

Aug. 20, 1935.

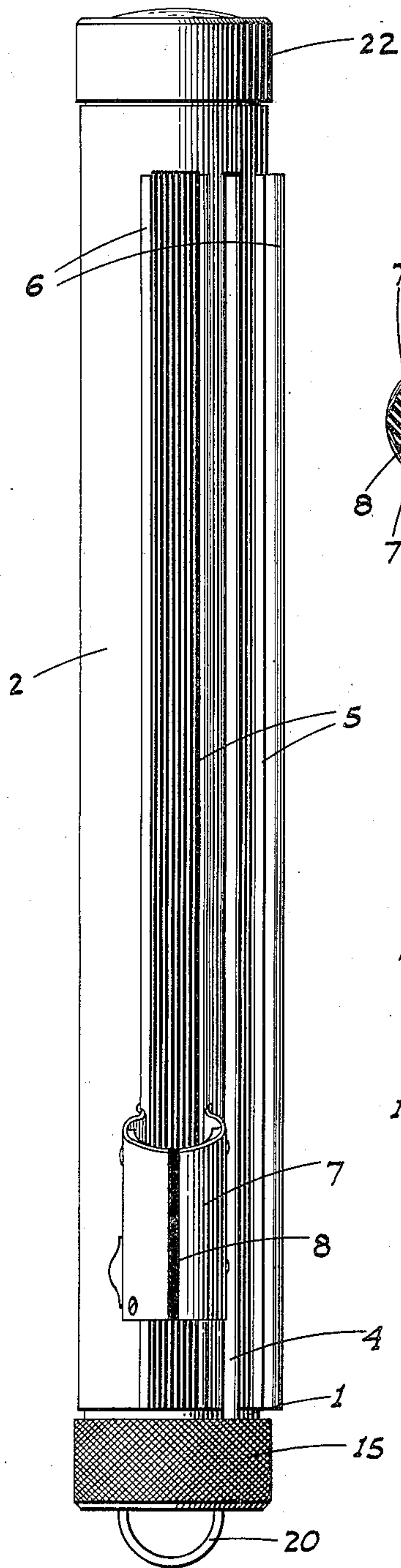
H. HOUSE

2,011,858

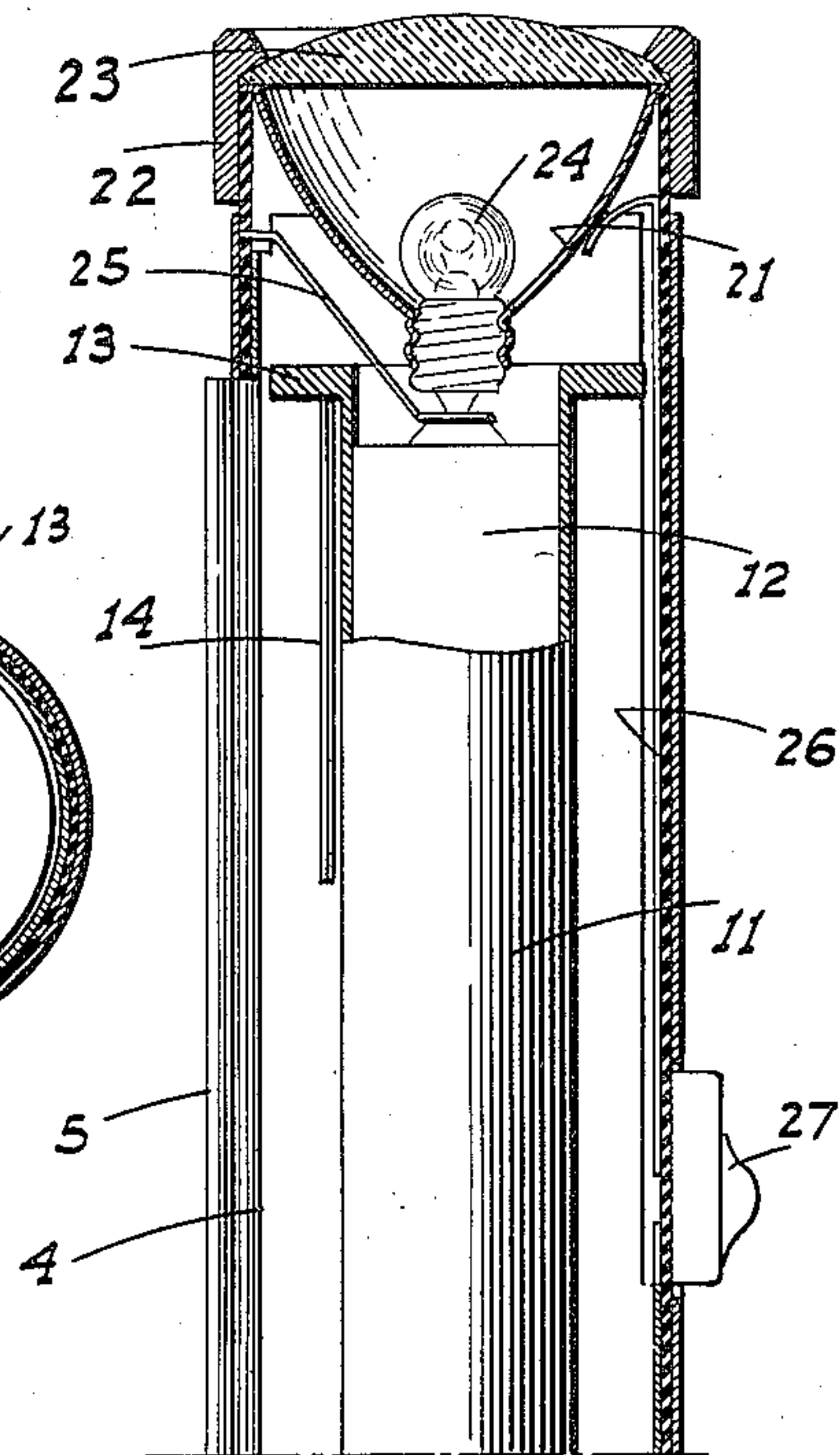
CHART HOLDER

Filed June 19, 1934

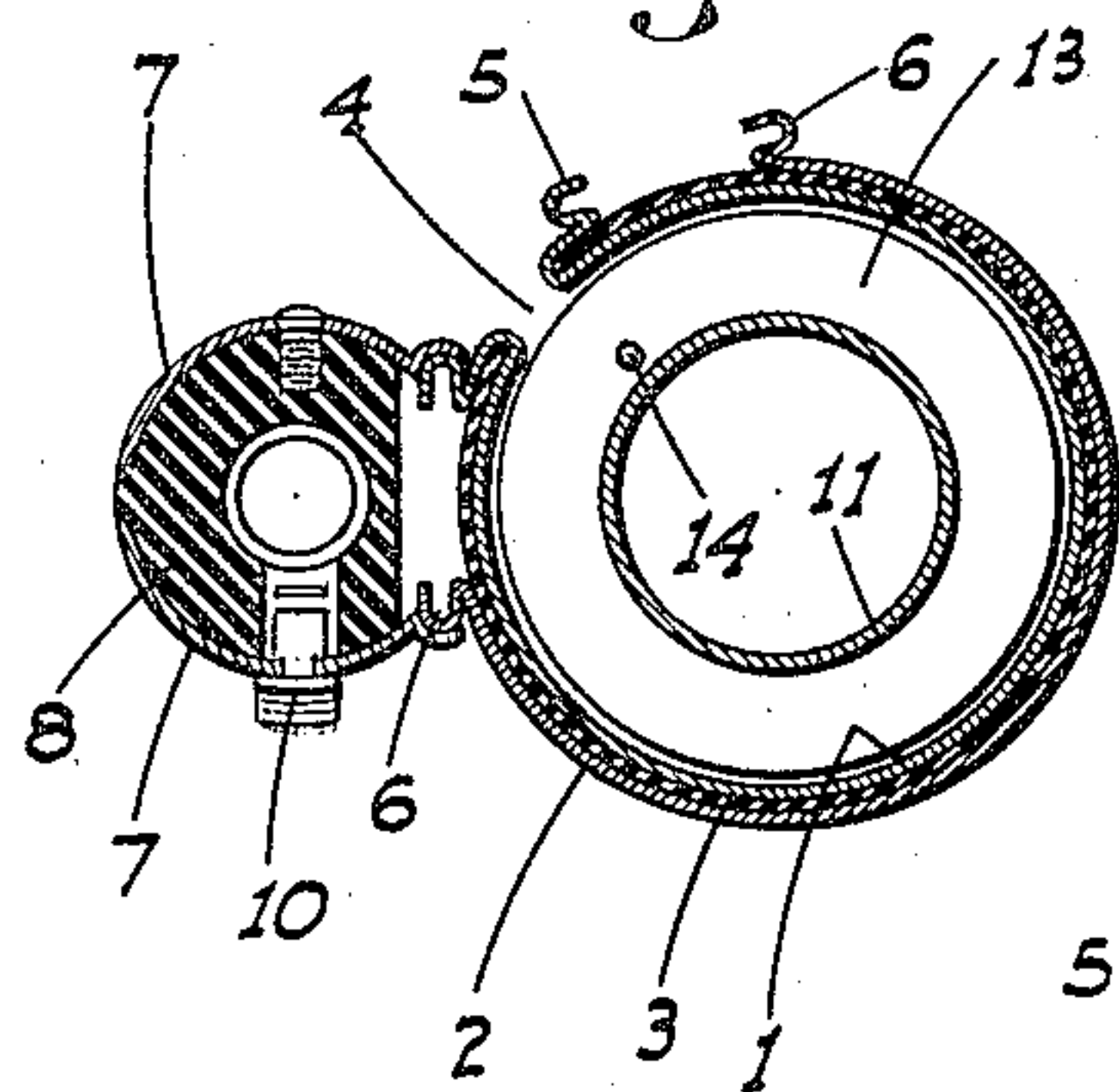
