

No. 878,146.

PATENTED FEB. 4, 1908.

D. F. MILLER.
ELECTRIC SIGN.

APPLICATION FILED MAR. 14, 1906.

2 SHEETS—SHEET 1.

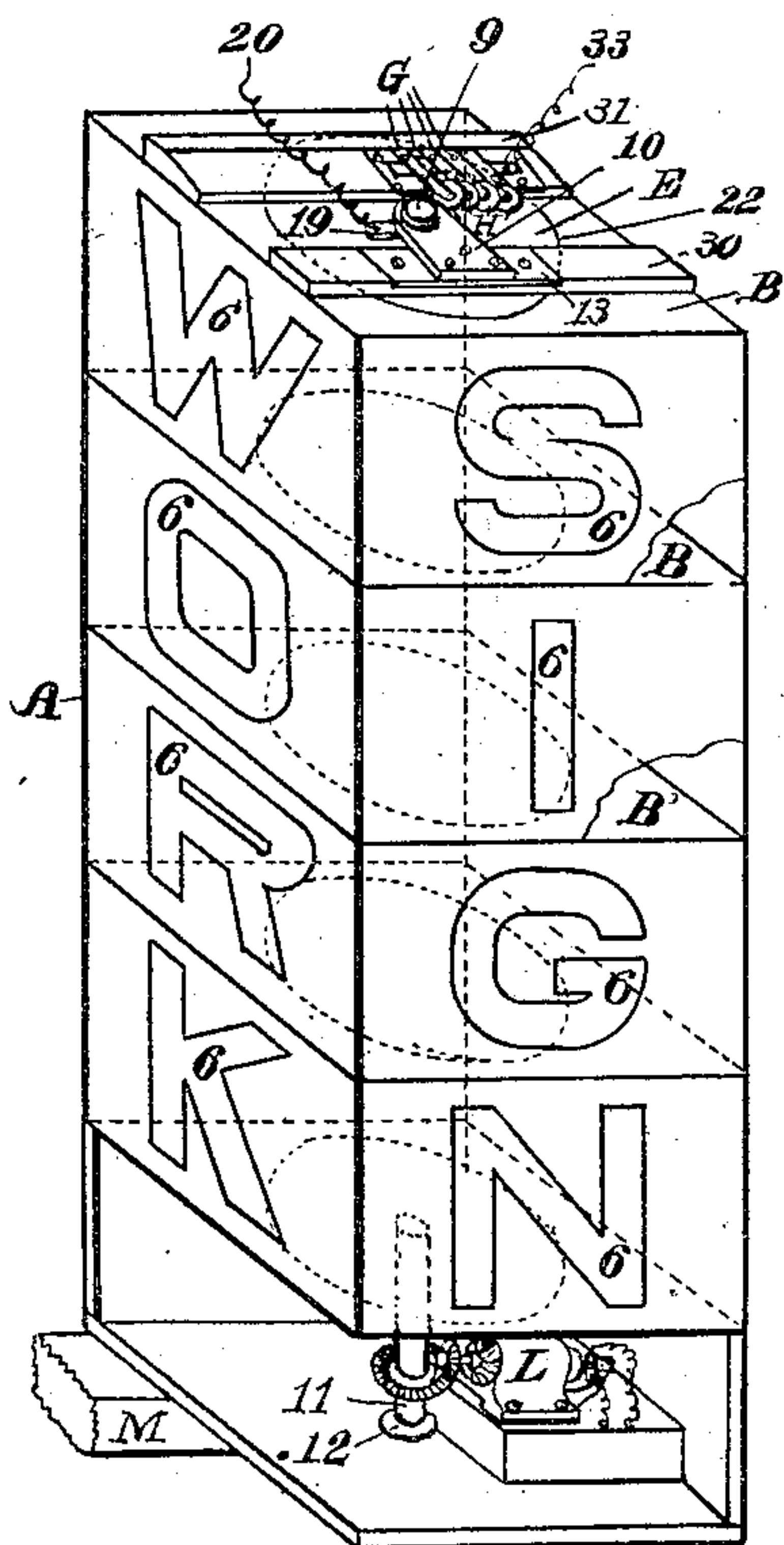


Fig. 1.

