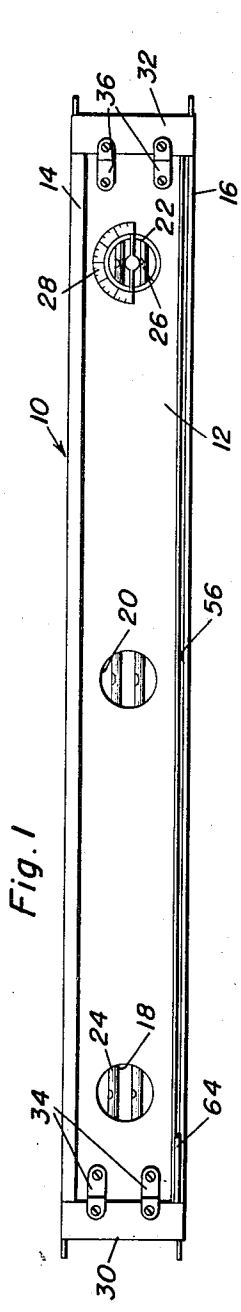
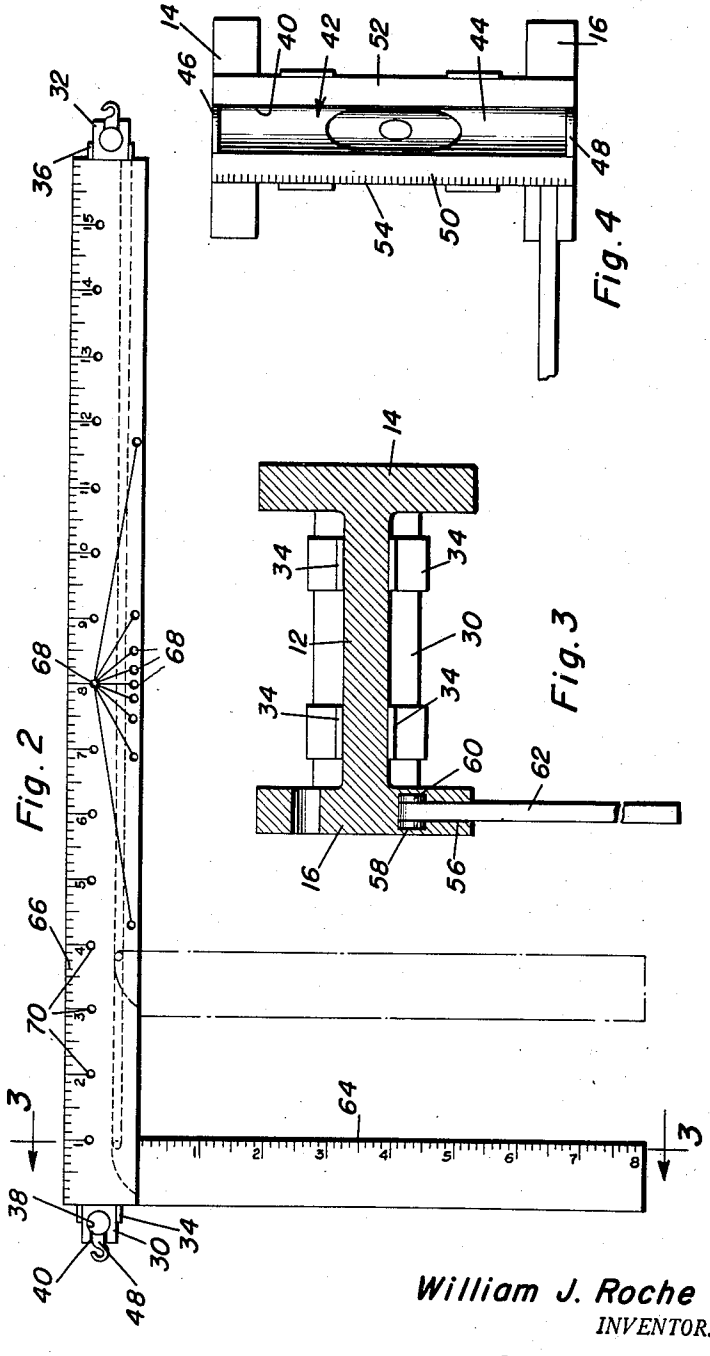
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CARPENTER'S LEVEL

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CARPENTER'S LEVEL

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1 Claim. (Cl. 33—88)

This invention relates generally to carpenter's levels and has for its primary object the provision of an attachment for a more or less conventional carpenter's level in which the amount of rise or fall in a wall or the like may be directly determined.

