

(No Model.)

J. DINKELACKER, Jr.
BOLT.

No. 531,363.

Patented Dec. 25, 1894.

FIG. 1.

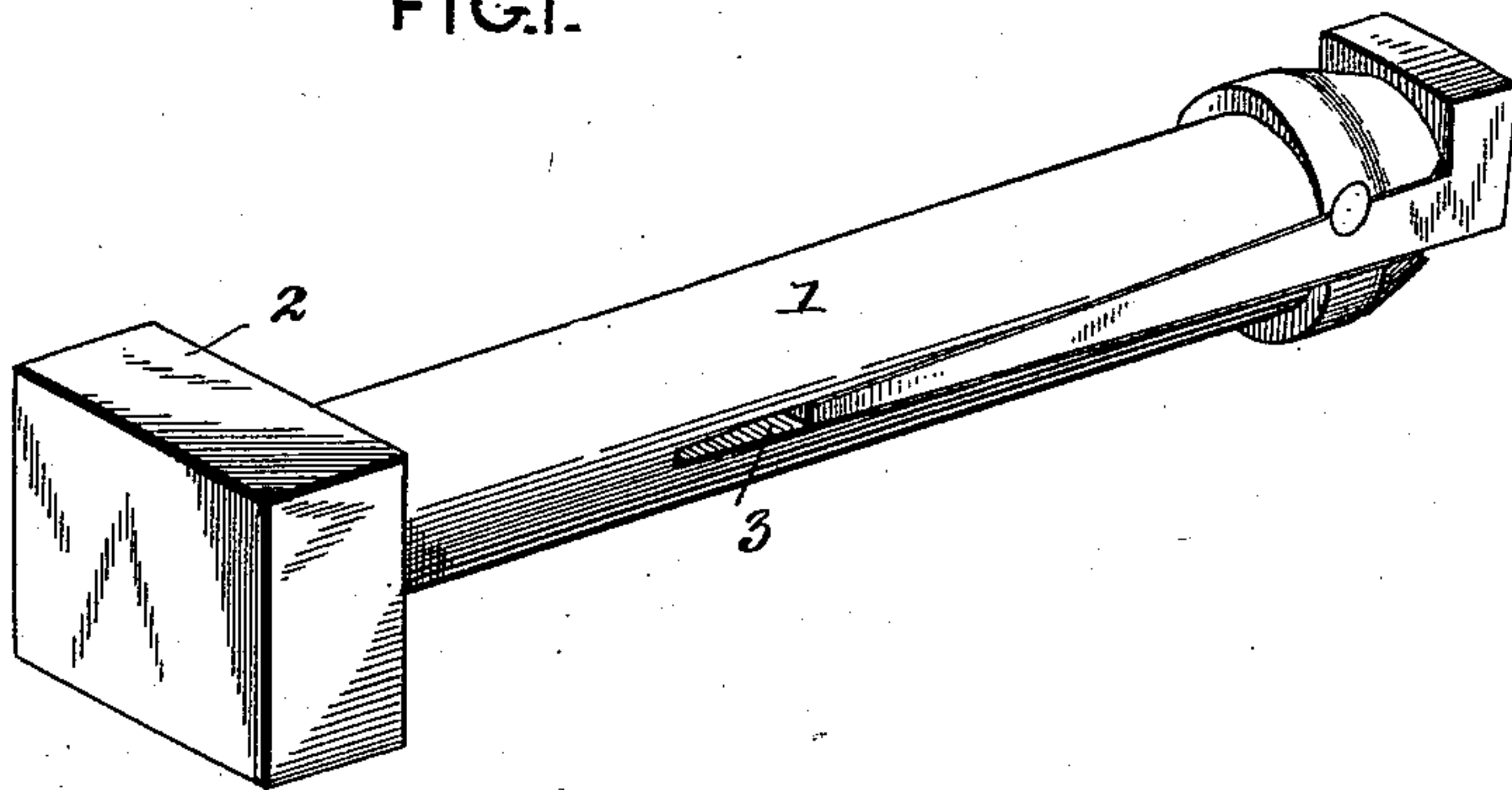


FIG. 2.

