

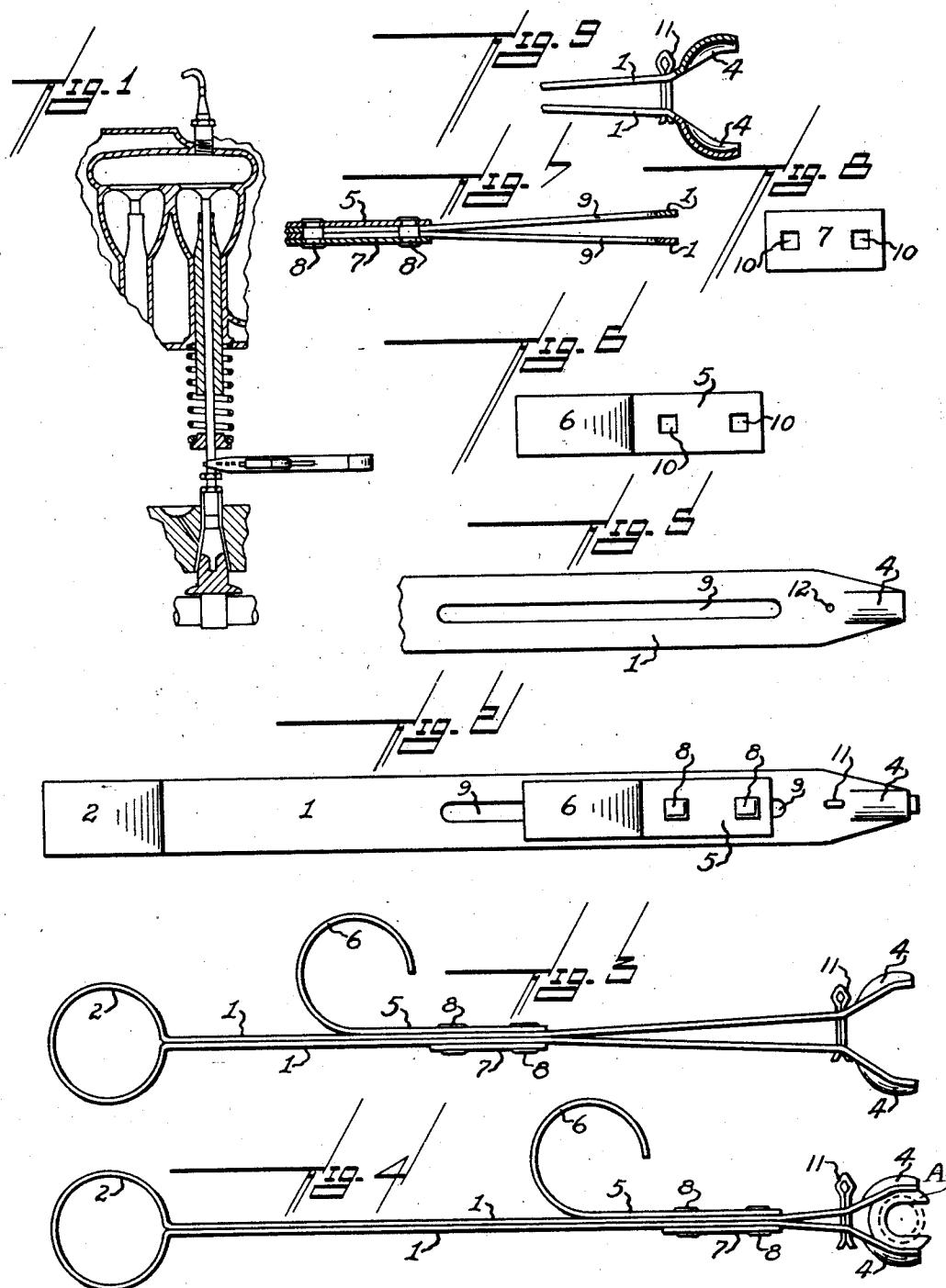
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PLACING TOOL FOR AUTOMOBILE MOTOR VALVE SHOES

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PLACING TOOL FOR AUTOMOBILE MOTOR VALVE SHOES

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This invention relates to tools, and particularly to a special tool which is small and compact, and designed for the purpose of placing the horse-shoe like member into the groove provided for the same, which is located near the lowermost end of the valve stem of an automobile motor, while the valve spring is compressed by means of a valve lifter.

