

M. GUSTIN.
Flash-Light Signal Recorders.
No. 138,498. Patented May 6, 1873.

Fig. 1.

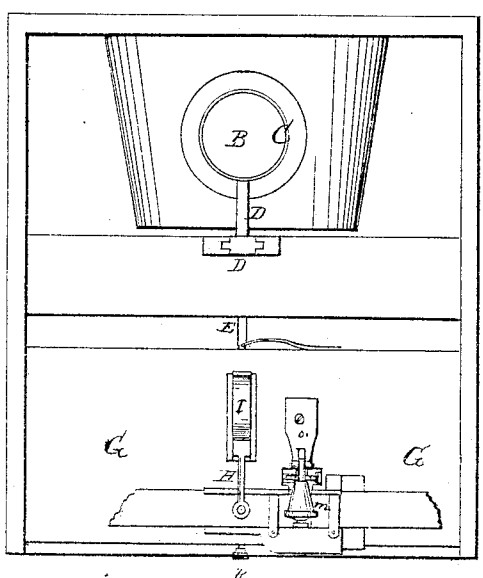
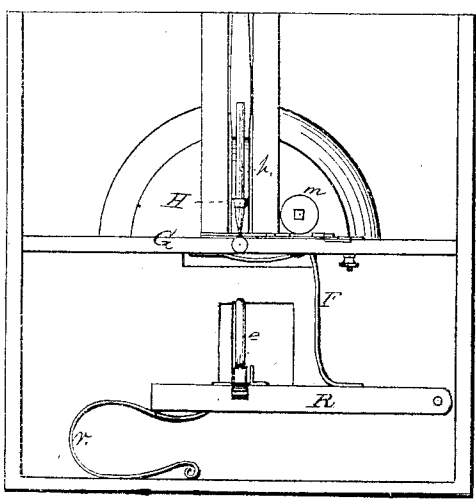


Fig. 2.



Witnesses.
C. C. Cook
E. R. Morrison

Inventor,
Moses Gustin

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Fig. 3.

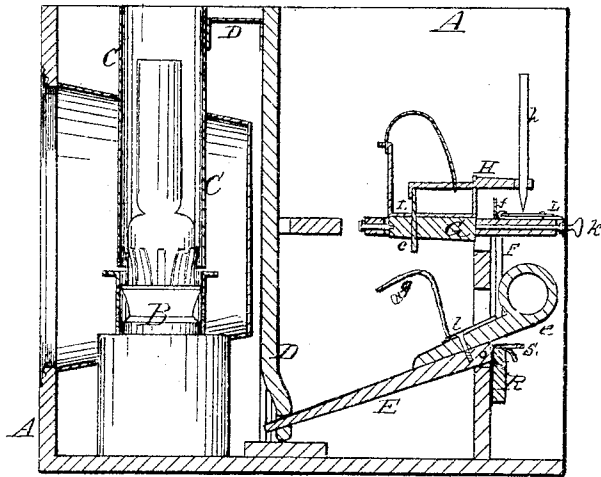


Fig. 4.

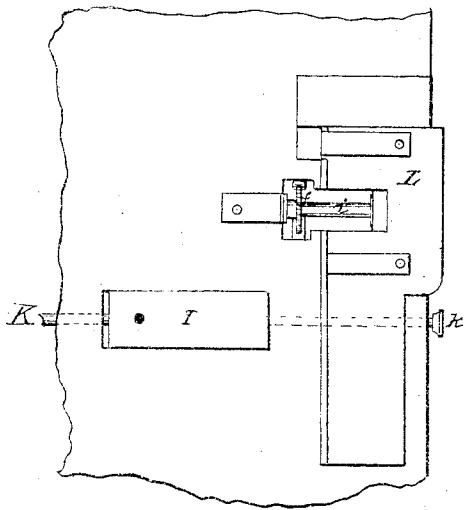


Fig. 5.

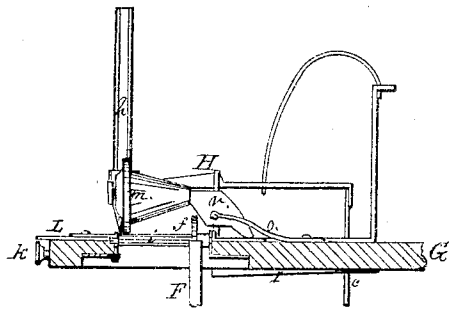
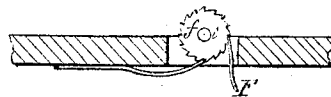


Fig. 6.



Witnesses.
C. C. Poole
C. R. Morrison

Inventor.
Moses Gustin

UNITED STATES PATENT OFFICE.

MOSES GUSTIN, OF TROY, PENNSYLVANIA.

IMPROVEMENT IN FLASH-LIGHT SIGNAL-RECORDERS.

Specification forming part of Letters Patent No. **138,498**, dated May 6, 1873; application filed December 7, 1872.

