

Science and Art.

Burglar's Alarm Clock and Lamp.

This invention consists of a novel and ingenious combination and arrangement of levers, rods, and other devices, in connection with the doors or windows of a building, and a bell or clock and lamp in any desired apartment therein, so as to give alarm on the entrance of burglars into a room or building, and to furnish an instantaneous light in the chamber or room in which the lamp is placed, when the parts are operated either by a person entering the room or building, or by an alarm clock set to awaken the occupants of the room at a given hour.

In our illustrations, Fig. 1 represents an alarm bell and self-lighting lamp in immediate connection with a door, and a window within a frame in the same, in order to show the manner of operating the parts by the raising of a window. Fig. 2 is a front elevation of an alarm clock, with a self-lighting lamp combined therewith; and Fig. 3 is a section of the lamp, and parts for operating the same.

A is the door of an apartment, on the inner surface of which is arranged a window sash, B, and frame, B', in order to illustrate the method of operating the alarm by both the opening of the door, A, and the raising of the window sash, B. C is an arm or button, secured to the inside of the door by a pin, upon which it can be moved, so as to operate upon the end of a right angled lever, D, hung inside the door frame or not, as desired. The opposite end of this lever, D, is attached by a wire rod, E, to an oscillating lever, F, suspended on a fulcrum above the door; or it may be arranged in any portion of the building, with the necessary rods and levers between its end and the lever, D, to give it the required movement. G is a rod attached to the end of the lever, F, and extending downward in the frame of the door, and attached at its lower end to the end of an elbow lever, H, turning on a fulcrum at its angular part, with its opposite curved end extending upward between the door frame and the horizontal segmental flange, J, on the upper end of a tube, K, surrounding another vertical tube, K', in which is formed a vertical slit, which tube K', is secured to projections on the inside of the door frame, and is provided with a screw cap at its lower end. The upper end of an upright rod, L, is inserted in a notch in the edge of a segmental flange plate, J, which is provided with a hammer at its lower end, and connected to the necessary alarm clock movements for operating the same, arranged between the door frame and a bell, M.

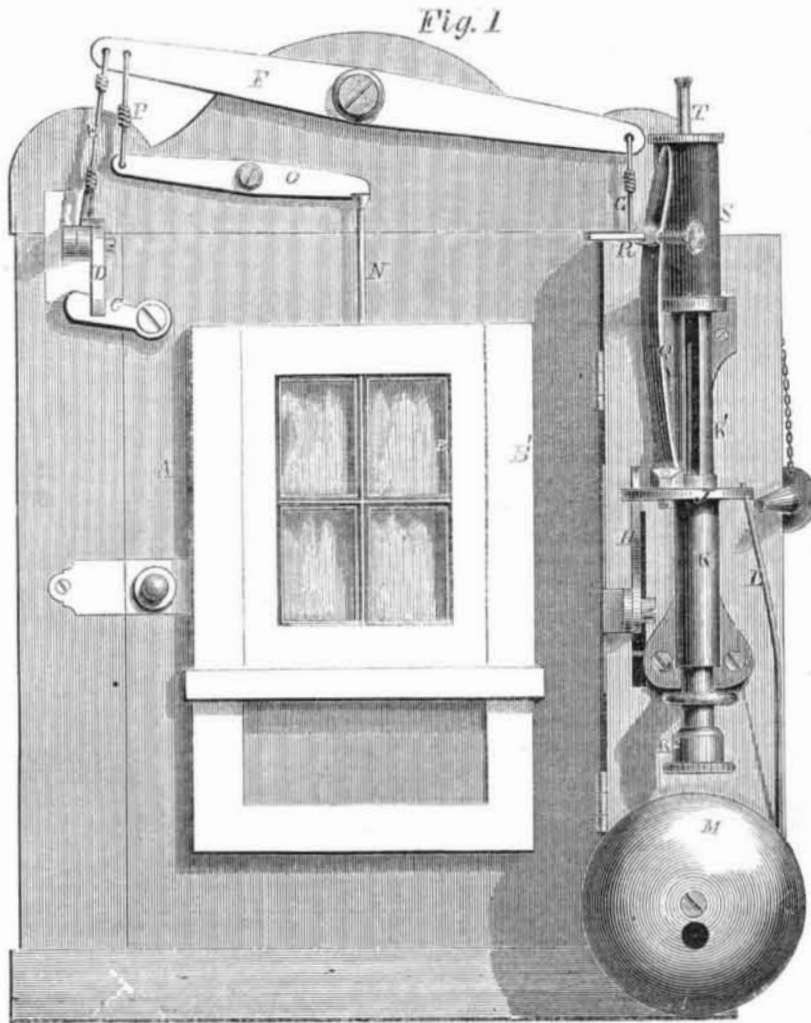
The window sash frame, B, is connected to the end of an oscillating lever, O, by a rod, N, the opposite end of which lever is connected by a rod, P, to the oscillating lever, F.

