(No Model.)

J. M. CRAWFORD.

COMBINED CLOCK AND LAMP.

No. 377,240. Patented Jan. 31, 1888.

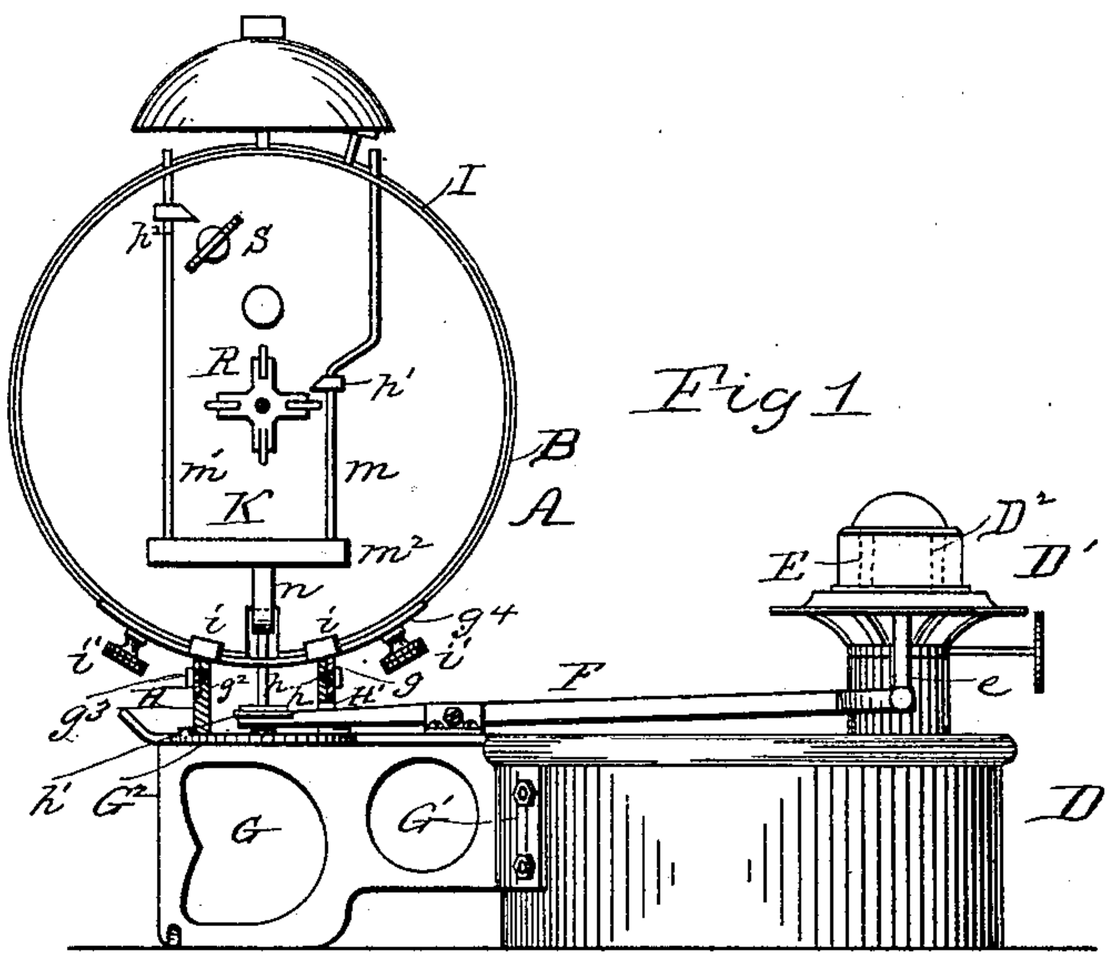

Fig 1

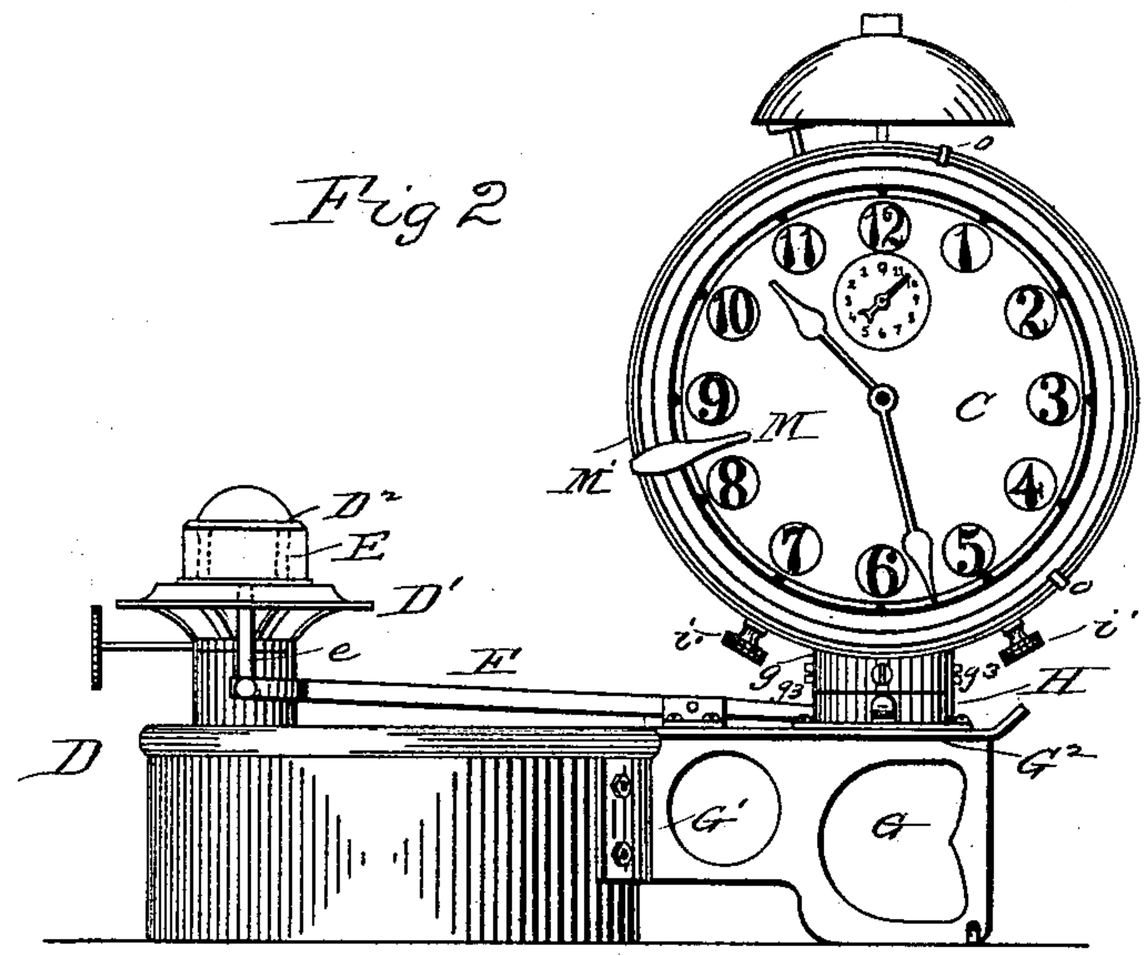

Fig 2

