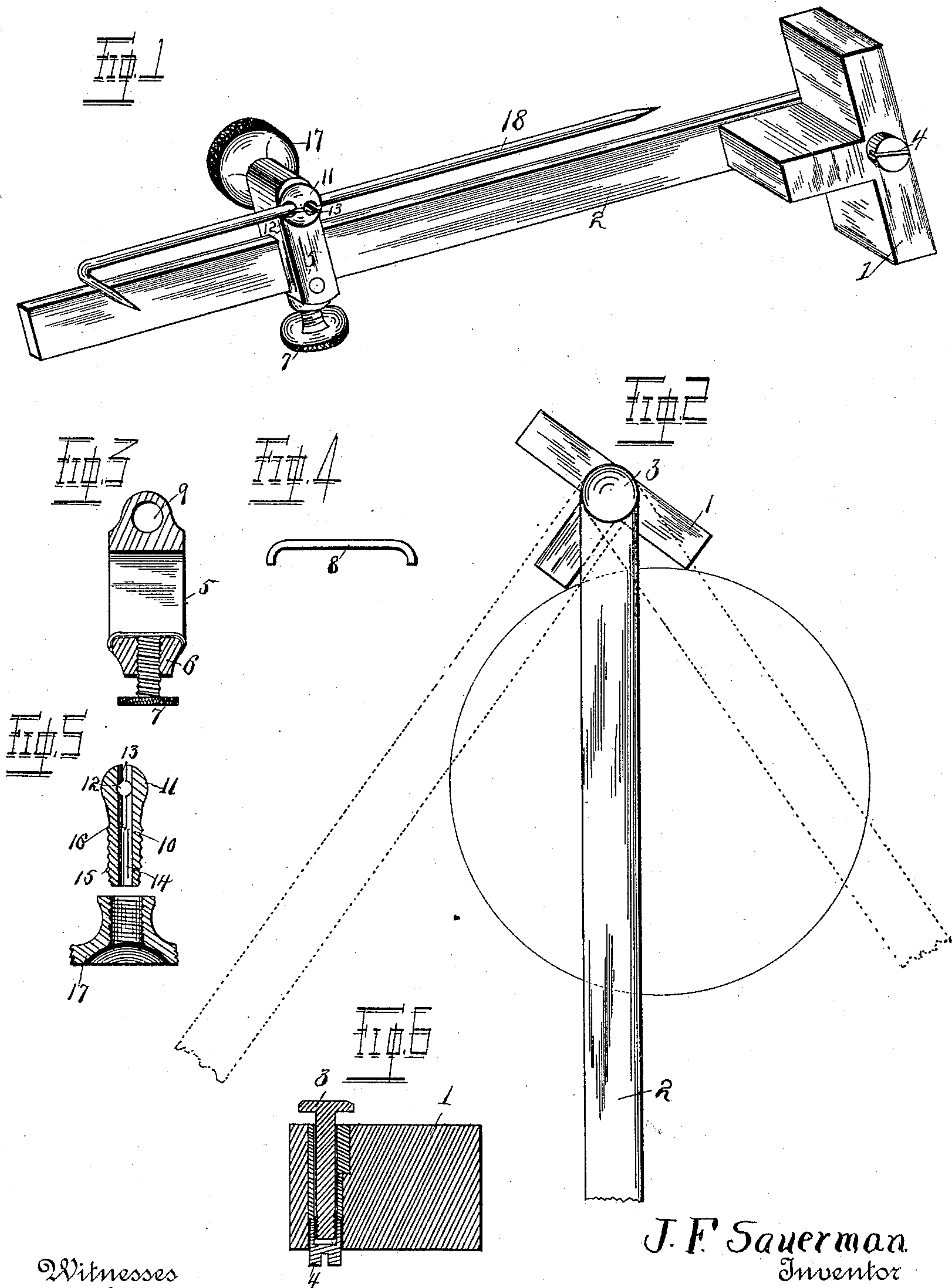


(No Model.)

J. F. SAUERMAN.  
COMBINATION BEVEL AND SURFACE GAGE.

No. 467,562.

Patented Jan. 26, 1892.



Witnesses  
A. A. Erickson  
J. E. Langman

J. F. Sauerman  
Inventor

By his Attorneys Higdon & Higdon



# UNITED STATES PATENT OFFICE.

JOHN F. SAUERMAN, OF COAL HILL, ARKANSAS, ASSIGNOR OF ONE-HALF  
TO EDWARD S. STIEWEL, OF SAME PLACE.

## COMBINATION BEVEL AND SURFACE GAGE.

SPECIFICATION forming part of Letters Patent No. 467,562, dated January 26, 1892.