To the upper surface of the flange plate, J, is attached a spring bar, Q, to near the upper end of which is attached by a set screw, R, a horizontal match passing through an opening in the said spring bar, and having its end on which the chemical igniting substance is placed, in contact with the emery paper surrounding a vertical lamp, S, secured on top of the tube, K', and having a wick tube, T, at its upper end. The lower end of the spring bar, Q, projects through the slot in the tube, K', and rests on a spiral spring, s, arranged within the same, which spring is depressed by pressing the flange, segmental plate, J, and tube, K, and their attachments to the lower part of the tube, K', and retained in its compressed state by turning the segmental plate, J, and tube, N, slightly around, so as to bring the lower projecting end of the spring bar, Q, in a horizontal slot in the tube, K', extending at right angles from the upright slot in the same. When the spring is thus compressed, and the several parts in the positions represented, the spring bar, Q, is sprung back, to press the igniting end of the match against

the emery paper, with a sufficient degree of force to produce the required friction to inflame the same. The opening of the door, A, or raising of the window, B, will cause one end of the oscillating lever, F, to be depressed, and the opposite end to be raised, and the

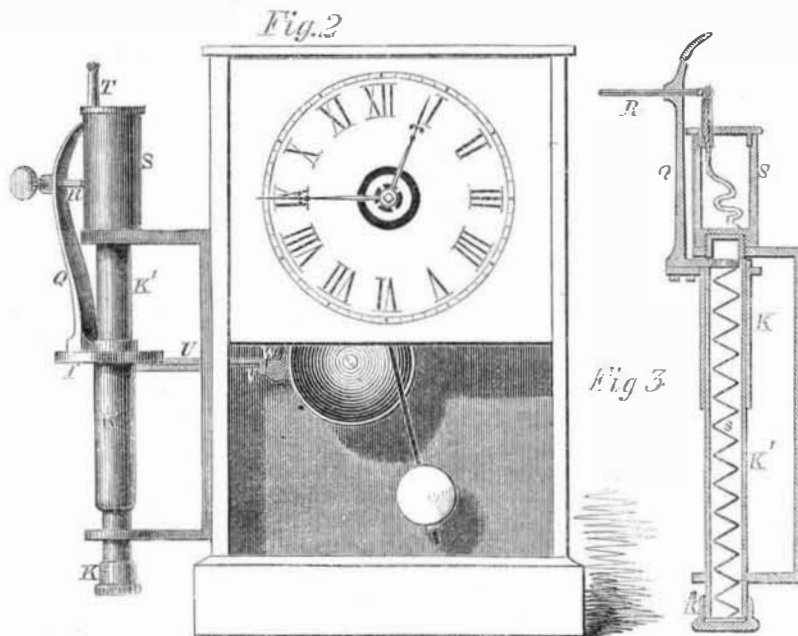
segmental plate, S, and tube, K, to be turned by the action of the elbow lever, H, until the lower projecting end of the spring bar is detached from the horizontal slot in the tube, K'. The spring bar, Q, or match holder is then carried upward by the spiral spring, s, with

MATTHEWMAN'S BURGLARS ALARM CLOCK AND LAMP.



the required degree of force to ignite the match by its rubbing over the surface of the emery paper, to light the lamp, and simultaneously with this movement, the rod is detached from the detent or notch in the edge of the segmental flange plate, J, and the previously wound-up clock alarm rings an alarm to awaken the occupants of the room. In the same manner the clock represented in Fig. 2,

can be set to ring the alarm at a given hour, in which event the lamp will be lighted by the movements of the before described parts, through the action of the hammer, W, of the clock upon the bent end, V, of a bar, U, connected to the flange plate, J. The turn given to the spring bar or match holder, Q, to release it from the slot in the tube, K', when the match is in contact with the emery paper



on the lamp cylinder, S, gives that cylinder a rotating movement equal to the movement of the holder, so that a fresh surface of the cylinder is presented at each operation to be operated upon by the match, and the difficulty which a stationary surface would present, of having the same worn smooth, or filled up with the gum from the match, is avoided. The lighting apparatus and alarm can be ar-

ranged in any convenient position in the room, and be operated by wires leading from the exposed doors or windows liable to be forced and entered by burglars, and when the lighting apparatus is operated by the clock as stated, a person can have a light when he is awoken by the ringing of the alarm.

