

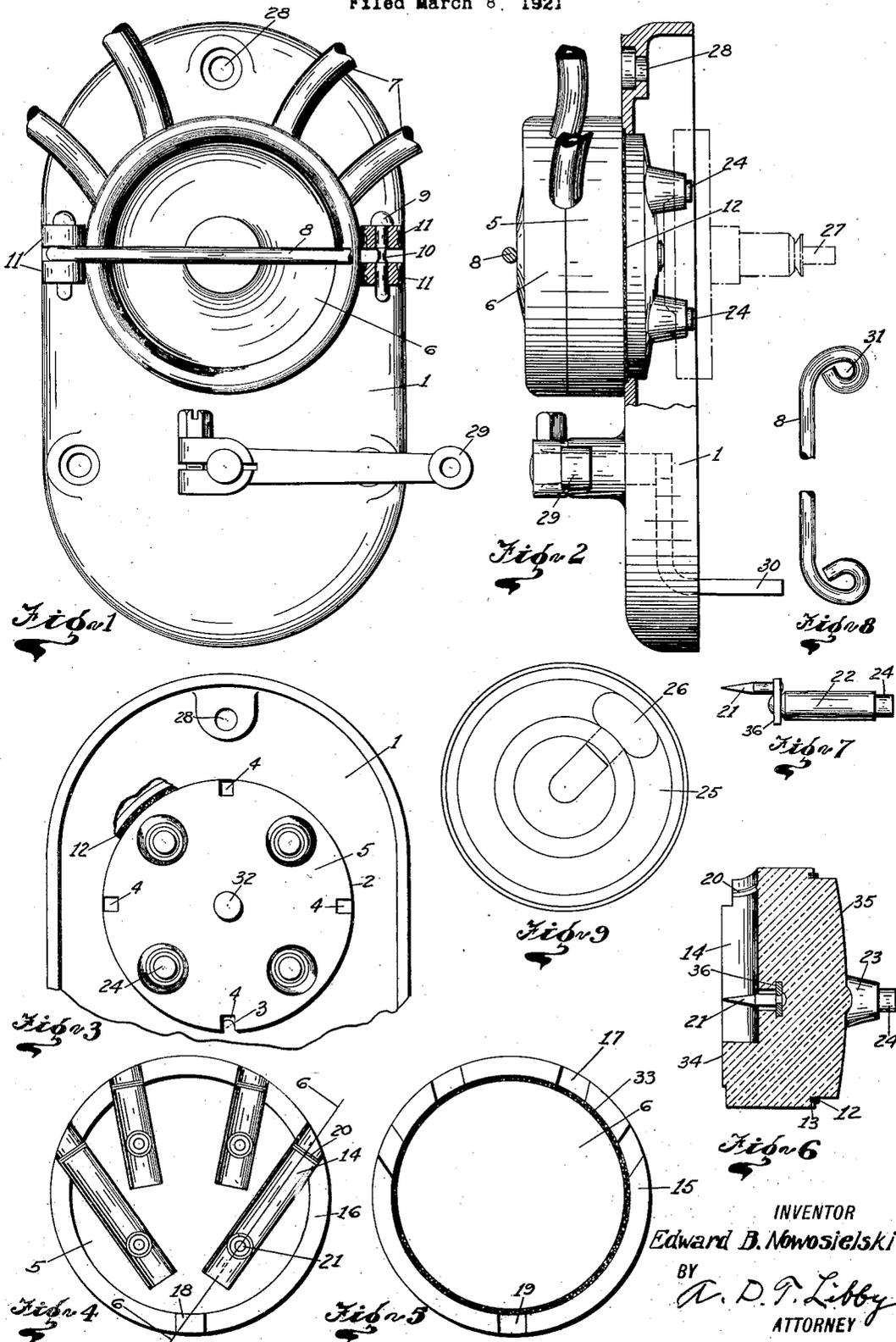
Nov. 18, 1924.

1,515,872

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COMBINED COLLECTOR AND TERMINAL BLOCK

Filed March 8, 1921



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# UNITED STATES PATENT OFFICE.