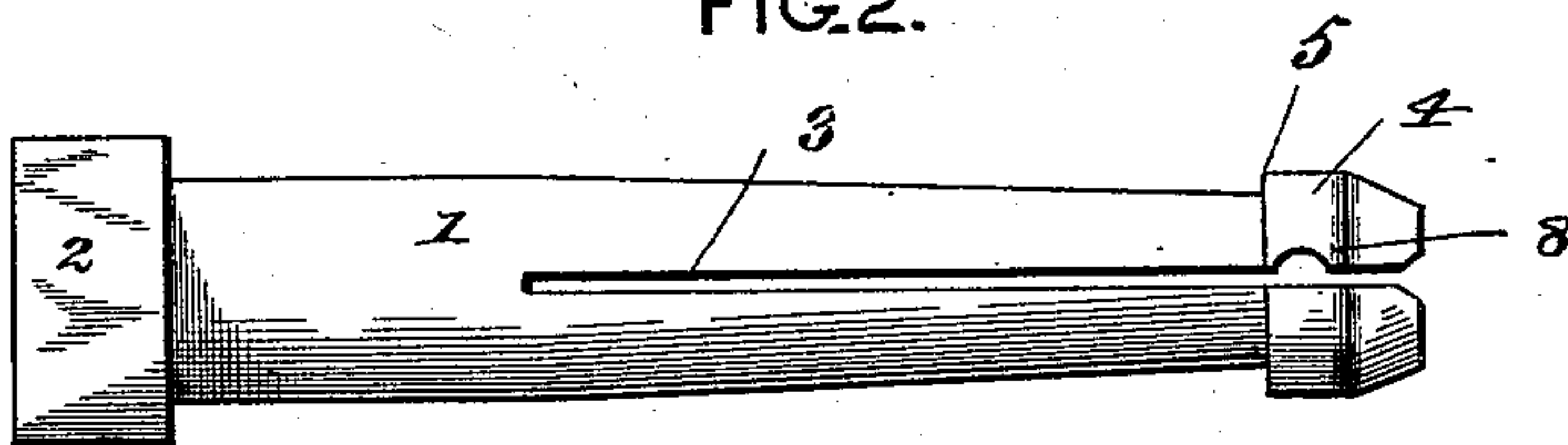


FIG. 3.

