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SLOTTED SCREW

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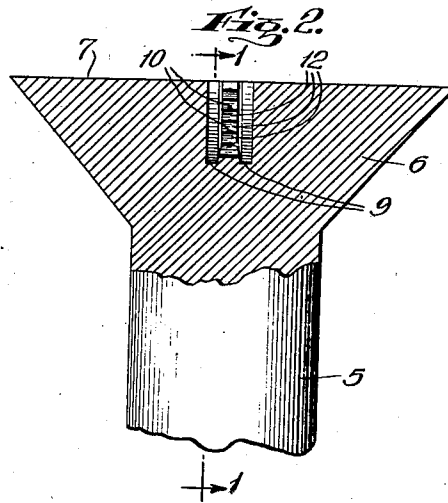
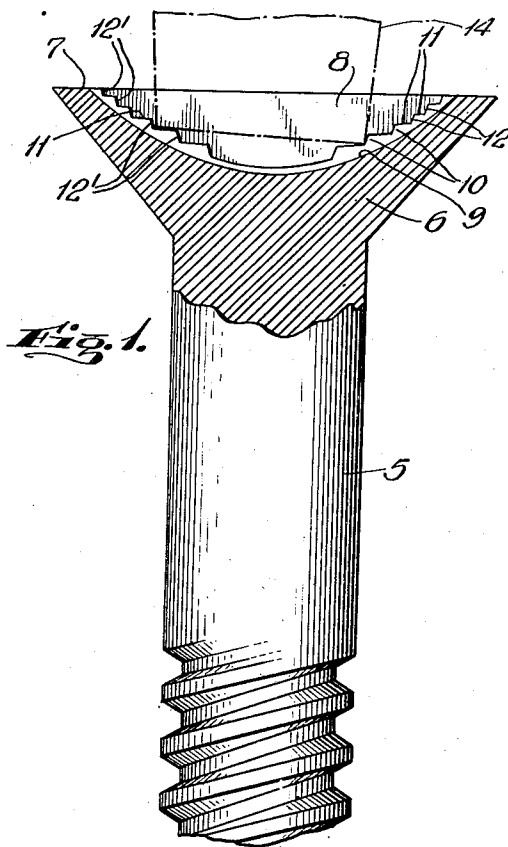
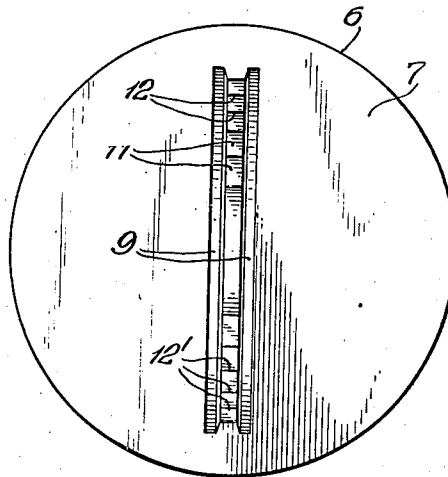


Fig. 3.



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SLOTTED SCREW

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9 Claims. (Cl. 85-45)

This invention relates to screws and turnable devices and more particularly to slotted-head screws, though it is noted that in some of the broader claims the invention is not limited to screws.

Objects of the invention are to provide an improved screw slot having means to prevent the screw driver from slipping from the slot in use, and to provide such means for ordinary screw drivers and screw drivers of different widths and shapes.

Other objects of the invention are to provide an improved slot of this kind efficiently adapted to receive the screw driver when the latter is not coaxial with the screw, and to receive coins or the like for turning the screw.

Additional objects of the invention are to effect simplicity and efficiency in such screws or devices and to provide an extremely simple device of this kind which is easy and reliable in operation, and economical to manufacture.

Still other objects of the invention will appear as the description proceeds; and while herein details of the invention are described in the specification and some of the claims, the invention as described in the broader claims is not limited to these, and many and various changes may be made without departing from the scope of the invention as claimed in the broader claims.

The inventive features for the accomplishment of these and other objects are shown herein in connection with an improved screw which briefly stated, includes a screw comprising a head having a slot transverse to the axis of the screw, the bottom of said slot having at its side margins respectively deeper grooves, the intramarginal part of the groove bottom being serrated, the serrations being in the form of steps each step having a broad step face and a riser part forming a shoulder substantially transverse to said slot and facing toward the middle of the slot, to form pairs of shoulders between which screw drivers may be received to turn the screw, said steps being progressively more remote from the screw axis and the outer end face of the head, whereby screw drivers of different widths may in use be held between pairs of shoulders, whether the screw driver is coaxial with the screw or not and whereby an ordinary screw driver, or a coin, or a screw driver with an arcuate face may be used to turn the screw.

In the accompanying drawing showing, by way of example, one of many possible embodiments of the invention,

Fig. 1 shows an axial section of the screw taken on the line I—I of Fig. 2;

Fig. 2 is an axial section of the screw transverse to the slot; and

Fig. 3 is a plan showing the screw head.

This invention is shown embodied in a screw comprising a shank 5, and a head 6 having an outer face 7 having at a diameter thereof a slot 8 transverse to the axis of the screw and terminating short of the periphery of the head.

