Jan. 13, 1931. E. O. BROSTROM 1,788,481

SCREED JACK

Filed Dec. 20, 1928

Fig. 1.

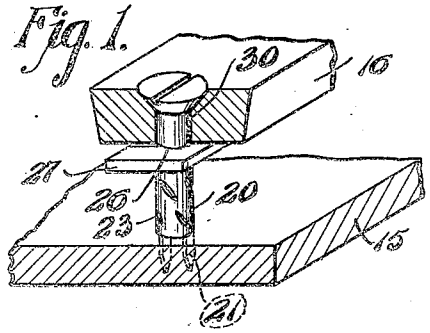



Fig. 2.

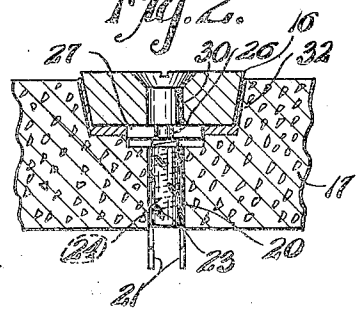



Fig. 3.

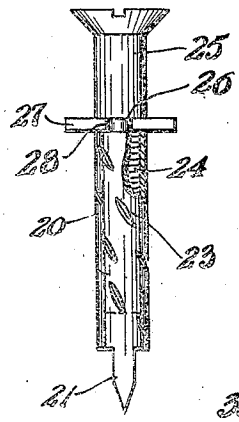



Fig. 4.

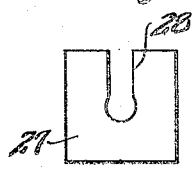



Fig. 5.

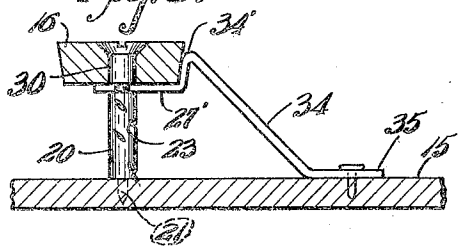



Fig. 7.

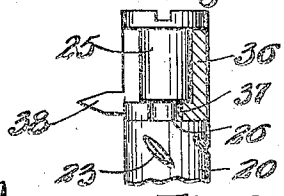



Fig. 6.

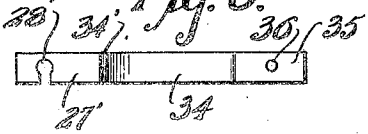



Fig. 10.

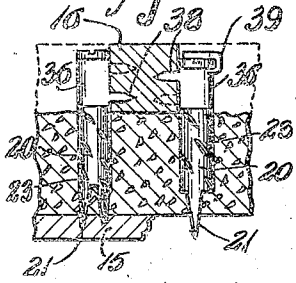



Fig. 8.

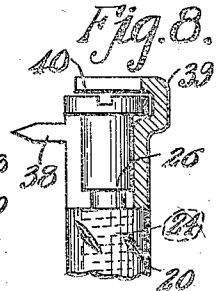



Fig. 12.

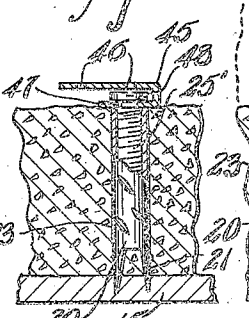



Fig. 13.

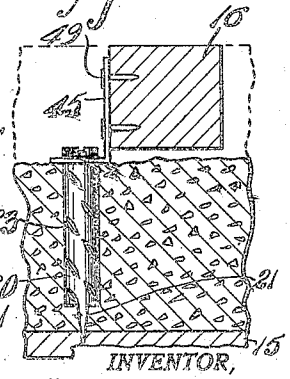



Fig. 9.

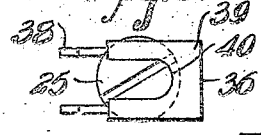
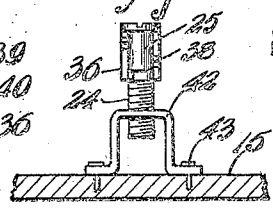



Fig. 11.




INVENTOR,
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ATTORNEY

Patented Jan. 13, 1931 1,788,481

# UNITED STATES PATENT OFFICE

ERNEST O. BROSTROM, OF KANSAS CITY, MISSOURI

## SCREED JACK

Application filed December 20, 1928. Serial No. 327,383.