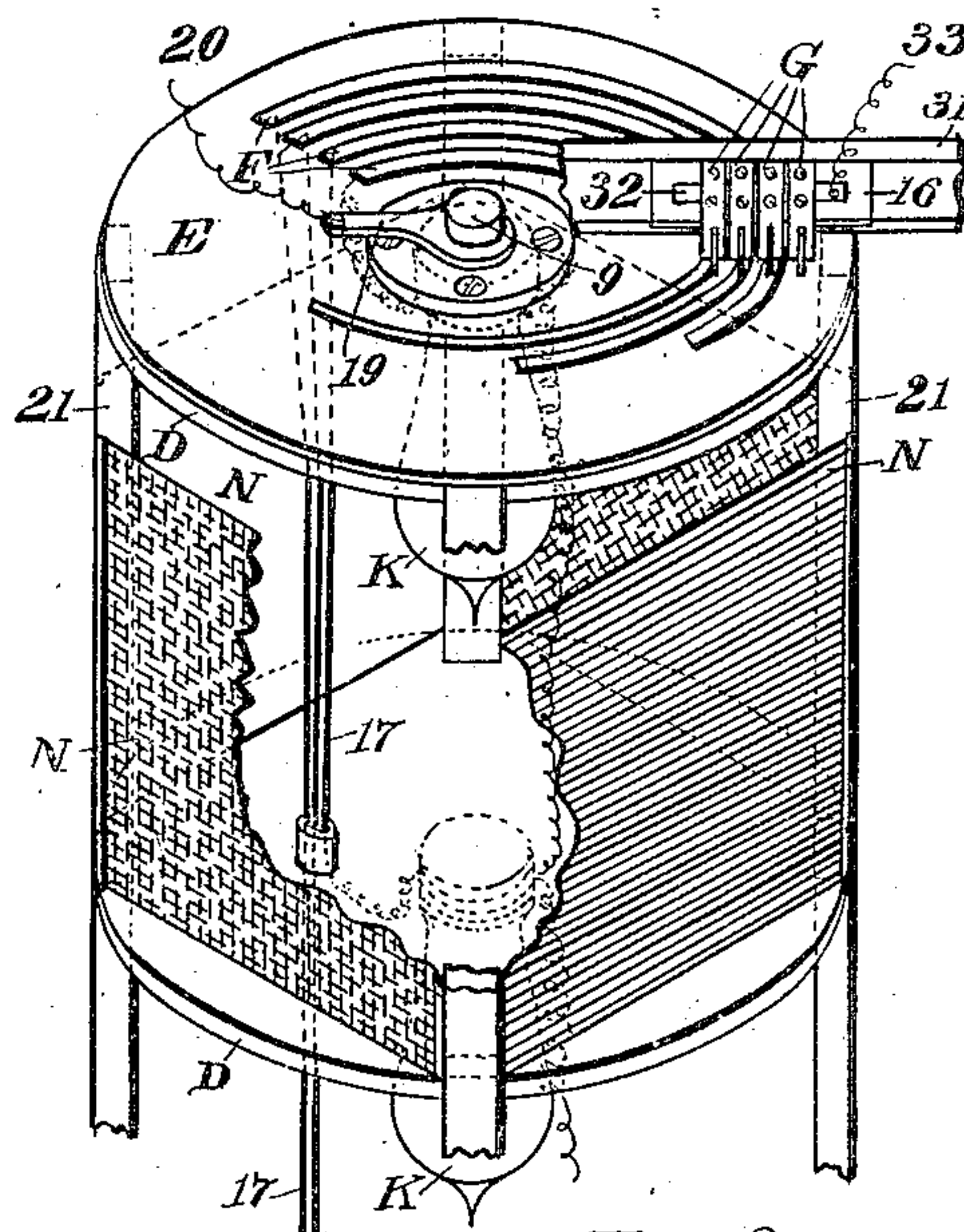


Fig. 2.

