

A. R. SEELIG.

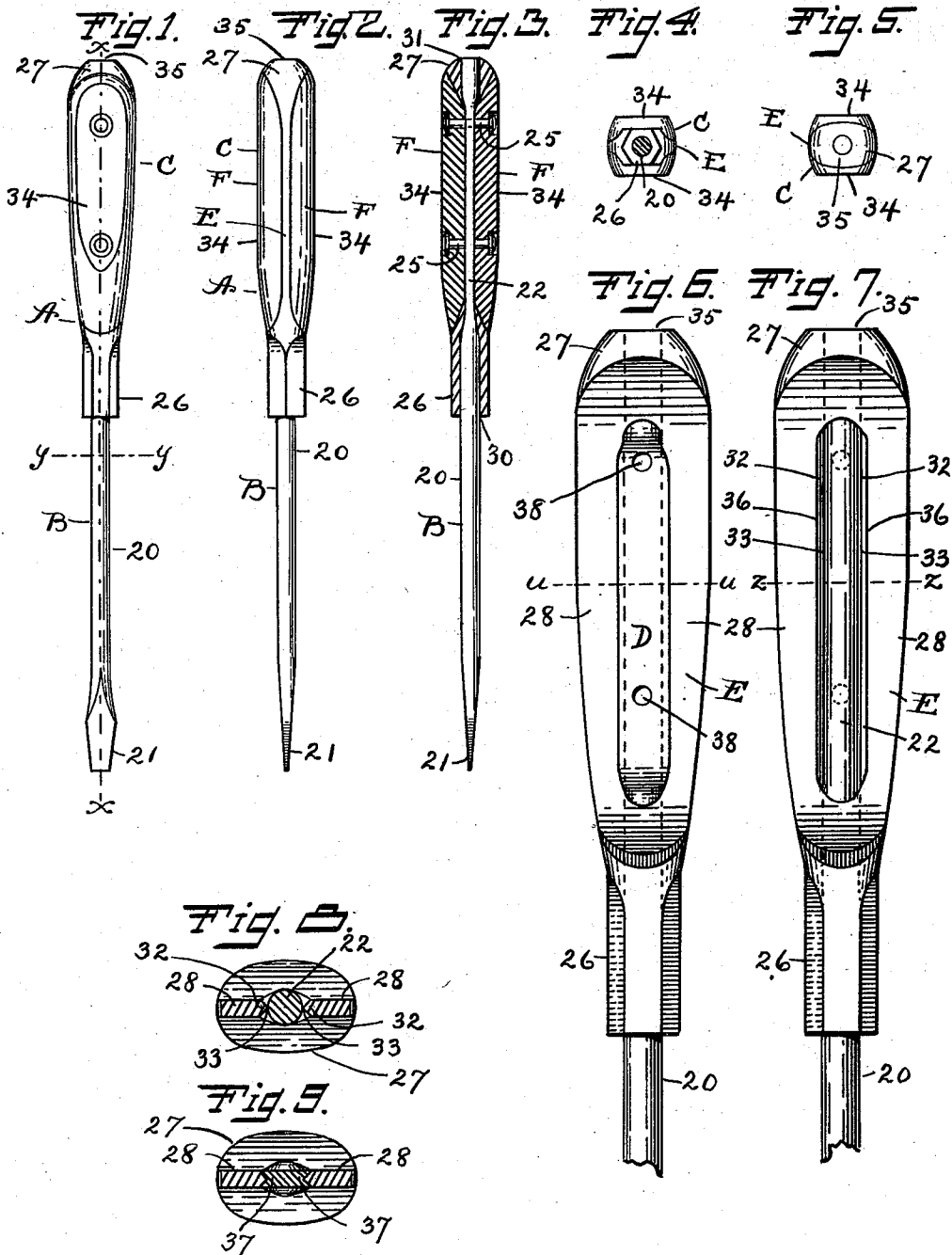
SCREW DRIVER.

APPLICATION FILED APR. 18, 1911.

Patented Jan. 9, 1912.

2 SHEETS-SHEET 1.

1,014,417.



Witnesses

S. H. Clark
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Inventor

Augustus R. Seelig
By Louis W. Schmidt
Atty.