The present invention relates to concrete construction work, and the principal object in view is to provide a novel and effective screed jacking device, adapted to be used along with the screed and adjustable for the purpose of effecting whatever variations may be required of the position of the screed to bring it into proper relation or alignment with reference to the surface of the concrete or finishing material.

Accordingly, I have devised a simple and practical screed jacking device which is adapted to be employed in various ways, for example, either mounting the same in the concrete material in advance of the positioning of the screed, or assembled along with the screed and placed in position immediately following pouring of the concrete material, or mounted on the formwork in conjunction with the screed before the pouring of the concrete.

With these general objects in view, the invention will now be described by reference to the accompanying drawing, illustrating various practical forms of embodiment of my improved device, after which the novel features and combinations thereof will be set forth and claimed.

In the drawing—

Figure 1 is a sectional perspective view illustrating one form of the improved device in operative position ready for pouring of the concrete material;

Figure 2 is a sectional elevation showing the same parts after pouring of the concrete and adjustment of the device to adjust the position of the screed;

Figure 3 is an enlarged detail elevation of the device partly broken away to show the screw threads;

Figure 4 is an enlarged detail plan of the collar or washer element;

Figure 5 is a sectional elevation on a smaller scale showing a modified form of the collar or washer element including a bracing extension;

Figure 6 is a plan view of said modified collar or washer element and bracing extension;

Figures 7 and 8 are fragmentary sectional views illustrating modified forms of the jacking device adapted for attachment to the sides of the screed;

Figure 9 is a plan view of the form shown in Figure 8;

Figure 10 is a sectional elevation on a smaller scale illustrating the mode of use of said modified forms;

Figure 11 is an elevation showing still another form of the jacking device;

Figure 12 is a sectional elevation showing a still further form of jacking device adapted to be set in the concrete in advance of the screed; and

Figure 13 is a similar view illustrating the method of mounting and attaching the screed.

Referring now to the drawing in detail, this illustrates various forms of embodiment of the jacking device and their use in connection with concrete construction operations, as for example, where a concrete floor is being poured over formwork 15 and screeds or sleepers 16 positioned in the concrete material 17 at a suitable distance above the formwork 15. In practice, the screeds or sleepers 16, which are to form the support for the wood flooring later to be laid, are not always easy to position properly or accurately with reference to the top surface of the concrete material 17, and it is the object of the present invention to provide simple and conveniently adjusted means for effecting the required adjustment or variations of the position of the screed 16.

Accordingly, one form of the invention, as illustrated in Figures 1 to 4 inclusive, comprises an anchoring element 20 of tubular form adapted to be embedded in the concrete material 17, and provided with prongs 21 which may be driven into the formwork 15 as shown in Figure 1, the exterior of the member 20 being knurled, grooved or otherwise roughened, as indicated at 23, for secure retaining engagement with the concrete material. The bore of the member 20 is threaded for cooperating with a screw element 25, the shank of which is formed with a reduced neck portion or groove 26 for receiving a locking washer or collar 27 having the open ended slot 28 for fitting the groove 26, whereby the collar or washer 27 forms a supporting ele-

ment for engagement with the under face of the screed 16, as illustrated in Figures 1 and 2, after the device has been fitted through an opening 30 of suitable size provided in the screed. This opening 30 is of a diameter sufficient to permit the passage of the anchoring element 20 therethrough, from which it is apparent that the device may be fitted in place either before or after the screed 16 has been laid in position over the formwork 15.

In the use of the device, it is apparent that it is only necessary to fit the parts through the opening 30 in the screed, and drive the prongs 21 into the formwork 15, the washer or collar 27 being inserted within the groove 26, into supporting relation to the under face of the screed. Thereafter, after the concrete material 17 has been poured, the screw 30 may be rotated sufficiently in either direction to adjust the position of the screed 16 into proper relation to the top surface of the concrete material, it being intended that the jack device remain permanently in position. Where the adjustment of the screed's position elevates this slightly as represented in Figure 2, the final operation merely involves the slushing of the space 32 with cement or concrete material to completely fill the same and thereby permanently embed the screed while the device anchors the screed into correct and accurately alined position.

