(No Model.)

J. H. IRWIN.

VISUAL TELEGRAPHY.

No. 262,419. Patented Aug. 8, 1882.

Fig. 1.

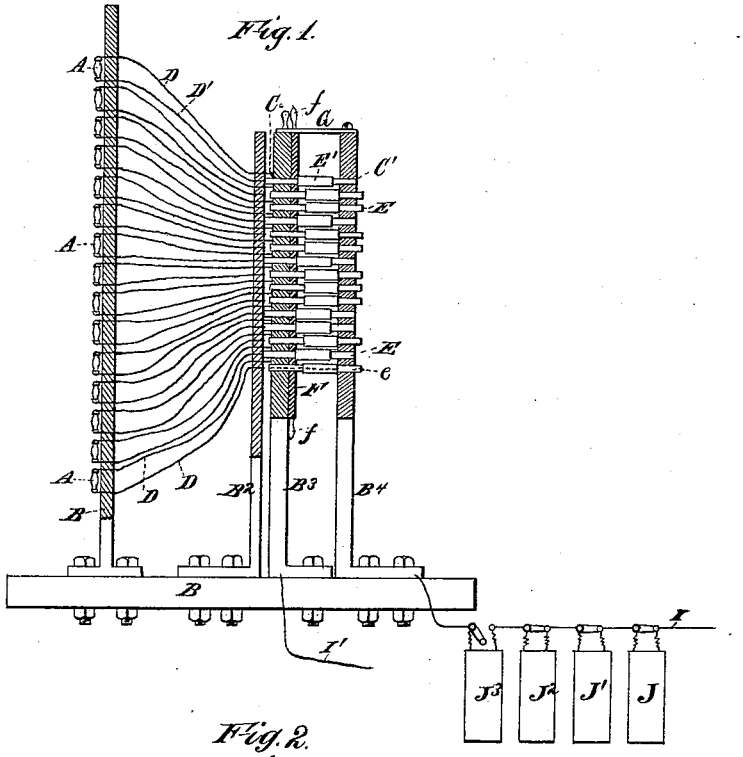
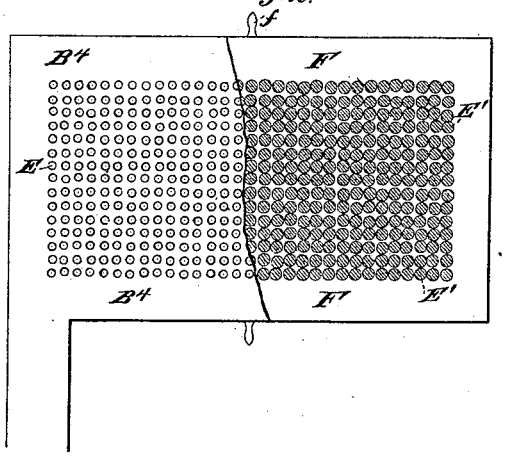


Fig. 2.



Witnesses
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UNITED STATES PATENT OFFICE.

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VISUAL TELEGRAPHY.

SPECIFICATION forming part of Letters Patent No. 262,419, dated August 8, 1882.

Application filed January 23, 1882. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. IRWIN, of Morton, in the county of Delaware and State of Pennsylvania, have invented certain new and useful Improvements in Visual Telegraphy, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention relates especially to the application of small incandescent electric lamps or vacuous cells to visual telegraphing or signaling, or for advertising and like purposes, and has for its object the production of a device whereby characters, words, or figures may be instantly formed in the incandescent electric lamps upon a background or support, said characters continuing luminous for any desired length of time and speedily obliterated and others produced at the pleasure of the operator; and my invention consists in the method employed for visual signaling or telegraphy, and in the means and mechanism employed to produce the same, preferable means and mechanism being hereinafter described, containing certain novel and useful combinations or arrangements of parts and peculiarities of construction and operation, all of which will be hereinafter first fully described, and then pointed out in the claims.

In the drawings Figure 1 is a transversal section of my apparatus, and Fig. 2 is an elevation and partial section of the back of the apparatus.

Like letters of reference indicate corresponding parts in both figures.

