Sept. 4, 1928. 1,683,256

W. L. MYERS

CARPENTER'S LEVEL

Filed April 22, 1925

Fig. 1

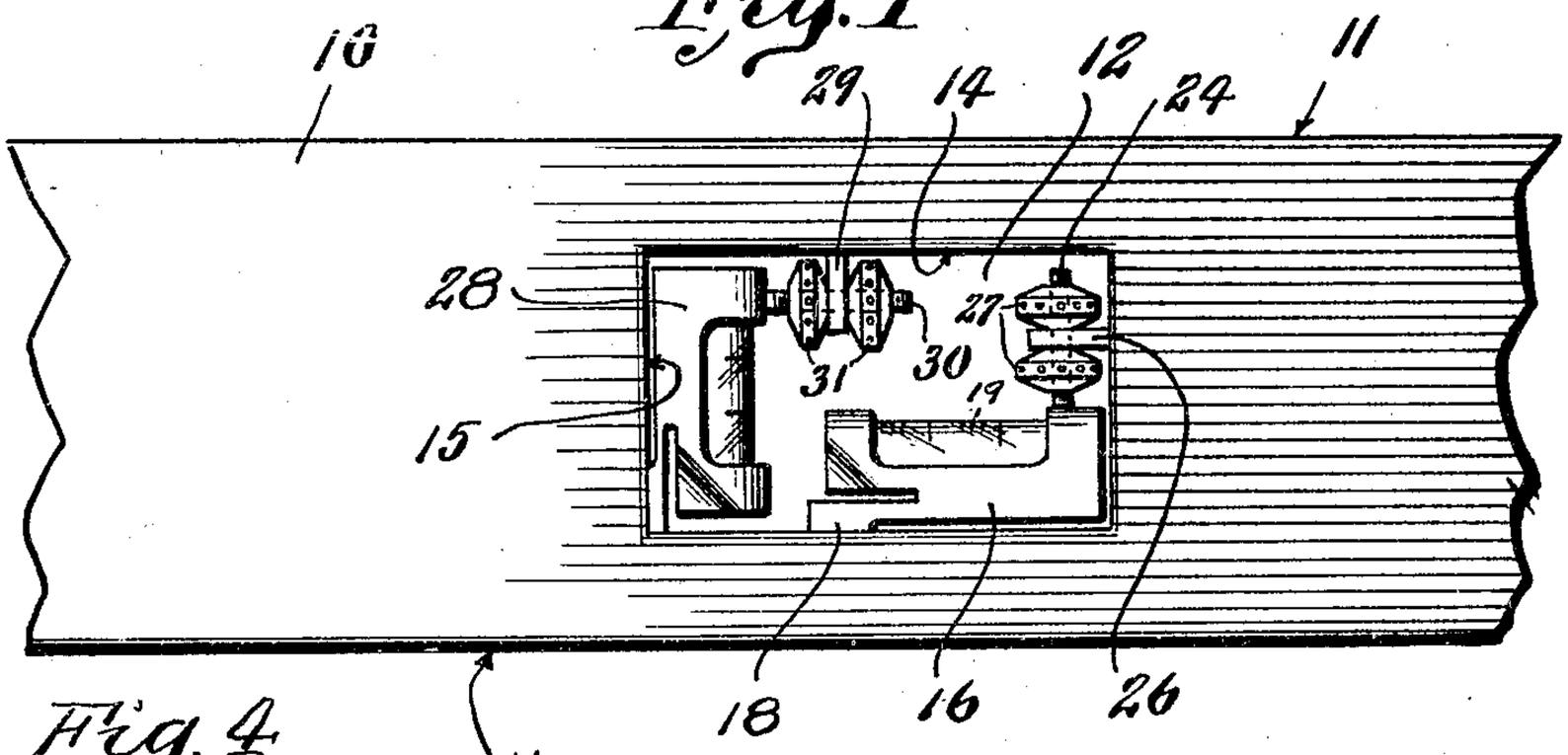


Fig. 4

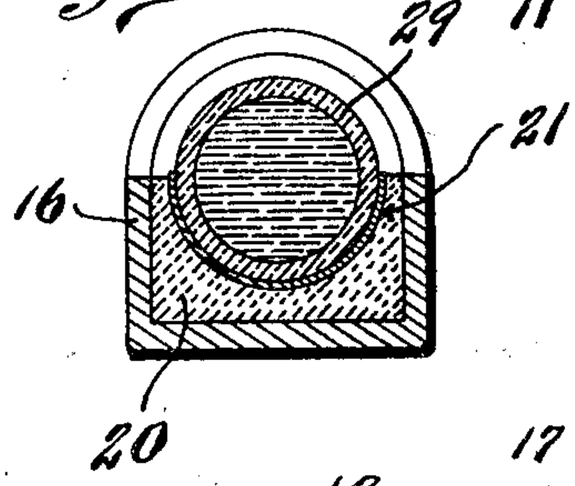


Fig. 2

Fig. 3

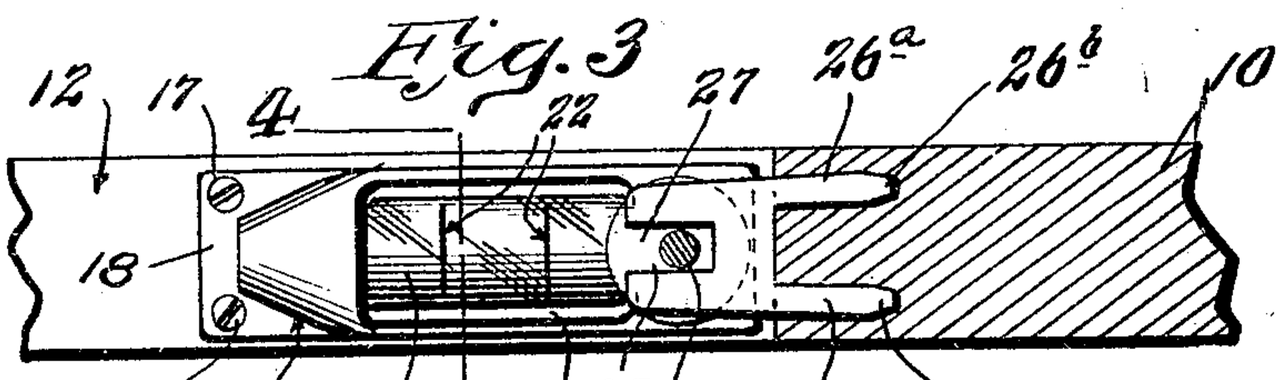
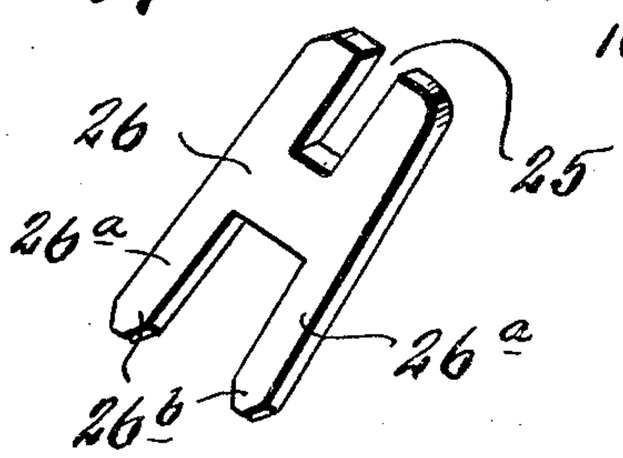


Fig. 5



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UNITED STATES PATENT OFFICE.

WILLIAM L. MYERS, OF ST. LOUIS COUNTY, MISSOURI.

CARPENTER'S LEVEL.

Application filed April 22, 1925. Serial No. 25,055.

This invention relates to new and useful improvements in carpenters' levels and has for its object the provision of a simple and inexpensive device which can be readily attached to and detached from a straight edge bar such as is used by carpenters in construction work.

Further objects of my invention are to provide spirit level devices which can be easily attached at right angles to each other to the respective walls of a rectangular opening formed in a straight bar of wood which it is intended to use as a straight edge and to provide suitable guide members adapted to be driven in position in said opening in appropriate relations to the respective level devices for receiving the threaded shanks of said devices and provide suitable stationary mounts for receiving the thrusts of the adjusting disks threaded on said shanks.

With these and other objects in view my invention consists in certain novel features of construction and arrangement of parts, hereinafter more fully described and claimed, and illustrated in the accompanying drawings, in which—

Figure 1 is a fragmental plan view of a straight edge bar with the level devices attached thereto.

Figure 2 is a horizontal cross section taken through a portion of said bar and showing one of said level devices attached thereto.

Figure 3 is a cross sectional view taken on line 3—3 of Figure 2.

Figure 4 is an enlarged view taken on line 4—4 of Figure 3.

Figure 5 is a perspective detail view of one of the guides.

