July 31, 1928. 1,678,971

J. BERGESEN, SR

PORTABLE METAL STRUCTURE

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Fig. 5

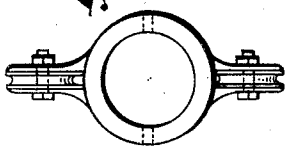


Fig. 1

Fig. 6

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July 31, 1928. 1,678,971

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PORTABLE METAL STRUCTURE

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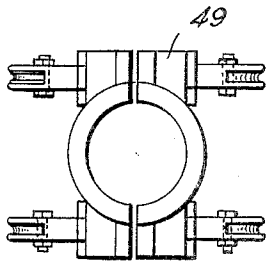


Fig. 3

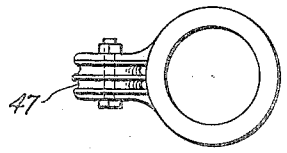


Fig. 4

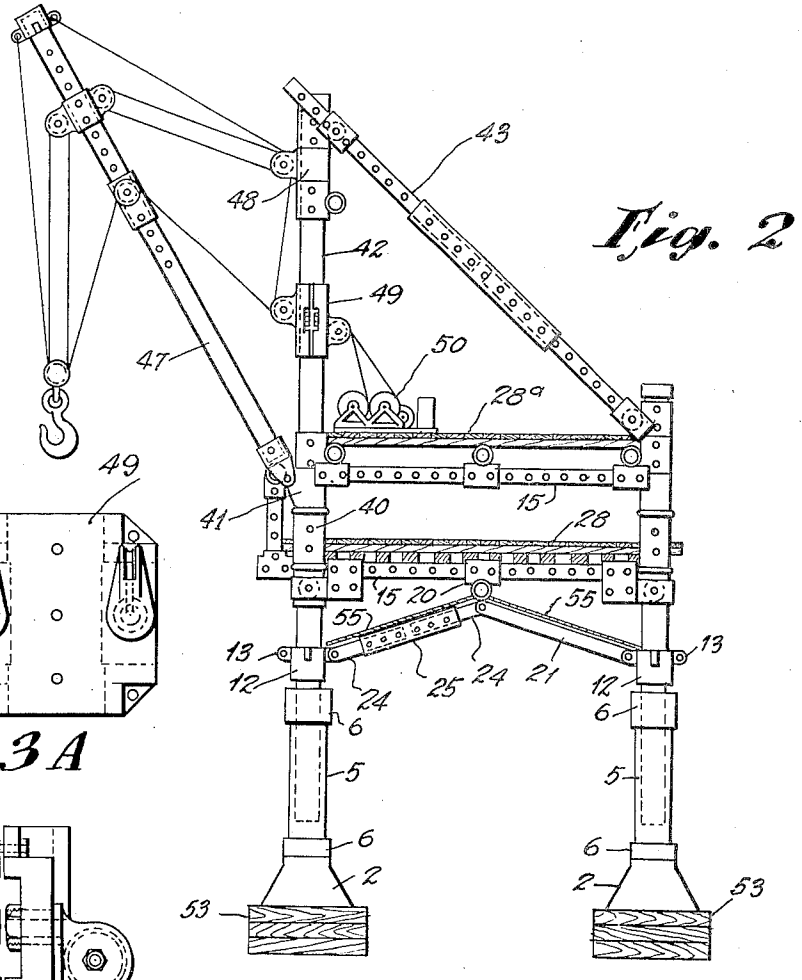


Fig. 2

Fig. 3A

