W. J. HART.

BREAKER BOX FOR IGNITION SYSTEMS.

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**1,025,566.**

Patented May 7, 1912.

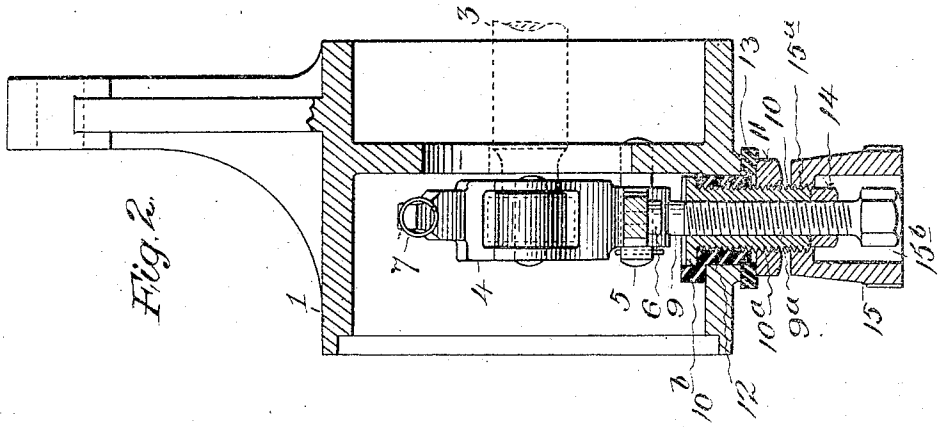


Fig. 2.

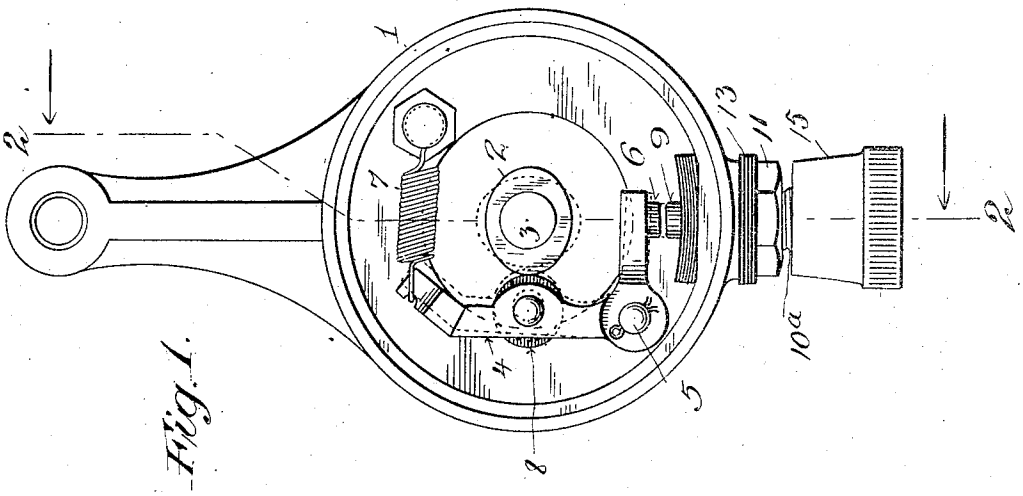


Fig. 1.

Witnesses:
W. M. Benjamin
Marie F. Wainright

Inventor
W. J. Hart.
By his Attorney
T. F. Bourne

# UNITED STATES PATENT OFFICE.

WILLIAM J. HART, OF MOUNT VERNON, NEW YORK, ASSIGNOR TO C. F. SPLITDORF, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

## BREAKER-BOX FOR IGNITION SYSTEMS.

1,025,566. Specification of Letters Patent. Patented May 7, 1912.

Application filed June 6, 1910. Serial No. 565,264.

*To all whom it may concern:*

Be it known that I, WILLIAM J. HART, a citizen of the United States, and resident of Mount Vernon, in the county of Westchester and State of New York, have invented certain new and useful Improvements in Breaker-Boxes for Ignition Systems, of which the following is a specification.

