

PHOTOGRAPHY OF LATENT PRINTS

UTILIZING

TRANSMITTED LIGHT

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Latent prints detected on transparent or translucent surfaces and lifts of latent prints mounted on transparent or translucent backings are frequently best photographed when transmitted or "back" lighting of the specimen is used to illuminate the prints. Impressions on such materials, which are more distinctly viewed when placed before a white or light colored background, are generally more legibly preserved when this lighting technique is used. A distinct advantage of this method of lighting is that a photographic image of latent prints depicting black or dark ridges on a light background can be produced from a first generation negative, regardless of the color of the print and original evidence. Another benefit of using transmitted light is that the spoiling effect of excessive powder on lifts (not an uncommon problem) may be somewhat lessened. Following is a brief description of the technique of utilizing transmitted light.

EQUIPMENT ARRANGEMENT

When employing this technique, the illuminator, a translucent light diffuser, evidence and camera are placed in positions that will allow light from the illuminator to be directed through the diffuser, then through the object bearing the latent prints into the lens of the camera (See Figures #1 and #2).

ILLUMINATOR

The illuminator may be a photographic laboratory lamp, a photographic slide viewer, a photographic negative viewing light or practically any sufficiently maneuverable lighting apparatus which has a translucent material covering the light source. When using a light source such as a photographic laboratory lamp not equipped with a translucent covering, translucent Plexiglass can be used as a light diffuser. In lieu of translucent Plexiglass, white paper may be placed between the light source and the specimen being photographed. If paper is used as a diffuser, however, care must be taken to insure that it is not ignited by the extreme heat of the illuminator. The diffuser should provide an even illumination of the entire object being photographed.

APERTURE AND EXPOSURE

In calculating the camera aperture setting and the length of exposure time when using transmitted light, a photographic light meter reading of reflected light should be taken. When a hand held light meter is used, the reading should be taken from the direction of the camera lens by placing the meter approximately one fourth inch from the critical area (latent prints)

being photographed. A spot meter can also be used to accurately measure the reflected light. Aperture and exposure time settings which are based on the reading from a hand held meter or a spot meter should be adjusted as required for the camera lens focal length. When a camera such as a 35 mm single lens reflex type is used with a macro lens to photograph latent prints, the calculations of the built in metering system should be correct and require no adjustment.

IDENTIFYING TAG

An identifying tag bearing case numbers, appropriate initials, date and a brief description of the evidence should be included in all photographs of latent prints. When transmitted light is used alone, the light on the identifying tag is generally insufficient for the tag to be identifiable in the resulting negative and photograph. To insure that this vital information is properly recorded, a supplemental illuminator may be used. This supplemental light should be a single illuminator placed in the same position as if it were being positioned to produce "balanced" light on the object being photographed. The resulting photograph should show a darkened, but legible, identifying tag and properly exposed latent prints. The photographic light meter reading will not be affected by this supplemental light, as the transmitted light is the predominate light source. (See Figure #3).

FILM

The film used with transmitted light photography is dependent upon the quality and contrast of the latent prints, just as when other lighting techniques are utilized.

By using these lighting procedures, latent prints on transparent and translucent materials can be more legibly photographed and in those instances when the original ridge color of the latent print should be reversed, the need to prepare a second generation negative is eliminated.