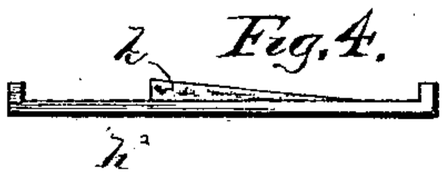

Fig. 4.

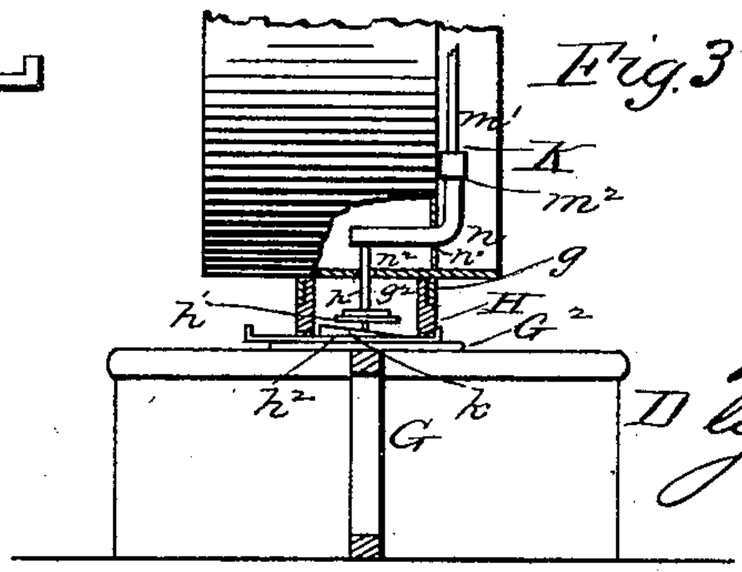

Fig 3

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JOHN M. CRAWFORD, OF PHILADELPHIA, PENNSYLVANIA.