A are small incandescent electric lamps or vacuous cells, arranged closely together upon a supporting background, B. This support may be constructed of any suitable material and upheld upon a base B′.

B^2 is a sheet or plate of non-conducting material affixed to base, B′.

B^3 is a sheet or plate of conducting material corresponding in size and shape to B^2, and located in close proximity thereto. Sheet B^3 is perforated with holes C, said perforations corresponding in number and arrangement to the lamps upon B.

D D′ are the conductors to the lamps. D extends through a perforation in B^2 and makes connection with B^3, the other conductor, D′, simply passing through support B^2, terminating at the back thereof in a smooth surface.

B^4 is a plate of conducting material corresponding to B^3, and supported upon base B′. It is perforated with holes C′, each of said holes being in line with a corresponding hole in B^3.

E are pins, the small end *e* being composed of conducting material and the remainder consisting of non-conducting material, with the exception of a conducting-wire running through the center thereof, as indicated by the dotted line, Fig. 1. These pins rest in the perforations C C′. A shoulder, E′, upon the pins regulates the distance they may be moved in a longitudinal direction.

F is a frame or thin plate of non-conducting material supported upon B^3, said plate being so arranged as to find a bearing against shoulder E′ of pins E when pulled forward, by which means all of the pins may be simultaneously drawn back when pressed inward, said frame or plate F being operated by means of handles *f*.

G is a switch arranged to make and break connection between B^3 and B^4, when desired.

I is the positive wire, and I′ the negative.

J, J′, J^2, and J^3 are resistance-coils, by which the strength of the current passing to the device may be regulated. When one hundred lamps are used coil J is cut from the circuit. When two hundred lamps are used coil J′ is cut out; and by this means the current may be readily regulated, so as to obviate the danger of destroying the lamps.

The supports B^3 and B^4 are shown in the drawings as vertical and near the lamp-support; but, if desired, the same may be placed horizontal, or at any angle and at any distance from the lamps and their support.

When constructed and arranged in accordance with the above description the operation of my device is as follows: The current from the generator first passes through all of the resistance, through sheet or plate B^4, and through switch G down B^3. The pins all being drawn back, by passing any round-pointed instrument or the finger over the extremities of the pins projecting from B^4 each pin touched will be pressed forward until it touches the end of D′. Figures, words, &c., may be traced over pins

E at the pleasure of the operator, and upon ascertaining the number of lamps to be illuminated resistance corresponding to that number is cut out of the circuit. Then, by breaking connection between B^4 and B^3 by means of switch G the current will pass through the lamps thrown into circuit by the depressed pins, whereby the letters or figures traced upon B^4 will be reproduced in luminous characters on B.

When it is desired to extinguish the lamps switch G is turned across B^3 and B^4, pins E are drawn back by means of plate or frame F, and the device is ready to be employed in producing other characters.

The uses to which my device may be applied are practically unlimited. It may be used upon a large scale for transmitting words or signs to a great distance. It may be employed for advertising purposes of all descriptions, and as it permits of rapid changing of the characters the great value and utility of the device will be at once apparent.

Having now fully described my invention, what I claim as new therein, and desire to secure by Letters Patent, is—

1. A visual signaling or telegraphic apparatus having the following elements, viz: numerous incandescent electric lamps mounted upon a supporting background, conductors from each of said lamps, and push-pins to make or break electrical connection with such conductors, substantially as described.

2. In a visual signaling or telegraphic apparatus, the combination, with the electric lamps and their separate electric conductors, of the pins E and the switch G, substantially as and for the purposes set forth.

3. In a visual signaling or telegraphic apparatus, the combination, with the electric lamps and their separate electric conductors, of the pins E, the plates B^3 and B^4, and the switch G, substantially as and for the purposes described.

4. The combination, with the vacuous cells A, of support B, conducting sheets or plates B^3 and B^4, non-conducting plate B^2, switch G, and resistance-coils J, J', J^2, and J^3, the whole arranged to operate substantially as shown and described.

In testimony that I claim the foregoing I have hereunto set my hand in the presence of two witnesses.

JOHN H. IRWIN.

Witnesses:
F. W. HANAFORD,
A. M. PIERCE.