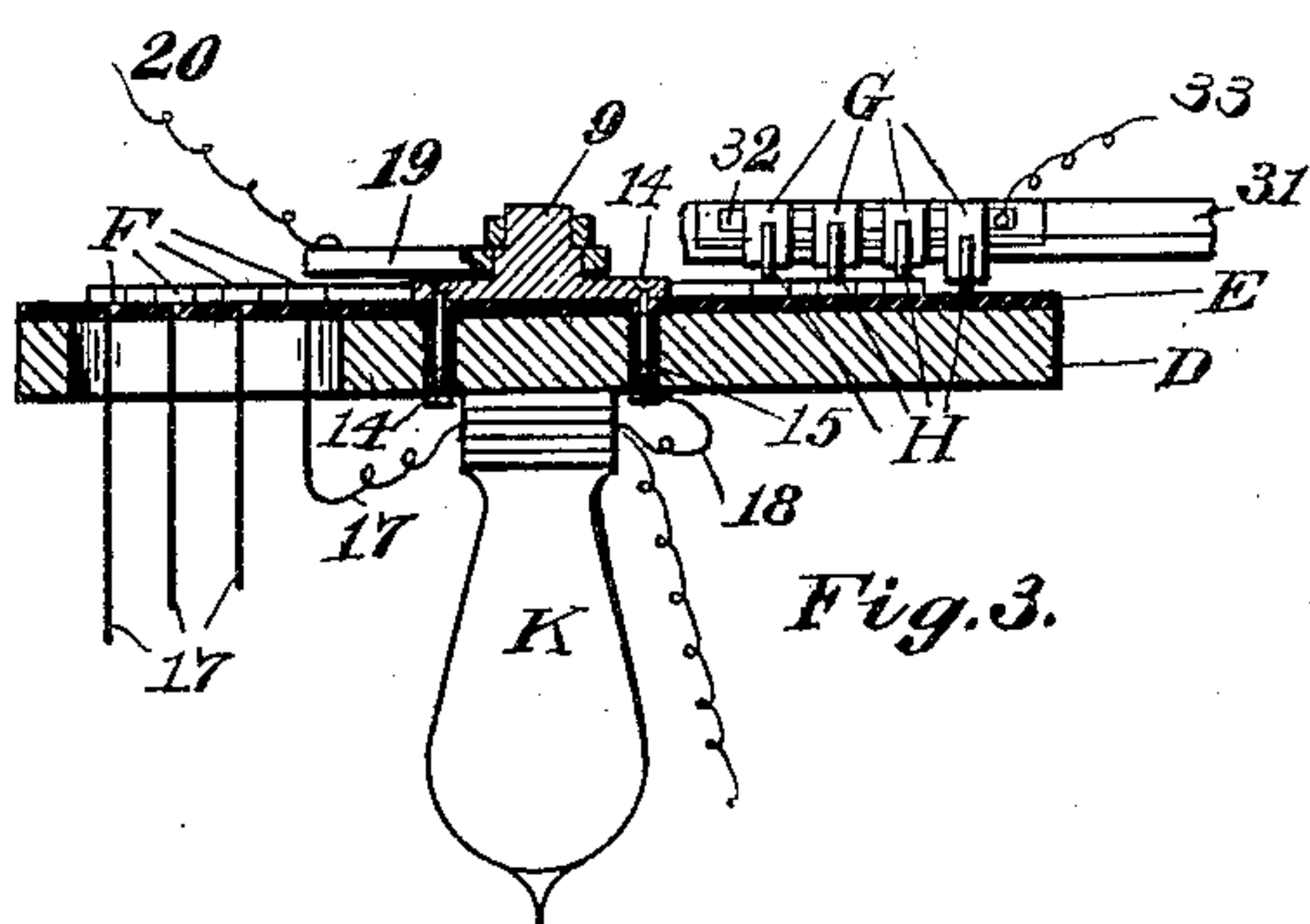


Fig. 3.

