

No. 692,966.

Patented Feb. 11, 1902.

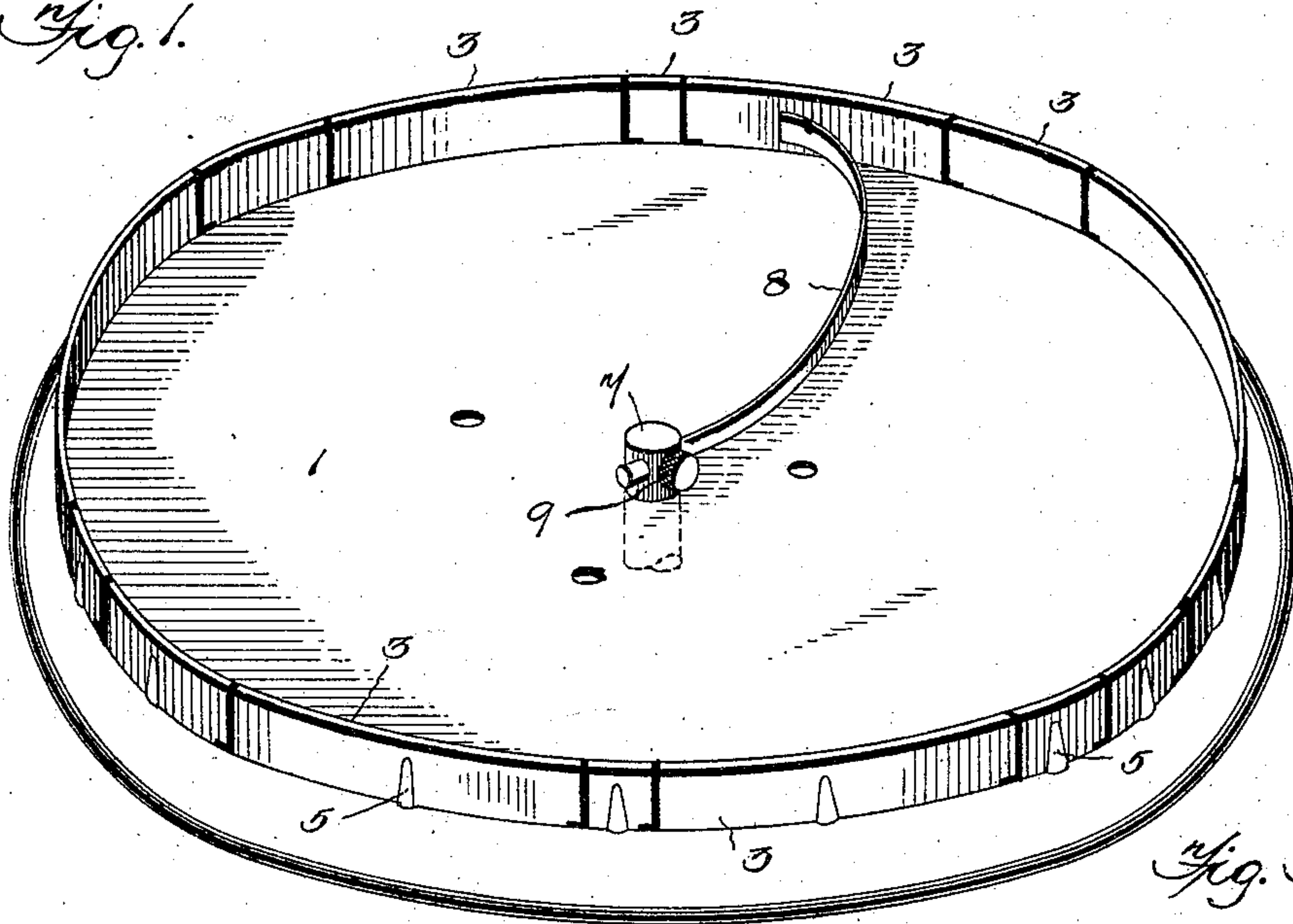
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CONTACT DISK FOR COIN CONTROLLED APPARATUS.

