D. H. GREENFIELD.

IGNITION POINT GRINDER.

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1,422,097. Patented July 11, 1922.

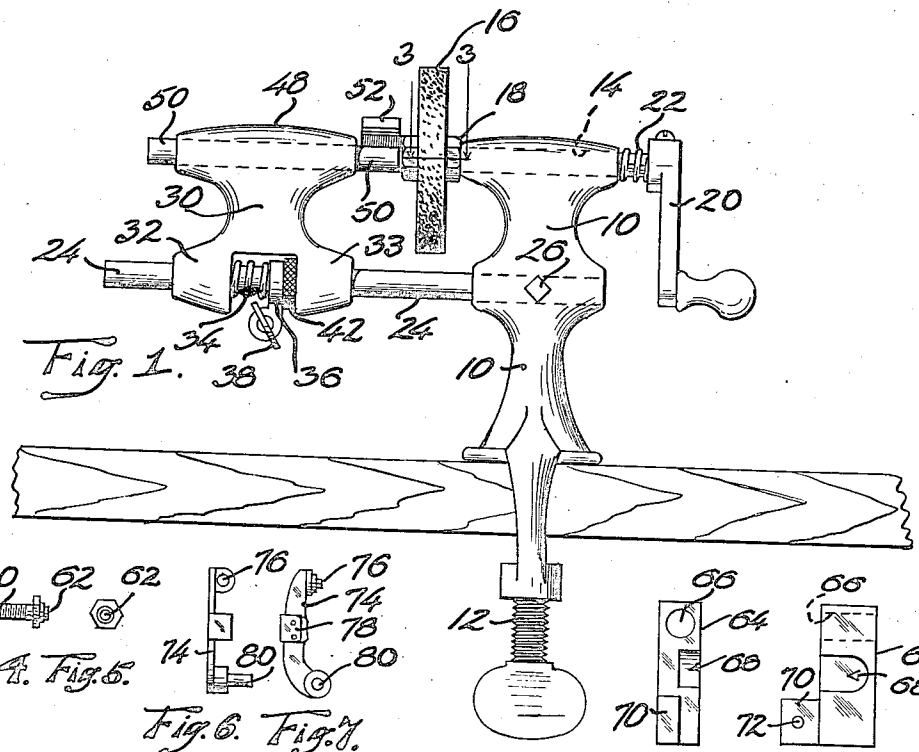


Fig. 1.

Fig. 4.

Fig. 5.

Fig. 6.

Fig. 7.

Fig. 8.

Fig. 9.

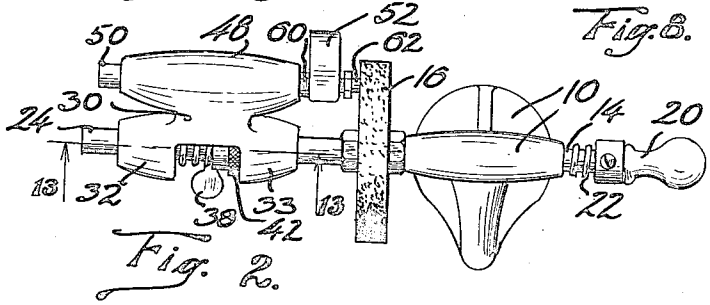


Fig. 2.

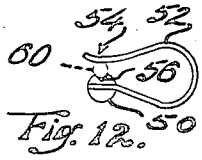


Fig. 12.

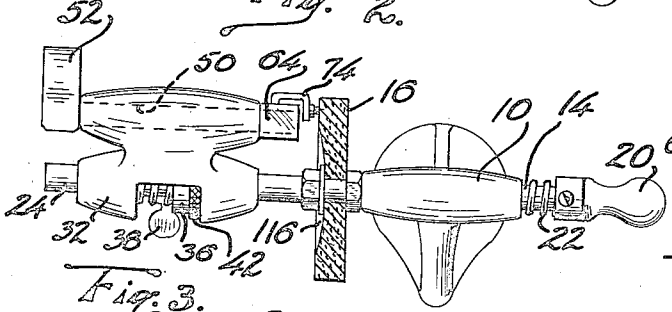


Fig. 3.