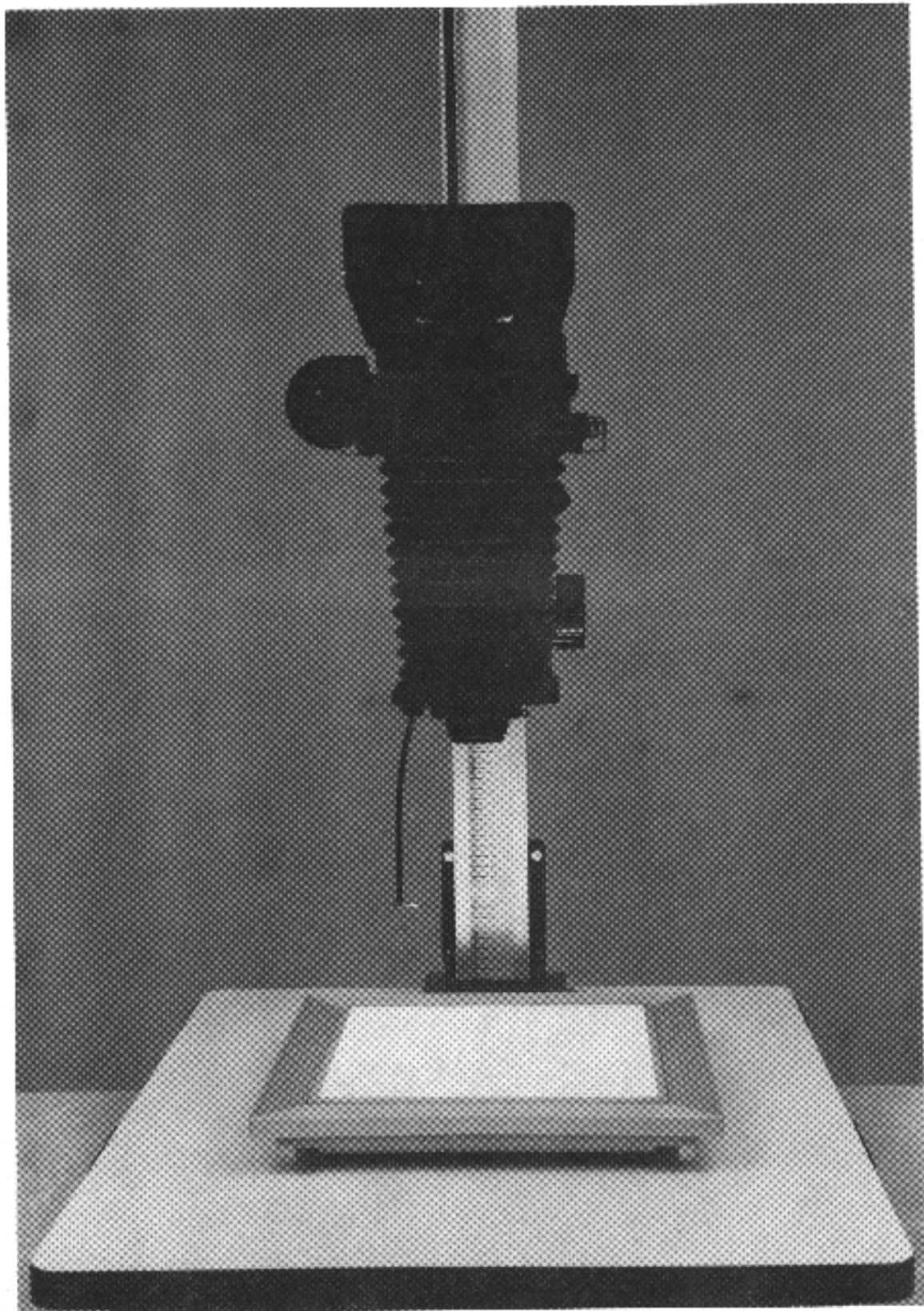


FIGURE 1

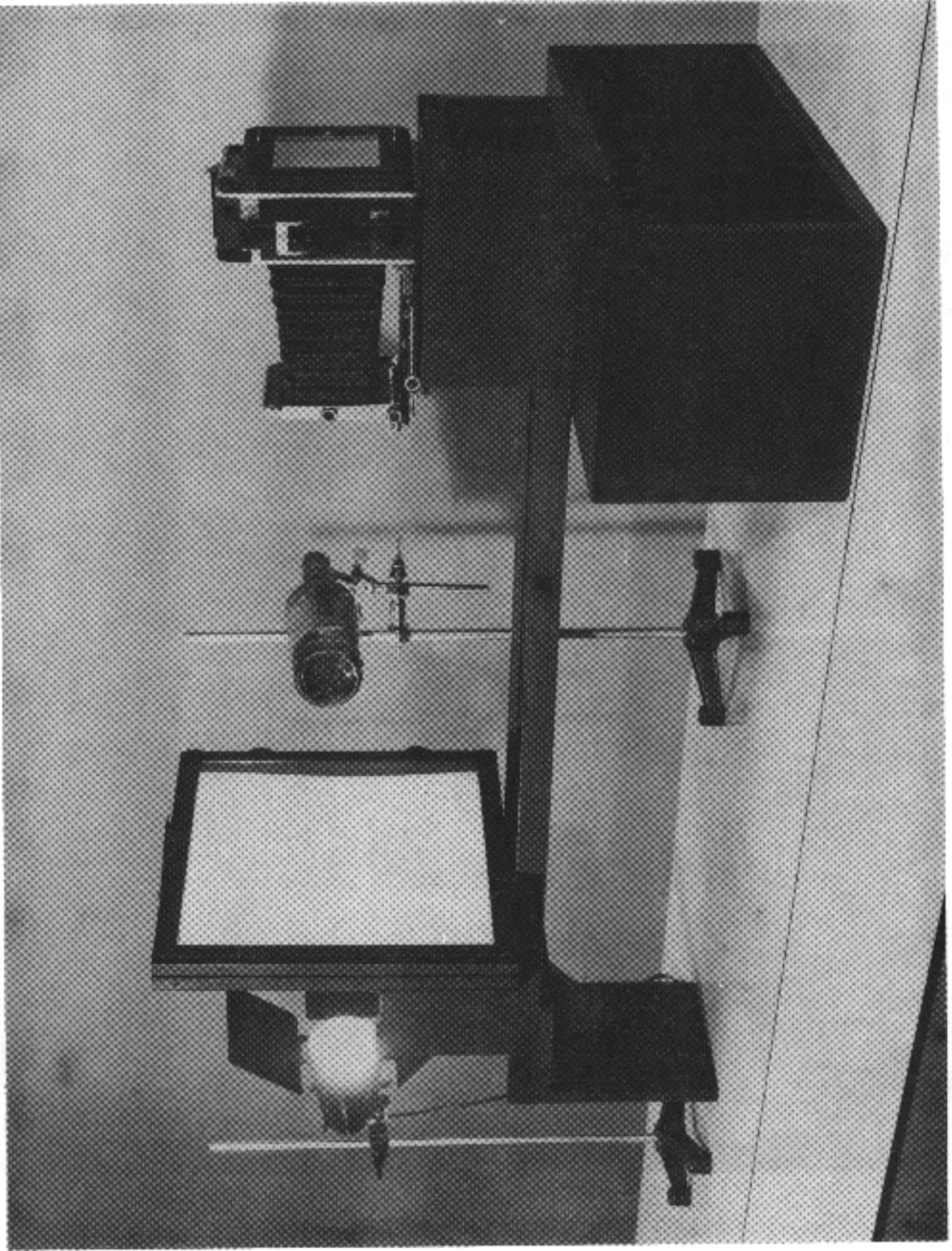