Application filed September 21, 1891. Serial No. 406,372. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN F. SAUERMAN, of the city of Coal Hill, Johnson county, and State of Arkansas, have invented certain new and useful Improvements in Combination-Tools, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to improvements in combination-tools; and it consists in the novel arrangement and combination of parts, as will be more fully hereinafter described, and designated in the claims.

In the drawings, Figure 1 is a perspective view of my complete invention. Fig. 2 shows its application when used as a center-gage. Fig. 3 is a longitudinal section of a sliding block which I employ in carrying out my invention. Fig. 4 is a detail view of a "give" I employ. Fig. 5 is a longitudinal section of a clamping-bolt for the scratching-pin, and Fig. 6 is a cross-section taken through the T-square and bolt which secures the same to the straight-edge bar.

The object of my invention is to construct a combination-tool which may be used as a T-square, a bevel-square, a tooth-gage for laying off teeth on ratchets, sprockets, and gear-wheels and dividing any round surface into desired divisions, such as segments, &c., and may be also used as a center-gage, and with certain attachments which I employ my invention may be used for a surface or scratch gage, a depth-gage, circular scratch-gage, adjustable dividers, and parallel-gage.

I will give a further description of the use of my invention in connection with a mechanical description thereof.

It may be noted in the prefacing remarks that I have only shown the application of my invention as a center-gage, it being presumed that the other applications can be readily deduced from the mechanical description thereof by any ordinary mechanic.

Referring to the drawings, 1 indicates a block, which is in the form of and may be used as a T-square. Pivotaly mounted on said block is a straight-edge bar 2, which may be graduated after the manner of an ordinary rule in any desired subdivisions. Said

straight-edge bar 2 is pivotaly mounted on the T-square 1 by means of a bolt 3, which passes through said T-shaped block, but does not rotate therein. Adapted to be screwed on the screw-threaded end of said bolt 3 is a nut 4, which is sunk in said T-shaped block. Said straight-edge bar 2 is held in any desired position on said T-shaped block 1 by friction, which may be increased or lessened by means of the nut 4, as can be readily perceived and understood and requires no further elucidation.

In Fig. 2 I show the application of my invention when used as a center-gage in finding the center of a circular body. It may be noted in this connection that I can also use the block 1 and straight-edge bar 2 as a bevel-square. Mounted on said straight-edge bar 2 and adjustable thereon is a sliding block 5. Said sliding block 5 is provided with a screw-threaded bore in the end 6, adapted to receive a thumb-screw 7 for holding said sliding block at any desired adjustment on the straight-edge bar 2. Located between the edge of said straight-edge bar 2 and the thumb-screw 7 is a gib 8, which prevents said thumb-screw from defacing or scratching the edge of the straight-edge bar 2. Said sliding block 5 is provided with a perforation 9, through which a contractible bolt 10 is adapted to be inserted. Said contractible bolt 10 is provided with a head 11, and passing transversely through said head is a perforation 12, and also a slit 13 formed therein, thus allowing said slitted head to be contracted. Said bolt is also provided with a longitudinal bore 14, with a screw-threaded end 15, and a tapering portion 16. 17 indicates a thumb-nut, which is adapted to be screwed upon the screw-threaded end of the contractible bolt 10.

18 indicates a scratching-needle, which may be inserted in the perforation 12, as illustrated in Fig. 1, and clamped therein by the agency of the thumb-nut 17, or it may be inserted and passed through the longitudinal bore 14 and clamped therein by the agency of said nut.

It can be readily deduced from the foregoing description that when the tapering portion 16 of the bolt 10 is drawn into the perforation 9 by the agency of the thumb-nut 17 that



the slitted head 11 of said bolt will be contracted and clamped upon the scratch-needle 18 and hold the same in any desired adjustment.

5 Having fully described my invention, what I claim is—

1. A combination-tool having a T-shaped block, a straight-edge bar pivotally secured to the same so as to swing in a curve, a sliding block mounted on said bar, means for holding same in any desired adjustment, and a device carrying a scratching-needle, mounted in said sliding block, substantially as set forth.

15 2. A combination-tool consisting of a T-shaped block 1, a straight-edge bar 2, pivot-

ally secured to the same, a sliding block 5, carrying a thumb-screw 6, and gib 8, mounted on said bar, a bolt 10, provided with a screw-threaded end 15, a slitted head 11, a longitudinal perforation 14, and a transverse perforation 12, mounted in said sliding block 5, and a thumb-nut 17, adapted to be screwed on said screw-threaded end 15, substantially as set forth. 20

In testimony whereof I affix my signature in presence of two witnesses. 25

JOHN F. SAUERMAN.

Witnesses:

ED. S. STIEWEL,  
WILL MORRIS.