10 The tool embodies a pair of concaved jaws adapted to receive and clamp the valve shoe, with the open end of the shoe exposed; the tool being of adequate length to enable the operator thereof to place the shoe within the 15 groove upon the valve stem without the necessity of inserting the fingers in the congested location of the said groove; the shoe is then instantly released by merely sliding a top plate upon the tool, a slight distance 20 rearwardly. The invention will be found to be equally advantageous in removing the shoe from the valve stem, which is as readily accomplished as the inserting operation.

The outstanding advantage of the invention 25 is the fact that due to the small proportions of the valve shoe, and it being very difficult to hold the same with the fingers in the inserting or removing of it from the stem, it is easily dropped into a more difficult place 30 in which to locate and to remove with the fingers; the invention positively eliminates loss or misplacing of the shoe, thus greatly facilitating this work, and thereby saving much time and trouble.

35 One of the advantages of the invention, and one of no less importance than those heretofore mentioned, is that owing to the extreme simple manner of construction embodied, it may be manufactured at a very 40 low cost, and accordingly the low selling price, and in consideration of the utility of same, a very large demand would thus be created.

The invention possesses further advantages, all of which will be clearly revealed 45 during the course of the detailed description to follow, illustrated in the accompanying drawing, and more particularly pointed out in the appended claim.

50 With reference to the drawing:

Figure 1 is a reduced sectional view of a portion of a modern automobile motor, and showing the tool in the act of placing the valve shoe into position; the valve spring being in an elevated position, with valve lifter omitted.

55 Figure 2 is a top plan view of the complete tool, with valve shoe within its jaws.

Figure 3 is a side elevation of the invention, showing same with the jaws thereof in 60 an opened position.

Figure 4 is a side elevation of the invention with jaws closed, and clamping the valve shoe in a position ready to insert the same within the groove of the valve stem; the 65 dotted lines in this view indicate the said stem and groove.

Figure 5 is a top plan view of a portion 70 of the principal member of the device, clearly showing the elongated slot therein.

Figure 6 is a top plan view of the sliding member of the device.

Figure 7 is a longitudinal section showing 75 the sliding member in relation to the elongated slots of the principal member.

Figure 8 is a top plan view of the lower plate member of the device.

Figure 9 is a section showing the formation 75 of the jaws of the device.

The invention consists of a principal member 80 designated by the numeral 1, one end thereof formed as at 2, and the opposite end adapted to open, as in Figure 3, and having a pair of opposed integral jaws 4, and the said jaws formed as clearly seen in Figure 9. 85

Sliding member 5 is provided, and one end thereof formed as at 6, and is secured to plate 7 by means of rivets 8, and with reference to Figure 7 it will be noted that said rivets are adapted to slide within elongated slots 9 of the member 1 as shown. Holes 10 in members 5 and 7 are for passage of rivets 8. Cotter pin 11 forms a stop for the opening of the jaws 4, and hole 12 in member 1 accommodates said pin.

95 From the foregoing, it is now understood that the invention is normally as indicated in Figure 3, and by placing one finger within portion 2 of member 1, and a finger of the other hand placed within portion 6 of mem-

ber 5, and by placing shoe A between jaws 4, and by sliding member 5 to the position indicated in Figure 4, the said shoe is positively clamped and ready to be placed into 6 position. When the shoe is in its proper place member 5 slides to normal position, as in Figure 3, by pulling portion 6 thereof, instantly releasing the shoe, the tool may then be quickly removed from the motor.

10 While I have herein illustrated a single embodiment of my invention, the same is nevertheless susceptible to certain minor changes in the details of construction, or of design, during any probable further development of the same for the market; but in any event, a departure from the general principle disclosed would of course be consistently avoided.

Having thus described my invention, what 20 I claim as new is:

In a device of the character described, a flat elongated principal member for the device, the said member composed of a single piece, one end thereof formed into a loop 25 and the oppositely disposed end of this member forming a pair of jaws, and the said jaws oppositely disposed, this member also forming a handle portion with double thickness of metal for this portion; a plate with a finger 30 hold formed upon the outer end thereof, and the said plate upon the topmost surface of the said handle portion, also an additional plate immediately below the underneath surface of the said handle portion and 35 adjacent thereto, the first-named plate and the last-named plate being secured by rivets in a manner so as to freely slide upon the said handle portion, an elongated slot within the said principal member permitting the rivets of the said plates to pass through the same 40 in the normal operation of the device, also means whereby the aforesaid jaws are limited relative to their opening movement.

In testimony whereof I hereunto affix my 45 signature.

ANDREW J. DOPTIS.

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