*Fig. 1*



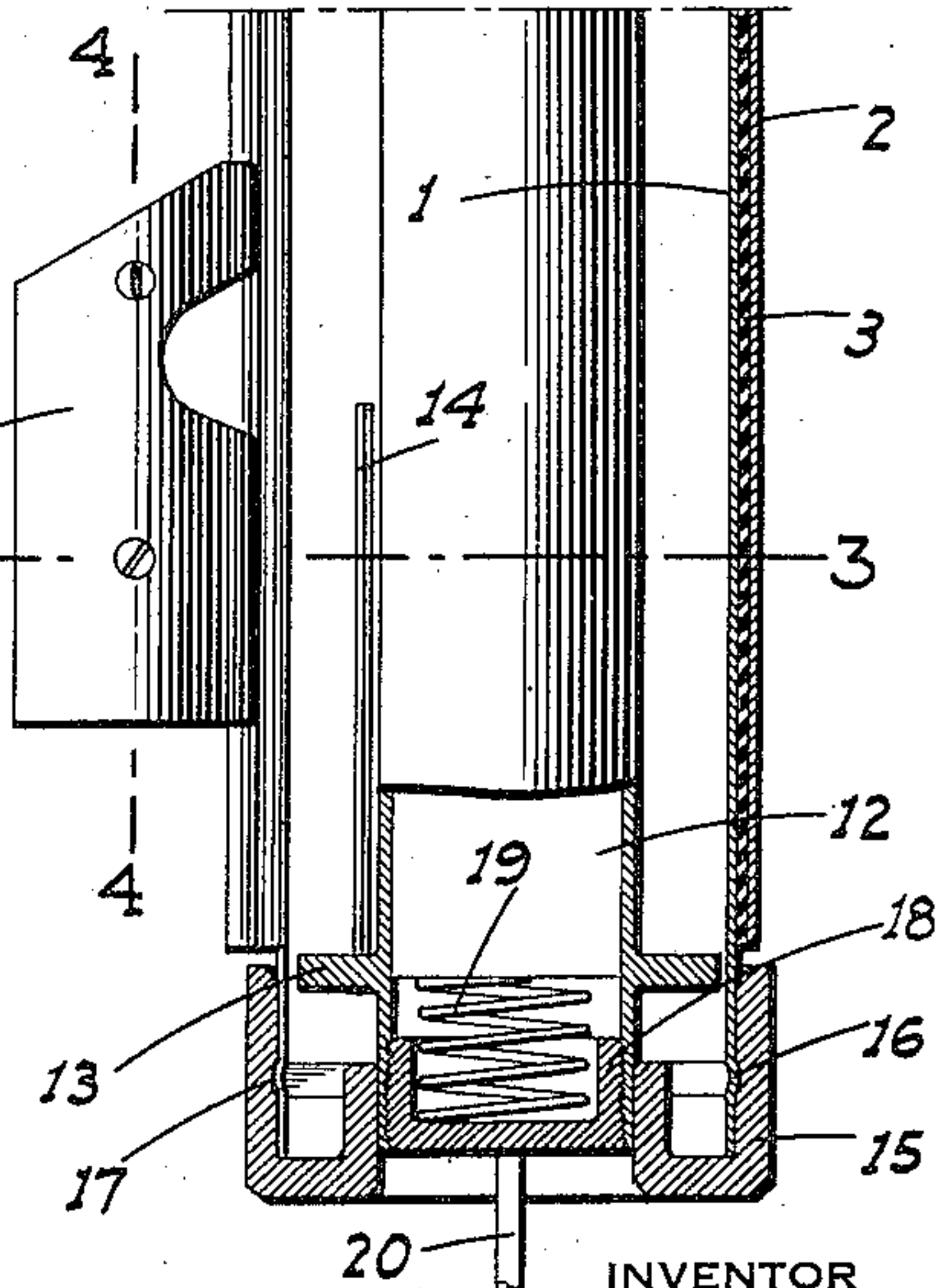
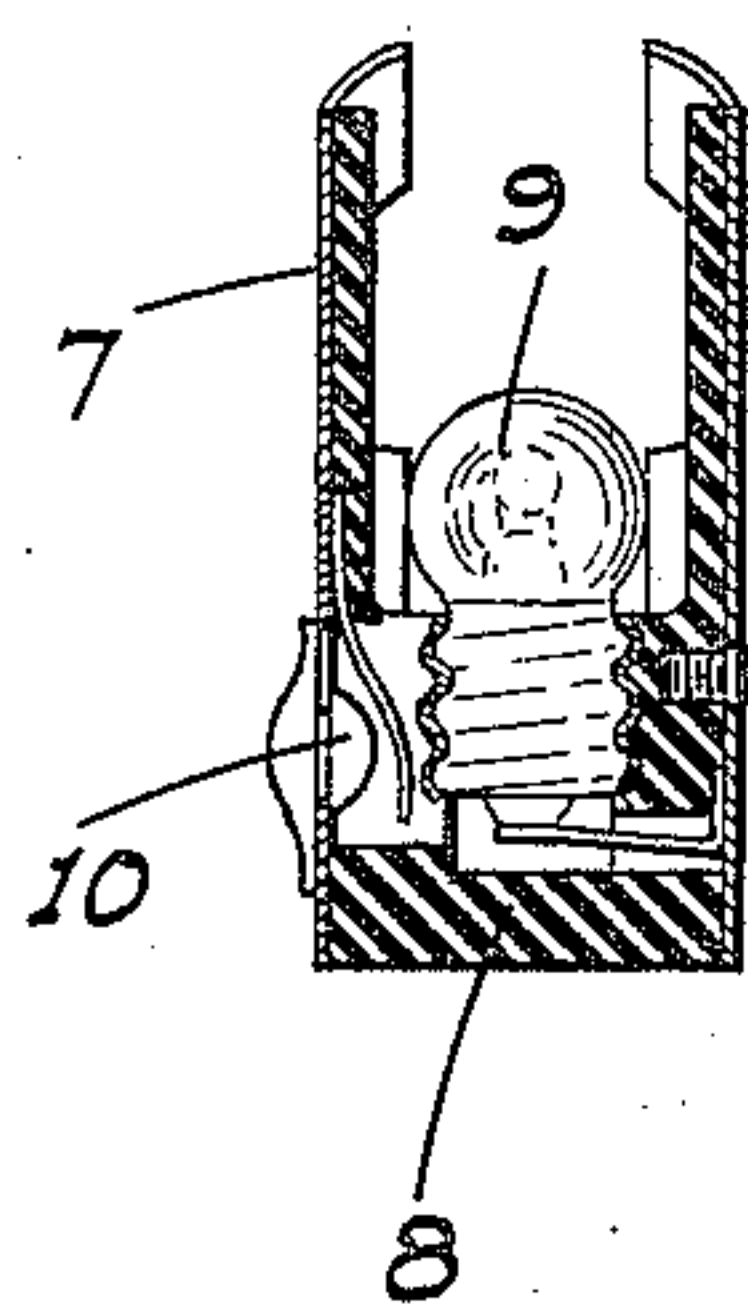
*Fig. 2*



*Fig. 3*



*Fig. 4*



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## UNITED STATES PATENT OFFICE

2,011,858

CHART HOLDER

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Application June 19, 1934, Serial No. 731,298

7 Claims. (Cl. 40—82)

This invention relates to illuminated holders for time schedule charts used by locomotive engineers, and particularly represents refinements and improvements over the devices shown in my Patents No. 1,863,569 and 1,872,737.

