

No. 624,267.

Patented May 2, 1899.

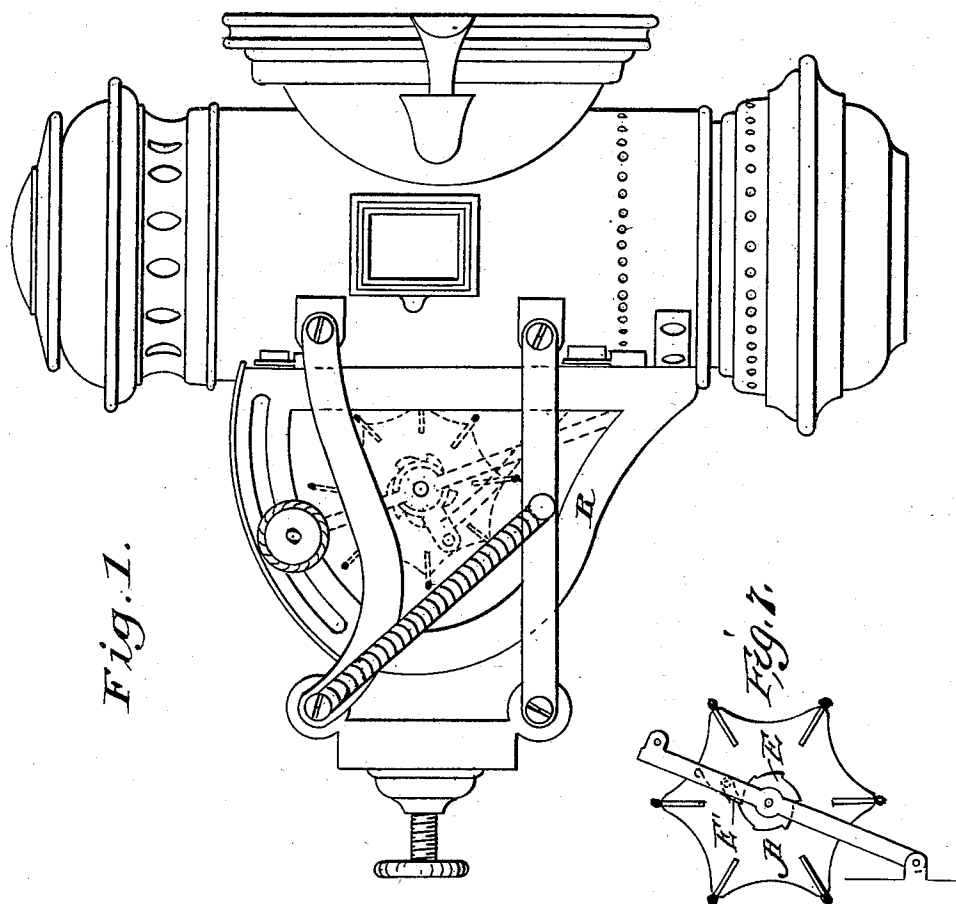
M. TUCKER.

DEVICE FOR IGNITING BICYCLE, CARRIAGE, OR OTHER LAMPS.

(Application filed Aug. 5, 1898.)

(No Model.)