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## COMBINED COLLECTOR AND TERMINAL BLOCK.

Application filed March 8, 1921. Serial No. 450,707.

*To all whom it may concern:*

Be it known that I, EDWARD B. NOWOSIELSKI, a citizen of the United States, residing at Bloomfield, in the county of Essex, State of New Jersey, have invented certain new and useful Improvements in Combined Collector and Terminal Blocks, of which the following is a description, reference being had to the accompanying drawing and to the figures of reference marked thereon.

This invention relates to a combined collector and terminal block peculiarly adaptable to ignition current machinery.

An object of this invention is to provide a neat and compact arrangement for collecting and distributing ignition current.

Another object of this invention is to provide a block which may be mounted in the supporting plate of an igniter in any one of several positions.

A still further object of this invention is to provide a block to which terminal cables may be quickly and easily secured without the use of any tools.

Other and further objects will appear after reading the following specification and claims in conjunction with the accompanying drawings in which:

Figure 1 is a front view of the supporting plate and block, a portion being broken away to expose a part of the retaining means.

Figure 2 is an end view partly in section of the plate and block shown in Figure 1, a current distributing spool being shown in dotted lines.

Figure 3 is a fragmentary back view of the supporting plate and block, a portion being broken away.

Figure 4 is an interior view of the block with the cover removed.

Figure 5 is a view of the inside of the cover.

Figure 6 is a section along the line 6, 6 of Figure 4.

Figure 7 is a perspective view of one of the pins which is embedded in the block.

Figure 8 is a view of the block retaining spring rod, and

Figure 9 is a plan view of the distributing spool.

According to my invention a supporting plate 1 is provided with a circular opening 2 in which there projects a dowel tooth 3 adapted to engage in any one of a plurality of notches 4 in a moulded base block 5, hav-

ing two substantially parallel faces 34 and 35, the face 34 being enclosed by a moulded cover 6. The notches are conveniently spaced 90 degrees apart, although any other spacing may be provided so that the cables 7 may extend from the block in any desired direction.

To retain the base block and its cover in adjusted position, a spring rod 8 having ends provided with eyes 31 is passed diametrically across and over the cover 6, said rod being retained in place by means of two pins 9 suitably reduced in diameter as at 10 in order to snap in place in the eyes 31 when the same are pushed in place in ears 11 which are cast integral with the supporting plate 1. To prevent any water leaking between the base block and supporting plate into the interior of the cover plate a felt gasket 12 held in place in a suitable groove 13 in the block 5 is interposed between the block and the supporting plate.

The cables are positioned in channels 14 moulded in the face 34 of the base block and are retained in place by the cover 6. For this purpose the cover is provided with a rim 15 cooperating with a shoulder 16 on the base block, and carved out portions 17 in the cover cooperate with the channels in the base block. The base block is further provided with a projection 18 which cooperates with a notch 19 in the cover to prevent rotative movement thereof. The channels 14 extend from the outer periphery of the block to an inner portion thereof and at their outer ends are each provided with a rib 20 to press into the sheath of the cable to form a watertight joint therewith. The cover is provided with a felt gasket 33 seated in a groove in the cover to make watertight connection with the base block. At the inner end, each channel is provided with a pin 21 adapted to penetrate the sheath of the cable and to make contact with the conductor therein when the cable is pressed down into the channel and onto the pin, the cover of course assisting the cable into place when it is applied to the base block.

The pins are each riveted to a separate plate 36 to which is riveted in offset relation a brush holder 22. The assembled pin and brush holder is moulded into the base block with the brush holder imbedded in a moulded portion 23 of the block so as to insure insulation between the brush holder and the

edge of the supporting plate. The brush holders extend substantially at right angles to the face 35 of the block instead of radially thereof, thereby insuring a compact arrangement of the entire device. The brush holders are positioned near the edge of the block in the form of a regular polygon so as to obtain the greatest spacing possible between the brushes while the pins are set in nearer to the center of the block so as to avoid breaking away of the moulded material from around the inserts. Within the holders are suitable spring pressed brushes 24, adapted to cooperate with a rotating spool 25 having a metallic insert 26 in electrical connection with a brush 27 leading to a source of ignition current. A central stud 32 in the base block forces the spool home in its bearing. Since the spool forms no part of my present invention, no further description thereof is necessary herein. It is sufficient to state that when the spool rotates current is fed from the source of ignition current through the brush 27 to the insert 26, thence in rotation to each of the brushes 24, the pins 21, the cables 7, the spark plugs and thence back to the source of current.