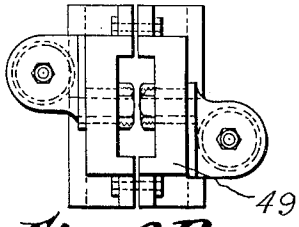


Fig. 3B

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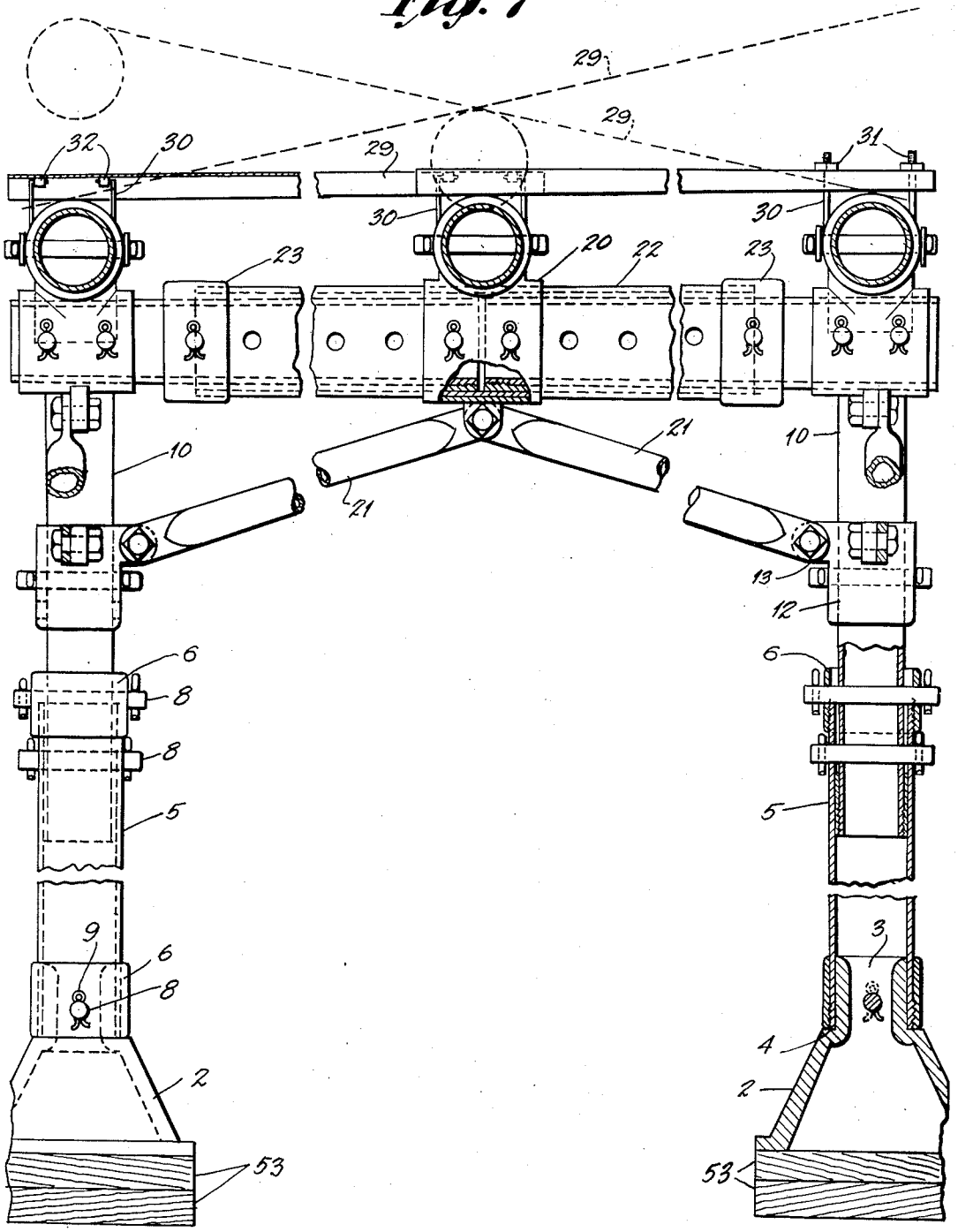
July 31, 1928. 1,678,971

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PORTABLE METAL STRUCTURE

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Fig. 7



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July 31, 1928. 1,678,971

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PORTABLE METAL STRUCTURE

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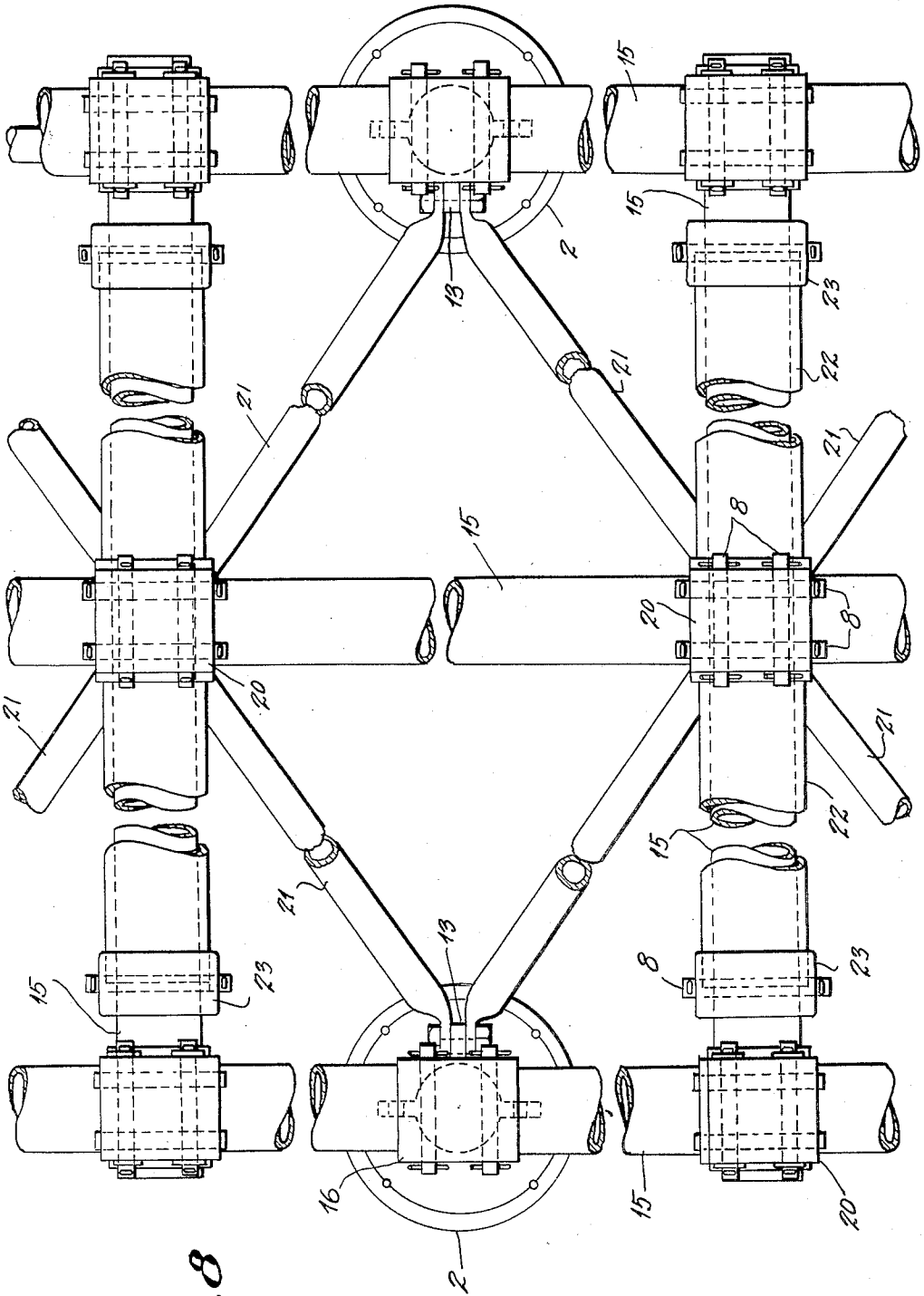