5 Sheets—Sheet 1.



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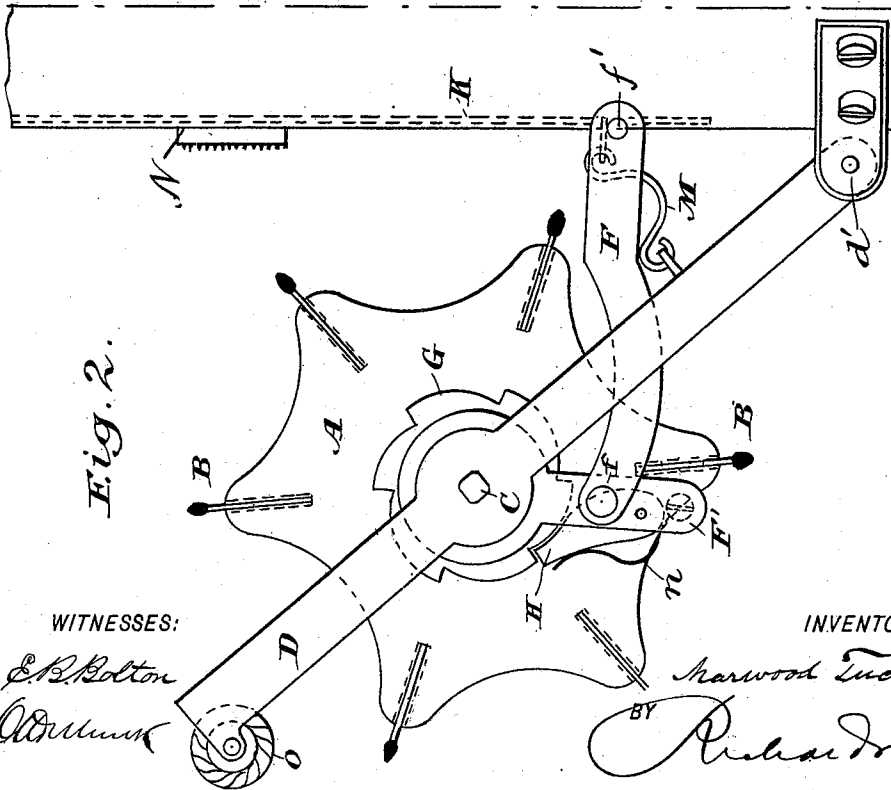
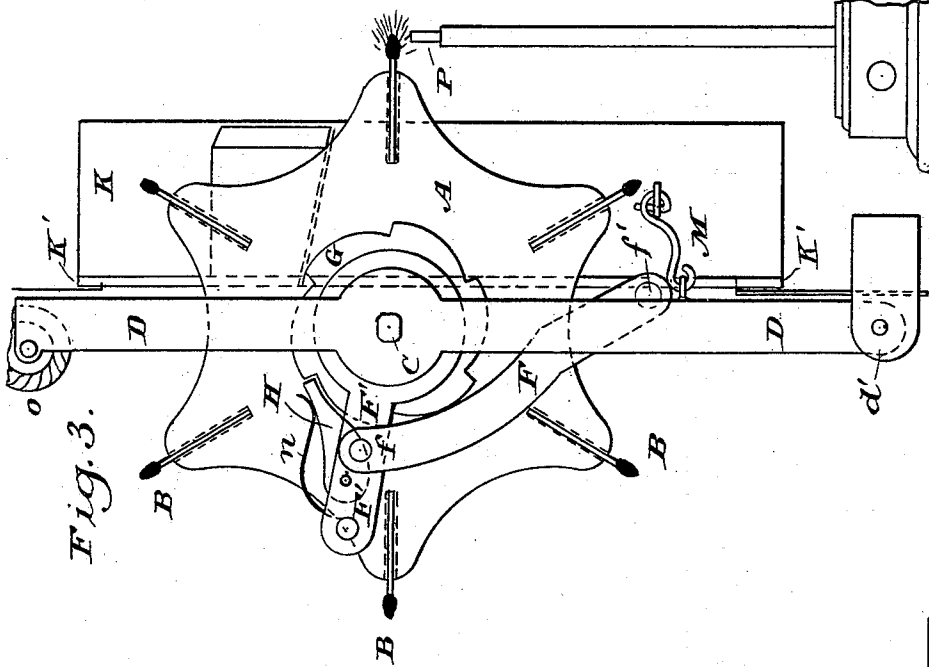
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5 Sheets—Sheet 2.