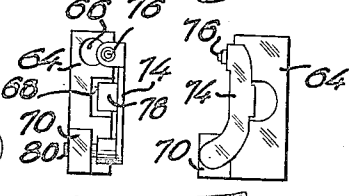


Fig. 10.

Fig. 11.

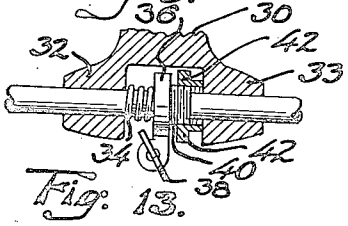


Fig. 13.

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IGNITION-POINT GRINDER.

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To all whom it may concern:

Be it known that I, DAVID H. GREENFIELD, a citizen of the United States, residing at the city and county of Denver and State of Colorado, have invented certain new and useful Improvements in Ignition-Point Grinders; 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 characters of reference marked thereon, which form a part of this specification.

The object of this invention is to provide a comparatively simple structure for grinding the contact points of ignition systems, and to provide a holder which is adapted to present to the grinding member various kinds of points which are being used.

Briefly, the invention comprises a standard carrying a flat grinding wheel having a central depression. The standard also carries a rod on which there slides a support for a contact-holding stem. Means are provided on the rod for adjusting the support toward and from the grinding wheel. The stem has a holder of one form fixed on one end, said stem being removable from the support and adapted to be inserted from the opposite end. When so inserted, the opposite end projects in the standard and is adapted to receive a second holder for another style of contact.

In grinding the contact point, the support is oscillated on its rod, so that the point moves back and forth across the flat face of the wheel and into the depression at the center of the wheel, where the point is relieved from engagement with the wheel. This repeated movement results in the grinding of a flat, smooth face upon the point.

In the drawings:

Fig. 1 is a side elevation of the device mounted upon a bench or the like.

Fig. 2 is a plan thereof.

Fig. 3 is also a plan, but shows the contact-holding stem in reversed position carrying another form of contact-holder, and also showing the grinding wheel section as indicated at the line 3—3 of Fig. 1.

Figs. 4 and 5 are respectively side and end views of one form of contact.

Figs. 6 and 7 are respectively edge and side elevations of another form of contact.

Figs. 8 and 9 are edge and side elevations respectively of a block designed to hold the contacts of Figs. 6 and 7.

Figs. 10 and 11 are edge and side elevations respectively of the block of Figs. 8 and 9, with the contacts of Figs. 6 and 7 in position.

Fig. 12 is an end view showing the fixed contact-holder on the stem.

Fig. 13 is a fragmentary section showing the means for adjusting the support for the contact-holder.

A standard or bracket 10 is adapted to be secured to a bench or table by any conventional means, such as indicated at 12. Journalled in the head of said bracket 10 is a shaft 14, which carries a grinding wheel 16 secured as by nuts 18 to said shaft. The outer end of the shaft carries an operating handle 20, and a spring 22 on the shaft bears against the handle and against the head of the bracket 10 to maintain the relative positions.

The grinding wheel 16 has a central depression 116 on its outer face, as shown in Fig. 3, into which the contact is adapted to be moved during the grinding operation, as hereinafter more fully specified. A rod 24 is mounted in the standard 10 and may be secured therein as by a set screw 26.

Slidably mounted upon said rod 24 is a support 30, which has two spaced legs 32 and 33, receiving said rod 24. Mounted upon the rod between said legs, and engaging the inner wall of the outer leg 32, is a coil spring 34. The inward end of this spring engages the face of a clamp band 36, which is adapted to be clamped on said rod 24 by means of a wing nut 38, or the like.

As indicated in Fig. 3, the clamp band 36 is provided with a threaded extension or shoulder 40, and an adjusting nut 42 is threaded upon said extension 40. The spring 34 tends to force the support 30 away from the clamp band 36—that is, towards the left. By rotating the adjusting nut 42 from its position as shown in Figs. 1, 2 and

3, to the position shown in Fig. 13, said adjusting nut 42 is forced against the right arm 33, thereby moving said arm and said support 40 toward the right against the tension of the spring 34.

