June 21, 1955 T. A. MILLER 2,711,097

SCREED LEVELLING DEVICES

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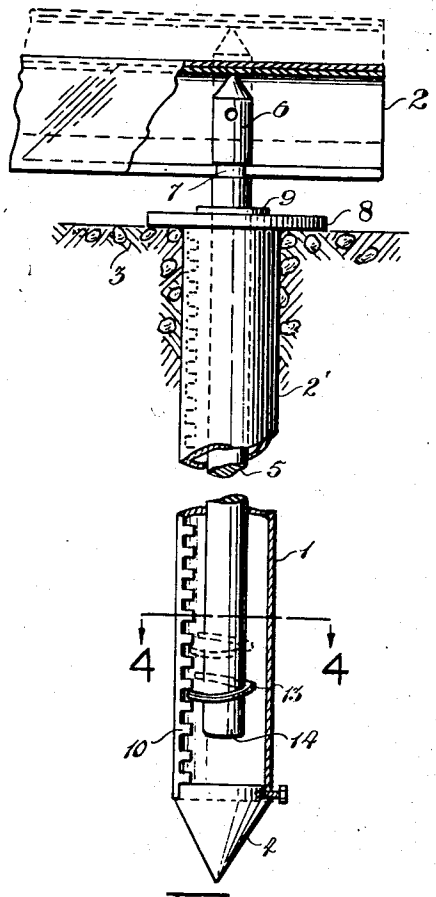


Fig. 1

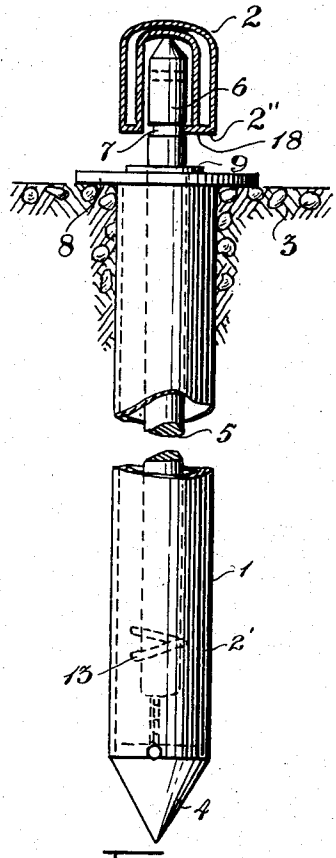


Fig. 2

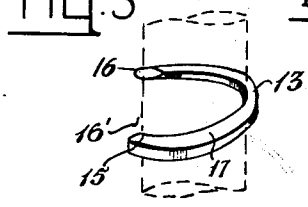


Fig. 3

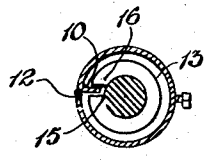


Fig. 4

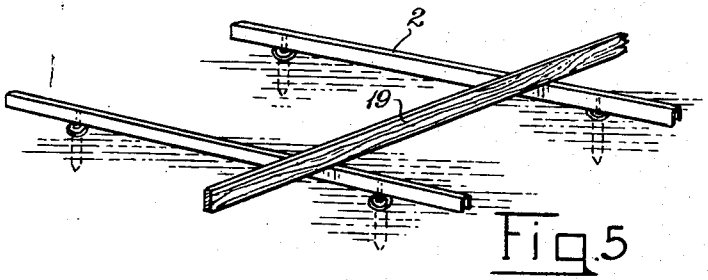


Fig. 5

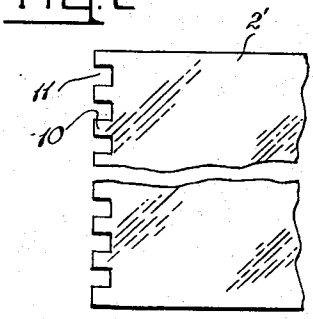


Fig. 6

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SCREED LEVELLING DEVICES

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2 Claims. (Cl. 72—128)

My invention relates to new and useful improvements in screed levelling devices, more particularly in improvements to assist in the accurate levelling of concrete and the like, an object of my invention being to provide a device of the character herewithin described whereby a predetermined level may be ascertained by means of a transit.

Another object of my invention is to provide a device of the character herewithin described the use of which permits a section of the area to be concreted to be prepared beforehand, the device being capable of being removed after the concrete has been laid and re-used in another location.

A still further object of my invention is to provide a device of the character herewithin described which permits a base layer of concrete to be laid and then permits accurate levelling of a finishing surface to be applied without the necessity of re-positioning the components.

A still further object of my invention is to provide a device of the character herewithin described which is easily constructed, simple to use, and otherwise, well suited for the purpose for which it is designed.

With the foregoing objects in view, and such other objects and advantages as will become apparent to those skilled in the art to which this invention relates, as this specification proceeds, my invention consists essentially in the arrangement and construction of parts all as hereinafter more particularly described, reference being had to the accompanying drawings in which:

Figure 1 is a side elevation of one of my pegs driven into the ground and sectioned to show the interior thereof together with one end of a length of rail engageable upon the upper end thereof.

Figure 2 is an end view of Figure 1.

Figure 3 is an enlarged fragmentary perspective view of the lower end of one of the stems showing the inclined shoulder thereof.

Figure 4 is a section substantially along the line 4—4 of Figure 1.

Figure 5 is a reduced perspective view showing my device in use.

Figure 6 is a fragmentary plan view of a stamped sheet prior to forming the shank of the pegs.

In the drawings like characters of reference indicate corresponding parts in the different figures.

