

(No Model.)

2 Sheets—Sheet 1

E. KASELOWSKY.
ELECTRICAL NIGHT SIGNALING APPARATUS.

No. 401,035.

Patented Apr. 9, 1889.

Fig: 1.

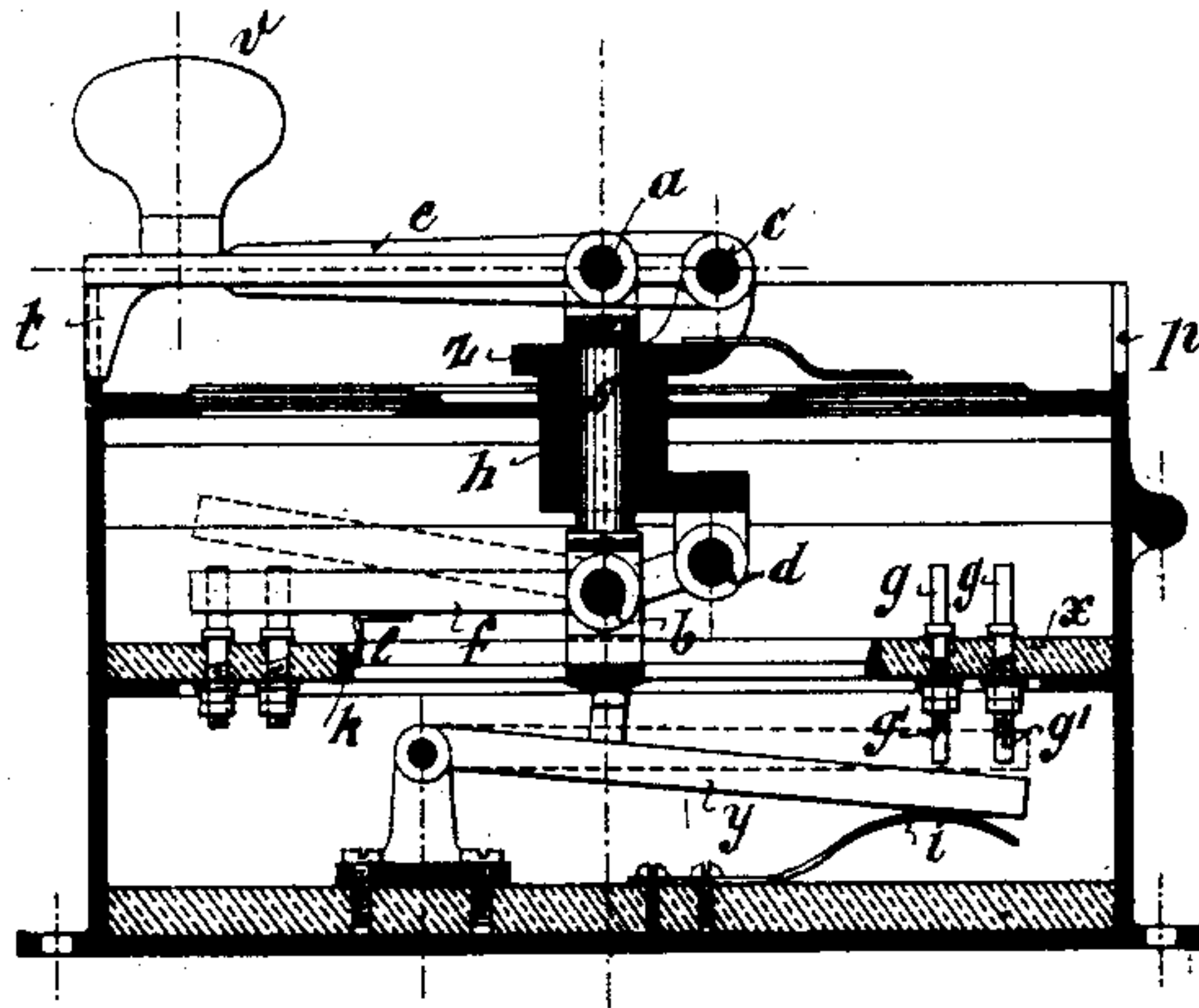


Fig: 3.