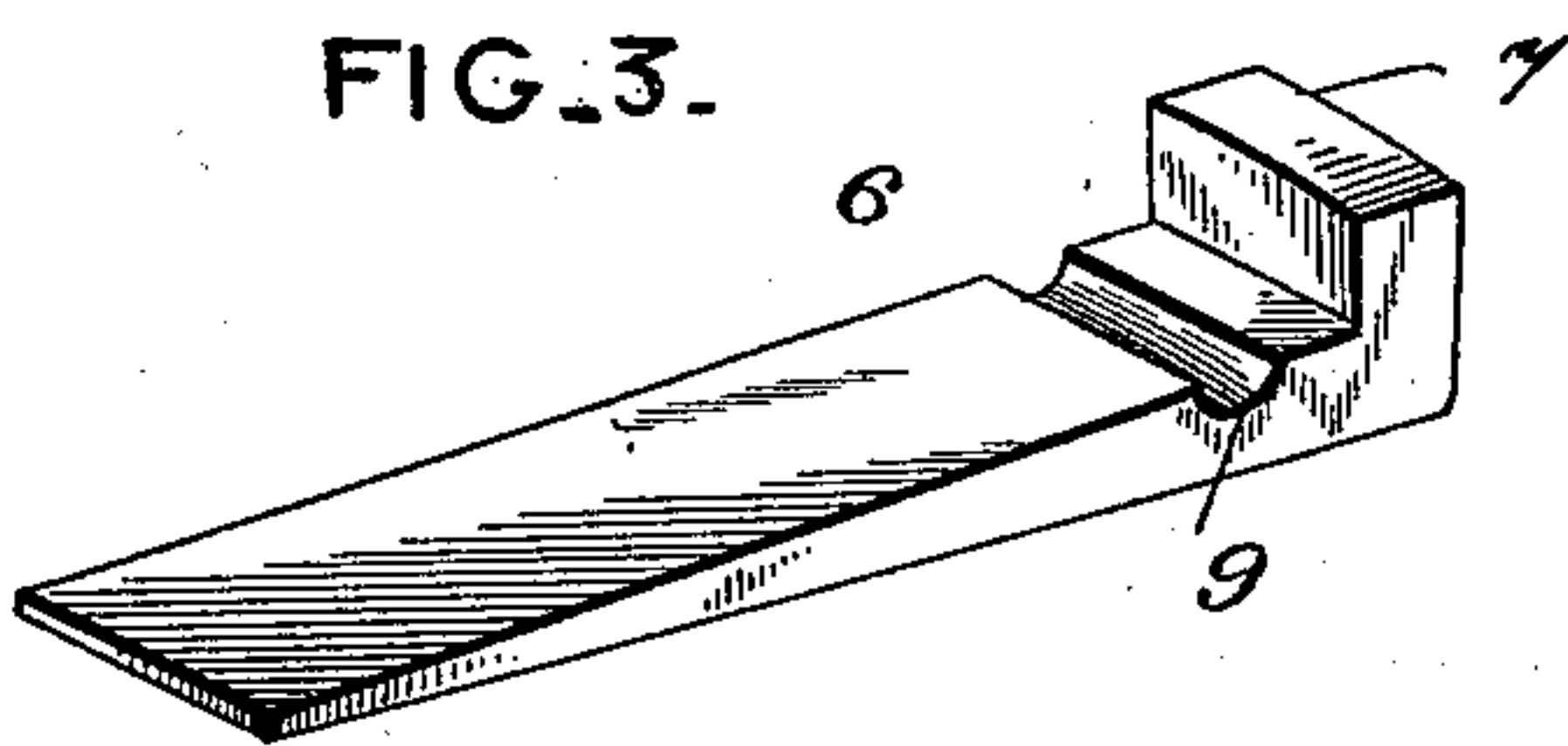
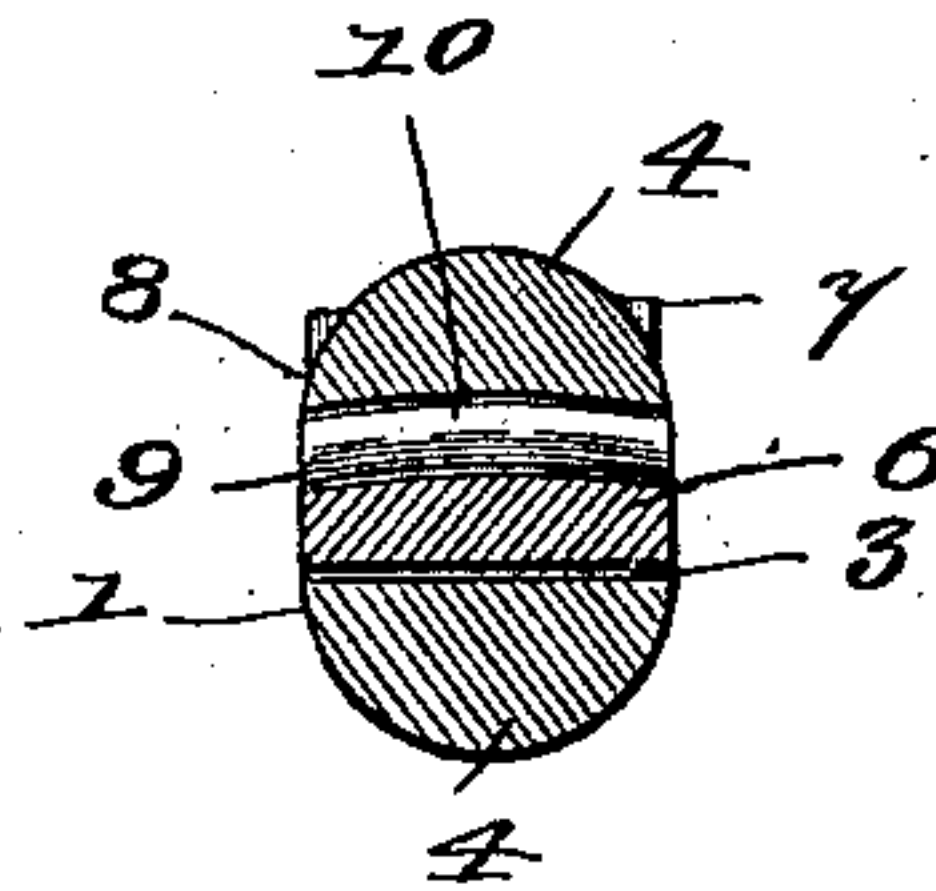


FIG. 4.



Witnesses

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UNITED STATES PATENT OFFICE.

JACOB DINKELACKER, JR., OF MILNESVILLE, PENNSYLVANIA.

BOLT.

SPECIFICATION forming part of Letters Patent No. 531,363, dated December 25, 1894.

Application filed June 15, 1894. Serial No. 514,676. (No model.)

To all whom it may concern:

Be it known that I, JACOB DINKELACKER, Jr., a citizen of the United States, residing at Milnesville, in the county of Luzerne and State of Pennsylvania, have invented a new and useful Bolt, of which the following is a specification.