FIGURE 2

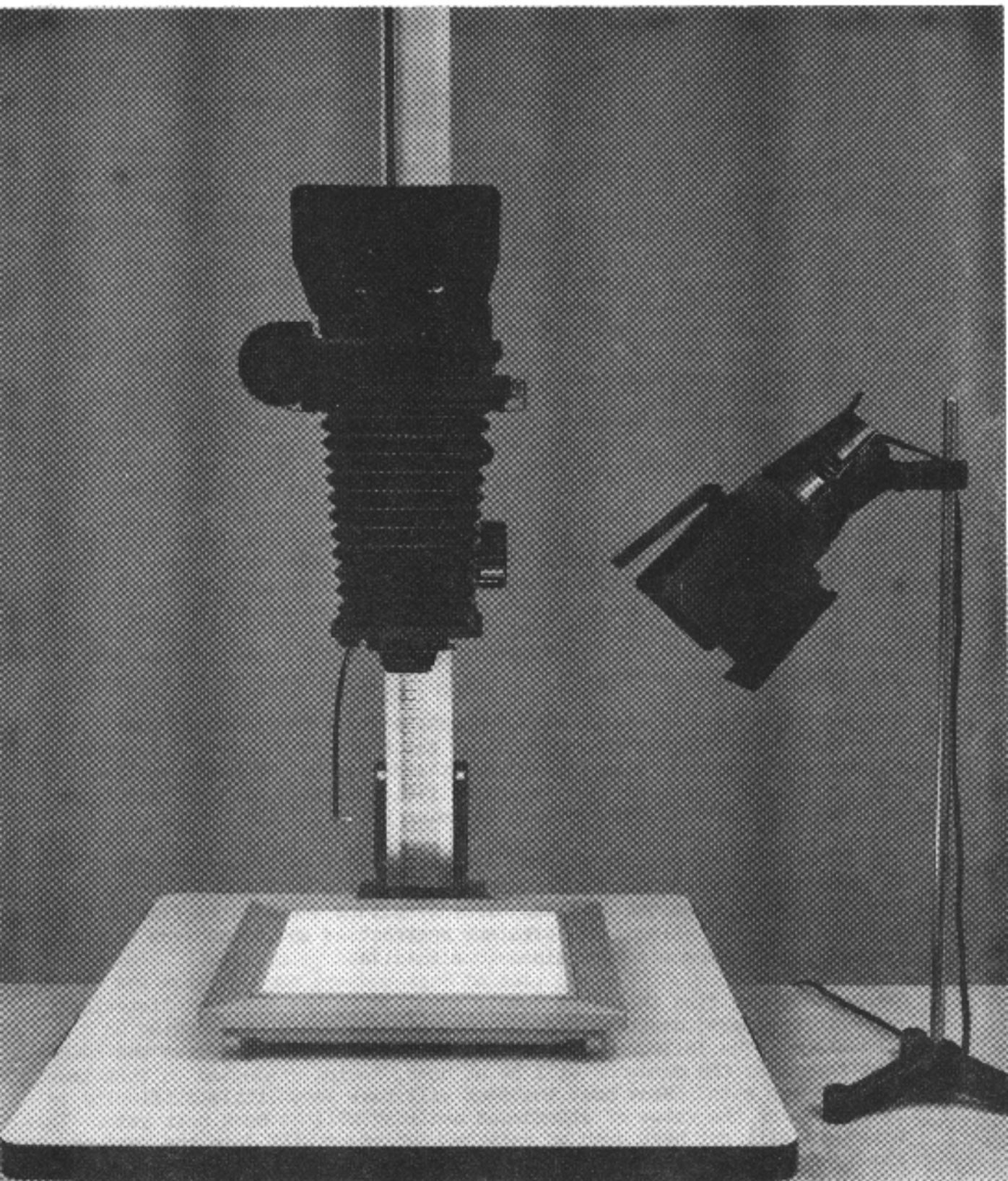


FIGURE 3