Fig. 8

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PORTABLE METAL STRUCTURE

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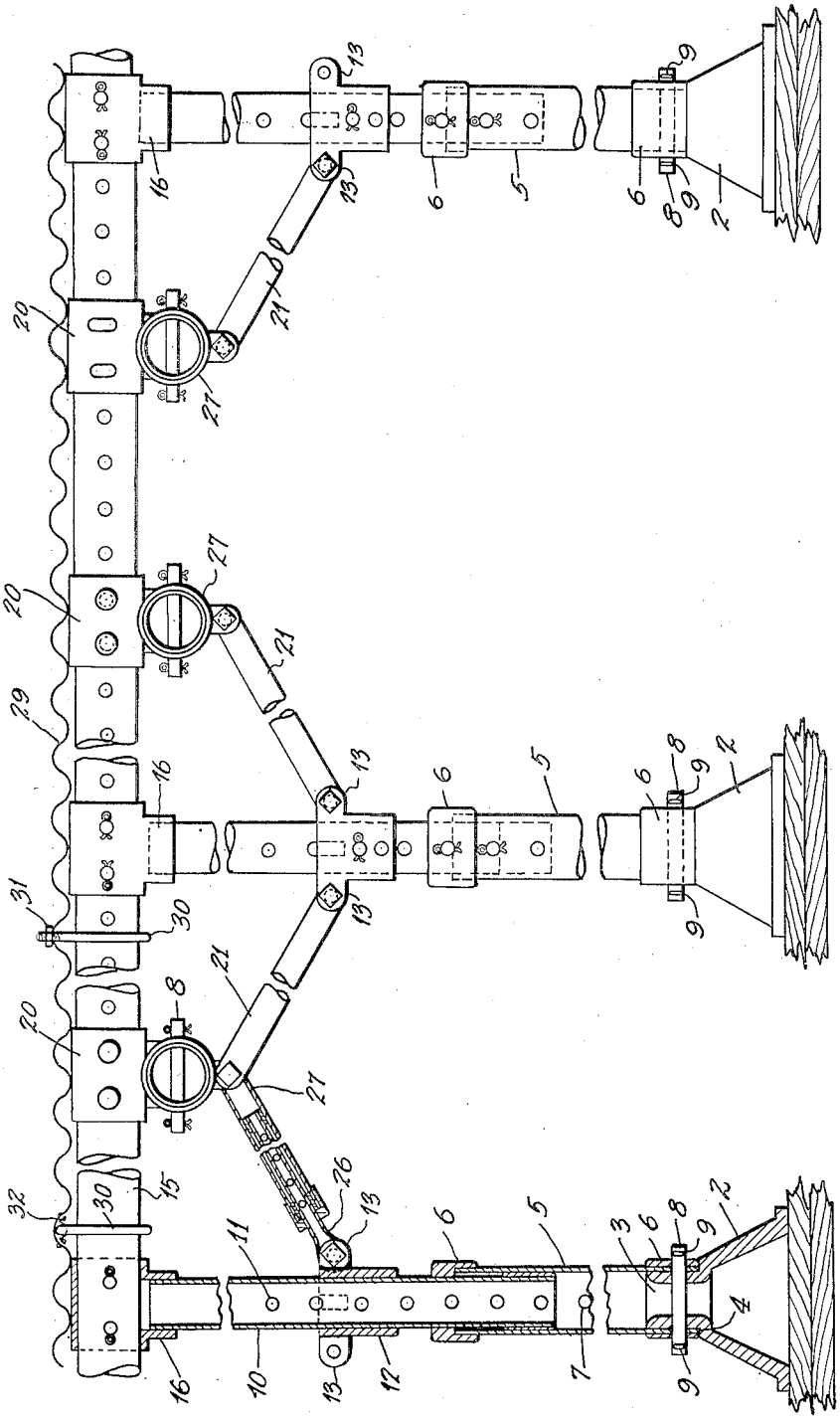