COMBINED CLOCK AND LAMP.

SPECIFICATION forming part of Letters Patent No. 377,240, dated January 31, 1888.

Application filed May 14, 1887. Serial No. 238,259. (No model.)

To all whom it may concern:

Be it known that I, JOHN M. CRAWFORD, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Combined Clock and Lamp; and I do hereby declare the following to be a full, clear, and exact description of the invention, reference being had to the accompanying drawings, which form part of this specification.

My invention has relation to combined clocks and lamps of that class wherein the clock-dial is illuminated at predetermined intervals by automatically raising the flame of the lamp.

Letters Patent of the United States, dated the 3d day of March and the 5th day of May, 1885, and numbered, respectively, 313,300 and 317,312, have already been granted to me for improvements in illuminated clocks, and in said Letters Patent No. 317,312 I have shown and described mechanism whereby the raising and lowering of the flame of the lamp is automatically produced by the aid of a sliding tube which embraces the wick-tube, and is connected or coupled to the clock mechanism by devices which will cause the light-regulating tube to be lowered at predetermined intervals, maintained in its lowered position for a moment, and then raised in order to diminish the light. In addition to mechanism for intermittently raising and reducing the light said Letters Patent embrace means whereby upon the discharge or sounding of the alarm mechanism of an alarm-clock the light will be raised to a full flame and so maintained until reduced by hand.

My present invention contemplates certain modifications and improvements in the subjects of my said patents, and these improvements have reference partly to the simplification of the mechanism by which the light is raised and lowered, as well as the provision of means whereby the several operations are rendered more effective and reliable than the light-controlling devices of other illuminated clocks.

In the lamp constituting a part of my invention I retain the feature of the sliding tube separated by a space from the wick-tube as the best expedient for raising and lowering the flame, as it has many advantages over any contrivance for the same purpose with which I am acquainted, among which may be incidentally mentioned that it does not require any tampering with the wick, and that it effectually destroys the noxious fumes that result from the use of other forms of extinguishers or flame-reducers.

Incidental to the simplification of the light-controlling devices I have had in view the reduction of the number of working parts and the discarding of all unnecessary motions, such as cranks, levers, and the like. In short, my aim and object has been to contrive an instrument upon the best mechanical principles, wherever springs, rock-shafts, and unnecessary friction-generating features could be omitted.

My invention accordingly consists, first, in the peculiar construction and combination of parts, having reference to the objects above suggested, and, furthermore, in the provision of the following novel features and expedients, to wit: second, a swiveled clock-case suitably mounted upon the lamp-fixture and capable of being turned readily to any angle with the light, so that it can be adjusted to any position convenient or necessary for fully exposing the dial to view; third, an adjustable wedge, key, or slide by which the extent or play given to the light-controlling devices may be regulated so as to flash or raise the light to any predetermined extent or to maintain it at any degree of illumination; fourth, an adjustable indicator applied to or placed in proper relation with the dial of the clock and capable of being set or adjusted to correspondence with any hour or period which is to be recalled for the purpose of performing any specific act at a definite interval; fifth, a combined clock and lamp in which the handle of the lamp constitutes the supporting base or platform upon which the clock rests.

In the accompanying drawings, illustrating my invention, Figure 1 is a rear view of a clock with my improvements applied thereto, the swiveled portion of the clock-case being shown in section. Fig. 2 is a front view of my invention showing adjustable indicator in place on

the face of the clock. Fig. 3 is a detail view, partly broken away, showing wedge or key for controlling size of flame. Fig. 4 is a perspective view of a detail.

A designates the clock, the case of which is indicated by the letter B and the dial by the letter C.

D designates a lamp, the bowl of which consists of a cylinder or other conveniently-shaped tank surmounted by a burner, D′, having the flat wick-tube D^2.

E designates the light-controlling tube, which is in the form of a sleeve, embracing the upper part of the wick-tube, and separated therefrom by a narrow air-space all around. The object of this space is to admit sufficient air to the flame to consume the escaping or waste gases, which are noxious and unhealthy. To the sides of this sleeve are rigidly attached the rods or arms *e e*, which pass downward vertically through suitable openings in the burner.

