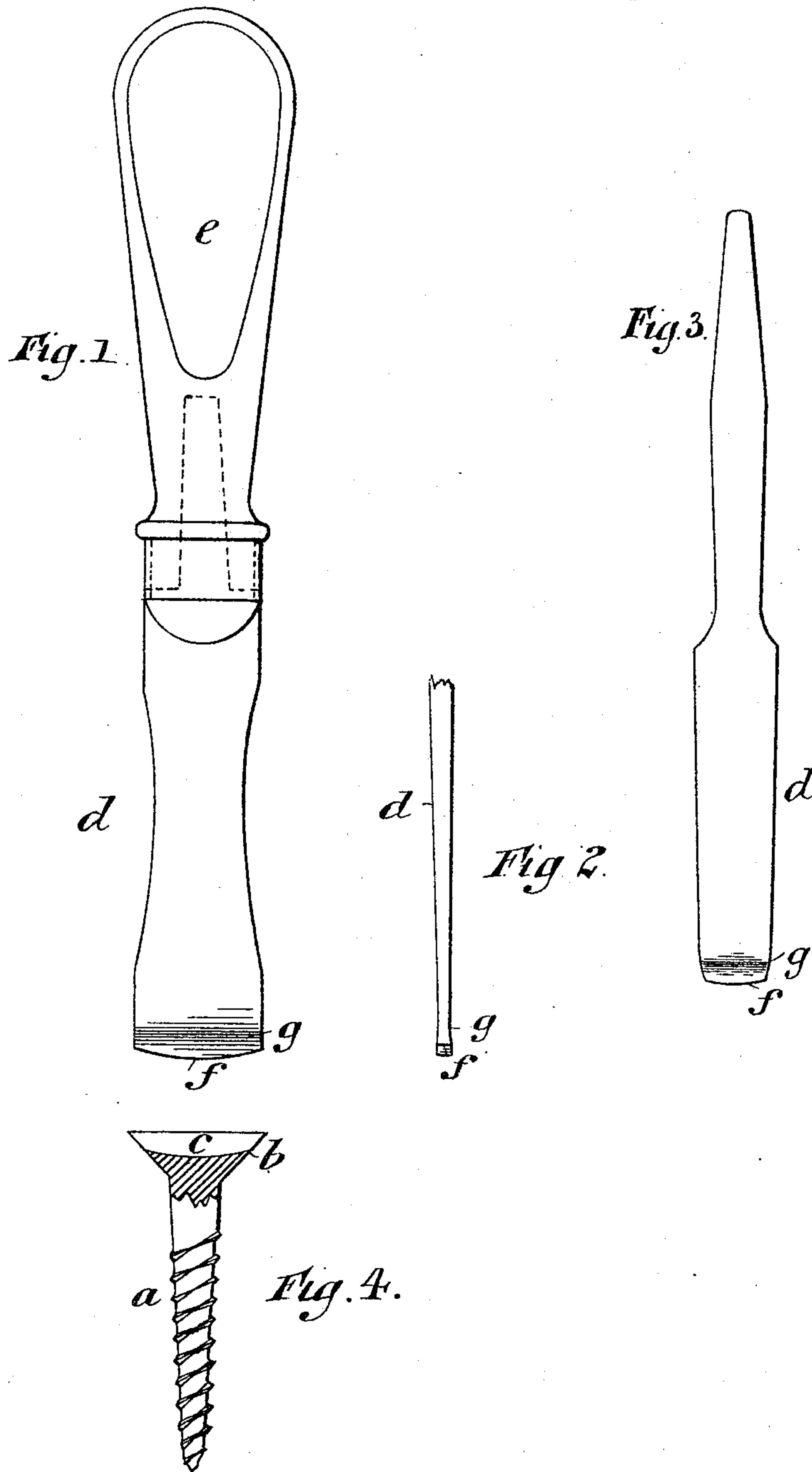


(No Model.)

D. R. HART.  
SCREW DRIVER.

No. 370,255.

Patented Sept. 20, 1887.



Witnesses  
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# UNITED STATES PATENT OFFICE.

DANIEL R. HART, OF NEW YORK, N. Y.

## SCREW-DRIVER.

SPECIFICATION forming part of Letters Patent No. 370,255, dated September 20, 1887.

Application filed June 23, 1887. Serial No. 242,244. (No model.)