Fig. 9

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PORTABLE METAL STRUCTURE

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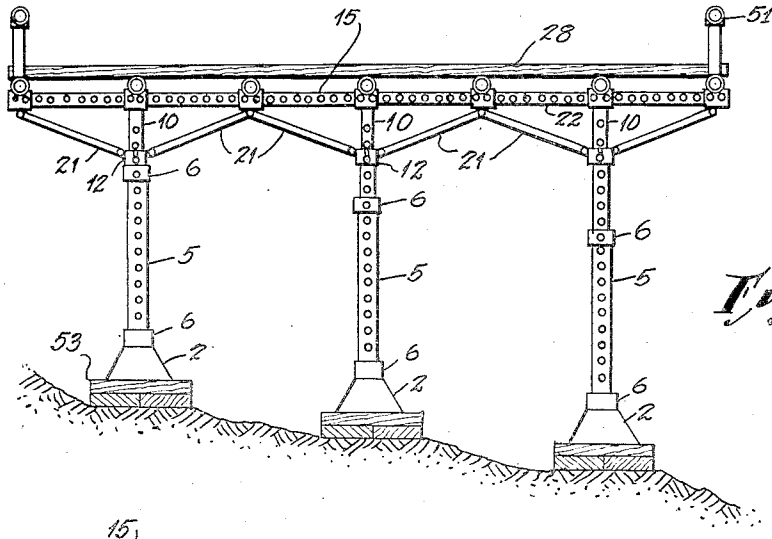


Fig. 10

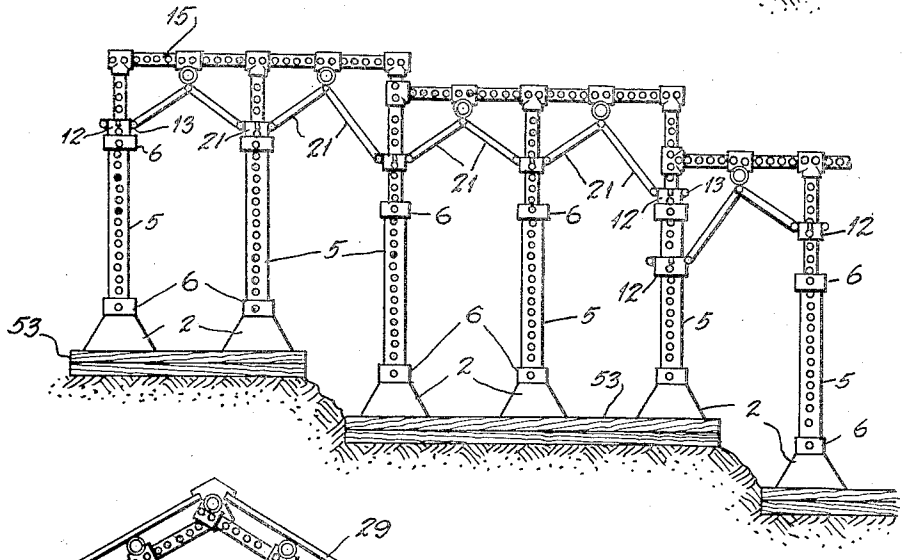


Fig. 11

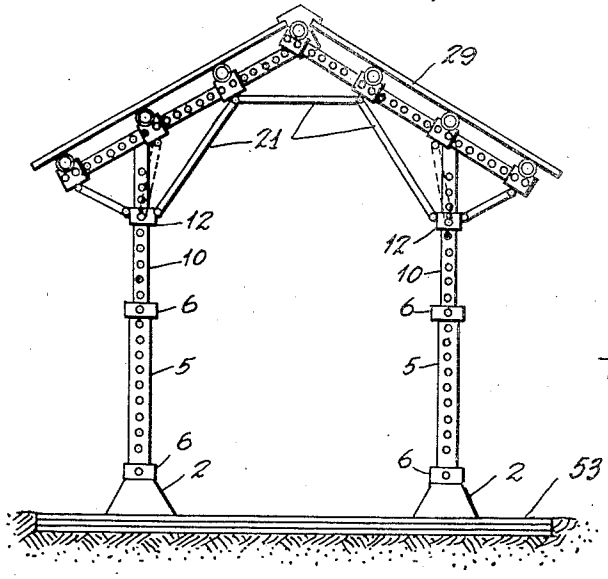


Fig. 12

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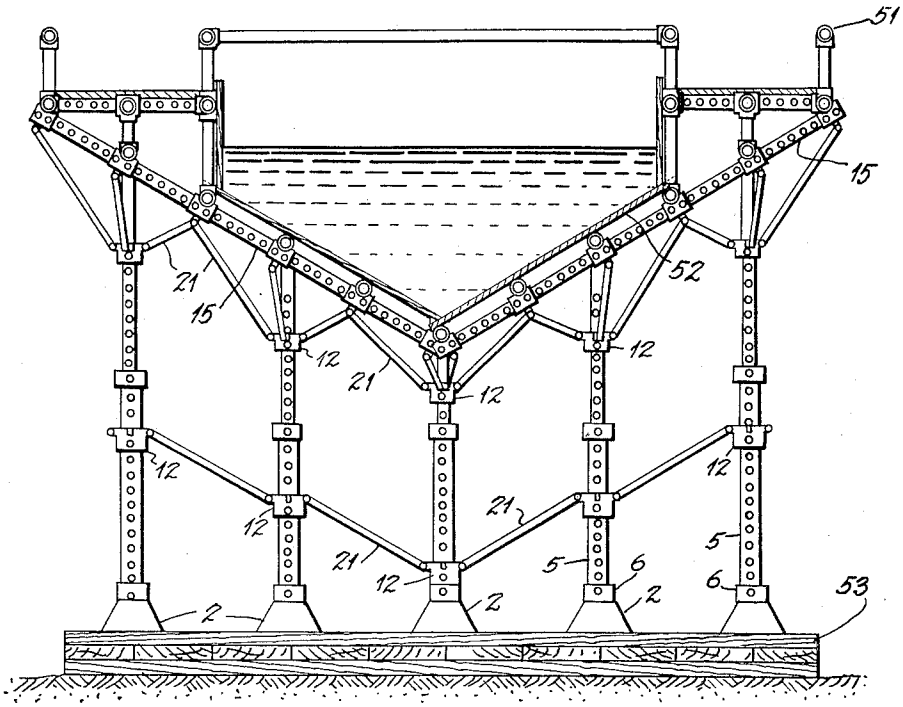
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J. BERGESEN, SR

