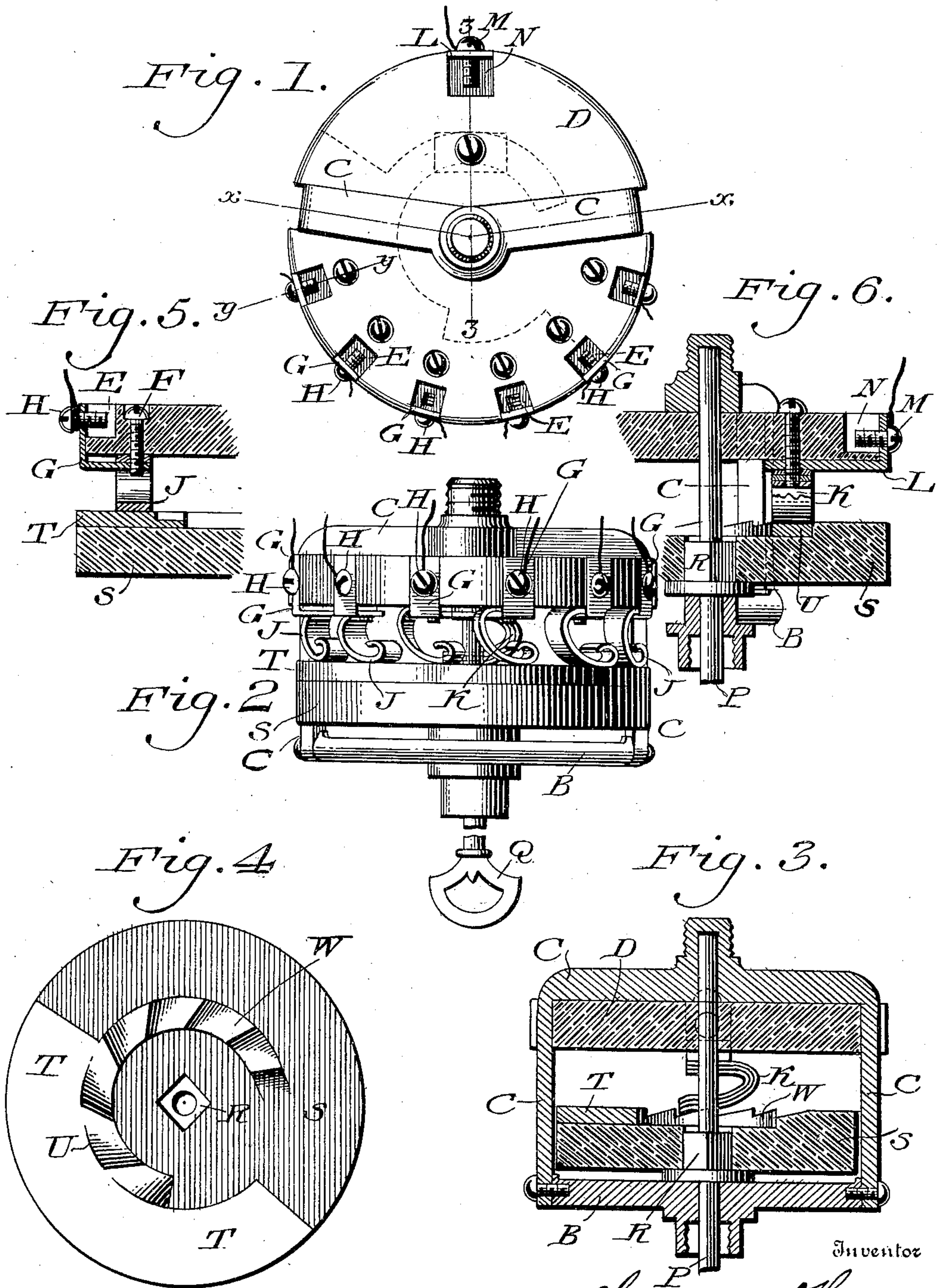


H. HORN.
SWITCH FOR ELECTRIC LIGHTS.

(Application filed Oct. 11, 1900.)

(No Model.)



Witnesses

P. F. Tagle.
L. Bouville.

Inventor

Herman Horn.
Niederheim & Kurbank.
Attorneys.

UNITED STATES PATENT OFFICE.

HERMAN HORN, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO THE
HORN & BRANNEN MANUFACTURING COMPANY, OF PENNSYLVANIA.

SWITCH FOR ELECTRIC LIGHTS.

SPECIFICATION forming part of Letters Patent No. 678,180, dated July 9, 1901.