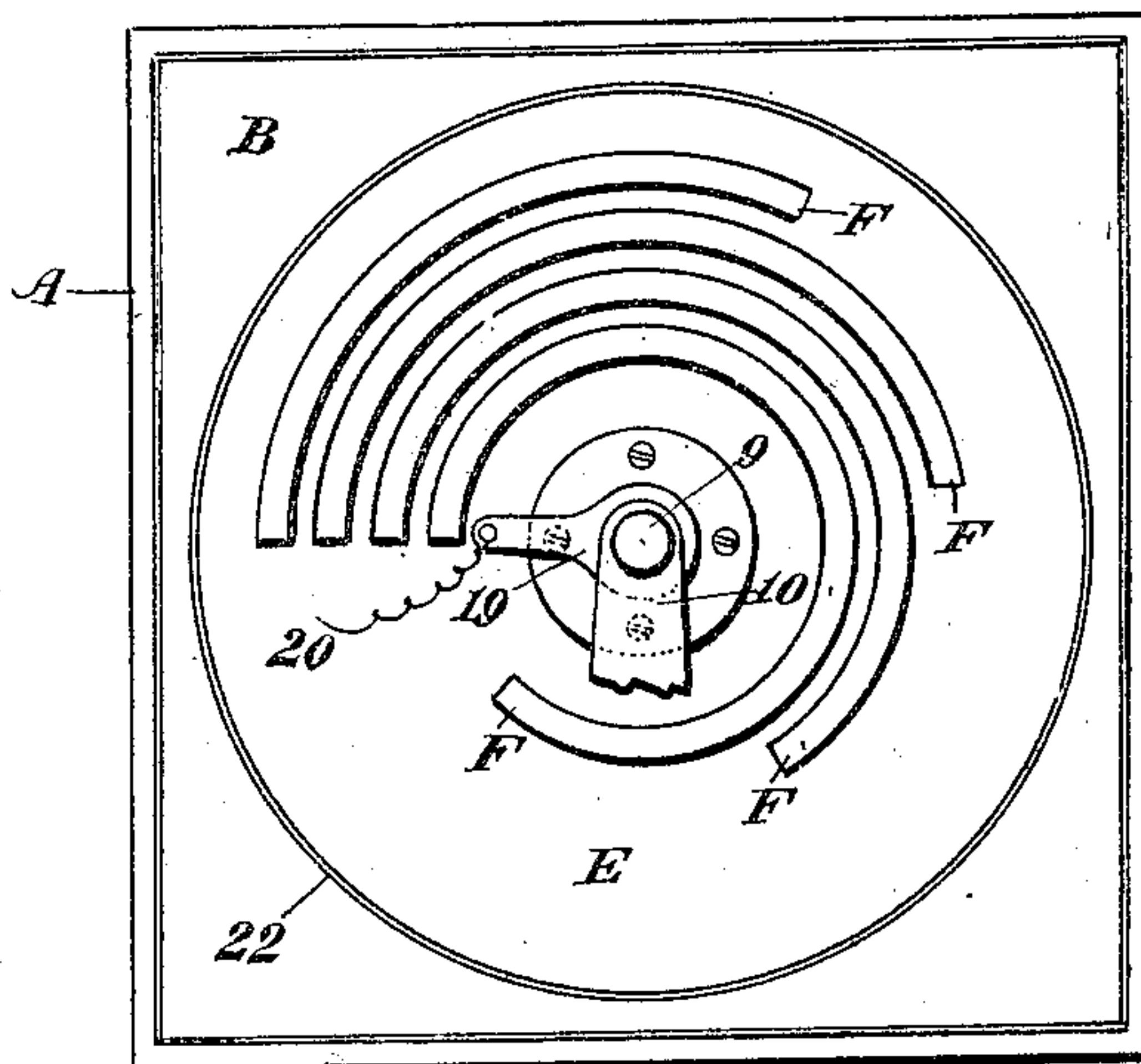


Fig. 4.

