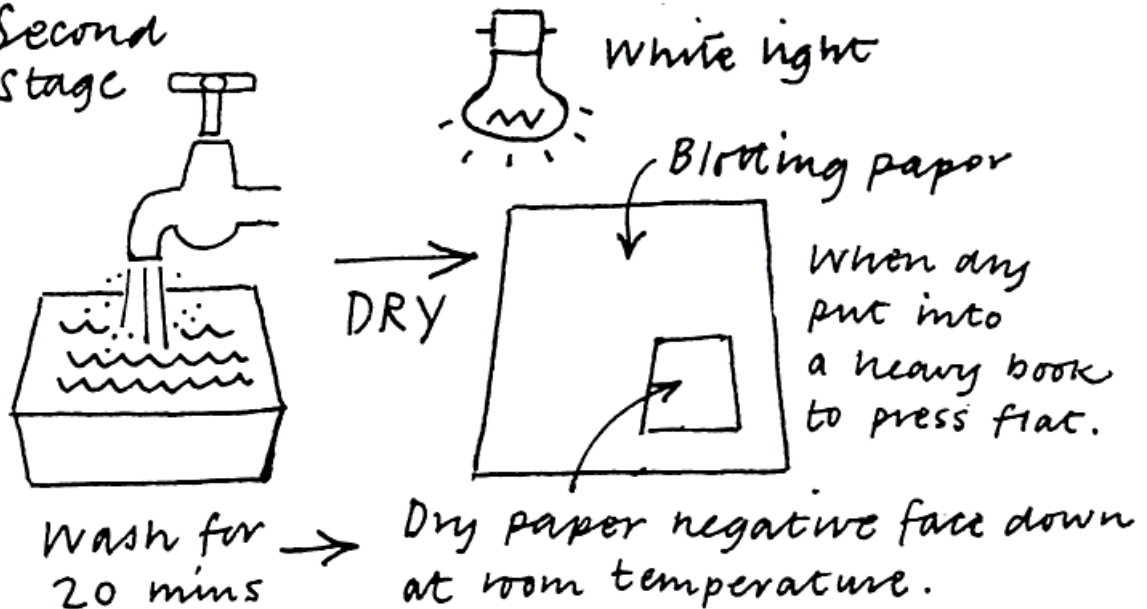
Use either film or a soft grade, single weight, glossy bromide paper. 102 x 127cm (5"x 4") cut film gives a good negative size. Bromide paper although requiring a longer exposure time has advantages. It is much cheaper. 203 x 254cm (10"x 8") can be used full size or cut down and handled and processed under a red safelight, so the photographer can see what he/she is doing.

Processing a paper negative

First stage

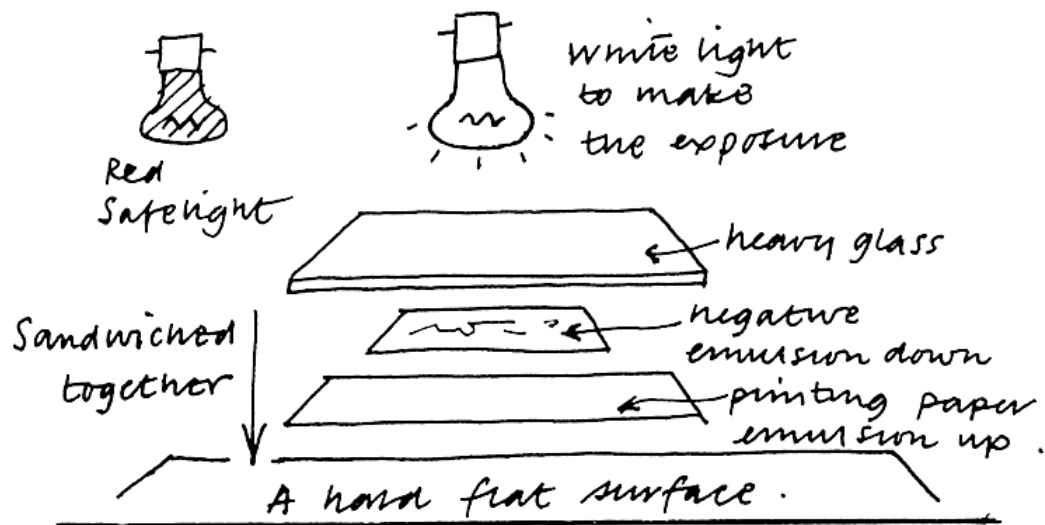


Second stage

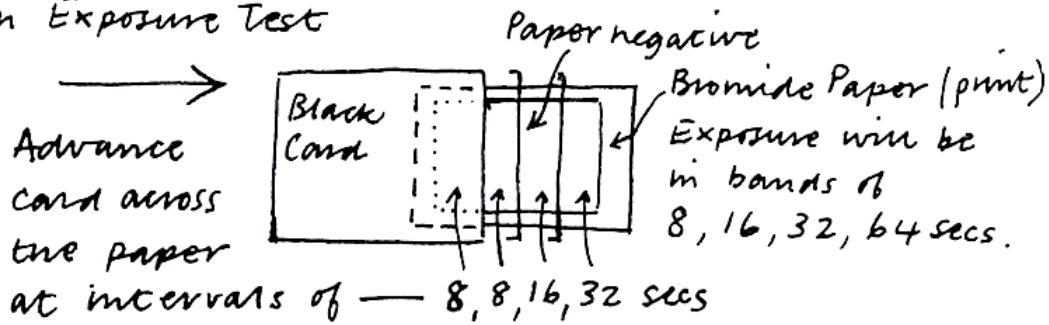


THE PRINT

Contact prints give the best results. Under a red safe—light the processed negative is placed on top of the printing paper; emulsion to emulsion, on a flat surface and held in close contact with a clean heavy piece of glass. This is exposed to white light and exposure tests made. Paper negatives will need longer exposure than film, due to the density of the paper: The exposure will depend on the brightness and distance of the light source from the printing surface, but once the correct exposure is obtained it will give a good guide for further printing.



An Exposure Test



It is an advantage to work methodically. Use a note—book to jot down ideas and information about exposures which easily get forgotten.

Making the camera and the photographs is not difficult and this will soon be discovered, once a start has been made.



Castlehill & Outlook Tower- Film 125 ASA on a convex film plane. exposure 8 seconds.