Referring by numerals to the accompanying drawings, 10 indicates a bar of wood provided with straight edges 11 and having formed in its body portion a centrally disposed rectangular opening 12 having longitudinally disposed walls 14 and transversely disposed walls 15. A tube carrier 16 is arranged adjacent to one of the longitudinal walls 14 and is secured thereto by suitable fastening devices 17 which pass through apertures formed in a flange or lip 18 and are seated in said bar 10. Lip 18 is formed integral with the rear end of tube carrier 16 and the outer face of said lip is offset outwardly with respect to the corresponding face of tube carrier 16 in order to space the latter from the longitudinal wall 14.

Tube carrier 16 is preferably formed U-shape in cross section as shown in Figure 4 and is provided with a sight opening 16[a] through which is exposed the upper portion of a spirit tube 19 which is embedded in suitable material 20, such as plaster paris, which is placed in said tube carrier in plastic form. The lower portion of the tube 19 or that portion which is embedded in the material 20 is provided with a coating of reflecting material 21 which reflects the light and assists in reading the tube. This tube is provided with suitable marks 22 and the liquid contained in said tube contains an air bubble which cooperates with said marks to indicate the level. The rear end of tube carrier 16 is crimped or tapered outwardly as indicated at 16[b] in order to provide suitable clearance and permit insertion of fastening devices 17 in the apertures of lip 18 and provide clearance space so that a suitable tool can be applied to said fastening devices to attach them in position in opening 12.

The opposite or forward end of tube carrier 16 has extending therefrom and transversely thereof a threaded shank 24 which passes through a slot 25 formed in a guide 26 which is stationarily attached to the appropriate transverse wall 15 and provides a stationary bearing for adjusting disks 27 which are threaded on shank 24 and bear against the opposite sides of member 26. Guide 26 is provided with legs 26[a] which slightly diverge outwardly and are adapted to be driven in suitable bores formed in said transverse wall. The ends of said legs are preferably beveled as indicated at 26[b] to facilitate the insertion and attachment of said guide 26 in position in opening 12.

A level device 28, similar in construction to the device just described, is attached to the opposite transverse wall at right angles to the first device and a guide 29 is driven into one of the longitudinal walls of opening 12 for receiving threaded shank 30 of device 28 and providing bearings for adjusting disks 31 screw-seated on said shank.

To attach the device in position, holes are drilled in the proper walls of opening 12 for the reception of fastening devices 17 and another series of holes is drilled in the respective walls for receiving the legs of guide members 26 and 29. These guide members are now placed in position and can be forced home by hammering the inner ends of said guides. The legs of these guides are formed divergent outwardly in order to conform to

the inclination of the bores drilled for the reception of same since said bores cannot always be formed in parallelism with the bar due to the restricted size of opening 12.

The silvered or reflecting surface of the spirit tube improves the visibility of the leveling marks and increase the usefulness of the device. By forming the level devices separate from each other they can be secured in position at the most advantageous points and the provision of separate guides provides a readily replaceable stationary means for cooperating with the adjusting disks. When the devices are attached in position, the bar is tested and the adjusting disks are regulating to bring the air bubble in proper relation with the marks 22. This is done by releasing one of the disks 27 and tightening the other disk, thereby adjusting the tube carrier and the spirit tube carried thereby with relation to said bar.

I claim:

1. In a device of the class described, the combination of a straight edge provided with a rectangular opening, a tube carrier arranged in said opening and provided with a sight opening, a spirit tube arranged in said carrier and visible through said sight opening, an attaching lip formed integral with one end of said carrier and disposed longitudinally relative thereto, said lip being offset laterally and outwardly from said tube carrier and secured to one of the walls of said rectangular openings for spacing said carrier throughout its entire length from said wall, a threaded shank fixed to and extending transversely from the opposite end of said tube carrier, a bifurcated guide for receiving said shank and provided with prongs driven into a wall of said rectangular opening at right angles to the first mentioned wall for supporting said guide in alignment with said shank, and disks screw-seated on said shank bearing on the opposite sides of said guide for adjusting said tube carrier angularly with respect to its longitudinal axis.

2. In a device of the class described, the combination with a straight edge bar provided with a rectangular opening, of a tube carrier arranged in said opening adjacent to one of the walls thereof, a longitudinally disposed pad formed integral with one end of said tube carrier and having its attaching face offset outwardly relative to said tube carrier and secured to one of the walls of said rectangular opening, fastening devices engaging said pad for securing said tube carrier to said wall, the respective end of said tube carrier having tapered sides to provide access to said pad, adjusting means attached to the opposite end of said tube carrier for adjusting the latter angularly relative to its longitudinal axis, and a guide member slotted at one end for receiving and cooperating with said adjusting means and provided with outwardly divergent legs driven in a wall of said opening at right angles to the first-mentioned wall for supporting said guide member in operative position.

In testimony whereof I hereunto affix my signature this 17th day of April, 1925.

WILLIAM L. MYERS.