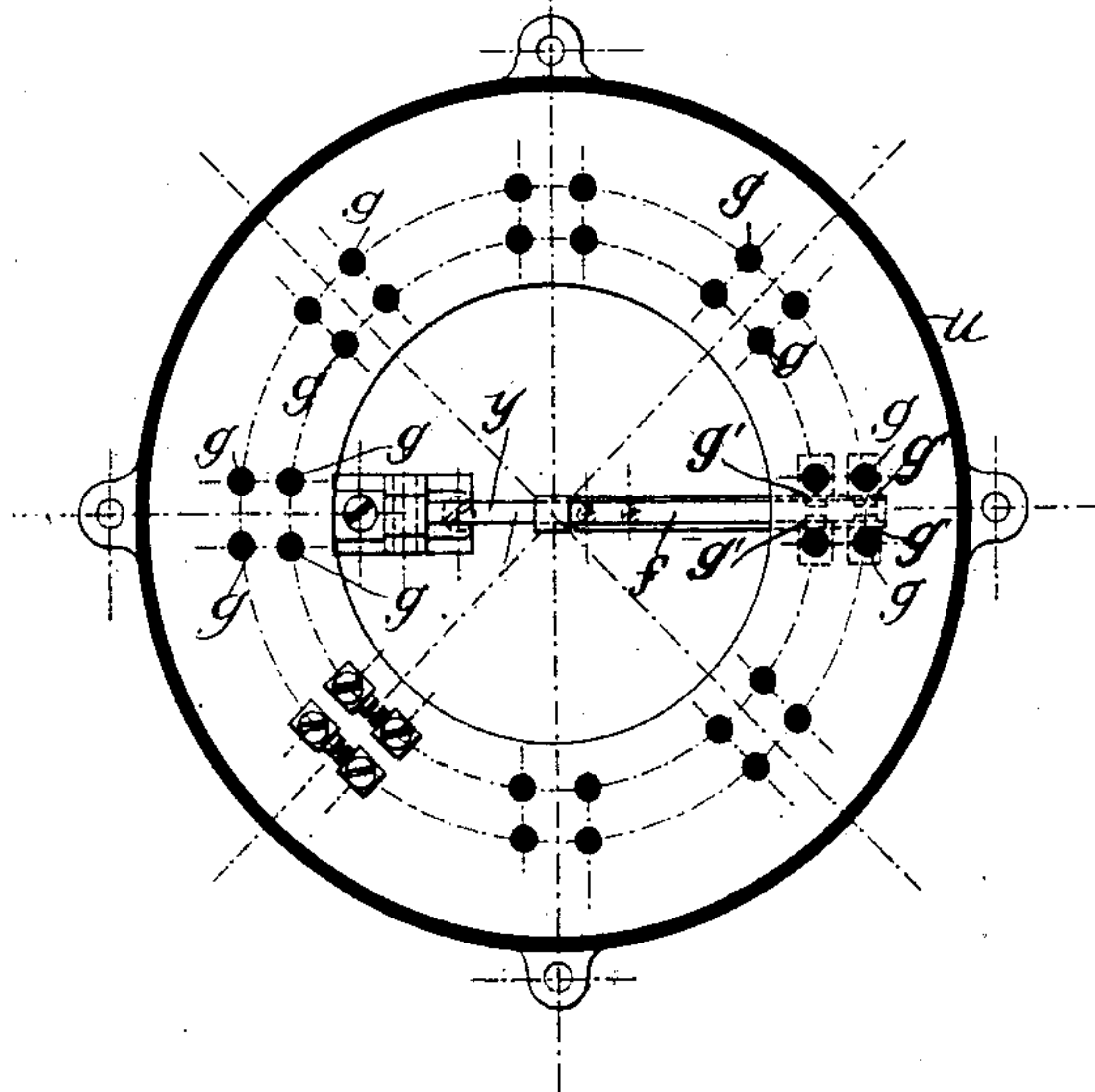


Fig: 2.



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Fig: 4.

