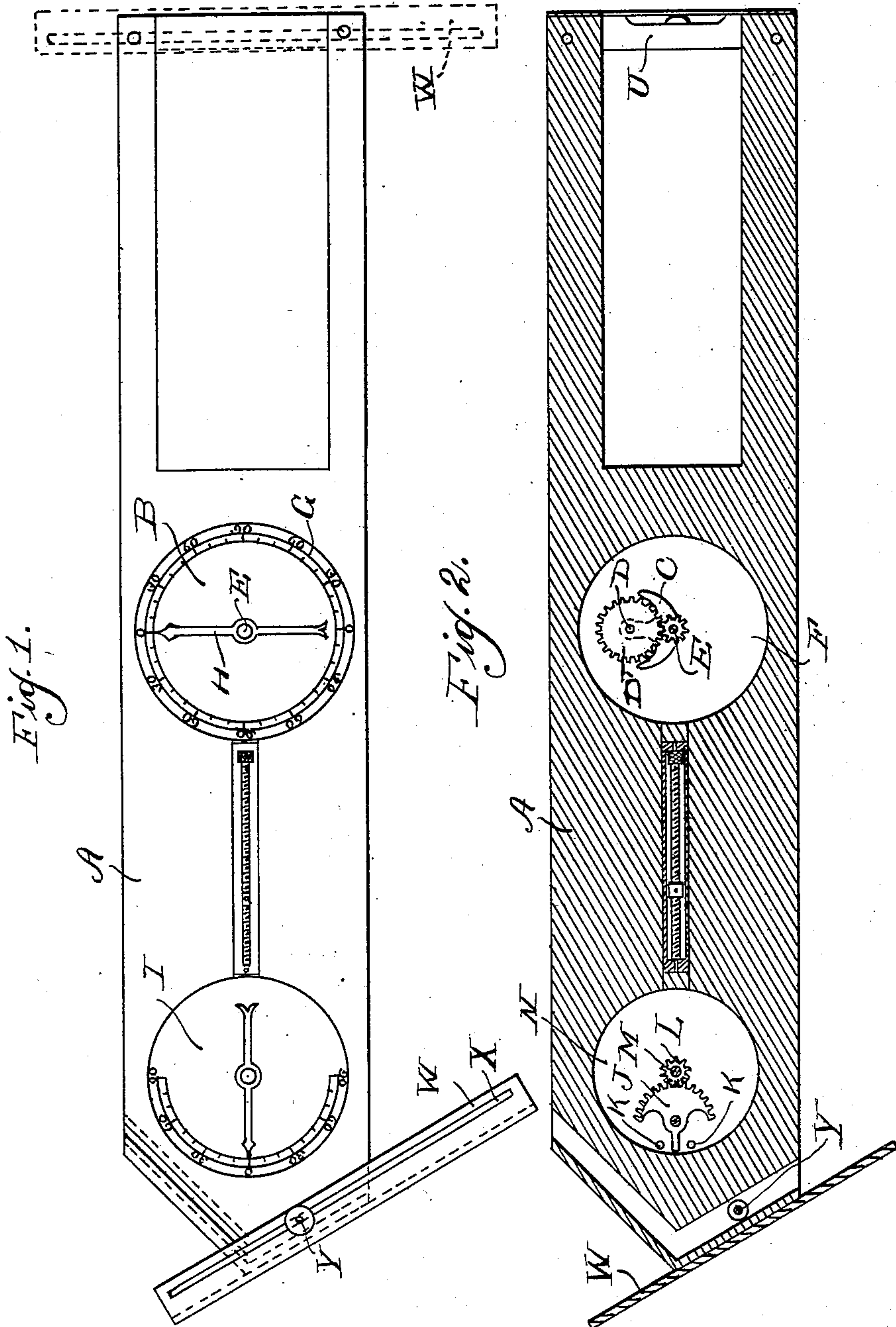


No. 730,790.

PATENTED JUNE 9, 1903.

N. NEWMAN.  
COMBINATION TOOL.  
APPLICATION FILED SEPT. 24, 1902.

NO MODEL.



Witnesses:

C. F. Wilson  
P. W. Snowhook

Inventor:

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By Rudolf L. [Signature]  
Attorney.



# UNITED STATES PATENT OFFICE.

NAFTALY NEWMAN, OF CHICAGO, ILLINOIS.

## COMBINATION-TOOL.

SPECIFICATION forming part of Letters Patent No. 730,790, dated June 9, 1903.

Application filed September 24, 1902. Serial No. 124,630. (No model.)

*To all whom it may concern:*

Be it known that I, NAFTALY NEWMAN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Combination-Tools; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improvement in carpenters' and graders' levels, the object being to provide a tool of this kind which will be more efficient and durable than the ordinary carpenter's level and which consists in the features of construction and combinations of parts hereinafter fully described and claimed.

In the accompanying drawings, illustrating my invention, Figure 1 is a top plan view of a tool constructed in accordance with my invention. Fig. 2 is a horizontal longitudinal section of same.

In said drawings, A represents a frame approximately of the shape of an ordinary carpenter's level, which is adapted to carry the various operating parts of my level. Said frame is provided with a circular pocket F near its middle portion adapted to contain a plumb-level B. A dial G covers said pocket and is divided into any convenient number of divisions. Said plumb-level B comprises a crescent-shaped weight C, pivotally mounted on a shaft D, which is rotatably mounted in said pocket F, between the center of said pocket and one side of same. A spur-gear D' is rigidly secured to said weight C and is adapted to mesh with a pinion which is rigidly mounted on a shaft E. Said shaft E is rotatably mounted in the center of said dial G and is provided on its outer end with an indicating-hand H, rigidly secured thereto. The proportion between said spur-gear and said pinion is such that as the weight C revolves about the shaft D said hand H will move through a much larger arc, thus increasing the accuracy of the device. A second pocket N is provided adjacent one end

of said frame A, adapted to contain a second plumb-level, which comprises a toothed segment J, eccentrically pivotally mounted within said pocket N. Said segment is provided with an arm which is adapted to come in contact with two pins K to limit the motion of said segment. A pinion L is mounted in the center of said pocket N on a shaft M and is adapted to be engaged by said toothed segment J. Said shaft M passes through a dial I, which covers said pocket N and is provided with an indicating-hand rigidly mounted on its outer end. The opposite end of said frame is provided with a small spirit-level U.

An L-shaped straight-edge W is provided which is adapted to be secured against each of the shorter sides of the frame A. This is for the purpose of lengthening the ends of said frame A, so that it may be used after the manner of a square in leveling in vertical positions or at angles of sixty or forty-five degrees. Other desirable angles may be produced by preparing the ends of said frame for same. Said straight-edge W is secured to the frame A by means of the thumb-screw Y, whose head is adapted to slide in a slot in said frame and whose shank passes through a longitudinal slot X in said straight-edge, thus adapting said straight-edge to be adjusted longitudinally to any position in relation to the end of said frame A to which it is secured.

I claim as my invention—

A device of the type set forth comprising a frame provided with pockets adapted for receiving leveling means, said frame having a tapered portion at one end of the same and provided with grooves therein, the other end being provided with an aperture therein, an adjustable arm removably secured in said grooves and adapted to be secured in the aperture, and means for locking the arm in the adjusted position, substantially as described.

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

NAFTALY NEWMAN.

Witnesses:

RUDOLPH WM. LOTZ,  
E. F. WILSON.