Dec. 11, 1951 M. GONZÁLEZ FLORES 2,578,057

APPARATUS FOR MOLDING CONCRETE FLOOR SLABS

Filed Oct. 21, 1948

Fig. 1.

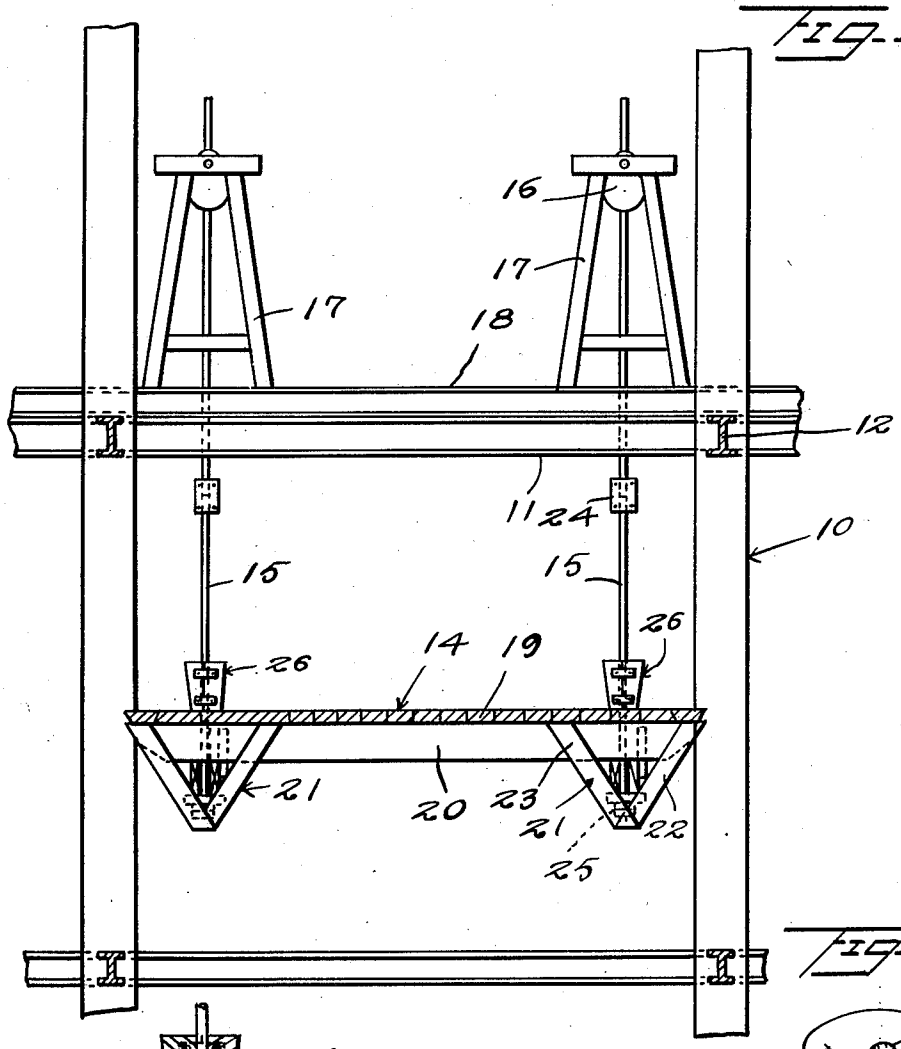


Fig. 3.

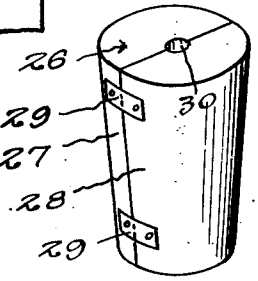
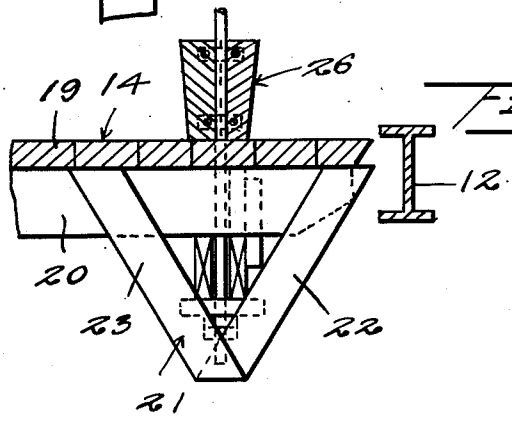


Fig. 2.