The object of my invention is to provide improved means for adjusting the contacts in a breaker box or make-and-break device used in electric ignition systems for internal combustion engines and in analogous electric circuits, and has particular reference to enable the ready and convenient adjustment of said contacts relatively to each other, without disturbing other parts of the system.

My invention comprises novel details of improvement and combinations of parts that will be more fully hereinafter set forth and then pointed out in the claim.

Reference is to be had to the accompanying drawings forming part hereof, wherein, Figure 1 is a face view of a breaker box embodying my improvements, the cover being removed, and Fig. 2 is a section on the line 2, 2, in Fig. 1.

The numeral 1 indicates a breaker box or casing which may be suitably supported to rock or rotate in any well known manner, and within the same is a cam or the like 2 mounted to rotate with shaft 3.

At 4 is a rocker or lever shown pivotally supported between its ends on stud 5 carried by box 1, said lever being shown substantially in bell-crank form and provided on one of its arms with outwardly disposed contact 6. A spring 7 is shown connecting rocker or lever 4 with box 1, normally holding said rocker pressed toward cam 2, said rocker being shown provided with a bearing piece 8 to engage the cam.

At 9 is an adjustable contact shown at the inner end of a screw $9^a$, to which screw the contact 9 is applied in suitable manner, although the parts 9, $9^a$ can be integral.

At 10 is a tubular bushing having internal threads meshing with the threads of screw $9^a$ and also shown provided with external threads $10^a$ receiving a binding nut 11. The bushing 10 is shown provided with a head $10^b$ located within box 1, said bushing extending through a suitable opening in the wall of said box, and at 12 is suitable insulation receiving bushing 10 and confined in the opening of the box, thoroughly insulating the bushing from the box, an insulating washer 13 being shown provided between nut 11 and the box.

At 14 is a nut threaded upon screw $9^a$ and serving to lock said screw in place by bearing against the outer end of bushing 10. At 15 is a cap having threads $15^a$ at its inner end meshing with threads $10^a$ of bushing 10 and adapted to bind a wire in circuit with said bushing and screw. Cap 15 is shown hollow or provided with a socket portion $15^b$ receiving the head of screw $9^a$. By this means the head of said screw is protected, and when cap 15 is removed nut 14 and screw $9^a$ can be operated. The arrangement is such that as screw $9^a$ projects outwardly from box or case 1 said screw may be readily reached for operation to adjust its contact 9 with respect to contact 6, and as bushing 10 is firmly locked in place upon box or casing 1 adjustment of contact 9 may be made without disturbing such bushing, and at the same time efficient insulation of contact 9 and screw $9^a$ from box 1 is afforded. The position of screw $9^a$ is such that the same may be readily operated without removing the covers of the box or making any other adjustments respecting the same, it merely being required to remove cap 15, loosen nut 14, operate screw $9^a$ as desired, reset nut 14 and apply cap 15.

By having rocker 4 in the shape of a bell-crank lever and its contact 6 on the exterior thereof, the contact 9 and screw $9^a$ operate toward and from contact 6 for adjustment from the exterior of the box and make and break in the circuit will occur as cam 3 rotates.

Having now described my invention what I claim is:—

In a make-and-break device, a box having an aperture therethrough, an externally and internally threaded bushing in the aperture, insulation between the box and the bushing, a threaded contact member fitted into the bushing and extending into the box and projecting outward beyond the bushing and terminating in a polygonal head for adjusting the contact members, a lock nut screwed on the contact member, a retaining nut screwed

on the bushing, and a binding cap having a threaded aperture of greater diameter than the maximum diameter of said lock nut and of said head and adapted to be fitted onto said bushing and alternately removed therefrom by passing said threaded aperture over said head and nut, whereby a conductor wire may be held between the cap and the retaining nut, said cap having a socket portion surrounding said head and lock nut for preventing adjustment of the contact member while the binding cap is on.

Signed at New York city, in the county of New York, and State of New York, this 3rd day of June A. D. 1910.

WILLIAM J. HART.

Witnesses:
WILLIAM A. W. GRIER,
MARIE F. WAINWRIGHT.