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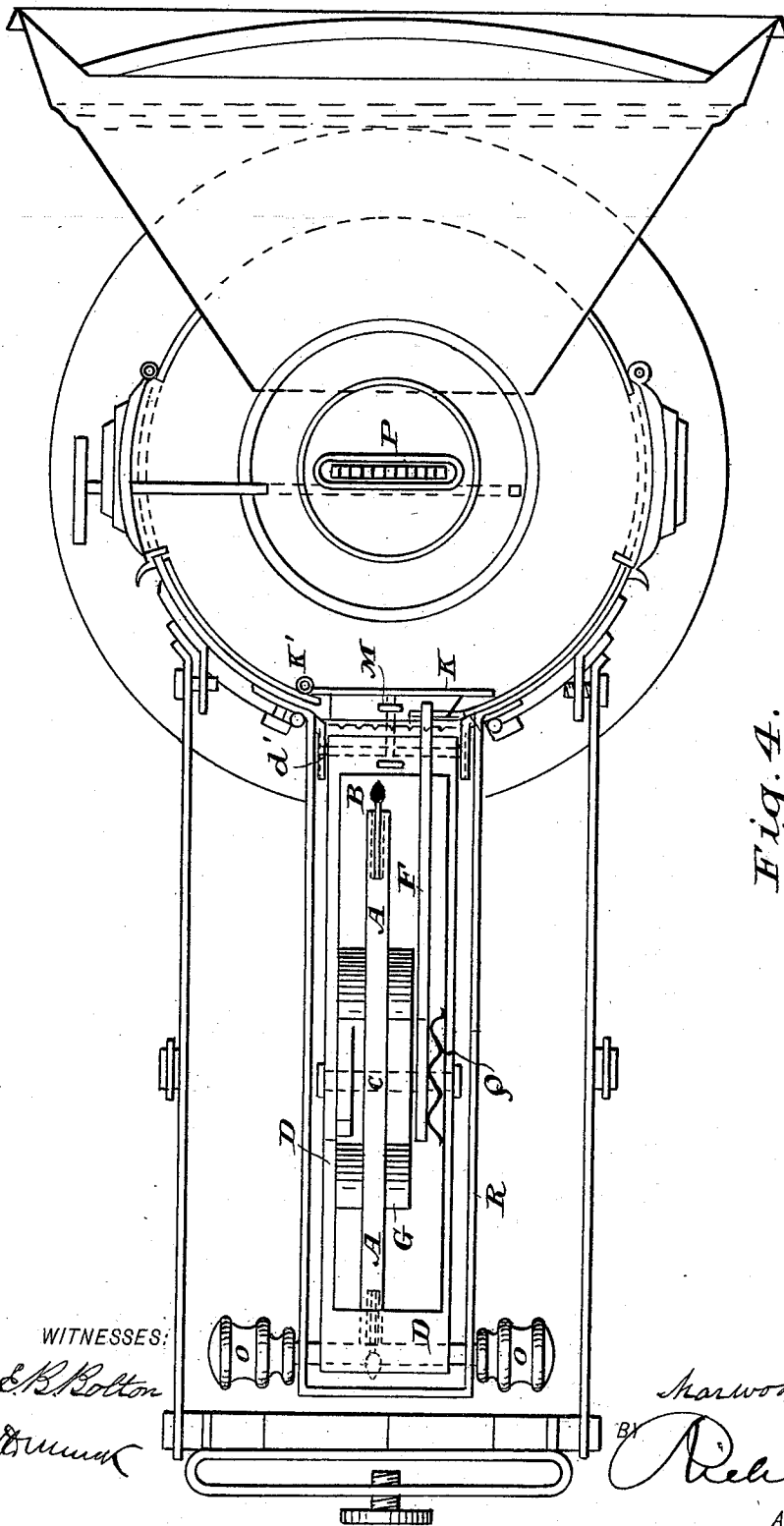


Fig. 4.