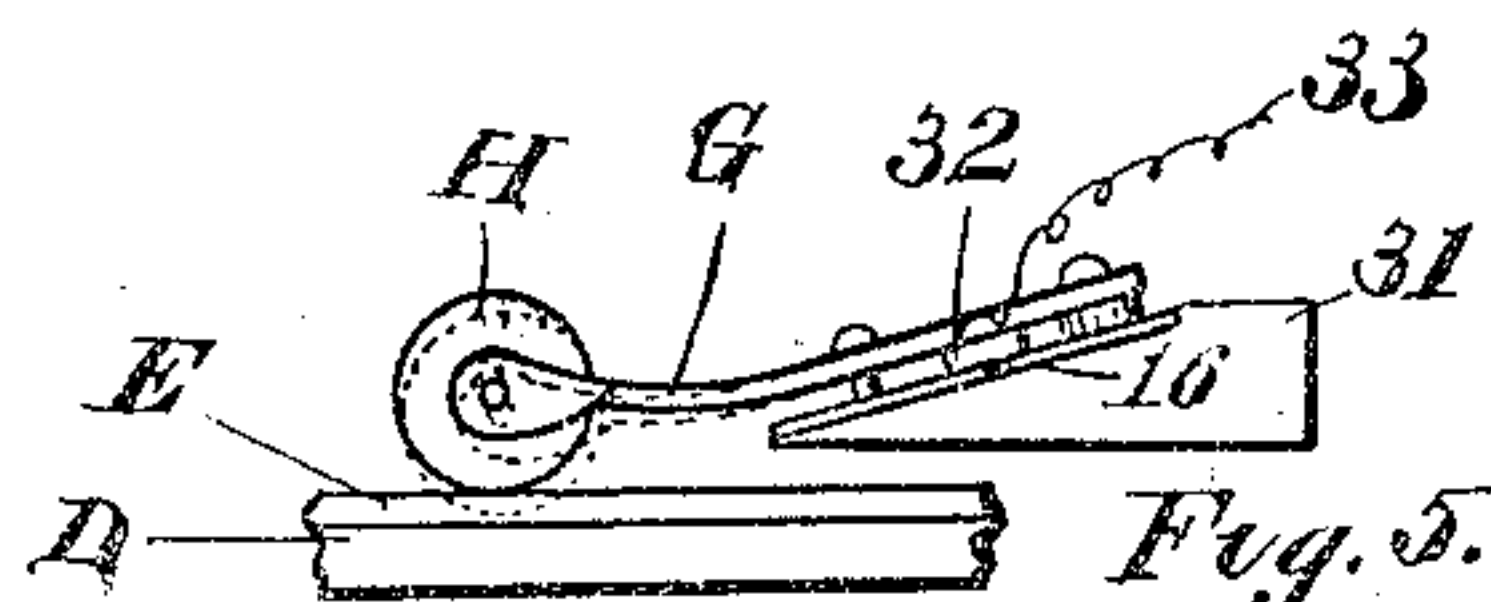


Fig. 5.

Witnesses

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2 SHEETS—SHEET 2.

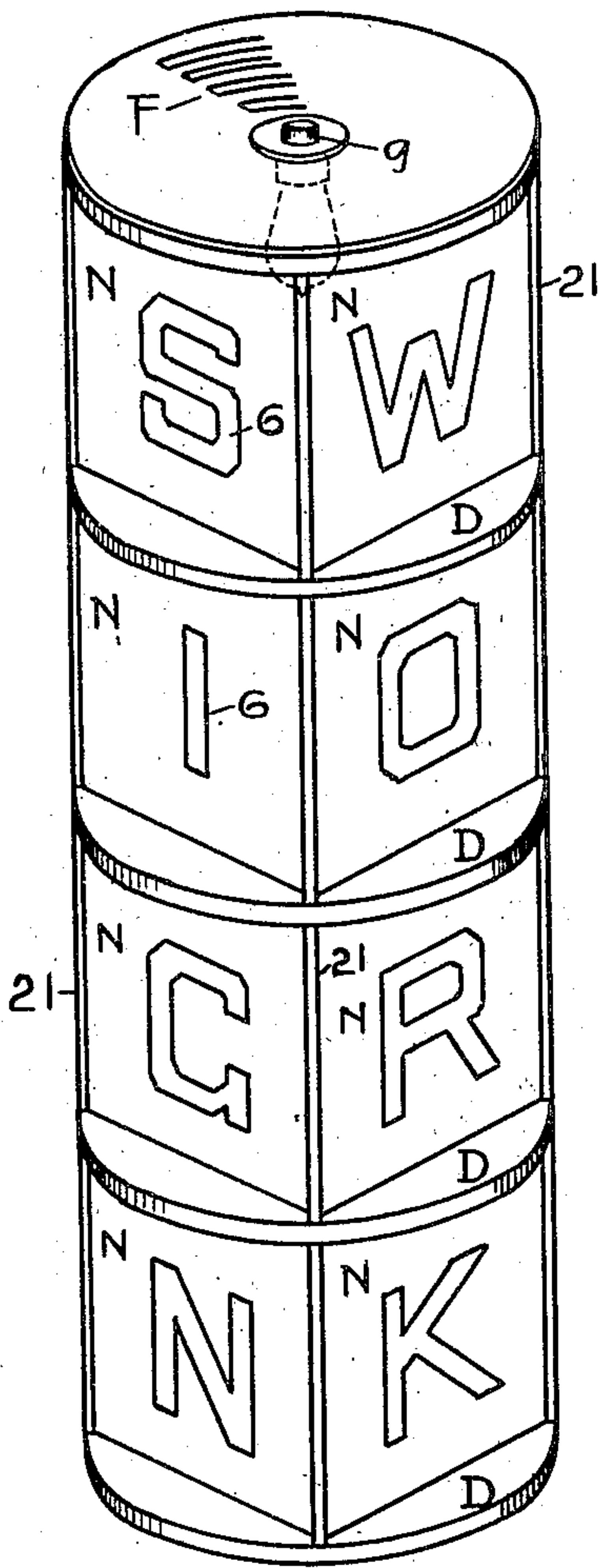


FIG. 6.