My invention relates to bolts and means for locking the same; and the objects in view are to provide simple and secure means for locking a bolt adapted for use in connection with machinery, railway rails, &c., where the parts are subjected to frequent or continual jarring; and to provide means whereby the bolt may be released, when necessary, with facility.

Further objects and advantages of the invention will appear in the following description, and the novel features of the same will be particularly pointed out in the appended claims.

In the drawings: Figure 1 is a perspective view of a bolt embodying my invention. Fig. 2 is a plan view of the bolt as seen when contracted. Fig. 3 is a detail view in perspective of the spreading key, detached. Fig. 4 is a transverse section of the bolt and key in the plane of the locking-pin, to show the curvature of the latter.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

The bolt, proper, comprises a shank 1 and an integral head 2, said shank being longitudinally slotted or split, as shown at 3, from a point near the head to the opposite end, and the slot or split being reduced, slightly, in width toward its inner end, or toward the head. The shank, also, is tapered exteriorly toward its free or outer end and terminates in an enlargement 4 to form an abrupt shoulder 5 at the extremity of the tapered portion. This enlargement is approximately equal in diameter with the body-portion of the shank, or that portion adjacent to the head which is not tapered, and the outer portion of the enlargement is tapered, as shown, to facilitate insertion into an opening or openings provided for its reception.

The spreading-key 6, which is designed for

insertion between the walls of the slot or kerf in the bolt to spread the end of the shank to cause engagement of the shoulders 5 with the surface of a plate around the opening through which the bolt is extended, is tapered toward its inner end and is provided at its outer, or larger, end with a lateral ear or projection 7, adapted to be engaged by means of pinchers, or a similar tool, to facilitate removal of the key. In one wall of the slot or kerf in the bolt is a transverse groove 8, and in the corresponding surface of the key is a similar groove 9, and when the key is driven "home," or as far as necessary to secure the proper spreading of the bolt, said grooves 8 and 9 register and form a seat for the locking-pin 10. This seat is curved in length, either in the plane of the axis of the bolt or transverse thereto, and preferably the latter, to accomplish which one of the grooves is made deeper at its ends than at its center while the other groove is made deeper at its center than at its ends. In this way the seat is made of equal or uniform cross-sectional area throughout, but is curved or deflected in length, whereby when the locking pin is driven thereinto it is bent to conform to the shape of the seat and is thus held from accidental displacement by jarring. Any desired number of grooves may be provided in either the key or the wall of the slot or kerf in the bolt, but one in each is usually sufficient in that the taper of the key is preferably made at such an angle that the desired expansion of the end of the bolt is attained when the groove in the key registers with that in the bolt.

From the above description it will be seen that the means for locking the bolt in place to prevent accidental detachment are simple; that the bolt may be removed, when desired, with facility; that the same may be manufactured at a small cost, and that various changes in the form, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

Having thus described the invention, I claim—

1. The combination with a slotted or split bolt having an enlarged shouldered terminal,

of a tapered spreading-key adapted to fit in the slot or kerf of the bolt and provided at its outer end with a lateral ear or projection to limit the insertion of the key and facilitate the withdrawal thereof, and a removable pin for locking the key, temporarily, in said slot or kerf, substantially as specified.

2. The combination of a slotted or split bolt having an enlarged shouldered terminal, a tapered spreading-key adapted to fit in the slot or kerf of the bolt, and a bent locking-pin engaging a transverse seat in contiguous faces of the key and bolt, substantially as specified.

3. The combination of a slotted or split bolt having an enlarged shouldered terminal, a tapered spreading-key adapted to fit in the slot or kerf of the bolt, contiguous faces of the key and bolt being provided with registering transverse grooves which vary, inversely, in depth from their centers toward their extremities, and a locking-pin to fit in

said registering grooves and bent to conform to the shape thereof, substantially as specified.

4. The combination of a slotted or split bolt, tapered exteriorly toward one end, and terminating in an enlargement which is approximately equal in diameter, when the bolt is contracted, with the body-portion of the bolt, said enlargement terminating at its inner side in an abrupt shoulder and being tapered or beveled at its outer side, a tapered spreading-key adapted to fit in the slot or kerf in the bolt to expand the slotted or split portion of the latter, and means to lock the key in engagement with the bolt, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JACOB DINKELACKER, JR.

Witnesses:

STANLEY E. OBERRENDER,
ELLIOTT A. OBERRENDER.