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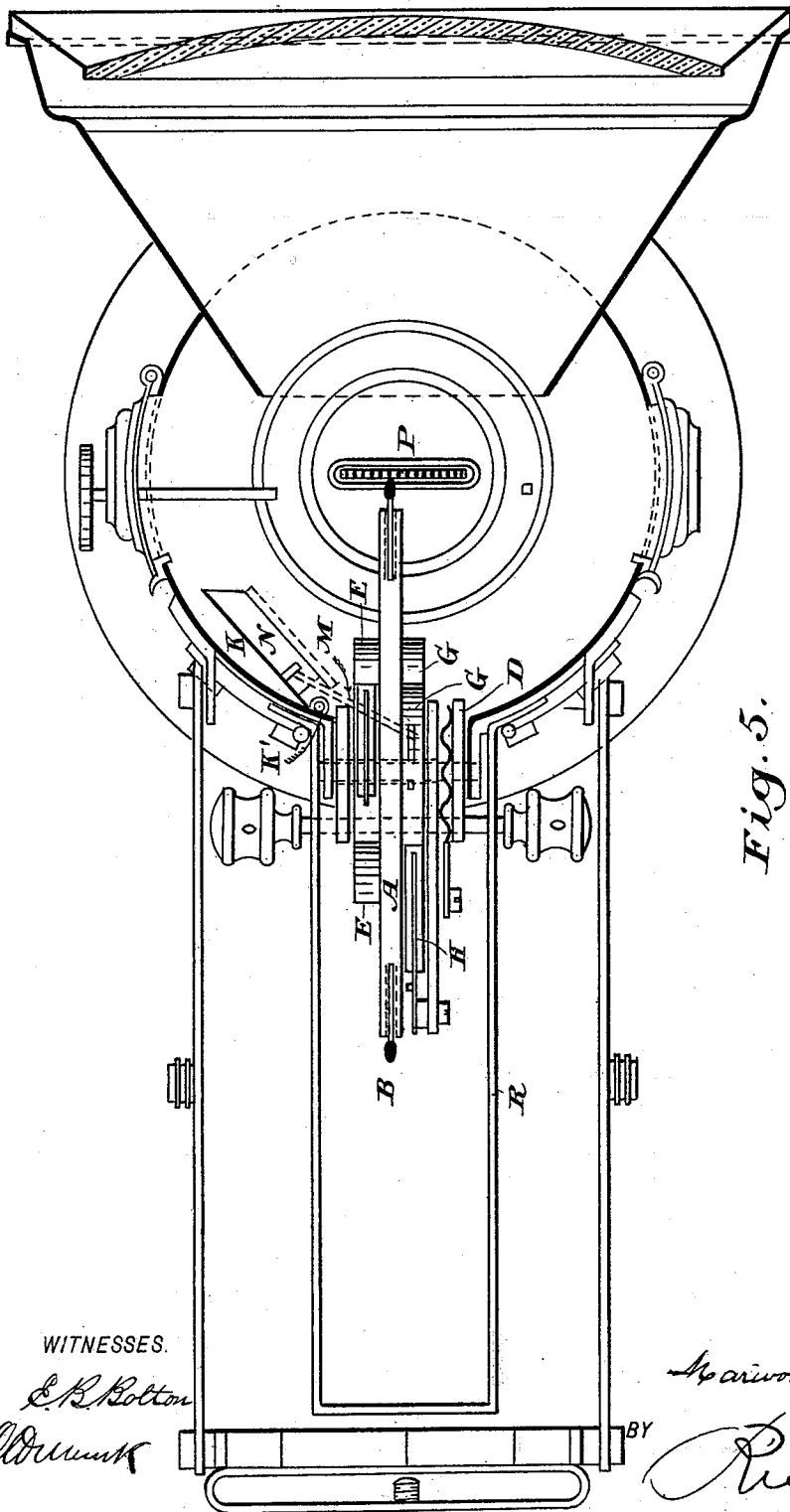
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5 Sheets—Sheet 4.