*To all whom it may concern:*

Be it known that I, DANIEL R. HART, of the city, county, and State of New York, have invented a new and useful Improvement in Screw-Drivers, of which the following is a specification, reference being had to the accompanying drawings, forming part thereof.

My invention relates to a screw-driver for inserting screws in wood and other material; and it consists in a novel construction of such tool whereby I am enabled to insert screws much more easily and effectively than has heretofore been done.

Heretofore considerable difficulty has been experienced by mechanics and others in inserting screws by the use of the ordinary screw-driver. After considerable thought and experiment I have found the cause of the said difficulty, and have also invented means by which it is avoided.

In manufacturing the ordinary screw, and which is intended more particularly for use in wood, one of the steps is to mill the head of the screw so as to form a slot or nick therein to allow of the insertion of the driver. I have discovered that the result of the milling is, among other things, to make the bottom of the slot of a concave form by reason of the circular form of the milling-cutter, so that when the ordinary screw-driver is inserted in the slot such driver, which is straight at the point, instead of bearing against the whole length of the bottom of the slot, bears only upon the extremities thereof. Another defect in the said driver is the tapering or wedge-shaped form of those portions of the sides thereof which enter the slot of the screw-head. In practice serious consequences follow the use of such driver on said screws. For example, when the driver is forced against the screw it tends to spread or split the head thereof, for the reason that the driver's wedge-shaped form tends to prevent its insertion sufficiently to touch the lower portion of the walls of the slot, and therefore causes it to act upon the upper portion of said walls, and thereby give a ragged and uneven appearance to the slot. More particularly is this the case when the screws have been highly finished or plated. Besides, the said wedge-shaped point of the driver will tend to cause it to rise out of the slot when pressure

is applied to turn the screw. Another difficulty with the ordinary screw-driver is its tendency to slip from the slot sidewise while being used, especially when the screw to be inserted is in such a position—as, for instance, in a corner—that the operator is required to hold the screw-driver at an angle or out of alignment with the screw.

My invention has for its object the obvi-  
ation of the difficulties mentioned; and it consists, first, in constructing the bottom of the screw-driver in such form that when fully inserted in the slot of the screw-head it will bear against all parts of the bottom of the slot, and, secondly, in making those portions of the sides of the screw-driver which enter the slot of the screw-head slightly tapering, being thickest at the point, by the use of which said invention the operator is enabled to easily and effectively insert screws wherever desired.

In the drawings, Figure 1 represents a front view of a hand screw-driver constructed according to my invention. Fig. 2 is a side view of a portion of the same. Fig. 3 is a front view of a screw-driver bit adapted to be used in a bit-stock; and Fig. 4 is a side view of an ordinary wood-screw, a portion being broken away to show the slot.

*a* designates an ordinary wood-screw, having a head portion, *b*, provided with a slot, *c*, to receive the screw-driver.

*d* is a screw-driver, provided with a handle, *e*, and having its point *f* made in convex form, so as to correspond with and fit upon the concave or arc-shaped bottom of the slot *c*. The sides of that portion of the screw-driver which engages with the slot are made to taper slightly in thickness from the point *f*, having less thickness at the part *g* than at the point *f*. By this construction the screw-driver, when inserted in the slot *c*, will act on the lower or base portion of the walls of the slot, thereby preserving the upper and exposed edges of the slot from injury while inserting the screw.

By my invention a screw-driver, while inserting a screw, cannot slip out of the slot, since the concave form of the bottom of the latter prevents the point *f* moving sidewise in the slot when pressure is applied to turn the screw. A screw-driver formed with tapering sides, as described, will be prevented from ris-



ing in the slot when pressure is applied to turn it, and will also act on the lower portions of the walls of the slot, thus preserving the exposed edges thereof and avoiding spreading  
5 or splitting the head of the screw.

My invention is applicable to screw-drivers adapted to operate on screws having countersunk, oval, or other shaped heads.

Having now described my invention, what I  
10 claim as new, and desire to secure by Letters Patent, is—

1. A screw-driver having its point or front end made in convex form to correspond with

and fit the concave form of the bottoms of screw-head slots, substantially as described. 15

2. A screw-driver having its point or front end made in convex form to correspond with and fit the concave form of the bottoms of screw-head slots, and having those portions of its sides adapted for entering said slots  
20 tapering in thickness, substantially as described.

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Witnesses:

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