

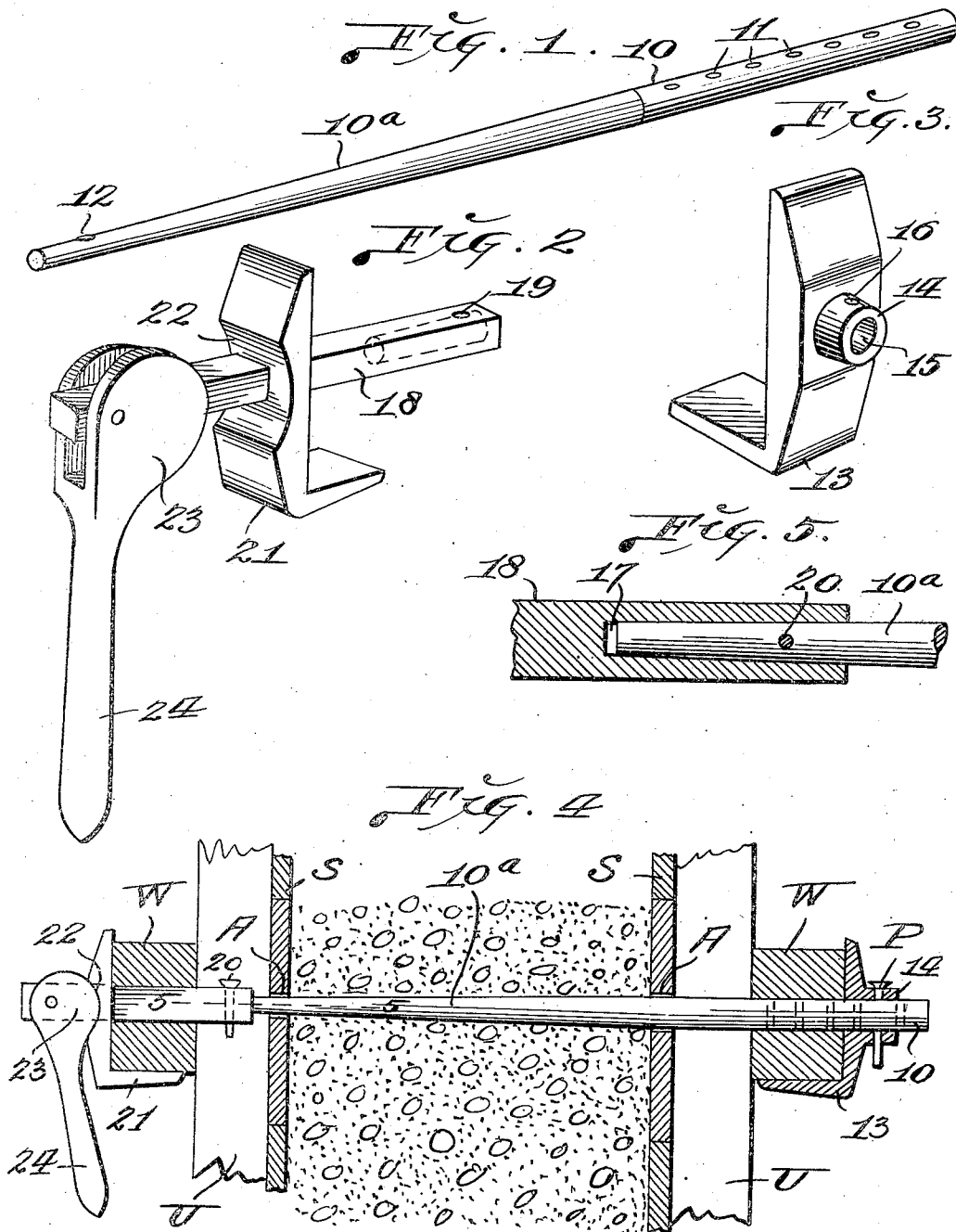
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A. V. ROEMISCH

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CONCRETE FORM TIE

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INVENTOR,
ALLEN V. ROEMISCH
By *Martin C. Smith* ATTORNEY

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CONCRETE FORM TIE

Allen V. Roemisch, Inglewood, Calif.

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2 Claims. (Cl. 25—131)

My invention relates to a concrete form tie, and has for its principal object the provision of a relatively simple, practical and inexpensive tie that is capable of being easily and quickly applied to forms in which the concrete is poured to produce walls, partitions and the like.

A further object of my invention is to provide a concrete form tie that is readily adjustable so as to be applied to forms of different widths; further to construct the ties so that they may be readily taken apart and removed from the forms and concrete after the latter has become set; and, further, to provide a tie that is positive in its action of maintaining the forms in proper spaced relation.

With the foregoing and other objects in view my invention consists in certain novel features of construction and arrangements of parts that will be hereinafter more fully described and claimed and illustrated in the accompanying drawing in which:

Fig. 1 is a perspective view of the tie rod that extends through the walls of the form and through the concrete that is poured between said walls.

Fig. 2 is a perspective view of a wale engaging bracket that is detachably applied to one end of the tie rod and showing the eccentric lever utilized for imparting movement to said bracket.

Fig. 3 is a perspective view of the bracket that is adjustably mounted on one end of the tie rod.

Fig. 4 is a vertical section taken through a portion of a form and showing my improved tie applied thereto.