The supporting plate is provided with apertures 28 thru which securing means may be passed, and a manually controlled spark lever 29 passing thru a bearing in the supporting plate has a portion 30 adapted to oscillate a portion of a circuit breaker mechanism of the electric machine to advance and retard the spark as will be understood by those skilled in the art.

It will thus be seen that by merely forcing out one of the pins 9, the rod 8 may be swung aside to remove the cover from the block, or the cover and block from the supporting plate so as to remove or insert the cables 7, as desired. When the cables have been pressed into place, the cover is applied to the base block, the whole is inserted into the supporting plate with the cables extending in any direction as required, the rod is swung over to clamp the block in place, and the pin 9 is snapped into place in the ears 11.

With my present invention the base block may be so mounted on the supporting plate that the cables may extend toward the engine block irrespective of whether the electric machine is mounted to the right or left or above or below the engine block. After the base block has been adjusted to proper position the cables are connected in the proper firing order to the spark plugs.

I have thus provided a convenient and neat arrangement for securing cables to a block which has the dual function of a terminal block and a current collector.

Having thus described my invention, what I claim is:

1. In a distributor block for an ignition generator, a base block having a part extend-

ing within a supporting plate of said generator, said extending part having collector brushes mounted thereon, the part of said base block exterior to the supporting plate having an outer substantially flat face with a plurality of individual cable channels extending part way across said face, terminal elements positioned near the inner end of said channels and in electrical contact with said brushes, a cover serving to hold said cables in contact with said terminal elements and a clamp fastened to the generator supporting plate and extending across the face of said cover.

2. A device of the character described comprising a base block and a cover, a supporting plate therefor interfitting means for mounting the base block in the supporting plate, stiletto pins in the base block for making electrical contact with a cable, and a clamp mounted on the supporting plate and extending across the face of the cover to clamp the cover against the base block to retain the base block in place in the supporting plate and to hold the cables in place over said pins.

3. A device of the character described comprising a base block and a supporting plate therefor, a cover for the base block, said base block having channels therein interfitting means for mounting the base block in the supporting plate, pins moulded integral with and positioned in said channels and projecting from the base block to make electrical contact with a cable, and a spring clamp mounted on the supporting plate to clamp the cover against the base block to force the cable in place over the pin and to retain the base block in place in the supporting plate.

4. In a device of the character described a base block, a channel in which a cable may be placed in said block leading from the outer periphery thereof to an inner portion, only, fixed means at the inner end of said channel by which a cable may be connected thereto without removing the insulation from the cable, a rib at the outer end of said channel and a cover fitting over the block provided with quick detachable means for clamping the cable in place with the rib portion of the block making a watertight connection with the sheath of the cable.

5. In a combined collector and terminal block, a base block provided with two substantially parallel faces, a set of collector terminals on and extending outwardly from one face near the outer periphery of the block, individual cable channels extending partially across the other of said faces, an immovable cable connector set in each of said channels and extending to a point near the plane of said second face, and offset connecting means between the collector terminals and the cable connectors.

6. In a device of the character described, a base block, a supporting plate therefor, a channel in which a cable may be placed in said block leading from the outer periphery thereof to an inner portion, a fixed cable connecting means at the inner end of said channel, a rib at the outer end of said channel, a cover fitting over the block provided with means for clamping the cable in place, with the rib portion of the block making a watertight connection with the sheath of the cable, and watertight gaskets interposed between the face block and the supporting plate and between the cover and the base block.

In testimony whereof, I affix my signature.

EDWARD B. NOWOSIELSKI.