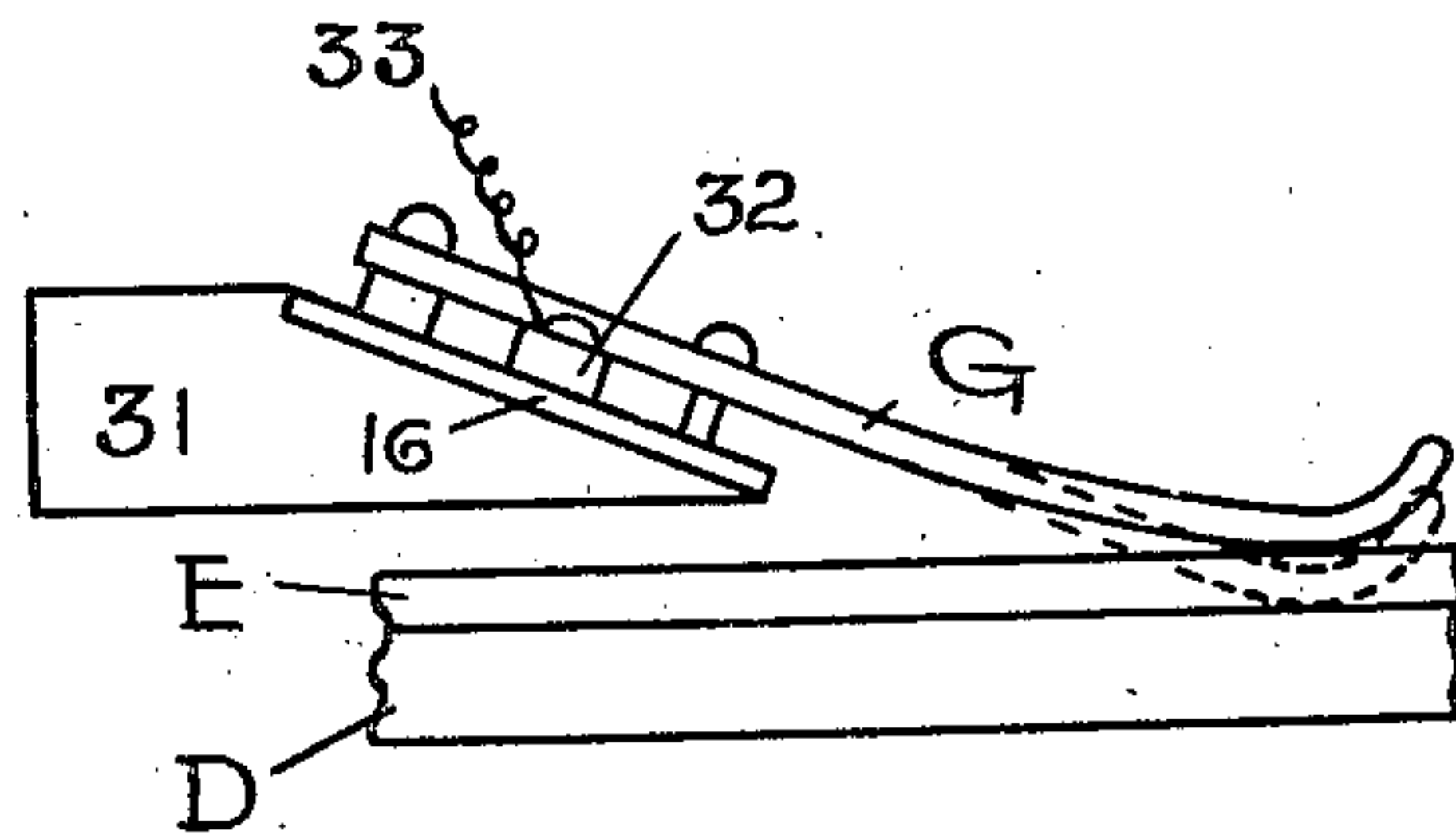


FIG. 7.