PORTABLE METAL STRUCTURE

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Fig. 13



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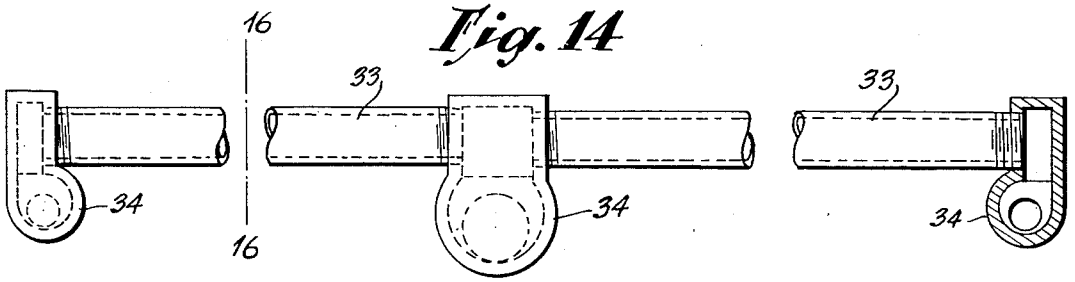
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J. BERGESEN, SR

PORTABLE METAL STRUCTURE

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Fig. 14



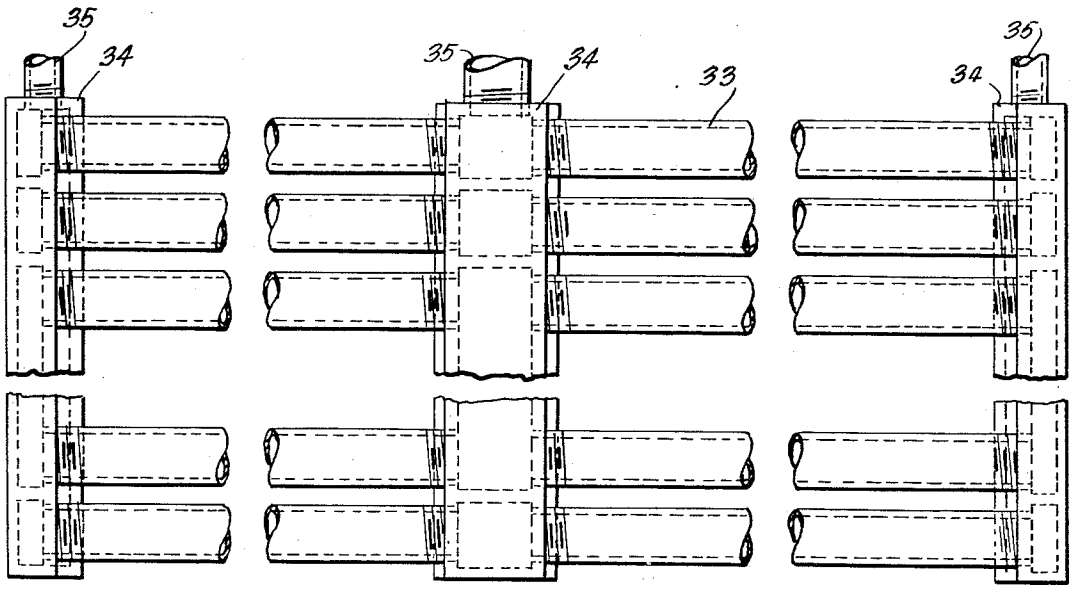


Fig. 15

Fig. 16

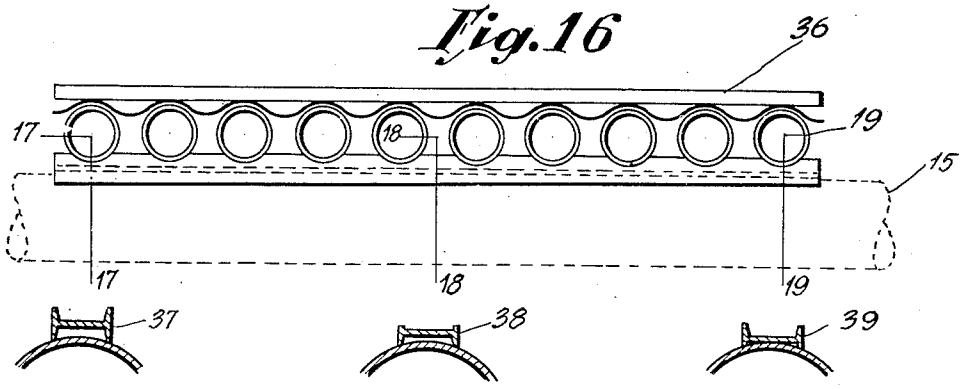


Fig. 17 Fig. 18 Fig. 19

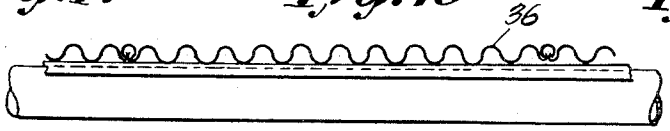


Fig. 20

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Patented July 31, 1928. 1,678,971

UNITED STATES PATENT OFFICE.

JOHN BERGESEN, SR., OF BROOKLYN, NEW YORK.

PORTABLE METAL STRUCTURE.

Application filed April 4, 1927. Serial No. 180,774.

This invention relates to portable metal structures adapted for various uses particularly in the building arts.

The object of the invention is to provide fire-proof, portable and adjustable metal structures which may be easily set up or dismantled and re-assembled in numerous forms and for numerous uses. For example, the invention is particularly useful in the construction of so-called shelter bridges, which in the larger cities are required to be erected over the sidewalks on busy thoroughfares during the erection of buildings, in order to preclude falling matter, such as cement, plaster, bricks, concrete and the like from striking pedestrians.

It is generally the practice to construct these shelter bridges of lumber, which must necessarily be relatively heavy to afford a proper safeguard and must be assembled by skilled carpenters at considerable expense. As a general proposition, moreover, lumber once used for this purpose is seldom used again, but constitutes a waste incident to and forming part of the costs of the building before which it is erected.

One object of the present invention is to provide a structurally simple metal construction adapted to be erected expeditiously and without employing skilled labor and susceptible of such adjustment and manipulation that it may be used over and over on numerous jobs by simply making the necessary appropriate adjustments. By this invention, the waste to which I have hereinbefore referred in connection with lumber constructions is entirely eliminated and the device becomes an investment through a long period of its usefulness rather than a necessary disbursement in the case of temporary wooden shelter bridges.

Aside from the economy inherent in the use of the present invention for the purpose stated, this invention provides for a stronger, more durable and efficient construction than heretofore employed. In the building of wooden shelter bridges, they must be made so heavy that they shut off considerable light and usually necessitate artificial illumination beneath them.

The present invention, in contradistinction, is of relatively open construction, so that artificial illumination is unnecessary. The structure of the present invention is, moreover, better in appearance than the heavy wooden structures heretofore employed.

An important feature of this invention resides in the fact that derricks, hoists, etc., may be incorporated in the structure of the construction bridge, so as to constitute a proper anchorage for such hoists and to greatly facilitate the handling of stonework, structural ironwork and other heavy building materials which it may be desired from time to time to unload from the street on to the platform with which the bridge is provided. Accidents are constantly occurring due to faulty derrick construction and more particularly due to improper anchorage. When the present invention is employed, this is entirely obviated.