One object of the present invention, as above indicated, is to refine, improve and generally simplify the construction of the holder. Another object is to combine in a single unit an illuminated holder for a schedule or chart and a flash light suitable for general utility purposes and such as are now commonly carried by engine men; and so arranged that it adds no expense to the construction of the holder other than that of the small reflector and additional light bulb.

These objects I accomplish by means of such structure and relative arrangement of parts as will fully appear by a perusal of the following specification and claims.

In the drawing similar characters of reference indicate corresponding parts in the several views: Figure 1 is a longitudinal elevation of my improved holder.

Figure 2 is a longitudinal section of the same partly broken away.

Figure 3 is a cross section on the line 3—3 of Figure 2.

Figure 4 is a longitudinal section of the slidable light unit taken on the line 4—4 of Figure 2.

Referring now more particularly to the characters of reference on the drawing, the holder comprises a laminated cylindrical barrel which consists of inner and outer metal shells 1 and 2 respectively separated by a lamination of stiff insulated material 3. The barrel is provided with a longitudinal slot 4 extending from one end toward but terminating short of the opposite end. The outer shell 2 terminates short of the shell 1 on one end and the spacing between its separated edges is greater than the width of the slot 4. Also the lamination 3 extends beyond both metal sleeves at the end of the barrel opposite said one end.

The separated edges of the inner shell along the slot are turned away from each other and outwardly to form grooved rails 5, while the separated edges of the outer shell are similarly formed with grooved rails 6 spaced from the corresponding rails 5 on the side of the same furthest from the slot. The grooves of the adjacent rails 5 and 6 face each other and form guides for the mileage strip which is used in connection with the time table schedule in the same manner as in the previous patented devices. Said adjacent rails also serve as a support and guide for the

sliding illuminating unit by means of which the mileage strip supported by the guides can be read at night as well as the matter on the chart adjacent the slot. This unit comprises metal elements 7 forming a substantial cylindrical housing and separated from each other by an insulation core 8 disposed inside the housing and arranged so that one end and the adjacent bottom portion of the housing is left open.

A bulb 9 is mounted in the core to face the open end of the housing, one terminal of the bulb being connected to one element 7 and the other terminal being adapted for selective connection to the other element 7 by a suitable switch 10 mounted on the housing as indicated in Figure 4.

Disposed inside the barrel in concentric but spaced relation thereto is a tubular open ended spool 11 adapted to contain a number of dry cells 12 disposed in contacting end to end alignment. The spool has enlarged flanges 13 between which the time table schedule is disposed. Longitudinally aligned small rigid rods 14 are secured to and project toward each other from the flanges in parallel and close relationship to the spool, being adapted to project between the leaves of the time table at the junction of said leaves with each other, so that said time table may be mounted in non turning relation on the spool.

Said spool at one end is secured to and surrounded by a cap 15 which turnably fits over that end of the barrel to which the slot 4 is opened and beyond the adjacent end of the shell 2 and insulation 3, so that said cap contacts with the shell 1. The cap is knurled so that it can be readily turned by hand while of course being removable from the barrel. Said cap however is prevented from being too readily removed, without restricting its freedom of rotation, by suitable means such as a shallow circumferential ridge 16 on the barrel and a cooperating groove 17 about the bore of the cap. The slot 4 extends through said end of the barrel as stated and the shells are resilient with a tendency to expand. In this manner when they are compressed to allow the cap to extend over the same they will then engage the cap with a frictional grip when the compressive pressure is released and will hold the ridge and groove in cooperating relationship.

Removably mounted in the cap end of the spool is a plug 18 having a spring 19 therein engaging the adjacent end of the adjacent dry cell so that contact between said battery and the inner shell of the barrel is made and maintained.



A ring 20 is rigidly secured to and projects from the plug, serving not only as a means to turn the plug but also to hang the device up when not in use.

