

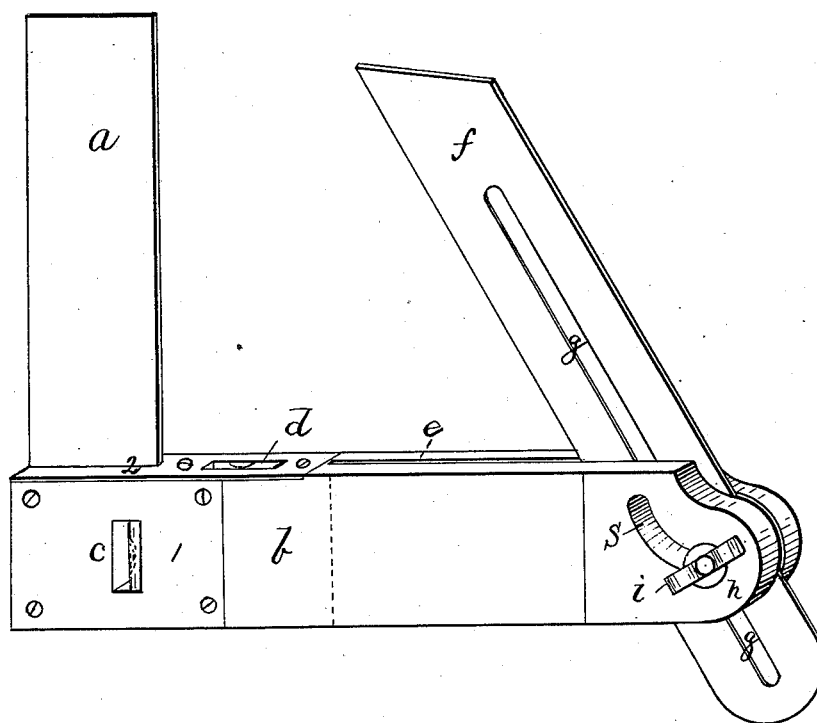
(No Model.)

F. W. RITCHIE.

COMBINATION TOOL.

No. 303,666.

Patented Aug. 19, 1884.



Witness  
Frederick M. L. [Signature]  
John B. B. Drake

Inventor  
Frederick W. Ritchie  
By [Signature] Attorney

# UNITED STATES PATENT OFFICE.

FREDERICK W. RITCHIE, OF VANCEBOROUGH, MAINE, ASSIGNOR OF TWO-THIRDS TO JOHN RITCHIE AND MICHAEL L. ROSS, BOTH OF SAME PLACE.

## COMBINATION-TOOL.

SPECIFICATION forming part of Letters Patent No. 303,666, dated August 19, 1884.

Application filed November 21, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, FREDERICK W. RITCHIE, of Vanceborough, in the county of Washington and State of Maine, have invented certain new and useful Improvements in Combination-Tools; and I do hereby declare that the following is a full, clear, and exact description of the invention, that will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawing, forming a part of this specification, which shows a perspective of my invention.

My invention relates to a combination-tool embodying a square, bevel, plumb, and level, and will be readily understood by reference to the annexed drawing, in which—

*a* shows the metal arm of the square inserted, as usual, in the wooden arm *b*, at right angles thereto. At *c* is a cavity cut in said wooden arm for the reception of a tube containing air and fluid, and serving as a plumb when the tool is used as a plumbing-instrument, while at *d* is a second tube, also containing air and fluid, for use when the device is employed as a level. The parts of the wooden arm *b* near said tubes are strengthened by metal plates on all sides. The arm *b*, at the end farthest from the arm *a*, is slotted for a portion of its length and receives within this slot *e* a second adjustable arm, *f*, having a slot, *g*, therein, through which passes a screw, *h*, having a thumb-nut, *i*, by which the arm *f* can be adjusted and held at different angles, enabling any required bevel to be obtained; or, when the tool is used as a level, this adjustable arm may be used to lengthen the arm *b*, thus increasing the accuracy of the instrument. To this end the arm *b* is provided with a slot, *s*, extending diagonally or transversely thereon, or curved obliquely to the length of said arm

*b*. The screw *h* passes through this slot *s*, and may be moved therein toward either edge of the arm *b*, so as to permit the edge of the bevel-arm *f* to be brought into line with either of the edges of the square arm *b*; or, if desired, the arm *f* may be removed from the slot and secured to the outer surface of the arm *b*. This is of advantage in making drawings, &c.

In many cases it is advantageous to have the bevel arm situated at the extremity of one of the legs of the square, at a distance from the angle thereof, as it can then be set at any desired angle to the other leg, while at a considerable distance from the same, thus giving the instrument greater reach and variety of usefulness. By means of the longitudinal slot in the bevel-arm it may be caused to extend its full length from the square-leg, or to extend on both sides of the leg at once by being clamped at the middle of the slot. This also is a convenience in many situations.

What I claim as my invention is—

The herein-described combination-tool, consisting of the try-square composed of the two fixed or rigid arms *a b*, and having the plumb *c* and level *d*, the slotted bevel-arm *f*, pivoted to the arm *d* of the try-square at the opposite end thereof from the arm *a*, and the curved slot *s* and screw *h*, whereby said bevel-arm may be clamped at any desired angle above or below the arm *b*, or in line therewith, to form an extension of either edge thereof, substantially as shown and described.

In testimony that I claim the foregoing I have hereunto set my hand this 13th day of November, 1883.

FREDERICK W. RITCHIE.

Witnesses:

JOHN B. B. FISKE,  
WM. FRANKLIN SEAVEY.