Application filed October 11, 1900. Serial No. 32,671. (No model.)

To all whom it may concern:

Be it known that I, HERMAN HORN, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Switches for Electric Lights, of which the following is a specification.

My invention consists of an improved switch for an electric light whereby several lights may be successively turned on, the same being adapted to be accomplished by a single switch, and also permitting all of the lights to be extinguished, as will be hereinafter described and claimed.

Figure 1 represents a plan view of an electric switch embodying my invention. Fig. 2 represents a side elevation thereof. Fig. 3 represents a vertical section of a portion on line *x x*, Fig. 1. Fig. 4 represents a plan view of one of the disks employed. Fig. 5 represents a section of a portion on line *y y*, Fig. 1. Fig. 6 represents a section on line *z z*, Fig. 1.

Similar letters of reference indicate corresponding parts in the figures.

Referring to the drawings, A designates an electric switch, and B a cross-bar thereon, the same supporting the frame C, to which is rigidly secured a stationary plate or head D, of suitable non-conducting material. In the periphery of said plate are recesses E, in which are fitted the vertical limbs of the elbow-pieces G, which are provided with the binding-screws H. The horizontal limbs of said pieces are beneath said head D and clamp the fingers J, of suitable conductive material, said fingers being somewhat elastic in nature and curved or deflected on their lower portions, so that their edges will not catch as the switch is operated. Depending from the head D is the main circuit-finger K, the same being secured to said head by means of the plate L, the latter being provided with a binding-post M, whose inner end enters the recess N in said head D.

P designates an arbor which is journaled in the cross-bar B and is provided with a key Q for operating purposes, said arm having an angular portion R, which enters an angular opening in the rotary head S, whereby the latter is adapted to rotate with said arbor. On the upper face of said head S are a contact-

plate T, the segmental ratchet U, which is connected with the inner side of said plate, and the segmental ratchet W, which is a continuation of the ratchet U to increase the length thereof and extends over the portion of the face of the head S not occupied by said plate T, it being noticed that said portion is exposed, so as to have at certain times the fingers J contact therewith and at other times to engage with said ratchet U, while the main finger K engages at a certain time with said exposed portion and at another time with the teeth of said ratchets.

Suitable wires or conductors are attached to the binding-posts H, and it will be seen that when the fingers J and K are in direct contact with the head S the circuit is broken and there would be no light; but when the key Q is properly turned the finger K contacts with the first tooth of the ratchet W, at which time the first finger J will be in engagement with the contact-plate T, and thus one light will be turned on. By further rotation of the key the second finger J will contact with the plate T, and thus the second light will be turned on, and as the key is further rotated the other fingers J will be successively brought into contact with the plate T, the finger K remaining meanwhile in contact with the teeth of the ratchets U W and clicking therewith, and thus the several lights, in accordance with the number of fingers J, will be turned on. When the key is further rotated, the fingers J and K leave their metallic contacts and engage directly with the exposed face of the head S, whereby the circuit will be broken and all of the lights extinguished. It will be noticed that as fingers J are connected with the stationary head D they are accordingly non-rotatable.

It will be apparent that various changes may be made by those skilled in the art which will come within the scope of my invention, and I do not therefore desire to be limited in every instance to the exact construction I have herein shown and described.

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

1. In an electric switch, a rotatable head provided with a contact-plate and a ratchet

55

60

65

70

75

80

85

90

95

100

thereon, and having a partly-exposed surface, said ratchet being a continuity of said plate, both ratchet and plate partly occupying portions of the face of said head.

- 5 2. An electric switch consisting of a stationary head having a main contact-finger and auxiliary fingers thereon, said main and auxiliary fingers being in different circles, and a
10 segmental ratchet forming a continuity of said plate, both plate and ratchet partly occupying the same face of said head, leaving the remaining portion of said face exposed, whereby said main contact-finger may engage
15 said ratchet and the auxiliary contact-pieces successively engage with said plate, and both the main contact and auxiliary fingers may engage with the exposed face of said head.

3. A switch for electric lights, consisting of a rotatable head of non-conducting material, 20 having its upper face partly exposed and partly occupied by conducting material, the latter being composed of a contact-plate and a segmental ratchet continuities of each other and both on said face and a stationary head 25 having on its under face, main and auxiliary fingers, which may be successively brought into contact with said conducting material for turning on a corresponding number of lights and all fingers brought into contact 30 with said exposed face, thus extinguishing all of the lights.

HERMAN HORN.

Witnesses:

JOHN A. WIEDERSHEIM,

WM. CANER WIEDERSHEIM.