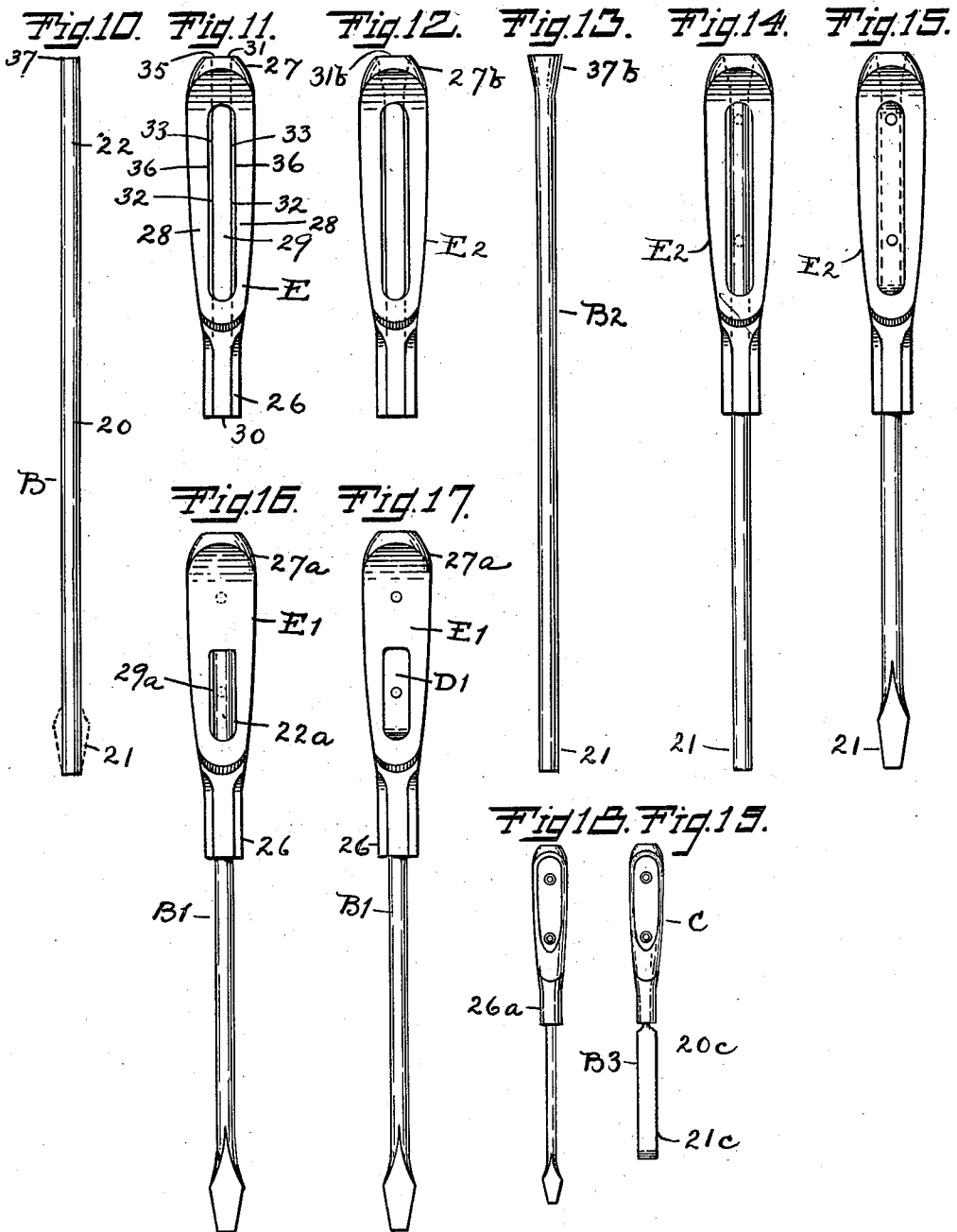
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UNITED STATES PATENT OFFICE.

AUGUSTUS R. SEELIG, OF PLANTSVILLE, CONNECTICUT.

SCREW-DRIVER.

1,014,417.

Specification of Letters Patent.

Patented Jan. 9, 1912.

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To all whom it may concern:

Be it known that I, AUGUSTUS R. SEELIG, a citizen of the United States, residing at Plantsville, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Screw-Drivers, of which the following is a specification.

My invention relates to improvements in screw drivers and the objects of my improvements are simplicity and economy in the process, and efficiency in the finished product.

