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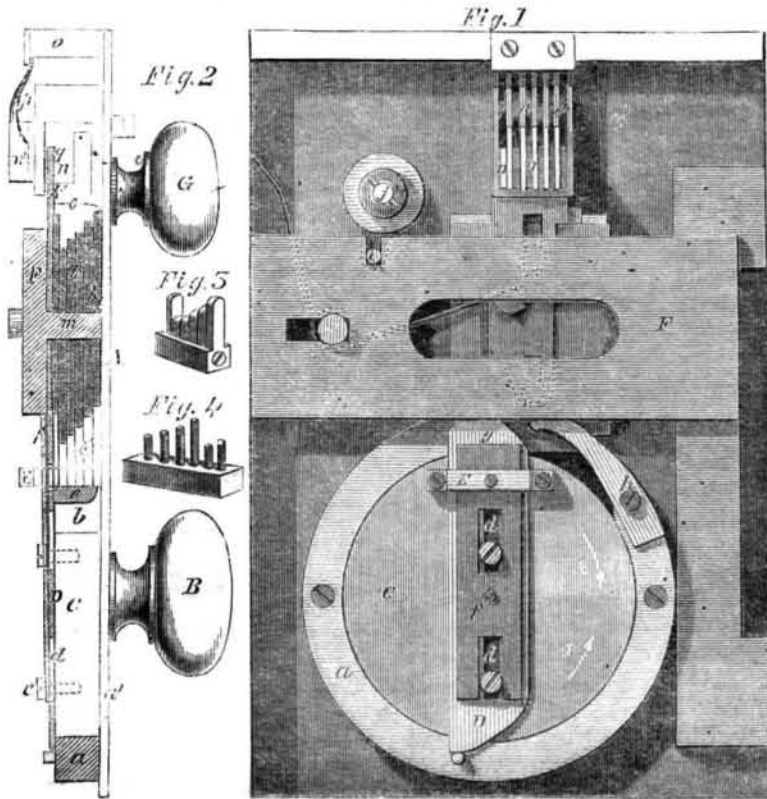
The Latest in Photography.—Photoglyphic Engraving.

Mr. Fox Talbot, the inventor of the well known "paper process" of photography, and who, with a liberality seldom found, relinquished his patent (being a wealthy man), and threw his improvements open to the world, has just been inventing a new process of engraving by light on plates of copper, steel, or zinc. Taking a perfectly clean plate, he covers it with a solution of a quarter of an ounce of gelatine dissolved in eight or ten ounces of water, mixed with one ounce of a saturated solution of bi-chromate of potash in water. The engraving process should be carried on in a darkened room, and is performed as follows:—

A little of this prepared gelatine is poured on the plate to be engraved, which is then held vertical, and the superfluous fluid allowed to drain off at one corner of the plate. The plate is dried over a spirit lamp, and the gelatine left in a thin film evenly spread over it. The object to be engraved is laid on this, and screwed down upon it in a photographic copying frame. This frame is then placed in the sunshine for one or more minutes. When the frame is taken from the light, and the object removed from the plate, a faint image is seen upon it—the yellow color of the gelatine having turned brown wherever the light has acted. Powdered gum copal is now spread thinly over the plate and melted into a thin covering, and the etching liquid applied. This liquid is the perchloride of iron, of which water dissolves an extraordinary quantity. This, of a certain strength (to be found by experience, five or six parts of the saturated solution to one or two of water being an average strength), is applied with a camel's hair brush, and the etching quickly commences, to be continued as long as the operator thinks fit. The liquid is then wiped off with cotton wool, the plate cleaned with water and whiting, and a perfect etching is obtained, the liquid acting only on those parts of the gelatine which have been left untouched by light. This liquid may be conveniently used for common etching, as it is, in every way, superior to aquafortis, and its preparation is simple, being merely a solution of peroxyd of iron in hydrochloric acid, evaporated nearly to dryness, and dissolved in water. It disengages no gas while "biting in," and does no injury to the hands or clothes of the operator. There are, of course, many points of difficulty in the process, which patience and experience on the part of the operator will easily overcome.

The venerable Alexander Von Humboldt is suffering from an attack of influenza, rather a dangerous complaint for a person of his age, ninety.

GOULD'S IMPROVED LOCK.



Fayette Gould, of Huntington, L. I., has invented and patented Aug. 17, 1858, the lock which forms the subject of our illustrations, and which is intended, as it is, to be unpickable, as two sets of tumblers are employed, and their relation may be so changed as to require different keys to open them.

Fig. 1 is a back view, Fig. 2 a section, and Figs. 3 and 4 are the two keys.

A represents a plate which forms the outer or front part of the lock case, if a complete case is required. B is a knob, the arbor of which passes through the plate, A, and is attached to a circular plate or boss, C, which is fitted and allowed to turn freely within an annular ledge, a, secured to the inner side of plate, A. In the plate or boss, C, a radial chamber or recess, b, is made, this chamber or recess being formed or cut into the plate from its periphery. On the outer face of the plate, C, a sliding plate, D, is secured by screw, c, which pass through an oblong slot, d, in the slide, D. A pin, E, passes through this sliding plate, D, and also through the plate, C, into the recess, b, in the plate, C. A projection, e, is also attached to plate, D, this projection extending into the recess, b, as shown clearly in Fig. 2. To the sliding plate, D, a spring, f, is attached, which bears on the pin, E, and has a tendency to keep it thrust into b. The ends of the sliding plate, D, are beveled or cut obliquely as shown clearly at g, in Fig. 1, and to the annular ledge, a, two pins, h h', are attached.