5 Projecting into the barrel at its opposite end is a reflector 21 mounted in a cap 22 in connection with a lens 23 as in conventional flash light construction. The cap and reflector are mounted on and engage the insulated lamination 3 only of the barrel and the reflector as usual forms a support and one contact for the light bulb 24. The base terminal of the bulb engages a contact strip 25 which is disposed between said terminal and the adjacent end of the adjacent battery 12 and engages the latter. This contact strip extends and is connected to the outer shell 1 so that there is no direct connection between the shells. The circuit to the sliding lamp will therefore not be completed unless the switch 10 is closed.

20 The inner shell is connected to the flash lamp reflector, in order to complete the circuit to the bulb 24 by means of a metal strip 26 mounted on the insulation lamination 3, which strip at one end engages the reflector and is adapted at its other end to be selectively engaged with the inner shell 1 by a sliding switch 27 of the usual character used on flash lights. It will therefore be seen that the flash light while using the same batteries as the chart illuminating light can be energized separate therefrom and the energizing of either light will not affect or interfere with the use of the other.

35 From the foregoing description it will be readily seen that I have produced such a device as substantially fulfills the objects of the invention as set forth herein.

40 While this specification sets forth in detail the present and preferred construction of the device, still in practice such deviations from such detail may be resorted to as do not form a departure from the spirit of the invention, as defined by the appended claims.

45 Having thus described my invention what I claim as new and useful and desire to secure by Letters Patent is:

1. A combination chart illuminator and flash light comprising a barrel to receive a rolled chart and having a longitudinal slot through which the chart may be withdrawn, an electric light mounted on the outside of the barrel in position to illuminate the withdrawn portion of the chart, another electric light mounted in the barrel at one end in outwardly facing relation, a battery mounted in the barrel and common to both lights, and separate switches for the lights.

2. A chart holder including a barrel having a longitudinal slot open to one end thereof, a spool to support a chart disposed within the barrel in concentric relation thereto, and a cap for the barrel rigid with the spool at one end thereof, said cap being turnably and removably mounted on the barrel at the adjacent end.

3. A structure as in claim 2, with means between the cap and barrel to yieldably resist removal of the cap without interfering with its freedom of rotation.

4. A combination chart illuminator and flash light comprising a barrel to receive a rolled chart and having a longitudinal slot through which the chart may be withdrawn, an electric light mounted on the outside of the barrel in position to illuminate the withdrawn portion of the chart, another electric light mounted in the barrel at one end in outwardly facing relation, a battery mounted in the barrel, separate circuits between said battery and the lights and including the barrel, and separate switches in said circuits.

5. An illuminated chart holder comprising a laminated barrel, said barrel consisting of an inner longitudinally split metal shell, to provide a slot along the barrel, an outer metal shell of lesser arcuate extent than said inner shell and a layer of insulating material between the shells; a rail formed on the inner shell adjacent and along the slot, a cooperating rail on the outer shell, a lamp housing slidable on the rails, an electric light within the housing, means to connect the terminals of the light with the rails, a battery within the barrel, and means to connect the terminals of the battery with the inner and outer shells of the barrel.

6. An illuminated chart holder comprising a laminated barrel, said barrel consisting of an inner longitudinally split metal shell, to provide a slot along the barrel, an outer metal shell of lesser arcuate extent than said inner shell, and a layer of insulating material between the shells; a rail formed on the inner shell adjacent and along the slot, a cooperating rail on the outer shell, a lamp housing slidable on the rails, an electric light within the housing, means to connect the terminals of the light with the rails, a holder for a dry battery unit disposed within the housing, a metal member on and mounting said holder at one end in contact with the inner shell only, a contact element in said member adapted to engage the adjacent end of the battery unit, and a contact member connected to the outer barrel shell only, and adapted to engage the opposite end of the battery unit.

7. An illuminated chart holder and flash light unit including a laminated longitudinally slotted barrel consisting of inner and outer metal shells and a layer of insulation material therebetween, an electric light on the outside of the barrel, means to connect the terminals of the light to the inner and outer shells, a combined tubular chart supporting spool and holder for a dry-battery unit disposed within the housing, a metal member mounting said spool in contact with one shell at one end thereof, a contact in said member to engage the adjacent end of the battery unit, a flash light in the barrel at the other end, means mounting said flash light so that one terminal thereof is in position to engage the adjacent end of the battery unit, a contact element connected to the other shell and adapted to also engage said adjacent end of the battery unit, and switch means to connect the inner shell to the other terminal of the flash light to complete the circuit thereto.

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