In the accompanying drawings Figure 1 is a plan view of a screw driver embodying my invention. Fig. 2 is a side elevation of the same. Fig. 3 is a sectional view of the same on the line *x x* of Fig. 1, the blade member being shown in side elevation. Fig. 4 is a sectional view of the same on the line *y y* of Fig. 1. Fig. 5 is an end view of the same. Fig. 6 is a plan view of the same, on an enlarged scale, with the handle scale omitted and part of the bit end broken away. Fig. 7 is a similar view of the same before shaping the bit shank. Fig. 8 is a sectional view on the line *z z* of Fig. 7. Fig. 9 is a similar view on the line *u u* of Fig. 6. Fig. 10 is a plan view of the bit member alone on the same scale as Fig. 1. Fig. 11 is a similar view of the handle member alone. Figs. 12 and 13 are plan views of a modification of the handle member and bit member before assembly. Fig. 14 is a similar view of the same after assembly. Fig. 15 is a similar view of the same after shaping of the bit. Fig. 16 is a plan view of a modification of the handle and bit members before shaping of the bit shank. Fig. 17 is a similar view of the same after shaping of the bit shank. Fig. 18 is a side elevation of another modification of the handle member, on a reduced scale. Fig. 19 is a plan view of a modification of the bit end of the bit member as shaped for a carpenter's chisel.

A is a screw driver made by my improved process and comprises a bit member B and a handle member C which are united by my process. The said bit member B comprises intermediate the ends a shank 20, at the outer end a bit 21 suitable for engaging a screw and at the inner end a handle extension 22 that is secured to the handle member C, and the said bit member is formed of circular stock or rod, the shank proper

20 retaining the original formation of cross section of the stock or rod. The said handle extension 22 has originally the shape and size of the stock or rod from which it is formed and the shape of the same is changed in the process of securing the same to the handle member C as described herewith. The said handle member C comprises a handle shell E and handle scales F, the latter secured by rivets 25 that pass through the said scales and the said handle extension 22 of the bit member B. The said handle shell E comprises a frame work having a bolster 26 at the inner end and a butt 27 at the outer end connected by a pair of lateral webs 28 which are in one plane and separated one from another by an elongated rectangular opening 29. The said bolster 26 and butt 27 are bored longitudinally as shown at 30 and 31 respectively, in alignment with one another and with the longitudinal opening 29 between the lateral webs 28 and the diameter of the said bores and the width of the said opening correspond to the initial diameter of the said handle extension 22. The lateral edges 32 of the said webs 28 bordering the said opening 29 may be of any shape other than concentric with the axis of the said handle extension 22 when inserted therein and as shown and preferred, the said edges are V shaped, the apexes 33 of the V's of the two webs 28 being opposed to one another and constituting the innermost boundary line along the said opening 22. Outward laterally from the said apexes 33 the walls of the V's diverge at an angle of approximately 45 degrees until they meet the parallel faces of the webs 28 as shown at 36. Accordingly as described, the said opening 29 between the said webs 28, is bordered laterally by wedge shaped boundary walls 32. The space between the said wedge shaped boundary walls 32 is preferably such as to be completely filled by the material in the original round handle extension 22, and the said material, when flattened out on the top and bottom, after being inserted in position between the said edge 32, will cooperate with the said parallel faces of the webs 28 to form a continuous web D suitable for receiving the said handle scales F. The said web D merges into the bolster 26 and butt 27 by suitable curves to produce a proper bed for the said handle scales F. The said handle scales F have flattened

outer sides 34, the flattened portions extending as shown along the upper central portion and beyond the rivets 25 at the ends, the latter being two in number. The bolster 26 is hexagonal, and suitable for being engaged by a wrench. The butt 27 has the outer end flattened off suitable for a hammer face 35. As the handle extension 22 is flattened on the top and bottom the lateral edges meet the wedge shaped edges 32 of the webs 28 and assume a reversed V shape 37 to conform to the same, and cooperate therewith to prevent relative rotation of the handle member and bit member.

15 The increase in the lateral dimension across the flattened handle extension 22 prevents longitudinal movement of the same through the bores 30 and 31 of the bolster and butt. Accordingly, by flattening the said handle extension 22 between the bolster 26 and butt 27 the handle frame or shell E is rigidly united with the bit member B.