While I have referred to the invention particularly in conjunction with shelter bridges, I wish it understood that I do not limit the invention in this regard as its structure adapts it for general application in temporary so-called knock-down adjustable structures. It may be employed for example, for the building of temporary viaducts, trestles, or shelters, which, because of the wide utility of the present invention may be used for almost innumerable purposes and may be built in innumerable sizes.

Speaking generally, the invention consists in a plurality of adjustable columns, each of which is provided with a suitable base superimposed upon which are telescoping sections whereby the height of the column may be varied. The sections of the columns telescope into one another and are provided throughout their length with a series of perforations so that after the columns have been adjusted to the desired height, bolts or pins may be passed through alined perforations of the respective sections to lock the parts in adjustment and preclude inadvertent collapsing of the columns.

With each column is associated a plurality of fittings whereby there may be associated with a plurality of these columns other structural elements for building up and properly bracing a skeletonized structure. These fittings provide for ready at-

tachment of tubular elements adapted for telescoping relation with one another and for suitable longitudinally adjustable braces in order that lateral stability may be assured. Thus, each column is preferably provided at its top, i. e., at the top of its smallest telescoping section with a T connection which rests on the top of the column and through which may be passed a tubular section. This T connection is provided with perforations through which locking pins may be passed to preclude longitudinal movement of the tubular sections transversely of the column. Each column is moreover, provided with a vertically adjustable sleeve having attaching ears to which the bracing may be secured. Provision is made for locking these movable sleeves at any desired height of the column in order that the bracing may be rigid with respect to the column. The bracing to which I have referred is preferably in the form of a plurality of telescoping tubular sections, different elements of which are perforated to permit of the introduction of locking pins in order that the braces may be locked when adjusted to appropriate lengths.

Aside from the columns and their associated bracing elements, I provide assorted lengths of spacing elements. These spacing elements embody telescoping tubular sections perforated at suitable intervals, so that any desired spacing between the respective columns can be had as may be necessary to suit conditions. These spacing elements may be lengths of pipe adapted to fit through the T connections at the top of the columns to be locked thereto by pins as stated, while contiguous ends of alined spacing sections are adapted to telescope into sleeves of larger diameter, so that through adjustment of the spacing sections with reference to these sleeves, a great variety of spacings may be accomplished to allow of the placing of the columns at different distances apart as stated.