F represents the bolt of the lock, which is fitted in guides just above the annular ledge, a, and moved back and forth by a bit, i, which is attached to the arbor, j, of a knob, G. Between the bolt, F, and the plate, A, a series of sliding tumblers, k, are placed side by side. Each tumbler, k, has a notch, l, made in it, the notches being made at varying points in the tumblers. To the inner side of the bolt, F, a bar, m, is attached at right angles, the bar extending to the plate, A, and when the bolt is shoved forward and the lock

in a locked state, the bar is in front of the tumblers, k. One of the tumblers, which is designated by k' extends upward further than the others, and a piece, n, rests or bears upon it. A pin, o, projects from the side of the tumbler, k', said pin extending over the upper ends of the other tumblers, k, as shown clearly in Fig. 2.

To the upper part and at the inner side of the plate, A, a series of horizontal tumblers, n', are placed. These tumblers are fitted in a box, o', and a spring, p, bears against the back edge of each tumbler, n'. The tumblers, n', are each slotted at varying points, q.

From the above description of parts it will be seen that if the bolt, F, be in a locked state, that is thrown out from the plate, A, that the tumblers, k, must be moved in order that the notches, l, may be brought in line with each other and the upper tumblers, n', must also be so adjusted that their notches or recesses, q, will be brought in line to receive the upper end of the tumbler, k', in order to permit of the adjustment of the tumblers, k. The movement of the tumblers and unlocking of the lock is effected as follows:—Two keys, Figs. 3 and 4, are employed, each key being provided with bits of varying lengths corresponding respectively to the distances between the notches or recesses, l q, in the tumblers, k n. The knob, B, is first turned until the recess or chamber, b, is brought in line with a hole, a, in the plate, A, and the key, Fig. 3, is then pressed with the fingers into said recess or chamber, the shorter bit being first entered and the knob, B, slightly turned so that the spring, f, cannot force the key out from the chamber or recess. The key, Fig. 4, is then applied, its bits forced through apertures in the plate, and against the upper tumblers, n'. By this means the notches or recesses, q, are brought in line to receive the upper end of tumbler, k'. The key, Fig. 4 is held to the case, A, with one hand, and the knob, B, is turned by the other, in the direction indicated by arrow 1, and

when the key, A', in the recess or chamber, b, is brought below the tumblers, k, the sliding plate, D, will be actuated by the pin, k', and the projection, e, of plate, D, in the recess or chamber, b, will force the key, Fig. 3, upward, and the tumbler, k', will be raised, in consequence of the upper ends of tumblers, k, striking the pin, o, and the tumblers, k', will pass into the notches or recesses, q, in the tumblers, n', while the notches or recesses, l, will be brought in line, so that by turning the knob, G, the bolt will be thrown back, the bar of the bolt passing into the notches or recesses, l, of k. The lock is locked by merely turning the knob, G, so as to throw the bolt, F, forward, and then turning the knob, B, in a reverse direction to its former movement (see arrow 2), and the pin, h, will then actuate the sliding plate, D, and when Fig. 3 comes in line with the hole or opening, a, the spring, f, will cause the pin E, to force the key, from the plate C, and the spring will force the tumblers down so as to throw the notches or recesses, l, out of line with each other. The springs effect the same result for the tumblers, n'. The tumblers, n', it will be seen, serve as a check or guard to the tumblers, k; they are important, but might be dispensed with in certain cases, where very great security is not requisite. It will be seen that the bits in the keys may be changed in position and the position of the tumblers may also be changed by having access to the back of the lock. The lock, therefore, may at any time be changed so as to require different keys, that is, a different arrangement of the bits in order to open it.

It will be seen that when the key chamber is opposite the key-hole there can be no communication with the tumblers, except by rotating the boss containing the key chamber. When that is done the key hole is closed by the solid boss passing over it, consequently it is unpickable, there being no possibility of access to the tumblers by a pick.

The lock is also powder-proof, as the key chamber is cut in the solid metal. The lock can be made still more simple for ordinary uses by doing away with the check or guard tumblers.

Any further information can be obtained by addressing Ketcham, Brother & Co., Nos. 4 and 6 Liberty place, near Maiden-lane, New York.

Poisoning by Paint.

M. De Calvi, an Italian chemist, is said to have experimentally demonstrated that the cases of poisoning by remaining in newly-painted rooms are not due, as has hitherto been supposed, to the white lead, but to the vapors of the oil of turpentine. According to his statement, the effects will be the same whether the paint employed is lead, zinc, or other pigment, so long as the oil of turpentine, or any of its analogues, is employed as the medium. The treatment he proposes for such cases is, the energetic use of stimulants. We have before noticed this fact, but think by again calling attention to it, some of our inventive readers may suggest a preventive, which is better than such a cure.

NEW GAS JET.—Dr. Grussi, of Paris, has suggested to the club of the Scientific Press, of that city, the addition of a small piece of platinum wire, fixed in the jet at a very short distance above the orifice where the gas issues. This thin wire, situated in the center of the flame, increases to a surprising degree its illuminating power.