

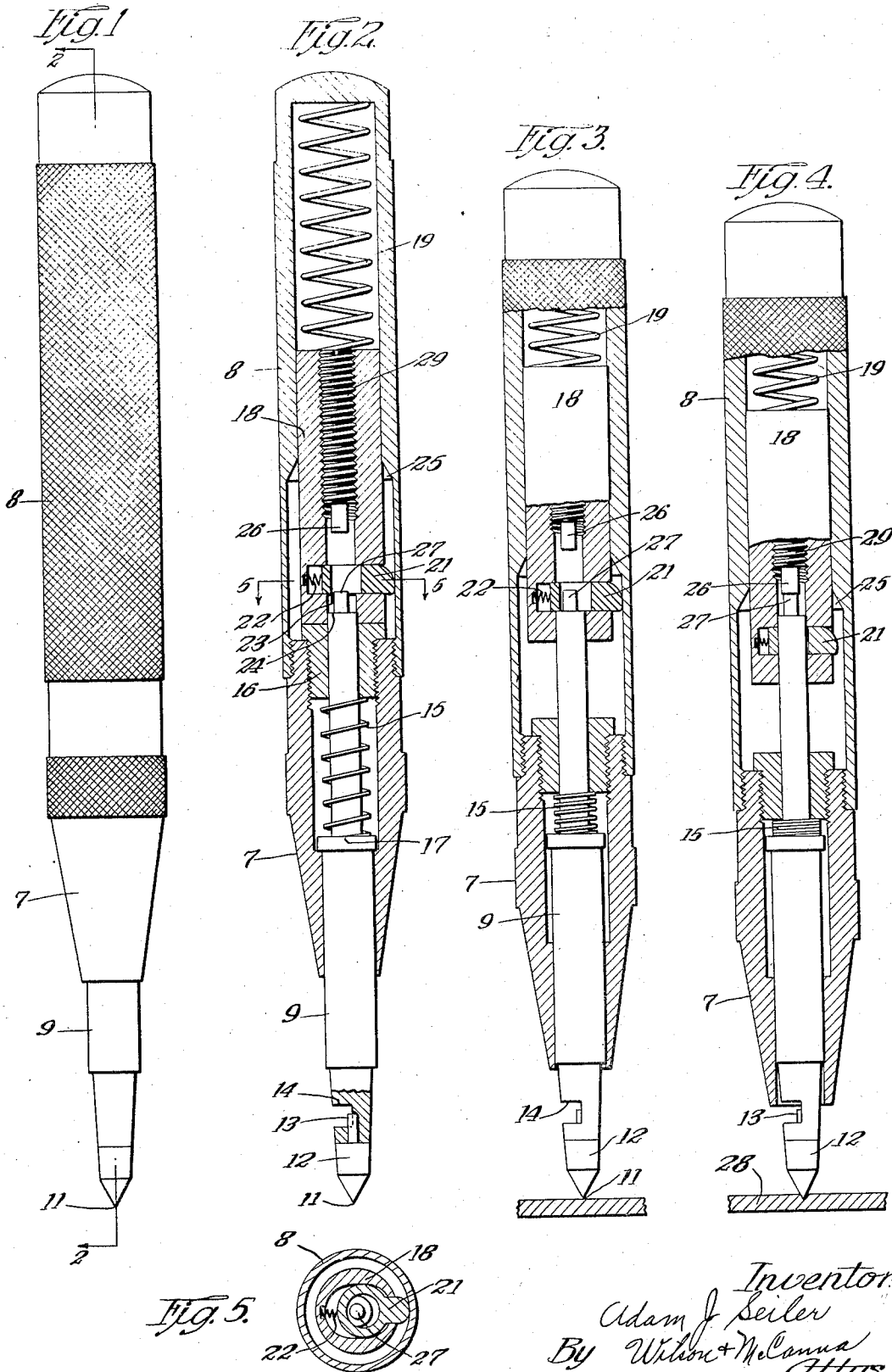
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IMPRESSION MAKING TOOL

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IMPRESSION-MAKING TOOL.

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To all whom it may concern:

Be it known that I, ADAM J. SEILER, a citizen of Germany, residing at Freeport, in the county of Stephenson and State of Illinois, have invented certain new and useful Improvements in Impression-Making Tools, of which the following is a specification.

This invention relates to impression-making tools, such for example as a center punch or any other tool or device utilized for making an impression irrespective of its shape, in a hard body.

The primary object of my invention is to provide an improved means for making such impressions, whereby the impression-making operation is facilitated and may be performed quickly and accurately.

More particularly, I have aimed to provide a tool or device embodying an impression-making member and means whereby an impression-making impact or blow will be imparted to such member by the act of pressing it against a body to be marked or impressed.

In illustrating the principle of my invention, I have taken as an example its application to a hand center punch. In this case, the striking mechanism is self-contained within a suitable casing or body and the impression is made by a center point. The manner in which this is done will be described more particularly herein after.

Another object is to provide an improved center punch, embodying the principle of operation above mentioned, so constructed as to be thoroughly practical and capable of being produced at a comparatively low cost.

Other objects and attendant advantages will be appreciated by those skilled in this art as the invention becomes better understood by reference to the following description when considered in connection with the accompanying drawing, in which—

Figure 1 is a side elevation of an impression-making tool embodying my invention, the particular tool being a center punch;

Fig. 2 is a longitudinal sectional view through the tool in its normal position;

Figs. 3 and 4 are similar sectional views showing the tool in successive stages of operation; and

Fig. 5 is a cross-sectional view taken on the line 5—5 of Fig. 2.