The conventional method of laying concrete floors, driveways and the like includes the driving of wooden pegs into the ground to a predetermined level and then securing wooden rails to these pegs whereupon a screed may be drawn over the rails thus levelling the floor. It will be appreciated that these are not usually re-usable and also that they take considerable time to install and level accurately. The novel metal pegs provided by this invention together with the metal rails engageable therewith, overcome these disadvantages as well as providing a far more accurate method of adjustment which may be obtained by a transit before pouring the cement.

Proceeding now to describe my invention in detail,

it will be seen upon reference to the accompanying drawings that it comprises two main components, namely, the adjustable pegs collectively designated **1** and the screed levelling rails designated **2**. Dealing first with the pegs **1**, same comprise a cylindrical hollow shank **2'** which may be driven into the ground **3**, this action being facilitated by the conical lower end **4**. A stem **5** is vertically slideable within the hollow shank **2**, said stem including an upper pointed end **6** and an annular recess **7** formed circumferentially around the stem and within the upper portion **6**.

The upper ends of the shanks **2'** are closed by a flanged collar **8**, an aperture being left therein through which may pass the stem **5** and around the stem and above the collar **8** I provide a rubber sealing washer **9** to prevent cement passing downwardly into the shank **2**.

Means to vary the height of the stem **5** with relation to the shank **2'** are provided and in this embodiment takes the form of a series of teeth **10** vertically situated upon the inner wall of the shank and extending inwardly therefrom.

Reference to Figure 6 will show my preferred method of making the shank which consists of taking a flat sheet of material and stamping the serrations **11** therein thus leaving the projecting teeth **10** along one vertical edge thereof. This is then formed into a cylinder with the vertical edge containing the teeth **10** being turned inwardly as clearly shown in Figure 4 of the accompanying drawings. The seam **12** may then be welded thus forming the shank with the teeth **10** in the desired position therein.

Coacting with the aforementioned teeth **10** is what I define as an inclined shoulder **13** formed or provided upon the lower end **14** of the stem **5**. In this embodiment this shoulder takes the form of a washer welded to the stem, one end **15** of the washer being lower than the opposite end **16** so that the surface **17** of the washer describes an inclined spiral. Reference to Figure 4 will also show that the ends **15** and **16** of the washer are spaced apart so that when this space (designated **16'**) is aligned with the vertical array of teeth **10**, the stem may be moved vertically with relation to the shank **2'**. However, when the desired relationship between the stem and the shank has been reached, a partial turn of the stem will cause one end of the washer to engage between two adjacent teeth **10** thus locking the stem in position.

Furthermore, due to the inclination of the washer **13**, the height of the upper end **6** of the peg may be adjusted finely by rotating the peg through approximately 340°.

The aforementioned rails **2** are best shown in Figures 1 and 2 and comprise lengths of steel formed in inverted U configuration as clearly illustrated. Adjacent the lower side **2''** of the rails I have provided an inturned flange **18** which is capable of engaging with the aforementioned recess **7** within the stem thus locking the rail in position upon a plurality of stems. This rail may be disengaged by an upward movement or may, if desired, be slid off the pegs in a horizontal movement.

In operation, a row of pegs should be driven into the ground so that the flanges **8** engage with the surface thereof.

A further row may then be driven in in alignment with the foregoing row and approximately six to eight feet apart.

Further pegs may then be driven in over the entire area to be cemented if desired. The pegs are then levelled by means of a transit, the central stems being raised sufficiently and locked in position, rails **2** are then located over the pegs as hereinbefore described

thus providing a level support for a conventional screed 19 which may be utilized to level cement poured between and around the rails.

After the rough floor has been poured, the pegs may be raised slightly thus providing an automatic level for a finishing coat if desired. Otherwise, the pegs may then be removed and re-used, the holes in the floor being filled with cement at this time.

In conclusion, it will be appreciated that with this type of device, room is left to transport cement in wheelbarrows or the like and that they are rapidly installed and removed and accurately levelled.

Furthermore, they are permanent and can be re-used again and lead to a far more accurate floor or driveway.

Since various modifications can be made in my invention as hereinabove described, and many apparently widely different embodiments of same made within the spirit and scope of the claims without departing from such spirit and scope, it is intended that all matter contained in the accompanying specification shall be interpreted as illustrative only and not in a limiting sense.

What I claim as my invention is:

1. In a screed levelling device, an adjustable peg capable of being driven into the ground to support levelling rails cooperating therewith, said rails being detachably secured to said pegs, said pegs comprising in combination a hollow sleeve, the lower end of said sleeve being tapered, said sleeve being formed from a flat sheet of material, a plurality of serrations formed on one vertical edge of said flat sheet, said sheet being formed into said sleeve whereby said serrations project inwardly from said sleeve, thereby forming teeth vertically positioned within said sleeve, a vertically movable stem engageable within said sleeve, means on the upper end of said peg engageable by said rails, and means cooperating with said sleeves and said stems for locking the two in the desired relationship, said means including said teeth, an inclined shoulder extending substantially around the lower end of said stem capable of selective engagement between any two of said teeth, the ends of said shoulder being spaced apart vertically and horizontally, whereby said stem may be moved vertically within said shank by aligning said teeth between the ends of said shoulder.

2. The device according to claim 1 in which said rails are of inverted U cross-sectional configuration, said means associated with said rails for attaching same to said stem including an annular recess formed circumferentially around adjacent the upper end of said stem, an inturned flange extending inwardly from the base of one side of said rail, said flange being adapted to engage said recess.

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