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The young man's book of amusement

Halifax, 1848

Artificial Illuminations

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Chemical Illuminations.

Put into a middling sized bottle, with a short wide neck, three ounces of oil, or spirit of vitriol, with twelve ounces of common water, and throw into it, at different times, an ounce or two of iron filings. A violent commotion will then take place, and white vapours will arise from the mixture. If a taper be held to the mouth of the bottle, these vapours will inflame, and produce a violent explosion, which may be repeated as long as the vapours continue.

To melt Lead in a piece of Paper.

Wrap up a very smooth ball of lead in a piece of paper, taking care that there be no wrinkles in it, and that it be every where in contact with the ball; if it be held in this state, over the flame of a taper, the lead will be melted without the paper being burnt. The lead, indeed, when once fused, will not fail in a short time to pierce the paper, and run through.

Artificial Illuminations.

A very pleasing exhibition may be made with very little trouble or expense, in the following manner: Provide a box, which you fit up with architectural

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designs cut on pasteboard; prick small holes in those parts of the building where you wish the illuminations to appear, observing, that in proportion to the perspective, the holes are to be made smaller; and on the near objects the holes are to be made larger. Behind these designs thus perforated, you fix a lamp or candle, but in such a manner, that the reflection of the light shall only shine through the holes; then placing a light of just sufficient brilliance to shew the design of the buildings before it, and making a hole for the sight at the front end of the box, you will have a tolerable representation of illuminated buildings.

The best way of throwing the light in front, is to place an oiled paper before it, which will cast a mellow gleam over the scenery, and not diminish the effect of the illumination. This can be very easily planned, both not to obstruct the sight, nor be seen to disadvantage. The lights behind the picture should be very strong; and if a magnifying-glass were placed in the sight-hole, it would tend greatly to increase the effect. The box must be covered in, leaving an aperture for the smoke of the lights to pass through.

The above exhibition can only be shown at candle-light; but there is another way, by fixing small pieces of gold on the building instead of drilling the holes, which gives something like the appearance of illumination, but by no means equal to the foregoing experiment.

N. B. It would be an improvement, if paper of various colours, rendered transparent by oil, were placed between the lights behind the aperture in

the buildings, as they would then resemble lamps of different colours.

To set fire to Spirits of Wine by the Rays of the Sun.

Put a small quantity of spirits of wine into a glass, and put a halfpenny or shilling in with it, then direct the rays of the sun, by means of a burning-glass, upon the coin, and in a short time it will become so hot as to inflame the spirits.

The Philosophical Candle.

Provide a bladder, into the orifice of which is inserted a metal tube, some inches in length, that can be adapted to the neck of a bottle, containing the same mixture as in the experiment, p. 28. Having suffered the atmospheric air to be expelled from the bottle, by the elastic vapour produced by the solution, apply the orifice of the bladder to the mouth of the bottle, after carefully squeezing the common air out of it, (which you must not fail to do, or the bladder will violently explode.) The bladder will thus become filled with the inflammable air, which when forced out against the flame of a candle, by pressing the sides of the bladder, will form a beautiful green flame.

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