Another object of this invention is to provide an attachment for carpenter's levels which consists of a guide member provided with a longitudinal groove and graduations marked along one edge thereof, the groove being adapted to slidably receive a line level which is projectable below the surface of the level to maintain the same in a horizontal position when placed upon work which is disposed at an angle to the horizontal so that the line level will register with one of the graduations on the guide to directly determine the amount of rise or fall in the work.

These, together with other objects and advantages which will become subsequently apparent, reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is an elevational view of a carpenter's level provided with the indicating attachment;

Figure 2 is a top plan view of the assembly shown in Figure 1 and further showing the features of the slidable perpendicular blade member attached to the level;

Figure 3 is an enlarged transverse section taken substantially along the plane of section line 3—3 of Figure 2; and

Figure 4 is an end elevational view on an enlarged scale showing details of the guide and line level.

Referring now particularly to the drawings, reference numeral **10** indicates generally a more or less conventional carpenter's level which includes an upright web portion **12** and a pair of flanged portions consisting of the upper flange **14** and the lower flange **16** which present opposite parallel surfaces for resting upon work to determine the level thereof. For this purpose, the web **12** is provided with a series of openings **18**, **20** and **22** provided with spirit level members such as those indicated at **24** therein. One of the apertures **22** may be provided with a rotatable spirit level assembly indicated generally by the reference character **26** and suitable indicia **28** on the web disposed adjacent the aperture may be utilized to determine specific angularities of work surfaces, as will be readily appreciated.

Secured to opposite ends of the level **10** are guide members **30** and **32**, the attachment being effected by pairs of strap members **34** and **36** in the manner shown. Each of the guides **30** and **32** is provided with a longitudinal groove having a circular portion **38** and a rectangular portion **40** of smaller width than the circular portion in the manner shown most clearly in Figure 2. A line level **42** is disposed within each of the grooves and has its circular body portion **44** received in the

circular portion **38** of the guide groove and the line attaching ears **46** and **48** project through the straight portion **40** of the guide groove, these ears being hooked as is conventional. The free side surfaces of the guide members are indicated by the reference characters **50** and **52** and the former may be provided with a series of indicia or graduations **54** thereon which are calibrated in inches of rise per linear foot, for a purpose which will be presently apparent.

In operation, the level is placed upon work whose rise or fall is to be determined and at the low end of the level the corresponding line level **42** is projected below the lower surface of the lower flange **16** such as to maintain the level **10** in a horizontal position as determined by the placement of the spirit level bubbles therein. Now, reference to the projected line level **42** at the upper attaching ear or leg **46** thereof and its alignment with one of the corresponding graduations **54** will directly read the amount of rise or fall in the work.

To render the level more versatile, one side edge of the lower flange **16** is provided with a longitudinal groove **56** which has an enlarged inner portion **58** which receives a pin **60** secured to one end of the blade member **62** in the manner shown most clearly in Figure 3. Thus, the blade member may be moved along the level as between the forward dotted line position shown in Figure 2. The blade is provided with linear measuring graduations **64** as may be the top flange of the level as indicated by the referenec character **66**.

The pin **60** is located at one corner of the blade **64** so that the blade may be folded, in knife fashion, into the level in an out-of-the-way position. The blade is of course provided with graduations, preferably in the manner of a conventional carpenter's square.

Further, the upper flange **14** may be provided with a series of openings **68** for the purpose of striking arcs, if desired, as for marking angles, it being noted in this latter respect that all of the openings, save one, are collinearly disposed, the one opening being disposed in apical relation to the rest and at predetermined relationship therewith so as to enable a user to mark off certain predetermined angles, as will be readily apparent.

In conjunction with the linear graduation **64**, a series of holes **70** are provided. These holes are positioned at one inch interval or any other desired interval for the purpose of striking arcs or circles of predetermined radii.

From the foregoing, the construction and operation of the device will be readily understood and further explanation is believed to be unnecessary. However, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the appended claim.

What is claimed as new is as follows:

A combination level and carpenter's square comprising an elongated I-shaped member including a web and side flanges, a spirit level in said web, one of said side flanges having a longitudinal groove opening into the free edge thereof, a blade normally disposed in said groove parallel to said member, means swingably attaching said blade in said groove for swinging movement about an axis parallel to said web to a position perpendicular to said member to form a carpenter's square, said means being movable along said groove to position said blade at different positions intermediate the ends of the member at one side thereof for disposing alongside a piece of work when the member is rested on its flanges on top of a piece of work.

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