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The young man's book of amusement

Halifax, 1848

To construct the Camera Obscura

[urn:nbn:de:bsz:31-100120](https://nbn-resolving.org/urn:nbn:de:bsz:31-100120)

and desiring him to throw away the water, but save the pieces; he will not be a little surprised at finding only one.

To set a combustibile Body on Fire, by the Contact of Water.

Fill a saucer with water, and let fall into it a piece of potassium the size of a pepper corn, which is about two grains. The potassium will instantly burst into flame, with a slight explosion, and burn vividly on the surface of the water, darting at the same time from one side of the vessel to the other, with great violence in the form of a beautiful red-hot fire-ball.

To construct the Camera Obscura.

Make a circular hole in the shutter of a window, from whence there is a prospect of some distance; in this hole place a magnifying glass, either double or single, whose focus is at the distance of five or six feet; no light must enter the room but through this glass. At a distance from it, equal to its focus, place a very white pasteboard, (what is called a Bristol board, if you can procure one large enough, will answer extremely well;) this board must be two feet and a half long, and eighteen or twenty inches high, with a black border round it: bend the length of it

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inward to the form of part of a circle, whose diameter is equal to double the focal distance of the glass. Fix it on a frame of the same figure, and put it on a moveable foot, that it may be easily placed at that distance from the glass, where the objects appear to the greatest perfection. When it is thus placed, all the objects in front of the window will be painted on the paper in an inverted position, with the greatest regularity, and in the most natural colours. If you place a swing looking glass outside the window, by turning it more or less, you will have on the paper all the objects on each side the window.

If, instead of placing the looking-glass outside the window, you place it in the room above the hole, (which must then be made near the top of the shutter) you may have the representation on a paper placed horizontally on a table, and draw at your leisure all the objects reflected.

Observe, the best situation is directly north ; and the best time of day is noon.

The Magnifying Reflector.

Let the rays of light that pass through the magnifying glass in the shutter be thrown on a large concave mirror, properly fixed in a frame. Then take a thin strip of glass, and stick any small object on it ; hold it in the intervening rays at a little more than the focal distance from the mirror, and you will see on the opposite wall, amidst the reflecting rays, the