To all whom it may concern:

Be it known that I, MOSES GUSTIN, of Troy, in the county of Bradford and State of Pennsylvania, have invented certain new and useful Improvements in Apparatus for Recording Flash-Light Signals; and the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing making a part of this specification, in which—

Plate I, Figure 1 represents a top view of my apparatus, showing the combination of the reflector, shield, and the recording mechanism. Fig. 2 shows a rear end view of the same. Plate II, Fig. 3 shows a side sectional view of the same through the central portion of the combined apparatus. Fig. 4 is a broken-off top view of the registering-table, showing the device for holding the strips of paper on which the signals are recorded. Fig. 5 is a sectional edge view of the same, showing the recording mechanism. Fig. 6 is a cross-section of table, showing ratchet feed wheel and pawls.

The nature and object of my invention is to provide a simple and efficient means for communicating between distant points within sight of each other, either on land or at sea, by flashes of light, and at the same time register the communication. My invention consists in combining, with a signal light or lantern provided with a shield to be moved up and down to produce sudden flashes, a mechanism for registering those signals instantly by the corresponding operators at each end of the line of correspondence, as will be hereafter more fully described.

An alphabet, as in telegraphing, is used for the purpose of communicating ideas, words, and sentences, composed of dots and dashes arranged in differing combinations. A flash given by one of the operators is recorded at the same instant by a dot imprinted or impressed upon a strip of paper by a pencil or a sharp-pointed instrument by a single movement of the hand or finger. The occurrence of the flash from the lantern is simultaneously made with the impression on the strip of paper by the elevation of the cylindrical shade surrounding the light and falls instantly to obscure it, and thus completes the signal of a single character. The mark or dash is made

by a lateral movement of the stylus or pencil by the thumb at the same time the flash is made or the light exposed, thus making the dashes in about double the time that the dot is made, so that the receiving operator will readily distinguish between the characters dot and dash and make his record to correspond thereto. The signal-alphabet, being composed only of dots and dashes, as numerically arranged, enables the two stations to correspond with great facility.

To enable others to make and use my invention, I will describe it more in detail, referring to the drawing and the letters marked thereon.

The box or case A which forms the lantern contains in the front division the lamp B, the shade or movable shield C, and reflector with the sliding post D for raising the shield to expose the light and produce instantaneous flashes. In the rear division the registering mechanism is arranged and operated by a lever, E, the front end of which connects with the sliding post D. The lever E is provided with a ring-handle, e, in which the finger is placed to depress it to raise the shield C at the same time the stylus or pencil h is operated by the elevated spring g attached to it being brought in contact with the lifting-pin e, which moves the pencil-holder H, which is supported upon a sliding frame I to move laterally to produce the mark or dash. The table G, in which the registering mechanism is arranged, as above described, supports also the paper-strip holder L, which is made movable, and can be adjusted in and out to admit of registering two or more lines of impressions of the stylus or pencil. The mechanism for moving the strip of paper and spacing the dots and dashes consists of a ratchet-wheel, f, on a shaft or roller, i, the surface being covered with elastic rubber, or its equivalent, and a presser-roller, m, on an axle-arm, n, pivoted to the spring o, so that it can be lifted off the roller i to insert or take out the paper strip. The ratchet-wheel f is operated by a spring-pawl, F, attached to the lever R underneath, which is held up in position by the spring r, and is depressed by the ring-lever e operating on a projecting plate, s, by which means the pawl F may be made to move the ratchet-f either one or two notches, at pleasure, by a

single movement of the lever *e*, the same being pivoted on the lever *E*, so as to change the position on the plate *s* for that purpose.

The dot is made into a dash or mark by pressing in the knob *k* to move the pencil-holder frame *I* when the pencil is brought in contact with the paper strip at the instant the flash is made.

The lever *e* when moved to the left does not lift the pin *c* to operate the recording mechanism, but gives the flash and moves the paper along twice the distance, thus leaving blank spaces sufficient for a proper division of letters, and a repetition of the movement of the lever *E* will leave spaces to any desired extent for dividing words.

The method of operating with my combined flash-light signal-lantern and registering device is as follows, to wit: The two characters are made in the following manner: *A* in sending a message to *B* gives a flash; *B* responds instantly by giving a like flash, in doing so records a dot upon the paper. In making the dash *A* shows his light; *B* responds, seeing *A*'s light, makes his dash and instantly closes;

A responds by closing his light, the difference being this: In making the dot *A* closes first, in making the dash *B* closes first.

Having thus fully described my invention and mode of operation, what I claim and desire to secure by Letters Patent, is—

1. The lever *E* and the adjustable lever *e* for operating the shield *C* at one end to expose the light, and the lever *R* at the other end to operate the ratchet-feeding mechanism, as shown and described.

2. The movable paper-holder *L* for receiving the register, in combination with the ratchet-wheel and friction-roller *i* and presser-roller *m*, as constructed to operate as described.

3. The combination of the movable pencil-holder *H* with the knob *k* for operating it laterally, and the levers *E e* and *g* with the mechanism for moving the strip of paper one or two notches, as may be desired, substantially as herein set forth.

MOSES GUSTIN.

Witnesses:

E. R. MORRISON,
J. B. WOODRUFF.