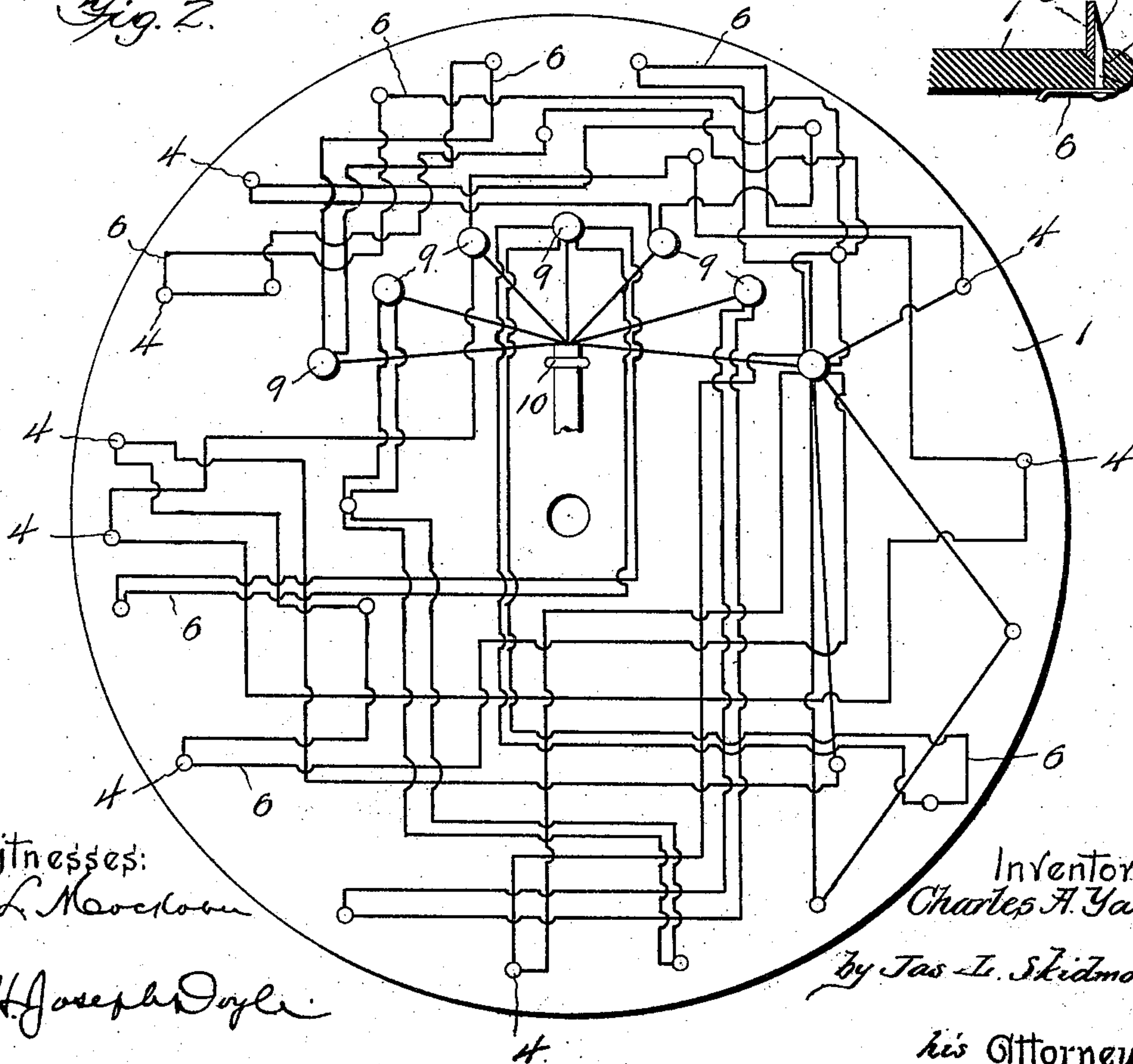
(Application filed Apr. 18, 1901.)