Said slot has a substantially arcuate bottom having at the side margins respectively arcuate grooves 9 having unserrated or plain bottoms, the intramarginal part of the slot bottom being serrated, the serrations 10 being in the form of steps each step having a broad step face 11 and a riser part 12 or 12' forming a shoulder substantially transverse to said diameter and facing toward the axis of the screw, the shoulders 12, 12' being progressive distances from said axis, so that shoulders 12, 12' on opposite sides of the axis form pairs of shoulders different distances apart between which shoulders of a pair a screw driver 14 having a rectangular or approximately rectangular bit portion is adapted to engage while resting on the broad step faces.

Said steps are respectively progressively less remote from the outer end face of the screw as their respective distances from the screw axis increase, whereby screw drivers of different widths may in use be held between pairs of shoulders, whether the screw driver is coaxial with the screw or not (as shown in Fig. 1) and whereby an ordinary screw driver, or a coin or screw driver with an arcuate end face may be used to turn the screw.

Said slot and serrations may be conveniently made by first milling out the slot with the marginal grooves 9 less raised or deeper than the intramarginal part and then knurling, stamping or pressing the serrations 10 in the raised intramarginal part to form the serrations, the marginal grooves providing space for flow of metal during the stamping.

The invention is adapted for screws and screw heads of different shapes, kinds and uses from the one shown, and may be embodied in turnable devices other than screws. The angles and slopes of the serrations may be varied, and the bottom of the slot may be varied, all within the scope of the claims.

The invention claimed is:

1. A screw comprising a head having a transverse slot; said slot having a substantially longi-

tudinally concaved bottom having concaved deeper grooves at the side margins respectively; the intramarginal part between the grooves being raised relative to the grooves and serrated.

2. A screw comprising a shank; and a head having a flat outer face having at a diameter thereof a slot transverse to the axis of the screw and terminating short of the periphery of the head; said slot having a substantially arcuate bottom having at the side margins respectively deeper grooves having plain bottoms; the intramarginal part being serrated, the serrations being in the form of steps each step having a broad step face and a riser part forming a shoulder substantially transverse to said diameter and facing toward the axis of the screw, between which screw drivers of different width each having a rectangular or approximately rectangular bit portion are adapted to engage while resting on the broad step faces.

3. A turnable threaded device comprising a member turnable on an axis and having an outer face transverse to said axis and having a slot substantially transverse to said axis; said slot having a serrated approximately arcuate bottom, the serrations being in the form of steps, each having a riser part forming a shoulder facing toward said axis, between opposing pairs of which shoulders straight edged rectangular screw driver bits of different widths are adapted to engage, the space between oppositely faced shoulders being empty.

4. A turnable fastening device comprising a shank having a flat outer face having a slot transverse to the axis of the device; said slot having an approximately arcuate serrated bottom, the serrations being in the form of steps each step having a step face substantially perpendicular to said axis and a riser part forming a shoulder facing toward the axis of the shank, between opposing pairs of which shoulders rectangular or approximately rectangular screw driver bits of different widths are adapted to engage while resting on the step faces.

5. A screw comprising a shank; and a head having a flat outer face having at a diameter thereof a slot transverse to the axis of the screw and terminating short of the periphery of the head; said slot having an approximately arcuate bottom, the intramarginal part of the slot being serrated, the serrations being in the form of steps each step having a broad step face and a riser part forming a shoulder substantially transverse to said diameter and facing toward the axis of the screw, between opposing pairs of which screw

driver bits of different widths, each having a rectangular or approximately rectangular bit portion, are adapted to engage while resting on the broad step faces.

5 6. A turnable fastening device comprising a turnable member having in its face a slot having therein on both sides of an intermediate point of the slot shoulders facing, and disposed different distances from, said point; said shoulders being respectively progressively less remote from said face as their distance from said point increases.

7. A turnable device comprising a member turnable on an axis and having in the outer face a narrow slot substantially transverse to said axis and having therein on both sides of said axis shoulders facing the axis and disposed different distances from the axis; said shoulders being respectively progressively less remote from said outer face as their distances from said axis increases, between which shoulders rectangular or approximately rectangular screw driver bits of different widths each having an entirely straight bit edge are adapted to engage.

25 8. A turnable device comprising a member turnable on an axis and having therein a slot substantially transverse to said axis; the bottom of the slot being provided, on both sides of the axis, with steps different distances from the axis, the steps being respectively progressively less remote from said outer face as their distances from said axis increase, each step having a step face substantially perpendicular to said axis and a riser part substantially parallel to said axis and forming a shoulder facing toward said axis, between which shoulders rectangular or approximately rectangular screw driver bits are adapted to engage.

9. A screw comprising a shank having an outer end face having therein a slot substantially transverse to the axis of the screw; said slot having a serrated approximately arcuate bottom, the serrations being in the form of steps different distances from the axis of the screw, said steps being respectively progressively less remote from said outer face as their distances from said axis increase, each step having a step face and a riser part substantially parallel to said axis and forming a shoulder facing toward the axis of the screw, between which shoulders rectangular or approximately rectangular screw driver bits of different width are adapted to engage while resting on the step faces.

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