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Fig. 6^b

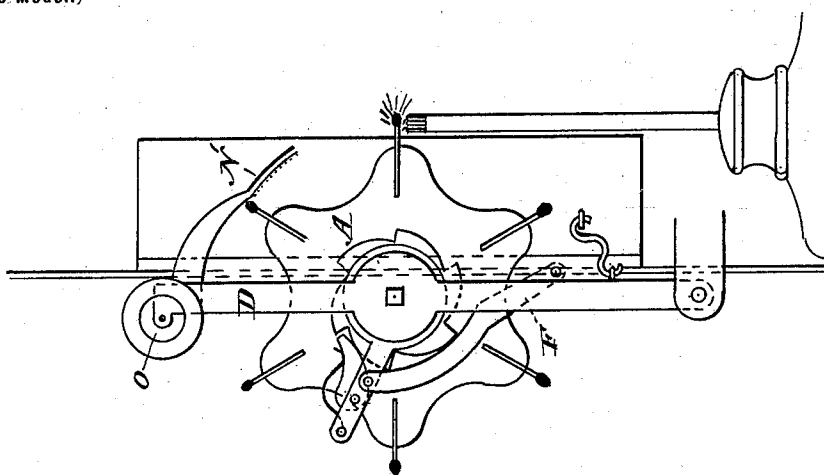


Fig. 6^a

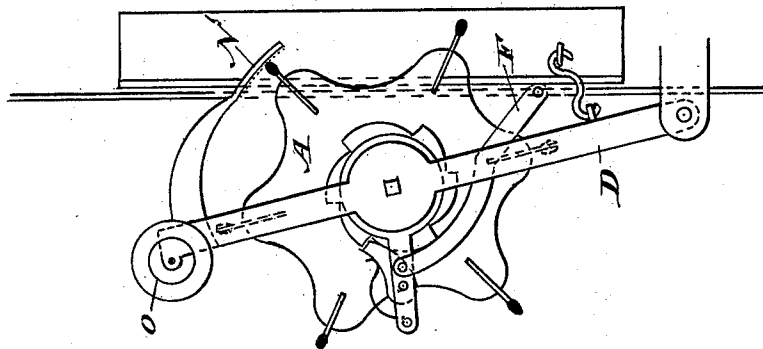
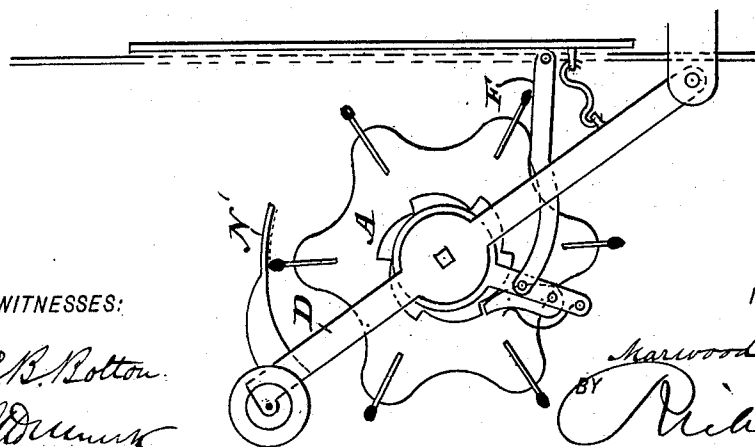


Fig. 6.



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UNITED STATES PATENT OFFICE.

MARWOOD TUCKER, OF JOHANNESBURG, SOUTH AFRICAN REPUBLIC.

DEVICE FOR IGNITING BICYCLE, CARRIAGE, OR OTHER LAMPS.

SPECIFICATION forming part of Letters Patent No. 624,267, dated May 2, 1899.

Application filed August 5, 1898. Serial No. 687,817. (No model.)

To all whom it may concern:

Be it known that I, MARWOOD TUCKER, a citizen of Great Britain and Ireland, residing at 11 Goch's Buildings, Eloff street, Johannesburg, in the South African Republic, have invented a certain new and useful Improved Automatic Device for Igniting Bicycle, Carriage, or other Lamps of a Like Nature, of which the following is a specification.

10 This invention relates to an improved device to be attached to bicycle-lamps or to any other description of lamp used for similar purposes—such, *e. g.*, as a carriage-lamp—for automatically lighting the same, the object
15 being to provide a means of igniting the lamp while closed or when attached to a velocipede or vehicle without stopping, the advantages of which are obvious.

My invention consists of a disk provided
20 with suitable radial sockets or notches to hold wax or other matches, pivoted at its center to a fork or lever, which in turn is pivoted at one extremity to the framework of the lamp, the other extremity being provided with a
25 knob or handle to enable the lever, with the disk in position, to be moved forward. A ratchet-wheel and pawl are fitted so that the disk is free only to revolve in a direction toward the lamp. Each time the fork or lever
30 carrying the disk holding the matches is moved toward the lamp the disk is caused to revolve a distance sufficient to bring each match successively into operation. This is effected by means of a compound lever operating
35 a pawl working in a ratchet fixed centrally to the disk. When the fork or lever carrying the disk is moved toward the lamp, the heads of the matches are ignited by striking against a block of suitable material affixed
40 to a door in the back of the lamp or in any other convenient position, which door is simultaneously opened by means of a link connecting it to the lower portion of the said fork or lever. The lighted match is thereby
45 brought immediately over the wick or burner and retained there until the latter is ignited. The lever or fork is then drawn back into its normal position, its reverse action closing the door by means of the aforesaid link, and the
50 lighted match is automatically extinguished so soon as the portion projecting beyond the socket is consumed. The whole of the mech-

anism is preferably inclosed in a suitably-shaped chamber.