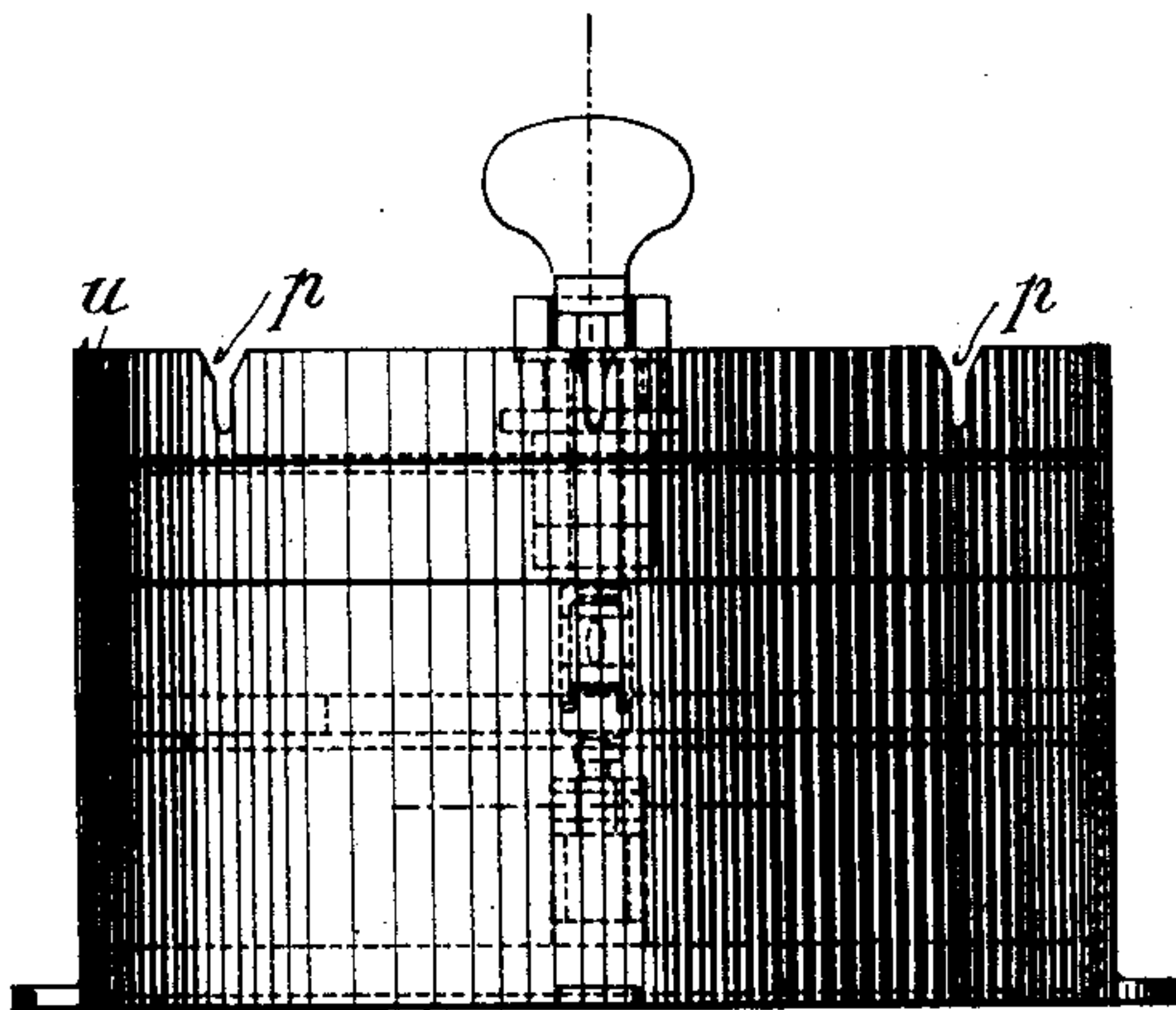