Fig. 5 is an enlarged horizontal section taken on the line 5—5 of Fig. 4.

Referring by numerals to the accompanying drawing which illustrates a preferred embodiment of my invention, 10 designates a metal rod that functions as the tie between the walls of the form, and which passes through the concrete that is poured between said walls and to facilitate the removal of this tie rod the greater portion thereof is gradually tapered toward one end, said tapered portion being designated by 10a.

Formed through the cylindrical end portion of this tie rod is a row of spaced apertures 11 and formed through the opposite end of the rod is a single aperture 12.

Removably and adjustably seated on the cylindrical portion of the tie rod is a substantially L-shaped bracket 13 that is adapted to engage against the outer faces and against one of the lower faces of a pair of wales W that are posi-

tioned against the uprights or studs U to which the sheeting S of the form is secured.

The upright member of the bracket 13 is provided on its outer face with a collar or flange 14 and formed therethrough and through the upright member of the bracket is an aperture 15 that receives the cylindrical end of the tie rod 10. The collar 15 is provided with a vertically disposed aperture 16 that intersects the aperture 15 and when the bracket is applied to the tie rod a pin P is inserted through the aperture 16 and through one of the apertures 11, thus securing the bracket in its adjusted position on the end of the tie rod.

The tapered end of the tie rod 10 that is provided with the aperture 12 is adapted to enter a tapered bore or recess 17 that is formed in the end of a short bar 18, the latter being formed of metal and preferably square in cross section.

Formed through the recessed end of this bar 18 and intersecting the bore 17 is an aperture 19 and when the tapered end of the tie rod is inserted in the bore, a pin or key 20 is inserted through the apertures 19 and 12, thereby detachably securing the bar 18 to the tie rod.

Arranged to slide freely lengthwise on the bar 18 is a substantially L-shaped bracket 21 that is adapted to engage against the outer faces and against the under face of one of the wales that are positioned against the studs or uprights of the concrete form and the outer face of the upright member of this bracket 21 above and below the opening through which the bar 18 passes is made concave as designated by 22.

Pivotaly mounted on the outer end of bar 18 is a bifurcated eccentric 23 with which is formed integrally a short handle 24, and the edge of this eccentric is adapted to engage the concave face 22 of the bracket 21.

In the use of my improved tie the forms comprising the uprights or studs U and the sheeting S are arranged in proper spaced relation, and after the wales have been applied to the uprights the rod 10 is positioned between one pair of the wales and then moved horizontally through apertures A that are formed in the sheeting so that the tapered end containing the aperture 12 projects a short distance beyond one of the walls of the form.

The bracket 13 is applied to the cylindrical end portion of the tie rod so that said bracket engages against the outer faces of a pair of the wales and against the end face of the lower wale of each pair, and said bracket is secured to the tie

rod by the pin P which passes through the aperture 16 and one of the apertures 11.

The bar 18 is placed between the wales on the opposite wall of the form with the tapered end of the tie rod positioned in the bore 17 and said bar is secured to the rod by means of the pin 20 that passes through the apertures 19 and 12.

By means of the handle 24 the eccentric 23 is now rotated so as to bring the high portion thereof into engagement with the concave face 22 of the bracket 21, thus exerting pressure on said bracket, the wales that are engaged thereby and the wall of the form that is engaged by said wales, thus firmly tying the two walls of the form in proper spaced relation.

The concrete is now poured into the form, and after said concrete has become set and hard the bar 18 is removed from the end of the tie-rod and same may now be easily removed from the concrete, due to the tapered shape of that portion of the rod that passes through the concrete.

Thus it will be seen that I have provided a concrete form tie that is simple in construction, inexpensive of manufacture and very effective in performing the functions for which it is intended.

The parts of the tie are capable of being readily assembled or taken apart and as the tie rod is tapered lengthwise it is capable of being easily removed from the wale or other structure that is produced between the walls of the form.

It will be understood that minor changes in the size, form and construction of the various parts of my improved concrete form tie may be made and substituted for those herein shown and described without departing from the spirit of the invention, the scope of which is set forth in the appended claims.

I claim as my invention:

1. In a concrete form tie, the combination with a tapered rod provided in its large end with a plurality of spaced perforations of, an L-shaped bracket mounted for sliding movement on the perforated end of said rod, means removably seated in said bracket and said rod for securing said bracket to the rod in differently adjusted positions, a bar provided with a socket adapted to receive the small end of the tapered rod, releasable means for securing the tapered rod to said bar, said bar being non-circular in cross section, an L-shaped bracket mounted for sliding movement on said bar and an eccentric pivotally mounted on said bar for engaging and imparting pressure to the bracket that slides on said bar.

2. In a concrete form tie, the combination with a tie rod formed in two detachably connected parts, one of which gradually tapers toward one end and the other part being non-circular in cross section, of substantially L-shaped brackets mounted respectively on the parts of the tie rod, means for securing one of said brackets to the large end of the tapered member of the tie rod in differently adjusted positions, means for detachably connecting the two parts of the tie rod, the bracket that is carried by the non-circular member of the tie rod being mounted to slide lengthwise upon said non-circular member and an eccentric pivotally mounted on the non-circular member of the rod beyond the bracket for engaging and imparting pressure thereto.

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