In setting up a structure, a long line of columns positioned in spaced relation may be secured together in the manner stated and when two lines of columns are set up in parallel relation with the columns of each line spaced apart by the spacers to which I have referred, the respective structures can be connected together by means of transverse elements comprising tubular sections supported in hangers or fittings embracing the tubular spacers intermediate the columns. By utilizing these fundamental elements of the construction as supporting elements, a readily demountable framework may be fabricated upon which may be laid planking or other suitable sheathing to form a construction bridge, a shelter bridge or numerous other structures within wide limits.

The fittings entering into the construction may be varied within wide limits, but they are such as to provide a structure which may be readily assembled and conveniently dismantled to be used in widely different environments and for various purposes. When employed in the building of a shelter or construction bridge, the structural elements are readily adapted to form a derrick mounting since the fittings are such as to provide for mounting of a mast step, the stiff legs of a derrick and other derrick parts as will be readily apparent to those skilled in the art.

I wish to call particular attention to the fact that I employ, in so far as feasible, tubular elements in carrying out the present invention. They impart lightness to the construction with the maximum strength and rigidity and in many cases permit of circulation of a heating medium, such as steam through the tubular elements of the construction for heating purposes.

It will thus appear that the invention consists in a plurality of adjustable columns, a plurality of adjustable spacing elements, a plurality of bracing elements and suitable fittings whereby the said major parts or elements of the construction may be assembled to produce widely varying forms of metal structure in widely varying sizes and for manifold purposes in the several arts.

Features of the invention, other than those specified, will be apparent from the hereinafter detailed description and claims, when read in conjunction with the accompanying drawings.

The accompanying drawings illustrate different practical embodiments of the invention, but the constructions therein shown are to be understood as illustrative, only, and not as defining the limits of the invention.

Figure 1 is a side elevation of a construction bridge embodying the present invention.

Figure 2 is an end view of the construction of Figure 1.

Figures 3 to 6 are fittings employed in the construction of Figures 1 and 2.

Figure 7 is a slightly modified form of the invention, particularly showing the invention embodied in shelter bridge construction.

Figure 8 is a plan view of the structure shown in Figure 7.

Figure 9 is a side elevation of the structure shown in Figure 7.

Figures 10, 11, 12 and 13 show the structural elements of this invention assembled to form different mechanical structures.

Figures 14 to 20 show metal flooring and supports to provide for heating of the flooring. This construction is of utility on construction bridges in winter time or to take the place of wood flooring where so desired. Figure 14 is a side elevation of the supports partly in section. Figure 15 is a plan view. Figure 16 is a section on the line 16—16 of

Figure 14 with the flooring in place on the supports. Figures 17, 18 and 19 are sections on the lines 17—17, 18—18 and 19—19 of Figure 16; and, Figure 20 is an edge view of the structure as shown in Figure 16.

In Figures 1 to 10, I have shown construction or shelter bridge structures, fabricated from the structural elements of this invention.

Referring to these figures, 1 designates a plurality of columns, each of which is adjustable as to height. All of the columns are of substantially the same construction and a description of one will suffice for them all. Each column embodies a suitable base 2 preferably in the form of a casting or stamping, as shown in Figure 9. The base has a flat bottom and its top is in the form of a reduced portion 2 terminating in a shoulder 4. Embracing this reduced portion and resting on the shoulder 4 is a tubular section 5 exteriorly reinforced at both of its ends with fixed collars 6 permanently secured to the section. The tubular section 5 is provided with longitudinally spaced perforations 7 which extend through the opposite walls of said section and through which locking pins 8 may be passed. These locking pins are perforated at their opposite ends to receive cotter pins 9 which secure the pins 8 against inadvertent displacement.

Extending into the upper end of the section 5 is another tubular section 10 which is also provided with longitudinally spaced perforations 11 and the sections 10 and 5 together with any added sections of the same character have telescoping relation with respect to one another to form collectively an adjustable column, the height of which may be varied to suit conditions. After the column has been adjusted to the desired height, pins 8 are passed through alined perforations in the respective parts in order to lock these parts in adjustment, so that they cannot shift. Encircling one or more of the tubular sections of the colmun are adjustable collars 12 provided with perforate lugs 13 and also having perforations 14, so that these collars may be shifted into the desired adjustment and locked in place by passing a pin through the perforations of the collar and the perforations of the associated section.

In practically carrying out the invention, I provide a large number of columns of the character which I have described. In fact, a sufficient number to allow of the fabrication of any temporary structure which it may be desirable to erect, so that the requisite number of these columns may be taken to any particular job and set up in the desired adjustment to suit conditions.

The columns constitute an important feature of the invention and embody collectively speaking one element of the present invention. In addition to these columns, I provide a relatively large number of tubular spacer sections. These sections, which I will hereinafter term spacers, are adapted to extend between columns and, in practice, embody assorted pipe lengths longitudinally perforated. These pipe lengths are designated 15 in the drawings.