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APPARATUS FOR MOLDING CONCRETE FLOOR SLABS

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In Mexico November 1, 1947

1 Claim. (Cl. 25—131.5)

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This invention relates to a new system for stripping and re-erecting forms for the pouring of horizontal or inclined elements of concrete upon a structural framework, including vertical columns, when the placing program is from the top downwards, i. e. beginning from an upper floor downwards to the foundation, or from any intermediate floor downwards, using in all successive pours the same form.

This system requires the use for each column bay of a form made up of a main section and several adjustable forms joined to the main section along its perimeter or several edges, and either separable or bolted together by means of hinges. The form thus made up is placed where the concrete is to be poured, and is held in place by means of tie rods which are supported by the existing framework.

The construction details herein described give the system advantages that cannot be obtained with methods which are already known, said advantages are the following:

With this system if the forms are to be built at the top, it is necessary to build and remove only once the temporary working floor for the construction of said forms. If these forms are built in the lower part of the building, it is not necessary to have any temporary working floor for their construction. It is possible to strip and re-erect the forms for a series of superposed or vertically aligned areas using the uppermost hardened concrete structure initially poured as the support, and, therefore, eliminating the necessity for temporary form supporting structures at each level.

In the drawing, Figure 1 is a fragmentary vertical section of a skeleton framework for a building having a form structure constructed according to an embodiment of this invention mounted thereon.

Figure 2 is a fragmentary vertical section of the form element showing the device in operative position relative to a frame element.

Figure 3 is a perspective view of one of the tapered guide members for the tie rods.

Referring to the drawing, the numeral 10 designates a plurality of upright frame members for a building, and the numerals 11 and 12 designate crossed horizontal beam members which are secured to the uprights 10 in a conventional manner. A concrete form element, generally indicated at 14, is supported relative to the frame structure and to the horizontal members 11 and 12 by means of plurality of tie rods 15. The tie rods 15 are operatively associated with a lowering means 16 carried by a supporting frame structure 17. The lowering means 16 and supporting structure 17 is constructed substantially in the form of a winch, or the like, and is of conventional construction. Frame structure 17 is seated on horizontally disposed beams or trusses 18, which are extended between pairs of horizontal beams 12 as shown in Figure 1.

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The form member 14 is constructed in the form of a flat horizontal surface 19, which is built up from a plurality of planks or boards which are secured to transversely disposed beams 20 disposed below the surface 19. The form 14 has disposed adjacent each end thereof pairs of V-shaped guides, generally designated 21, which are disposed adjacent the marginal edges of the form 14 in a position whereby the outer downwardly convergent side 22 is adapted in the event the form should shift laterally to engage a horizontal beam number 12. The outer side 22 is braced by an upperly divergent inner side 23, and the two sides 22 and 23 form the V-shaped guide 21. The tie rod 15, which is of an extensible characteristic having connectors 24 for connecting adjoining tie rod members, extends through the form 14 and is fixed below the form 14 by fastening means 25.

In Figure 1, the form 14 is disposed in an intermediate and inoperative position between floors, and it will be understood that the form 14 when in operative position is raised or elevated to substantially the position shown in Figure 2. In order to provide a means whereby the same form 14 may be used for succeeding floors in the formation of concrete slabs, I have provided a tapered or frusto-conical shield 26 which is engaged about the tie rod 15 and initially is seated on the upper side of the form surface 19.

The shield 26 is, as shown in Figure 3, formed of complementary shield sections 27 and 28 which are detachably secured together by straps 29. The shield 26 is formed with a central bore 30 through which the tie rod 15 loosely engages. After the slab of concrete has firmly set, the form 14 may be dropped downwardly away from the lower side of the concrete slab, and at this time the shields 26, which have their larger ends uppermost, will remain in the concrete slab. These shields may be forcibly moved upwardly and out of the concrete slab and then reassembled on the lowered form for further use in the pouring of a lower slab of concrete.

The concrete form structure hereinbefore described will provide an economical form structure which can be re-used after a slab has set

without taking the form apart. After one concrete slab has set, this slab may be used as a support for the lowering means and the tie rods 15 may be extended through the tapered openings formed in the slab by the shields 26.

I claim:

Form means for pouring concrete in a structure having parallel spaced apart horizontal and vertical frame members, comprising a form member loosely engaging between adjacent ones of said vertical frame members, a beam mounted upon upper horizontal frame members, extensible tie rods depending from said beam and connected to said form member, tapered shields disposed about said tie rods at the lower ends thereof, said form member being provided with inwardly inclined guide members on the bottom surface thereof for preventing obstruction of downward

movement thereof by the horizontal frame members, and means for lowering said form members.

MANUEL GONZÁLEZ F.

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