In some instances it may be desired to brace and laterally support the screed 16 during the pouring of the concrete while permitting the subsequent adjustment of the screed's position, in which case I provide the collar element 27′ with an angular bracing extension 34, terminating in a base or foot portion 35 adapted to be secured by a nail or the like to the form 15. As illustrated in Figure 5, the collar portion 27′ provided with the recess 28′ may be applied to the screw 25 in the same manner as in the form of the device already described, and thereafter the bracing extension 34 after being secured to the formwork 15 affords all the necessary lateral support to the sill, and at the same time the angular portion 34′ will permit any adjustment of the jack-screw 25 for effecting the final adjustment of the position of the screed, as required.

Referring now to Figures 7 to 10 inclusive, these illustrate a form of the device adapted for attachment to the sides of the screed or sill 16, as represented in Figure 10. For this mode of use, I provide a sleeve element 36 in place of the collar or washer 27, this sleeve being open at one side and formed with a lug or rib for projection into the recess or groove 26 of the screw 25, and also with laterally projecting prongs 37 adapted to be driven into the side faces of the sill 16. In Figure 8 and at the right in Figure 10, another variation is illustrated in the device, substituting for the interior lug or rib 37 a lateral extension 39 projecting over and housing the upper end of the screw 25 and provided with the opening 40 permitting access to the slot of the screw for rotating the same. The provision of the housing extension 39 for the head of the screw of course enables the device to effect the jacking function by engagement of the head of the screw with the extension 39 and thereby lifting the screed through the medium of the prongs 38 engaging the sides thereof.

A further slightly modified form of the device is shown in Figure 11, in which the screw is threaded through the intermediate portion of a U-shaped clip 42, provided with nails or the like 43 for attachment to the formwork 15.

In Figures 12 and 13 I illustrate a further modification, which is adapted to be positioned or set in the concrete material 17 in advance of the mounting of the sills or screeds 16, in which case the prongs 21 of the previous modifications may be omitted and the device simply inserted and embedded in the concrete before the same has hardened. In this form of the device, I provide a screed attaching element comprising simply a sheet metal blank in the form of a strap 45 equipped with nail holes 46 and with an open ended slot 47 for engagement with a groove 48 adjacent the head of the screw 25′. In the setting of the device, the strap is bent into position overlying the head of the screw 25′, as illustrated in Figure 12, so as to be out of the way of the operations on the concrete surface 17 until the time comes for the laying of the screed. The ends of the straps 45 are then turned upward as illustrated in Figure 13, and nails 49 driven through the holes 46 into the side faces of the screed.

It is thus apparent that I have devised a practical, and simple, and yet highly efficient device for carrying out all the desired objects of the invention, including the holding of the screed down in permanently anchored position, after this has been finally adjusted and determined by the adjusting operation of the screw 25. By means of the various forms illustrated it is also apparent that a device has been provided which may be set in place in the soft concrete in advance of the mounting of the screed, and then the screed secured to the device; or the device may be assembled along with the screed, either before or immediately following the pouring of the concrete, either by inserting the device through the openings 30 thereof, or by attaching it to the side faces of the screed in the manner illustrated and above explained.

While I have illustrated and described what I now regard as practical and efficient forms of embodiment of the invention, I desire to reserve the right to make whatever

changes or modifications may fairly fall within the scope of the appended claims.

Having thus described by invention, what I claim and desire to secure by Letters Patent is:

1. In concrete construction, screed securing and adjusting means comprising a member adapted to be embedded in the concrete material and having terminal fastening elements for attachment to form-work, and means adapted to remain permanently engaged with the screed and adjustably cooperating with said member for varying the position of the screed.

2. In concrete construction, screed securing and adjusting means comprising an anchoring member adapted to be embedded in the concrete material and having terminal prongs for fastening to form-work, and an element adapted to be permanently secured to the screed and threadedly engaging said anchoring member for adjusting the position of the screed.

3. In concrete construction, screed securing and adjusting means comprising a member adapted to be embedded in the concrete material, a screw threaded in said member, and an operative connection between said screw and screed comprising a member engaging the screed and having detachable and relative rotative engagement with the screw, and a rotative screw device having means for permanent engagement with the screed and cooperating with said member for either raising or lowering the screed.

4. In concrete construction, screed securing and adjusting means comprising a threaded anchoring sleeve for embedment in the concrete material, a screw threaded in said sleeve and having a reduced neck portion and an element engaging the screed and provided with a slot detachably engaged by the neck portion of the sleeve and operative by axial movement of the screw to raise or lower the screed.

In witness whereof I hereunto affix my signature.

ERNEST O. BROSTROM.