My invention will be more fully understood 55 on referring to the accompanying drawings, in which—

Figure 1 shows a bicycle-lamp fitted with my invention. Fig. 2 shows a side view of the device in its normal position, and Fig. 3 60 a side view of the same when moved to the position for lighting the burner or wick. Fig. 4 shows a plan of the device in its normal position with door closed; Fig. 5, a plan of the device when moved forward in position for 65 lighting the burner or wick, the door being open. Figs. 6, 6^a, and 6^b show an alternative striking arrangement. Fig. 7 is a detail view showing the pawl and ratchet located upon the opposite side of disk A from that shown 70 in Fig. 2.

A is a disk provided with radial sockets or slots B B B, (six of which are shown in the drawings,) into which matches may be fitted, 75 as shown. The disk A is pivoted at C to a fork or lever D, which is itself pivoted at *d'* to the framework of the lamp.

F F' are two arms of a compound lever, pivoted together and forming an elbow-joint at *f*. The arm F is pivoted to the framework 80 of the lamp at *f'* and the arm F' to the axis of the disk A.

G is a ratchet-wheel fixed to the disk A, provided with a number of teeth equal to the number of sockets B B. (In the accompany- 85 ing drawings six of such sockets are shown, and consequently the ratchet G is provided with six teeth.) The said ratchet-wheel G is operated by a pawl H, pivoted to the arm F', and retained in position by the spring *n*. 90

K is a door in the back of the lamp or in any other convenient position. In the accompanying drawings, in which, as stated before, my invention is shown applied to a bicycle- 95 lamp, the door K forms when closed a portion of the reflector. It is supported by the hinge K' and at its lower end connected to the fork or lever D by means of the link M, which causes the said door to open when the lever D is pushed forward. 100

N is a block of any suitable striking material, attached to the door K, so that as the lever D is pushed forward the head of the match is ignited.

O O are knobs or handles by which the lever or fork D is pushed forward or drawn back, as the case may be, when in operation.

In Figs. 3 and 5, P is the burner or wick, shown in relation to the head of the igniting-match when the device is pushed forward in position for lighting.

R is a casing constructed of any suitable material, in order to protect the mechanism and matches from dust, damp, &c.

In Fig. 4, Q is a spring to prevent the disk revolving by its momentum beyond the determined distance.

When it is desired to ignite the burner or wick of the lamp, matches (preferably wax vestas) having already been inserted in the sockets B B of the disk A, the fork or lever D is pushed toward the lamp, thereby causing the head of the particular match in position to ignite by striking against the block N, fixed to the door K, which door is simultaneously caused to open by the link M. The ignited match is thereby brought up to the burner or wick P. When the latter is ignited, the lever D is drawn back into its normal position, thereby closing the door K by means of the link M. This door when so closed prevents the heat of the lighted lamp penetrating the chamber in which the mechanism is contained, thereby obviating any chance of spontaneous ignition of the unused matches. The disk A is caused to revolve a distance sufficient to bring each succeeding match into operation at each stroke by means of the com-

pound lever F F', operating the pawl H, working in the ratchet-wheel G. The disk A is, however, prevented from revolving when the lever D is pushed back by means of the ratchet E and pawl E'. (Shown in Fig. 7.)

Figs. 6, 6^a, and 6^b show an alternative striking arrangement, in which the striker N instead of being of block form, attached to the door K, as in Figs. 2, 3, 4, and 5, is composed of a curved arm N', Fig. 6, fixed to the fork D so as to move with it. The rotary motion of the disk A during its forward stroke causes the match in position for lighting to strike against the roughened inner surface of the arm N'.

Having now particularly described and ascertained the nature of my invention and the manner in which the same is to be performed, I declare that what I claim is—

An improved device for automatically igniting bicycle and other lamps of similar nature consisting of a forked lever D carrying a rotary disk A provided with match-sockets B B, in combination with the ratchets E and G and pawls working in the same, the compound lever F F', the door K, the link M and the striker N, substantially as hereinbefore described and illustrated on the accompanying drawings.

In witness whereof I have hereunto set my hand in presence of two witnesses.

MARWOOD TUCKER.

Witnesses:

WILLIAM JOHN ROLSON,
HAROLD KISCH.