(No Model.)

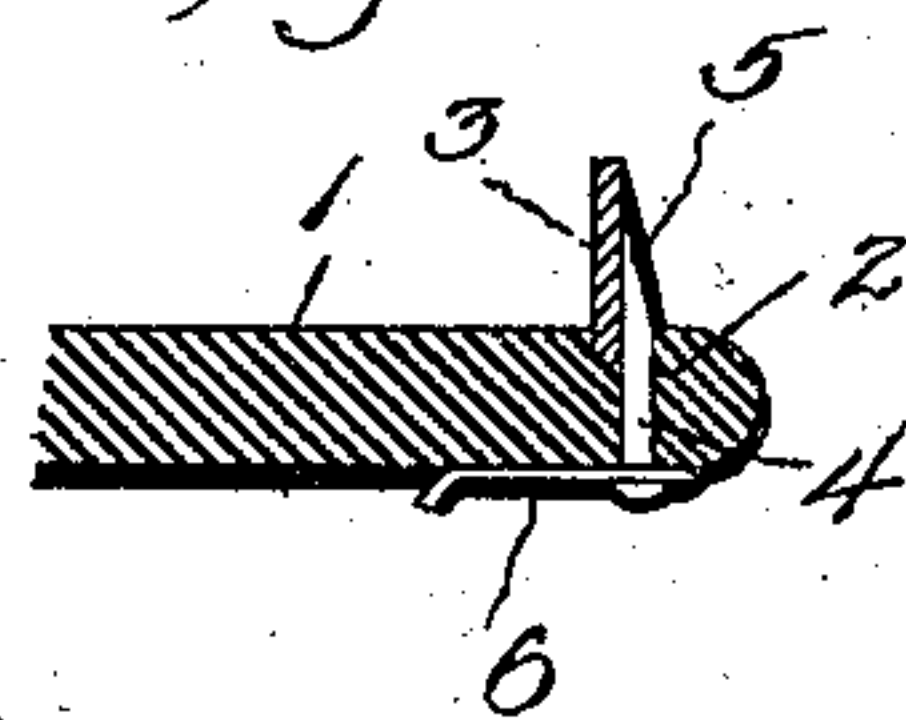
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



Witnesses:  
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# UNITED STATES PATENT OFFICE.

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## CONTACT-DISK FOR COIN-CONTROLLED APPARATUS.

SPECIFICATION forming part of Letters Patent No. 692,966, dated February 11, 1902.

Application filed April 18, 1901. Serial No. 56,448. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES ALBERT YALE, a citizen of the United States, residing at Burlington, in the county of Chittenden and State of Vermont, have invented certain new and useful Improvements in Contact-Disks for Coin-Controlled Apparatus; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My present invention relates to contact-disks designed for use in electrically-operated coin-controlled advertising and vending apparatus of the type illustrated in patent granted to me under date of March 5, 1901, and numbered 669,433. In the patent referred to a hand or pointer is given an initial impetus to move around a numbered dial, and the pointer-shaft carries a spring-brush which moves around in contact with a series of pins secured near the periphery of an insulated disk. When the hand or pointer comes to a stop, the spring-brush rests upon one of the series of pins and establishes an electric circuit including within it an electric light and other mechanisms to be operated.

It is the object of my present invention to improve the construction of the disk to which the contact-pins are secured. The large number of pins required for my purpose in a comparatively small disk makes the production of such a structure expensive owing to the accuracy required in properly locating and securing the pins to the disk and connecting them up in groups to wires leading to the mechanisms to be operated. By a series of experiments I have discovered that I may accomplish the purpose for which the disk is used in the patent by a much simpler and more efficient device and one which can be produced at a greatly-reduced cost.