In my Patent No. 317,312 I have shown and described the tube E as coupled to a rock-shaft, which by a series of intermediate connections was connected to the clock-case so as to be controlled by the rotation of the minute-hand arbor. In the present case I have so contrived and arranged the parts that the tube E will have a true vertical play or motion, and hence have discarded the rock-shaft and its appurtenances. In lieu thereof I connect the pendants *e* directly to the forked extremity of a long lever, F, fulcrumed on the lamp-fixture at a considerable distance from the burner. The pendants *e* are pivotally connected to this lever and to the long arm thereof and move up and down with great freedom in exactly parallel lines, without any lateral motion whatever.

G designates a bracket which serves the double purpose of a handle for the lamp and a support for the clock. This bracket is preferably a skeleton or open-work casting formed with a segmental base-plate, G′, which conforms to the shape of and is secured by screws, nuts, or suitable fastenings to the lamp-bowl. The top of the bracket is flanged so as to form a table or platform, G^2, on a line or even with the surface of the lamp-bowl. A short flanged tube collar or thimble, H, is secured to this table and forms the bearing for the rotary hollow stem of the clock. The latter (shown at *g*) fits over the tenoned or diminished portion g^2 of the thimble and turns freely thereon, being held in position against vertical displacement by means of set-screws g^3 entering an annular groove, *h*, in the part g^2. The stem *g* is formed upon or with a segmental plate, g^4, shaped to fit nicely to the cylindrical wall of the clock, and provided with hooks *i i*, which embrace the flange surrounding the back of the clock, and with screws *i′ i′*, by which it is fastened rigidly to the clock-case. This plate and stem may be easily attached to and detached from the clock-case, and hence are applicable to any clock of suitable size and shape. Hence should it be necessary to renew or substitute the clock at any time it requires but little work to attach the stem. The lever F extends rearwardly into the thimble H through a slot, H′, and terminates in a disk or flat plate, *h′*. At right angles to and below the inner end of the lever F is arranged a slide, h^2, which projects through openings on either side of the thimble, and is bent up at the ends to provide thumb-pieces with which to grasp it. Upon the upper surface of this bar is formed or fitted a wedge-shaped ridge or block, *k*, which slides under the end of the lever and serves to regulate and limit the movement of said lever and, correspondingly, the movement of the light-regulating tube E. By moving this slide the amount or size of the flame can be gaged to the greatest nicety from a mere glimmer or speck to a full flame.

To operate the lever F from the clock mechanism I adopt the same expedient on the minute-hand arbor as in my previous patents; but, instead of using a lever or levers such as therein shown to communicate motion from the arbor or alarm, I employ a very simple and effective contrivance, which consists of a frame, K, comprising the two wires or rods *m m′*, attached to a cross-head, m^2. From the latter depends a bar, *n*, which is bent inwardly and vertically, passing through the slots n' n^2 in the back and wall of the clock, and terminating at its lower end in a stud, *p*, which just touches or normally lies above the plate or disk *h′*. At their upper ends the wires or rods *m m′* pass through holes in the flange I and have no movement except a true vertical one. Upon the rod *m* is fixed a beveled stud, *p′*, which faces the winged head or cross R of the minute-hand arbor, while a similar stud, p^2, on the rod *m′* is adapted to engage with the thumb-nut S on the winding-shaft of the alarm.

The relation of the wires *m m′* and their attachments is clearly illustrated in the drawings, and their operation will be easily understood. The wires *m m′* and cross-head are intended to fall by gravity solely and have neither shaft, spring, nor pivot to overcome. The weight of the frame is sufficient to trip the lever F and to move the light-controlling tube E.

As the parts are shown the light will be raised every quarter-hour by the arms of the cross coming in contact with the stud *m* and lifting the frame K, so as to release the lever F. Now, as the long arm of the latter and the tube E overbalance the short arm their weight is sufficient to cause the tube E to fall, and thus enlarge the flame. The flame is allowed to rise gradually to its full extent or to such extent as previous adjustment of the slide has provided for, and remains so until the cross R has entirely cleared the stud *p′*, whereupon the frame K will fall and press down the short arm of the lever F, thus raising the tube E and diminishing the light to normal.

The thumb-nut S on the alarm-shaft oper-

ates similarly upon the stud p^2 when the alarm strikes, but after raising the frame K stops and maintains the frame at its elevation, so that the enlarged flame is now constant until reduced by hand.

