K. GULBRANDSEN.

SAFETY LATHE DOG.

APPLICATION FILED MAR. 15, 1913.

1,066,899. Patented July 8, 1913.

FIG. 1.

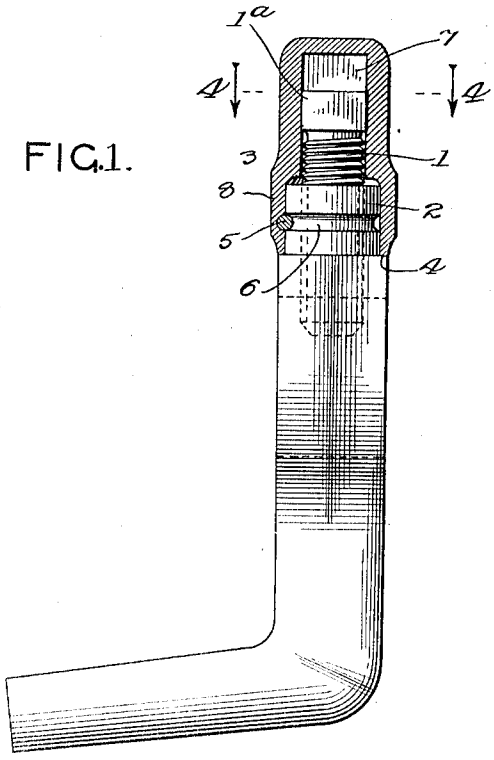


FIG. 2.

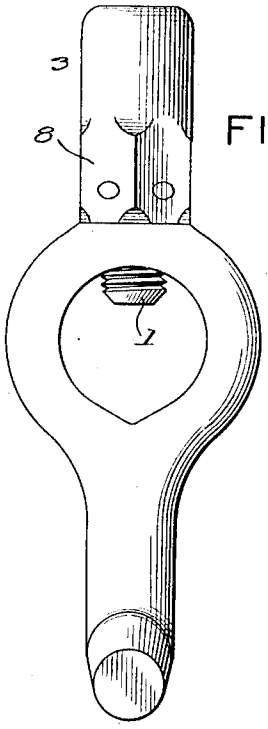


FIG. 3.

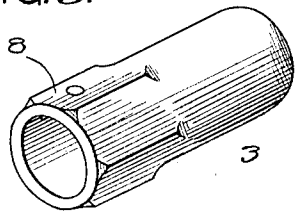
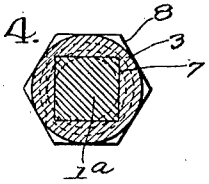


FIG. 4.



Witnesses:

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KNUD GULBRANDSEN, OF MAYWOOD, ILLINOIS, ASSIGNOR TO ARMSTRONG BROS. TOOL COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

SAFETY LATHE-DOG.

1,066,899. Specification of Letters Patent. Patented July 8, 1913.

Application filed March 15, 1913. Serial No. 754,462.

To all whom it may concern:

Be it known that I, KNUD GULBRANDSEN, a citizen of the United States, residing at Maywood, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Safety Lathe-Dogs, of which the following is a specification.

Of late years various laws have been passed forbidding the use of projecting set-screws in machinery, because of the danger to life and limb involved in the use of projecting set-screws upon revolving parts. To obviate this danger in connection with the set-screws used in lathe dogs, various forms of guards have been produced, but these guards have been objectionable, because they were liable to failure to remain in proper position or interfered with the use of a wrench in tightening the set-screw. It has also been proposed to replace the ordinary headed set-screw with a headless set-screw having a socket to receive a wrench, but this expedient has proved unsatisfactory, because of the necessity of using a special wrench, because the range of adjustment has been necessarily reduced, because the wrench distorts the screw, and because of the ease with which the workman may replace the set-screw with the common form of headed screw.

I avoid the difficulties and objections attending the use of guards and hollow set-screws, by providing the lathe dog with a headless rotatory member for inclosing and rotating the set-screw, one embodiment of the invention being shown in the accompanying drawings, in which—

Figure 1 is an elevation of the lathe dog with the screw-operating and inclosing member shown in section. Fig. 2 is an elevation of the appliance as viewed from the left-hand side of Fig. 1. Fig. 3 is a perspective view of the screw-inclosing and rotating member. Fig. 4 is a sectional view taken in the plane of dotted line 4—4 of Fig. 1.

The lathe dog proper may be of any common or preferred form. The set-screw 1 thereof also may be of the ordinary size and form. Upon the body of the lathe dog is formed a tubular boss 2 with which the set-screw 1 has a screw-thread engagement. A cap 3 is mounted upon the stud or boss 2 for rotation upon the axis of the set-screw, the inner end of said cap fitting adjacent to an annular shoulder 4 on the body of the lathe dog. The cap 3 is held against removal from the stud 2, with freedom to rotate thereon, by means of a pin 5 fixed in said cap and intersecting an annular groove 6 formed in the periphery of said stud.

A portion of the interior of the cap 3 is shaped to conform to the head 1^a of the screw. As herein shown, the cap has an axial opening 7 which is of such size and shape as to permit the screw-head to slide freely within the cap, but without permitting relative turning movement between the cap and the screw.

It will be seen that when the cap 3 is rotated with reference to the stud 2, the set-screw 1 will be caused to rotate, the head of the screw sliding within the axial opening 7 of the cap.

The outer surface of the cap 3 may be given a hexagonal form, as at 8, to receive a wrench for use in turning the set-screw. By reason of the fact that the cap 3 is of greater diameter than the head of the set-screw, the surface 8 affords better leverage in turning the screw than does the head of the screw in the prior constructions, thus facilitating the operation of setting and releasing the screw, and rendering it practicable in some instances for the workman to grasp the cap 3 and manually turn the latter.

It will be seen that the head of the set-screw is effectively guarded, and that the cap 3 has no parts which are liable to engage the clothing of the workman and subject him to danger. Moreover the extra weight of the cap helps to counterbalance the weight of the dog tail or driving arm, which is very important when turning at high speed.

I claim as my invention:

1. A safety lathe dog comprising a lathe dog body, a set-screw having a screw-thread connection with the body, and a cap inclosing the head of the set-screw and rotatably connected to the body of the lathe dog.

2. A safety lathe dog comprising a lathe dog body having a stud thereon, a set screw extending through said stud and having a screw-thread connection with said stud, a cap rotatably mounted on said stud and inclosing the head of said set-screw, and means to prevent displacement of said cap.

3. A safety lathe dog comprising a lathe dog body, a set-screw having a screw-thread

connection with the body, and a cap rotatably connected to the lathe dog body, said cap inclosing the head of said set-screw, said head being slidable longitudinally of the cap, and the latter having an internal form corresponding to the shape of the screw head.

4. A safety lathe dog comprising a lathe dog body, a set-screw having a screw-thread connection with the body, and a cap inclosing the head of said screw and rotatably connected to the lathe dog body, said cap having a slidable and non-rotatable connection with said set-screw.

5. A safety lathe dog comprising a lathe dog body, a cylindrical stud formed on said body, a set-screw extending through said stud and having a screw-thread connection with said stud, a cap rotatably mounted upon said stud, and a pin fixed in said cap and intersecting an annular groove formed in the periphery of said stud, said cap having an axial opening in which the head of said set-screw is slidably mounted, the cross-sectional form of said opening corresponding to the form of the head of said set-screw, said cap having an exterior wrench-receiving surface.

In testimony whereof I hereby affix my signature in the presence of two witnesses.

KNUD GULBRANDSEN.

Witnesses:
G. C. BLUM,
JOHN H. ELISCHER.

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