In the operation of my process I provide a cylindrical piece of stock or rod as shown in Fig. 10 of suitable length for the bit 21, shank 20 and handle extension 22, and the handle shell E having the bolster 26 provided with the bore 30, the butt 27 provided with the bore 31, and the connecting webs 28 provided with the V or wedge shaped lateral edges 32 bordering the opening 29. The handle extension 22 is heated to a temperature suitable for forging, inserted in the bore 30, opening 29 and bore 31, the butt end 37 flush with the hammer face 35, and shaped by means of dies to correspond with the webs 28, and to form therewith the web D, the lateral edge 37 being forced into engagement with the V shaped edges 32 of the webs 28. The bit of the bit end 21 may be shaped either before or after the handle extension is die forged in the manner described.

My screw driver, made as described, has the bit member and handle member united in a reliable manner and suitable for the ordinary uses of a screw driver and when driven by a hammer the blow of the hammer is received on the butt end 37, directly on the end of the bit member B. The bit member B will be made of stock suitable for the purpose for which it is to be used, and the handle shell E may be made of cast or malleable iron, or a forging. After the handle shell and bit member have been united as described, the holes 38 are drilled in the handle extension or other location for the rivets 25, after which the handle scales F may be secured in position by the said rivets. If desired, the bolster may be round in cross-section, as shown at 26^a, Fig. 18.

In the modification shown in Figs. 16 and 17 the handle extension 22^a of the bit member B¹ extends through the bolster 26 and

about half way along the web D¹, the said web being filled in beyond the handle extension and the butt end 27^a of the handle shell E¹ being solid. The said handle extension 22^a is flattened to fill the opening 29^a, which differs from the opening 29 shown in Fig. 11 in being shorter than the same. The handle shell E¹ united to the bit member B¹ as described is suited to the ordinary uses of a screw driver.

In the modification shown in Figs. 12, 13, 14 and 15, the bit member B² has an enlarged tapered butt end or hammer head 37^b and the butt 27^b of the handle shell E² has the bore 31^b correspondingly tapered, providing an enlarged hammer face for receiving the blows of a hammer. It is evident that, because of the said enlarged head 37^b the bit member B² must be inserted in the handle shell E² from the butt end of the handle shell, and that accordingly the forming and finishing of the bit end 21 must be done after the bit end and shank have been passed longitudinally through the handle shell E².

While the description given above has been confined to a screw driver, my process is suited to uniting handle shells of the character described to bit members suited to other purposes, as for instance the chisel shown in Fig. 19. In this case the body of the bit member B³ extending beyond the handle member C and comprising the shank 20^c and bit end 21^c are upset and shaped in the usual manner for forming chisel bits.

I claim as my invention:

1. A tool of the class described comprising a bit member having a handle extension, and a handle shell having a portion provided with a circular bore that is a fit for the said extension and a portion in alinement with the said bore comprising a web, divided longitudinally by an opening of width corresponding to the diameter of the said bore, and the said handle extension comprising a circular portion fitting and received in the said bore and a flattened portion having lateral edges engaged with the edges of the said opening in the web.

2. A tool comprising a bit member and a handle member, the said handle member comprising a shell-like structure having a circular bore and an opening in alinement therewith bordered laterally by the edges of web portions, the said edges wedge shaped, and the said bit member comprising a portion filling the said bore and another portion filling the said opening.

3. A tool of the class described comprising a handle shell and a bit member, the said bit member comprising a handle extension having a circular cross-section, the said shell having in alinement a body part having a hole fitting the said extension and a web provided with an opening having lat-

eral walls of wedge shape and suitably spread to receive the said extension, the said extension received in the said hole and opening and the portion thereof in the said opening flattened on the top and bottom and spread out laterally to fill the said opening and have the side walls engaged with the said lateral walls.

4. A screw driver having a bit member and a handle member, the said handle member having a shell provided with a body portion having a bore and a web portion having an opening in alinement with the said bore and wedge-shaped lateral walls inclosing the said opening, the said bit member having a handle extension, one part of which is a fit for the said body portion and the other part having side walls engaged with the said wedge-shaped lateral walls.

5. A tool of the class described comprising a bit member having a handle extension and a handle shell, the said handle shell comprising a body portion having a longitudinal bore and a web portion having an opening in longitudinal alinement with the said bore, the lateral walls of the said opening non-concentric with the axis of the said bore, and the said handle extension fitting and filling the said bore and also fitting and filling the said opening between the said non-concentric walls, and provided with wooden handle scales on each side of the said web.

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Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."