The head 48 of the support 30 is provided with a longitudinally extending bore, which receives a stem 50. Fixed in one end of said stem 50 is a spring hook 52, having a reversely bent tongue 54, disposed opposite to a V-shaped notch 56 in the stem 50. The notch 56 is adapted to receive the threaded shank of a member 60 carrying an ignition point 62, the tongue engaging and holding said member 60 by reason of the resilience of the spring 52. The stem 50 is longer than the bore in the head 58, so that an extending end is provided. Said stem 50 is also adapted to be removed from the bore and reversed, as shown in Fig. 3. The stem fits said bore snugly, so that it will not fall out of the head but can be withdrawn therefrom manually.

A block 64, provided with an aperture 66, is also adapted to fit snugly over said projecting end when in the position shown in Fig. 3. This block is provided with a recess 68, and an extension 70, apertured at 72. This block is adapted to receive another form of contact, as indicated in Figs. 6, 7, 10 and 11. This contact has a body 74, a contact point 76, which is to be ground, a projection 78 and a pin 80. The aperture 72 of the block 64 receives the pin 80, and the cavity 68 receives the projection 78. This holds said contact on the block to present the point 76 for grinding, as seen in Figs. 3 and 11.

The respective contacts 62 and 76 are positioned as above described, for grinding. The support 30 is set by means of the clamp band 36 to bring the pitted or corroded point against the face of the wheel 16. The handle 20 is turned to rotate the wheel 16, thereby grinding off the corroded surface, and the adjusting nut 42 is gradually threaded outward on the threaded extension or shoulder 40 to advance the point 62 or 76, as it is ground down. During this operation the manipulator grasps the support 30 and oscillates it upon the rod 24, so that the point being ground is moved from the position adjacent the edge of the wheel 16 to a position overlying the depression 116. When in the latter position, the point is free of the wheel. It will be noticed that the depression 116 has a sloping bottom, so that the point may be easily returned to engage the flat grinding surface of the wheel. Repeated oscillation of the point from engaging to disengaging the position of the wheel, and vice versa, as just described, prevents grooving of the surface of the point, and results in a perfectly smooth face. After one style of point has been ground, it is merely necessary to remove the stem 50 and reverse it, in order to grind another style of point.

I claim:

1. An ignition point grinder comprising a standard, a grinding wheel rotatably mounted thereon, a rod secured to said standard and extending therefrom in a direction parallel to the axis of rotation of said wheel, a holder support slidably and rotatably secured to said rod, a holder on said support adapted to clamp an ignition point, and means to adjust the holder to and from the surface of the grinding wheel.

2. An ignition point grinder comprising a standard, a grinding wheel rotatably mounted thereon, resilient means for holding said wheel from longitudinal movement on its rotating axis, a rod rigidly secured to said standard and extending therefrom in a direction parallel to the axis of rotation of said wheel, a holder support slidably and rotatably secured to said rod, a clamp band on said rod, and adjusting nut having screw threaded engagement with said band, a spring surrounding said rod and engaging said clamp band, a pair of spaced arms on said holder support, one of which is engaged by the adjusting nut, and the other of which is engaged by one end of said spring, and means on said support adapted to clamp an ignition point, whereby it may be moved transversely by the wheel face.

3. An ignition point grinder comprising a standard, a grinding wheel thereon, a holder support also on said standard, said support having a passage therethrough, a stem adapted to fit in said passage, a point-holding device mounted on one end of said stem and adapted to present said point to said wheel, the other end of said stem projecting from said support and adapted to retain a block having an aperture to receive said end, for presenting a different type of contact to said wheel when said stem is reversed in said support.

4. An ignition point grinder, comprising a standard, a grinding wheel mounted thereon, a rod also mounted thereon, a contact-holder support having spaced arms slidable upon said rod, a clamp band mounted upon said rod between said arms and adapted to be clamped to the rod, said band having a threaded extension on one side, an adjusting nut threaded upon said extension and bearing upon the inner wall of the adjacent arm, and a spring mounted upon the rod at the other side and bearing against said band and against the inner face of the other arm.

In testimony whereof I affix my signature.

DAVID H. GREENFIELD.