WITNESSES

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UNITED STATES PATENT OFFICE.

DANIEL F. MILLER, OF LOWELL, MASSACHUSETTS.

ELECTRIC SIGN.

No. 878,146.

Specification of Letters Patent.

Patented Feb. 4, 1908.

Application filed March 14, 1906. Serial No. 306,036.

To all whom it may concern:

Be it known that DANIEL F. MILLER, a citizen of the United States, residing at Lowell, in the county of Middlesex and State of Massachusetts, has invented certain new and useful Improvements in Electric Signs, of which the following is a specification.

My invention relates to advertising signs which are illuminated by electricity.

10 The object of my invention is to provide a simple and compact electric sign, the letters or other features of which may be illuminated successively and the light cut off successively or altogether.

15 Another object of my invention is to effect a change in the color of the lights on each letter, or group of letters, during the time when it is illuminated.

My invention is illustrated in the accompanying drawings, in which

20 Figure 1 is a perspective view of the outside of a sign equipped with my device, the inside partitions being shown by dotted lines. Fig. 2 shows the top portion of the inside revolving framework in perspective. Fig. 3 is a sectional elevation through the top disk. Fig. 4 is a plan view of the top disk and top partition, the cleats being removed. Fig. 5 is a detail of one of the contact rollers. Fig. 6 shows an alternative construction in which the stationary box is dispensed with. Fig. 7 shows an alternative construction in which the contact rollers are dispensed with.

30 In the drawings, A is a box of three or more sides composed of opaque material except where the letters or other designs to be shown are located. These letters, 6, 6, are composed of transparent or translucent material, such as glass, mica or cloth, suitably arranged on the different sides of box A. Box A is divided into sections by the partitions B, B, whereby one or more letters or designs may be lighted independently of the others. Box A is stationary and is fixed to 45 any suitable structure as M.

D, D, are disks held together by standards 21, 21, and are of a size and are so arranged as to fit inside the circular orifices 22, 22, in partitions B, B, or to overlap said orifices, whereby the light of one section cannot pass through to the adjoining sections.

50 9 is a flanged stud fixed to the center of the top disk D by means of bolts 14, 14 and it is supported by a bearing 10 which is suitably

insulated by a plate of slate 13 which is attached to and is supported by a cleat 30 which is fastened to the top of box A.

11 is a spindle fixed to the center of the bottom disk and is supported by a suitable bearing 12. Stud 9 and spindle 11 are provided to permit the framework consisting of disks D, D, D, D, D, and standards 21, 21 to revolve. They are so revolved by means of a motor or clock work L.

Upon the top of the upper disk D is a 65 plate E of insulating material and this plate carries a number of strips of copper F, F, F, F, or other conductive material forming concentric arcs about stud 9, one for each section of the revoluble framework and of different lengths. Between each two disks D, D, is an incandescent light K. More lights may be carried in a section but one only is shown in the drawing.

Each strip F is connected by a suitable 75 insulated wire 17, with the light K in one section of the revoluble framework and each of said lights K is also connected by a suitable insulated wire 18, with one of the bolts 14 which holds together disks D and E and stud 9. These bolts 14, 14 are suitably insulated except from stud 9 and wire 18 by insulating tubes 15. Surrounding stud 9 is a collar or brush 19 which makes the electrical connection therewith by means of wire 20 85 which is attached to one pole of the source of electric power. The cleat 31 fastened to the top of box A, carries a metal strip 32 which is insulated therefrom by a plate of slate 16 and is connected by a wire 33 with the other 90 pole of the source of electric power. Resting on and in electrical contact with strip 32 and fastened to insulating plate 16, which is fastened to cleat 31 are the elastic contact fingers G, G, G, G, and these preferably carry 95 metal rollers H, H, H, H, both so arranged that each roller H will contact with a separate strip F as the framework revolves. It will be readily seen that as the framework including standards 21, 21 and disks D, D, is 100 revolved by motor L, it carries around plate E with strips F, F, and as the strips F successively pass under rollers H, H, a circuit is completed successively for the lights in each section of the revoluble framework and so of 105 box A and when by the rotation, the rollers H get to the ends of strips F, all the lights are cut out at once. It can be readily seen

that strips F may be arranged in many different ways to produce different effects, as for instance, by the reversal of the arrangement shown, the lights may all be

turned on together and shut off successively. In order to vary the effect of the light, I use panes N, N of different colored glass supported by disks D and fastened between the strips 21, 21 as shown in Fig. 2. Thus as the framework revolves a different colored light is cast upon the letters in each section and the colors in each section are changed with the rotation. In this way we get the effect of lighting different sets of letters successively and then changing the color of light on the letters in each set successively.