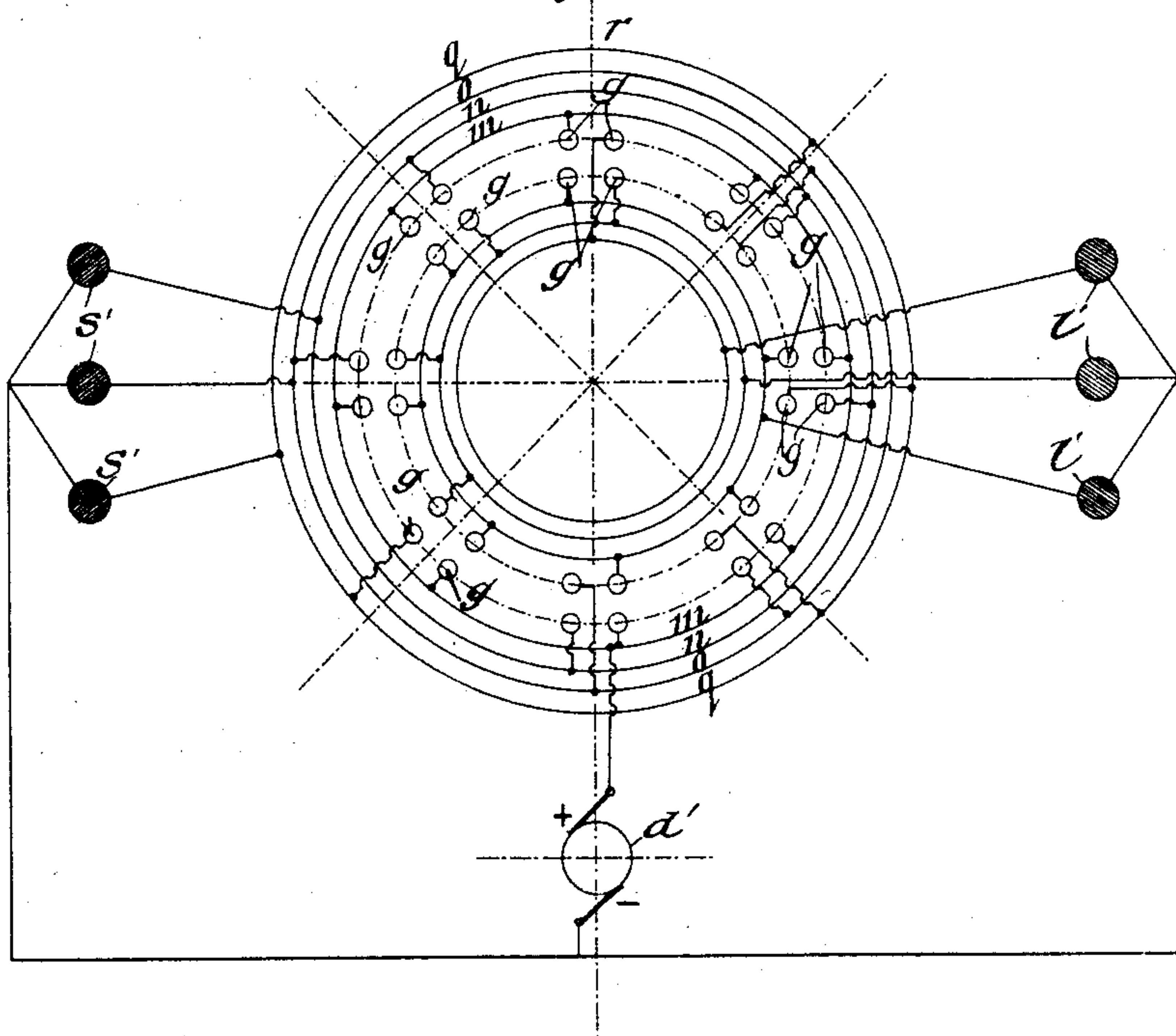