The patent for this highly ingenious contrivance was issued to John Matthewman, of

New Haven, Conn., on the 6th of July, 1858. Any further information can be obtained by addressing him as above.

WOOD EMBOSING.—A newly invented process for softening wood that it may be pressed into iron molds, and receive permanent and sharp impressions in bas-relief, has, under the name of Xyloplasty, attracted much notice in Paris. The wood is softened by steam, and imbued with certain ingredients, which impart to it sufficient ductility to enable it to receive bas-relief impressions from four to five millimetres in height. For medallions, bosses, &c., mastic is forced into the hollows, so that all tendency in the compressed wood to split or open is completely overcome. For bookbinding purposes much seems to be expected from this process, as it is applicable to the scented or odoriferous woods—cedar, teak, cypress, rosewood, &c.—which are vermifuge in their nature; so that through their covers, books will in future be protected from the ravages of insects.

NOVEL APPLICATION OF ARTILLERY.—A road contractor in France near the Pyrenees, having lately found the process of blasting an overhanging rock rather difficult, and a mortar battery of the 10th regiment happening to be passing along, he telegraphed to Paris for leave to open fire upon a crag seventy yards above the road, over which it impended. A few rounds of ten-inch shell soon brought the entire mass to fragments. About ten minutes served for the operation.

The expenses of the British Patent Office for this year have been \$130,990 over and above its receipts. Rather an expensive luxury to the British people. They should copy us, and make it more nearly self-supporting.



OF THE SCIENTIFIC AMERICAN.

FOURTEENTH YEAR!

MECHANICS, INVENTORS, MILLWRIGHTS, FARMERS AND MANUFACTURERS.

This valuable and widely circulated Journal entered upon its FOURTEENTH YEAR on the 11th of September.

It is an Illustrated Periodical, devoted to the promulgation of information relating to the various MECHANICAL AND CHEMICAL ARTS, MANUFACTURES, AGRICULTURE, PATENTS, INVENTIONS, ENGINEERING, MILL WORK, and all interests which the light of PRACTICAL SCIENCE is calculated to advance.

All the most valuable patented discoveries are delineated and described in its issues, so that, as respects inventions, it may be justly regarded as an *Illustrated Repertory*, where the inventor may learn what has been done before him in the same field which he is exploring, and where he may publish to the world a knowledge of his own achievements.

Reports of American Patents granted are also published every week, including official copies of all the PATENT CLAIMS. These Patent Claims are furnished from the Patent Office Records expressly for this paper, and published in the SCIENTIFIC AMERICAN in advance of all other publications.

The contributors to the SCIENTIFIC AMERICAN are among the most eminent scientific and practical men of the times. The editorial department is universally acknowledged to be conducted with great ability, and to be distinguished not only for the excellence and truthfulness of its discussions, but for the fearlessness with which error is combated and false theories are exploded.

Mechanics, Inventors, Engineers, Chemists, Manufacturers, Agriculturists, and people in every profession of life, will find the SCIENTIFIC AMERICAN to be of great value in their respective callings. Its counsels and suggestions will save them hundreds of dollars annually, besides affording them a continual source of knowledge, the value of which is beyond pecuniary estimate.

TERMS OF SUBSCRIPTION—Two Dollars a Year, or One Dollar for Six Months.

CLUB RATES.

Five Copies, for Six Months.....	\$4
Ten Copies, for Six Months.....	\$8
Ten Copies, for Twelve Months.....	\$15
Fifteen Copies, for Twelve Months.....	\$22
Twenty Copies, for Twelve Months.....	\$32

For all clubs of Twenty and over, the yearly subscription is only \$1 40. Names can be sent in at different times and from different Post Offices. Specimen copies will be sent gratis to any part of the country.

Southern, Western and Canadian money or Post Office stamps, taken at par for subscriptions. Canadian subscribers will please to remit twenty-six cents extra on each year's subscription, to cover by postage. MUNN & CO., Publishers and Patent Agents, No. 123 Fulton street, New York.