In accordance with my invention about to be described I dispense with the pins and utilize in their place a series of segmental contact-plates; each plate representing a group of the pins disclosed by the patent, and each

plate being connected up to a single wire leading to the light or mechanism to be operated.

In the accompanying drawings, which illustrate my invention, Figure 1 is a perspective view of a contact-disk made in accordance with my present invention and showing a shaft passing through the center of the disk and carrying a spring-brush designed to contact with the segmental plates secured to the disk. Fig. 2 is a rear elevation of the disk, showing the manner in which the electric wires are connected thereto. Fig. 3 is a fragmentary section taken through one of the segmental plates and the disk.

Referring to the drawings, the numeral 1 designates a disk made of non-conducting material, like indurated fiber, vulcanite, or other composition or non-metallic substance suitable for the purpose. Near the periphery of this disk a circular groove 2 is formed, and seated in this groove are the segmental contact-plates 3. As shown, these plates are secured in place in the groove 2 by headed pins or tacks 4, said pins being driven through the disk 1 from the back and secured to the plates 3 by solder or otherwise, as at 5. One of the wires 6 is connected to each pin or tack 4 by winding the wire around the head of the pin before it is driven home in the disk. It will be understood that the pins or tacks are electrical conductors, and that when a circuit is established through any one of them the current passes through the pins to the plate 3, to which it is secured.

A shaft 7 passes through the center of the disk 1, and a spring-brush 8 is secured to said shaft, preferably by a thumb-screw 9. The outer or free end of the spring-brush 8 is always in contact with one of the plates 3. When the shaft 7 is given an initial impetus or is spun by suitable mechanism, the brush 8 sweeps around in contact with the plates 3 until the shaft 7 comes to a stop, and a circuit is then established through the shaft 7 to brush 8, through said brush to one of the plates 3, and through the plate and its pin 4 to wire 6 to mechanism to be operated. The plates 3 are of different lengths and are arranged around the disk 1 in a manner to distribute the long and short segments in pre-



determined positions in the circle, in order that when the brush 8 is swept around in contact with the plates 3 by an initial impetus given to the shaft 7 the chances of said brush stopping upon one of the longer plates 3 is greatly in excess of the chances that said brush will come to a stop on any one of the smaller plates. In fact, the circle represented by the plates 3 is so divided up and portioned by plates of different lengths in series as will determine the percentage of chance in favor of the longer plates as against the shorter ones. This percentage may, however, be changed by a different system of wiring or by a switch. In the example of my invention herein shown there are seven groups of wires 6, connected to the plates 3 and led to seven binding-posts 9 at the back of disk 1. From these binding-posts the insulated wires are passed through a screw eye or guide 10 to the various lights or mechanisms to be operated.

From the foregoing it will be obvious that a disk having a series of segmental or curved contact-plates separated from each other by a slight space can be made and assembled in a comparatively short time, while the wiring up of such a disk can be accomplished in much less time than a disk having a circular series of contact-pins.

Having thus described my invention, what I claim is—

1. A contact-disk, comprising a non-conducting disk, a series of curved contact-plates each secured to the face of said disk by a metal pin or tack driven from the back of the disk and secured to the contact-plate, substantially as described.

2. A contact-disk, comprising a non-conducting disk, a series of curved contact-plates each secured to the face of said disk by a metal pin or tack driven from the back of said disk at the side of the contact-plate, and secured thereto by solder.

3. A contact-plate, comprising a non-conducting disk, a series of contact-plates seated in a groove near the periphery of said disk and each plate secured in place by a metal tack or pin driven from the back of the disk and soldered to the contact-plate, and having a conducting-wire attached to each pin, in combination with a spring-brush adapted to be rotated inside the contact-plates with its free end in contact with said plate.

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

CHARLES ALBERT YALE.

Witnesses:

T. E. HOPKINS,  
E. E. DAVIS.