Fig: 5.



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UNITED STATES PATENT OFFICE.

EMIL KASELOWSKY, OF BERLIN, GERMANY, ASSIGNOR TO THE BERLINER MASCHINENBAU-ACTIEN-GESELLSCHAFT, VORMALS L. SCHWARTZKOPFF, OF SAME PLACE.

ELECTRICAL NIGHT-SIGNALING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 401,035, dated April 9, 1889.

Application filed August 7, 1888. Serial No. 282,151. (No model.)

To all whom it may concern:

Be it known that I, EMIL KASELOWSKY, a subject of the King of Prussia, residing at Berlin, in the Kingdom of Prussia, Germany, have invented new and useful Improvements in Electrical Night-Signaling Apparatus, of which the following is a specification.

My invention relates to a system of signaling by night at sea by means of differently-colored electric lamps which are brought to view singly or in groups; and its object is to provide means whereby the electric current may be switched to and from the signal-lamps and a supplementary resistance to produce the required signals, and also means whereby the electric current may be maintained at a constant resistance and momentary interruption of said current and simultaneous extinguishment of the lamps prevented.

The supplementary resistance employed in connection with the differently-colored electric lamps, which are of such number as may be necessary to produce the signals usually required at sea, is preferably in the form of uncolored electric lamps, which I term "compensation lamps," and which ordinarily may be used for illuminating purposes.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in the several views.

Figure 1 is a sectional elevation of a cylindrical casing containing apparatus embodying my invention. Fig. 2 is a detail view, partly in section, hereinafter referred to. Fig. 3 is a diagram of the electric contacts. Fig. 4 is a side elevation of the cylindrical casing, and Fig. 5 is a diagram of the electric circuits.

In carrying out my invention I employ a cylindrical casing, *u*, constructed of suitable metal and of any desired and requisite dimensions, and in a bearing, *h*, formed in the center of the top of the casing, is fitted to turn freely a sleeve, *z*, having aligning-lugs formed upon one side thereof, which sleeve contains a spindle, *s*, capable of vertical and rotary movement therein. In either end of said spindle are rigidly seated pivot-pins *a* and *b*, and in the lugs of the sleeve *z* are also rigidly seated fulcrum-pins *c* and *d*. A lever, *e*,

which I term the "signal-lever," having a handle, *v*, and a downwardly-projecting nose, *t*, is fulcrumed on the pin *c* of the sleeve and pivoted to the spindle on the pin *a*, the nose of the lever being adapted to enter notches *p* in the rim of the casing, as hereinafter more fully explained, the number of said notches corresponding with the number of signals to be displayed. A second lever, *f*, which I term the "main contact-lever," is fulcrumed on the pin *d* of the sleeve and pivoted to the spindle on the pin *b*.

Upon a plate, *x*, supported in any suitable manner within or integral with the casing near its bottom, are concentrically arranged, as shown, in eight groups of four, the contact-springs *g*, one group having extensions, forming the contact-springs *g'*, below said plate, as best shown at lower right hand in Fig. 1. Said group of springs is also shown at the top in Fig. 5. The members of each group of springs are insulated, in any proper manner, the one from the other.

The contact-lever *f*, which is knife-shaped, is adapted to be inserted between the contact-springs *g*, as shown in Fig. 2, and the notches *p* in the rim of the casing are so situated in relation to said springs that when the nose of the signal-lever *e* drops therein the lever *f* simultaneously enters between said springs. The connections of the contact-springs with the electric wires are as follows: Of the four springs in each group one serves to convey the electric current and is connected with the main circuit-wire *m*, which is in turn connected with the positive pole of a dynamo or electric battery, *d'*, of any approved form. Of the remaining three springs so many are connected with the electric wires *n o q*, leading to the signal-lamps *s'*, as the number of such lamps to be displayed in producing the signals may require. The springs not thus connected with the signal-lamps are connected to and by said wires with the compensation-lamps. Three of the group of springs having the extensions *g'*, (shown at the lower right hand in Fig. 1, and at the top in Fig. 5,) however, are connected by said wires to the compensation-lamps only. Three signal-lamps, *s'*, and three compensation-lamps, *l'*, are shown in the drawings; but it will be un-

derstood that I do not limit myself to the use of that number of either.

In the present instance, if only two of the three springs for the lamps are employed for the signal, the third spring is connected with one of the compensation-lamps l' . If only one signal-lamp is to be used, two of the three springs are connected with the corresponding compensation-lamp; and if the signal and contact-levers be in the position of rest, as at the point r in Fig. 5, and no signal-lamps are alight, three of the group of springs shown at the top in Fig. 5 of the drawings are connected with the three compensation-lamps.