Contact fingers G, G, are preferably made of elastic or springy metal as a better contact with strips F, F, is thereby secured, and rollers H, H, may even be dispensed with entirely as shown in Fig. 7.

My invention can be placed vertically as shown, or horizontally.

The box A may be done away with entirely as shown in Fig. 6 and the letters may be shown on the panes N, N, in which case the letters will be lighted successively but the color of each letter will remain the same.

What I claim as my invention and desire to cover by Letters Patent is

1. In an electrically illuminated sign, a stationary box comprising a sign or design formed by transparent letters or parts on an opaque field, and apertured opaque transverse partitions in said box, combined with a revoluble framework inside said box and comprising a plurality of disks connected by standards, electric lights carried by and between said disks, a plurality of concentric contact strips of unequal lengths carried by the top disk and each electrically connected with the lights between a different pair of disks, a plurality of contact fingers carried by said box and adapted to make a circuit through the concentric contact strips, suitable connections to complete the circuit for the lights, and means for revolving said framework.

2. In an electrically illuminated sign, a stationary box comprising opaque sides on which are transparent signs or designs, apertured opaque transverse partitions in said box, combined with a revoluble framework which passes through the apertured partitions in said box and carries corresponding partitions, electric lights carried by and between the partitions in the framework, means for revolving the framework, electrical connections with the lights and the source of electricity, and sliding contacts carried by the framework adapted to make and break the circuits for the lights.

3. In an electrically illuminated sign, a stationary box comprising opaque sides on

which are transparent signs or designs, apertured opaque transverse partitions in said box, combined with a revoluble framework which passes through the apertured partitions in said box and carries partitions corresponding with the partitions thereof, electric lights carried by and between the partitions in the revoluble framework, panes of different colored glass arranged about the lights and carried by the framework, means for revolving the framework, electrical connections with the lights and the source of electricity, and sliding contacts carried by the framework adapted to make and break the circuits for the lights.

4. In an electrically illuminated sign, a stationary outer case comprising a transparent sign, combined with a plurality of parallel partitions carried by a revoluble framework, a plurality of electric lights interposed between and carried by said partitions, conductors forming a permanent electrical connection between the lights and a source of electricity, a plurality of contact strips in the form of concentric arcs carried by the top of the framework and each connected with lights between different partitions, stationary contact fingers adapted to rest on top of the framework and to complete the circuit with the source of electricity through the concentric contact strips as the framework revolves, and means for revolving the framework, as described.

5. In an electrically illuminated sign, a stationary outer case comprising a transparent sign, combined with a plurality of parallel partitions carried by a revoluble framework, a plurality of electric lights interposed between and carried by said partitions, a plurality of panes of different colored glass arranged about the lights and carried by the framework, conductors forming a permanent electrical connection between the lights and a source of electricity, a plurality of contacts in the form of concentric arcs carried by the top of the framework and each connected with lights between different partitions, stationary contact fingers adapted to rest on top of the framework and to complete the circuit with the source of electricity through the concentric contact strips as the framework revolves, and means for revolving the framework, as described.

6. In an electrically illuminated sign, a fixed box sign, combined with a revoluble sectional framework carrying electric lights inside thereof, an insulating plate carried by said framework, a plurality of contacts in the form of concentric arcs of unequal lengths carried by said plate, fixed elastic fingers adapted to contact therewith, electric conductors connecting with said lights, contacts, and fingers and with the source of electric power, and means for revolving said framework, as described.

7. In an electric sign, a sectional revoluble framework, consisting of disks united by standards, electric lights carried in the different sections, panes of glass disposed about the lights in each section, and means for revolving said framework, combined with suitable electrical connections for said lights, and a plurality of contacts carried by the frame-

work adapted to open and close the circuits for the different lights successively.

In testimony whereof I affix my signature in presence of two witnesses.

DANIEL F. MILLER.

Witnesses:

MARY V. ALLEN,
JOSEPH H. CLARK.