As mentioned above, my invention is in the present instance applied to an impression-making tool of the kind known as a center punch, such as is used by artisans for making center marks or impressions and particularly by machinists and tool-makers for making center marks in metal. While a tool of this kind may be made in any suitable size, that shown in the drawing is for purpose of clarity nearly twice the size of a hand center punch such as would be suitable for ordinary use.

The body or casing in this example, is formed of two sections threadingly connected together, which I have termed a point-casing section and a handle-casing section designated generally by 7 and 8 respectively. An impression-making member or carrier 9 slidable axially in the casing section 7 extends from the latter and has an impression-making point 11 on its extended end. I prefer to make the impression-making part per se detachable from the member 9, so that different impression-making parts may be substituted therefor without disassembling the tool. As shown, the impression-making part 12 has a shank 13 held by a friction fit in the member 9 and reaching into a recess 14 therein, whereby said shank may be engaged by a tool for extracting the part 12. A compression spring 15 on the member 9 acting between a collar 16 screwed into the casing section 7 and a shoulder 17 on said member, constantly urges the latter to an extended position limited by contact of its shouldered portion against the casing section 7.

It will be manifest that the casing or body may be pressed upon, telescoping it over the member 9, the inner end of which moves lengthwise within the body. This relative movement of the member 9 within the body is utilized for moving a striking plunger designated generally by 18, lengthwise within the body against the pressure of a main spring 19 interposed between said plunger and the upper end of the body, to thereby store up pressure in said spring 19 to be subsequently released for imparting an impression-making impact or blow to the member 9. To this end, a releasable connection is established between the point-carrier or impression-making member 9 and the plunger 18 by means of a trigger 21, which is carried in and moves transversely of the plunger. A small compression spring 22 in-

terposed between the plunger and trigger constantly urges the latter to the right, viewing Fig. 2, so as to position its shoulder 23 in the path of a shoulder 24 on the adjacent end of the member 9, whereby to arrest upward movement of the latter with respect to the plunger and to cause both principal parts to move in unison within the body when the latter is thrust forwardly by external pressure against the point as above described. By continuing such external pressure on the casing, the main spring 19 will be compressed, thereby storing up considerable pressure. At a predetermined point the trigger 21 will be released or actuated so as to dis connect the shoulders 23 and 24. In the present instance, the trigger is so actuated by striking against an internal face 25 in the handle-casing section.

It will now be observed that both the plunger and the trigger are bored for the reception of the upper end of the member 9 so that when the plunger and said member are disconnected by the trigger action just described the plunger will be telescoped over said member in a rapid, forceful stroke under the influence of the stored-up pressure in the main spring 19. The plunger is equipped with a striking point 26 which strikes against the end 27 of the member 9 as shown in Fig. 4, thereby delivering a blow or impact to the latter with sufficient force to make a satisfactory point impression in the body or work-piece indicated at present by 28. The striking point 26 is adjustable axially with respect to the plunger 18 so that the distance between said striking point and the end 27 of the point-carrier may be lengthened or shortened, and consequently varied with respect to the time at which the trigger is actuated. By varying this distance the force of the impact may be made greater or less for making a deeper or shallower impression, according to the shape of the impression point and to the nature of the work at hand. This adjustment is accomplished at present by making the striking point 26 integral with a screw 29 threadingly engaged in the plunger 18. The screw is accessible for adjustment by separating the casing sections and removing the plunger.

From the foregoing, it will be manifest that my improved impression-making tool may be operated by simply locating the point 11 on a body, such as 28, and pressing downwardly on the handle casing. This external pressure will cause the parts to move

from the position shown in Fig. 2 to that shown in Fig. 3 in which pressure is stored in the main spring 19 for subsequently delivering the driving impact. When the trigger is actuated as above described, such stored-up pressure will be released and the plunger will be instantly driven in the impression-making stroke. Incidentally it will be noted that the external or hand pressure must be applied or continued until after the impression-making impact in order to provide the necessary resistance thereto. When this external pressure is released, the parts will be returned to the normal position shown in Fig. 2, the spring 15 functioning to extend the member 9 as above described.

It is believed that the foregoing conveys a clear understanding of the objects prefaced above, and while I have illustrated but a single working embodiment, it should be understood that considerable change might be made in details of construction without departing from the spirit and scope of the invention as expressed in the appended claim, in which—

I claim:

An impression making tool of the character described comprising a body composed of a front tool-holding section, and a rear handle section having a smooth rear end to be borne against by the hand in the use of the tool, a tool element reciprocable in the front section and having an anvil end inside said body, a plunger element reciprocable in the rear handle section, a compression spring between it and the rear end of said handle section arranged to be loaded when the rear end of said handle section is borne against in the direction of the tool element while the latter is engaging the work to deliver a blow of pre-determined force to said tool element, a trigger for releasing said plunger element for a blow on said tool element at a pre-determined degree of compression of said spring, and a hammer member adjustable from the rear end of said plunger element toward and away from the anvil end of said tool element, said member comprising a screw-threaded plug wholly within said handle section threading longitudinally in said plunger element and having a screw-driver slot in the rear end thereof exposed for engagement and adjustment by a screw-driver at the rear end of said plunger element.

ADAM J. SEILER.