Upon a pin seated in a lug bolted or secured in any other proper manner to the base of the casing is fulcrumed a third lever, y , which I term the "supplementary contact-lever," which is adapted to be kept in contact with the lower end of the spindle s and between the contact-springs g' by a bent spring, i , secured at one end to the base of the casing and bearing against the under side of said lever. When the contact-lever f is in place between the springs g , the other contact-lever, y , is held down by the spindle s , in the position shown in full lines in Fig. 1, out of contact with springs g' .

In operation, the current being established between the dynamo or battery and the lamps, and it being desired to display a signal, the signal-lever e is raised by its handle, thus raising the spindle s and causing the contact-lever f to rise from between the contact-springs g to the position shown in dotted lines in Fig. 1. The lever e is then turned to the right or left, as desired, the spindle turning in the sleeve z , and the nose of said lever is then inserted in the proper notch, p , corresponding with the signal to be displayed. During this rotation the contact-lever f is held clear of the contact-springs, and but for the intervention of the lever y the electric current would be interrupted and the lamps momentarily extinguished. The instant the spindle is raised for rotation, however, the lever y is released and the spring i then acting carries said lever up between the contact-springs g' , thus maintaining a constant electric current and keeping the lamp alight. As soon as the signal and contact levers are again depressed, the spindle presses the lever y down to the position shown in full lines in Fig. 1, out of contact with the springs g' . The operation above described is repeated as often as each change of signal is required.

The compensation-lamps l' may, if desired, be dispensed with, and substituted by equivalent resistances of any preferred character and of equal power. They may be dispensed with when a very powerful dynamo or battery is employed, and in such case the lever y will not be needed, and in such case, also, the number of contact-springs may be increased or diminished to the number required for signaling and conveying the current.

If found desirable, instead of conveying the current by connecting one of the contact-springs g with the main circuit-wire, a concentric ring, k , may be placed in connection with the positive pole of the dynamo or battery d' , against which ring a bent spring, l , attached to the contact-lever f contacts as said lever is pressed down.

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

1. The combination, with a cylindrical casing having a notched rim, a sleeve revoluble centrally in the casing, a spindle vertically adjustable and revoluble in the sleeve, a lever fulcrumed on the sleeve and pivoted to the spindle, having a nose adapted to the notched rim of the casing, and concentrically-arranged groups of contact-springs in the casing in electrical connection with a main circuit-wire, and with opposite groups of electric lamps in electrical connection with a dynamo or electric battery, of a contact-lever fulcrumed on and pivoted to the opposite ends, respectively, of the sleeve and spindle and adapted to enter the groups of contact-springs, substantially as shown and described, whereby as the spindle is raised, rotated, and lowered the lamps are switched into and out of the circuit, and during such rotation the contact-lever is held clear of the contact-springs, as herein set forth.

2. The combination, with a cylindrical casing having a notched rim, a sleeve revoluble centrally in the casing, a spindle vertically adjustable and revoluble in the sleeve, a lever fulcrumed on the sleeve and pivoted to the spindle, having a nose adapted to the notched rim of the casing, concentrically-arranged groups of contact-springs in the casing, one having downwardly-projecting extensions in electrical connection with a main circuit-wire and with opposite groups of electric lamps in electric connection with a dynamo or electric battery, and a contact-lever fulcrumed on and pivoted to the opposite ends, respectively, of the sleeve and spindle and adapted to enter the groups of contact-springs, of an auxiliary spring-pressed contact-lever fulcrumed at the base of the casing and adapted to enter the lower extensions of one of the groups of contact-springs as the contact-lever carried by the sleeve and spindle is raised, substantially as shown and described, whereby, as the lamps are switched into and out of the circuit and the main contact-lever held clear of the contact-springs, a constant current is maintained, as herein set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

EMIL KASELOWSKY.

Witnesses:

OTTO SCHULZE,
LUDWIG GLASER.