To produce and maintain a light full flame at any time it is only necessary to move the slide h^2, so as to elevate the short arm of the lever F.

The mechanism above described for operating the flame-controlling tube embodies in construction and arrangement a very novel and important departure in the line of illuminating-clocks. The operation of the parts being controlled by gravity, without the use of springs or other uncertain expedients, is thoroughly and permanently reliable. The number of working parts is reduced to a minimum and there is really nothing to get out of order or require taking up or adjustment. Between the gravity-frame on the back of the clock and the lever through which the flame is raised and lowered there is no actual connection. Hence the clock may be adjusted to any angle without in any degree whatever affecting the operation of the devices. The relation of the latter to each other remains the same into whatever position the clock is turned.

So far I have described means for raising and lowering the light at definite intervals—say every quarter of an hour. It is, however, important, particularly in the sick room, to indicate other intervals or the recurrence of periods necessary for the administration of medical treatment or nourishment. It is difficult to keep in mind such periods or to refer to any record. To meet the want in this particular I have provided the device M, which consists of a pointer attached to a band, M′, which encircles the face of the clock, and which may be moved around to any position, the pointer being always directed toward the center of the dial. Lugs *o o* on the band serve to keep the latter in position. The pointer is set to register with the predetermined hour or period, and when the hour-hand of the clock arrives at this point and coincides with the pointer it will be remembered, without further indication, that the time has arrived when medicine or nourishment is to be administered or some other specific act performed. This method of indication is obviously better and more reliable than mere dependence on the memory, or on a written record, which under anxiety, mental strain, and other causes incidental to the sick room are very likely to be misleading.

It may be observed that the omission after any period to adjust the pointer does not materially affect its efficiency, as it will in this event indicate the last period. For instance, if medicine or treatment is to be administered every two hours, beginning at ten p. m., the pointer is then set to twelve o'clock. Should it be forgotten to adjust it after twelve it will at two a. m. be seen that another two hours has elapsed and that the last treatment was at twelve, the hour with which the pointer coincides.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination, with a lamp or other light fixture, of a clock having its dial in a vertical plane and its case swiveled upon a vertical axis, whereby said clock may be arranged at different angles in relation to the light, substantially as described.

2. In a night-clock or combined clock and lamp or light fixture, a clock having its dial in a vertical plane and having an adjustable pointer or supplementary hand arranged independently of the clock mechanism and attached to an adjustable ring or collar encircling the clock-case, substantially as described.

3. In a combined clock and lamp, the combination, with the lamp-bowl or oil-tank, of a laterally horizontally projecting handle upon which the clock is supported, said handle being arranged in a vertical radial plane and provided with a table or platform, G^2, on its upper edge to receive the clock-stem, substantially as described.

4. In a combined clock and lamp, the combination, with the clock and lamp-burner, the latter being provided with a sliding or vertically-adjustable flame-regulating tube having pendants *e e*, of a horizontal lever connected directly to said pendants and connected operatively with the clock mechanism, substantially as described.

5. In a combined clock and lamp, the combination, with the flame-regulating tube exterior to the wick-tube and the clock, of the horizontal lever F, operating by its own weight, and a frame attached to the back of the clock and controlled by the clock mechanism, whereby at intervals the flame-regulating tube is moved vertically to raise or lower the flame, substantially as described.

6. In a combined clock and lamp, the combination, with the vertically-movable flame-regulating tube *e*, of the horizontal lever F, having its long arm connected directly to the tube-arms *e e* and its short arm in contact with mechanism for operating said lever at intervals, whereby said lever will move in substantially a vertical line at its point of connection with the arms *e*, substantially as described.

7. In a combined clock and lamp, the combination, with the light-controlling device applied to the burner or wick-tube and the lever F connected therewith, of the cam or wedge-like slide h^2, constructed and adapted to limit or regulate the throw of said lever and the size or duration of the flame, substantially as described.

8. In a combined lamp and clock, the combi-

nation, with the flame-controlling tube and the lever F, of a vertically-sliding frame attached to the back of the clock and having its lower part in contact with the lever and adapted to engage with the clock mechanism at intervals and to be raised thereby, so as to release the lever and allow the tube to be lowered, substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand this 11th day of May, A. D. 1887.

JOHN M. CRAWFORD.

Witnesses:
W. W. DOUGHERTY,
GEO. H. KINSOLVING.