It is essential to provide convenient means for associating the spacers with the respective columns and each column therefore is provided at its top with a fitting 16, preferably in the general form of a T, as shown best in Fig. 6. One leg 17 of the fitting is adapted to screw on to the uppermost section 10 of a column, while the horizontal legs 18 and 19 of the fitting are adapted to receive spacers which may be readily passed therethrough. Thus, in Fig. 1, each column is provided with a cross T with side opening 16 at its upper end and spacers 15 are extended through the fittings of the consecutive columns and secured thereto by locking pins in a manner that will be readily understood, in order that the fabricated structure may be firmly locked together. As further shown in Fig. 1, cross T with side bracket 20 are adapted to be carried by the spacers intermediate the columns.

The purpose of these latter fittings is to carry transverse spacers and to provide attaching means for lateral braces 21. It will of course be understood that the fittings 20 are perforated, so that pins may be passed through the perforations in the fittings and the corresponding perforations of the spacers to lock the spacers against longitudinal movement. In some cases, where the columns are spaced a relatively wide distance apart, it may be desirable to associate with the spacers extension sleeves, as shown at 22, in Fig. 7. These extension sleeves are provided at their opposite ends with fixed collars 23 and are longitudinally perforated to receive locking pins in a manner which will be perfectly clear to those skilled in the art.

Figure 7 also shows very clearly the manner in which the fittings 20 cooperate with the spacers and with the braces 21. The braces 21 may be of any suitable construction provided that they have perforations at their opposite ends by which they may be secured to the fittings 20 and the adjustable collars 12 of the columns. I prefer, however, to make the braces longitudinally adjustable since, in many instances, it is essential to adjust the length of these braces. Thus, in Figure 2, the braces are shown as comprising two tubular sections 24 which fit into the opposite ends of the larger tubular section 25 and all of these tubular sections have longitudinally spaced perforations, so that after they are adjusted as to length pins may be passed through the perforations of

the sections 25 and 24 to lock the braces at the desired adjusted length. In Fig. 9, a modified form of brace is shown. Here the brace is formed of two telescoping tubular sections 26 and 27, both of which are perforated to receive locking pins, which lock the brace to the adjusted length.

By employing the elements to which I have referred, it is possible to build up a framework well adapted for employment in a construction bridge or a shelter bridge. These bridges, however, require a platform at their top. One form of platform is shown in Fig. 1, and consists in merely laying lumber on the spacers as shown at 28 to provide the desired platform. However, in lieu of the wooden platform, as shown in Figs. 1 and 2, a corrugated metal platform 29 may be laid upon the spacers as shown in Figures 7 and 9. This platform may be secured to the spacers by means of yokes 30, as shown in Figs. 7 and 9. These yokes may extend through the platform and be threaded to receive nuts 31, or the platform may be provided at its under side with pockets 32 and the ends of the yokes 30 may be bent toward one another to be sprung into these pockets in order to anchor the platform to the spacers and preclude it from lifting. The two types of yoke to which I have referred are illustrative of any other suitable means for securing the sheet metal platform in position. In some cases, it may be desirable to provide a heated platform in order to keep snow from accumulating thereon or for other reasons. If so, the structure shown in Figures 14 to 20 may be employed in this connection.

In these figures, a plurality of pipes 33 are screwed at their opposite ends into headers 34 to which a steam connection may be carried through pipes 35, so as to cause a circulation of steam through the pipes 3. The pipes 3 of the headers 34 constitute collectively a heating element which may be laid upon the spacers of the fabricated frame and on top of this heating element may be laid a corrugated metal sheathing 36, as shown in Figure 20.

It is of course desirable that water will flow off of this sheathing, and, accordingly, I preferably position between the heating element and the spacers 15 structural metal elements 37, 38 and 39, which, as shown in Figures 17, 18 and 19 taper in height with the result that the sheathing 36 is slightly pitched or inclined for the purpose stated. The structural metal elements 37, 38 and 39 may be secured in place in any suitable manner, so that they will not inadvertently slip out of position. In practice, there may be one or more heating elements employed and they may be of any desired extent depending upon the use to which they are to be put. For example, a heating element, such as described, may to advantage be employed in winter beneath mortar boards or cement mixing trays, or under said piles, in order to preclude freezing of the mason materials before, during or after mixing.

It is frequently desired to mount a derrick or other hoist upon construction bridges and in Figs. 1 and 2, I have shown the ready adaptability of the present invention to this use. In these figures, the fittings at the top of the columns at the center of the bridge are so constructed that there may be superimposed on these columns a sleeve 40 into which the shank of a mast step 41 may be seated. A mast 42 extends upwardly from and in alinement with each of these columns and is supported in a direction from front to rear of the bridge by means of a stiff leg 43 comprising three telescoping sections all of which are perforated to allow locking pins to be inserted through alined holes therein to lock the stiff leg in adjustment. The rear end of the stiff leg is anchored by means of a locking pin to a fixture on one of the rear columns, while the forward end of the stiff leg cooperates with a suitable fixture at the mast head. If desired, the masts may be connected together by a spacer 44 having a fitting 45 with which bracing 46 is associated. This bracing may be of the same type as the bracing 21 and may, in fact, embody one of these same braces. The booms 47 of the derricks are mounted in the respective mast steps 41 and are provided with fittings for cooperation with cable appropriate to derrick construction.

The mast is also provided with appropriate fittings providing sheaves for the cables. The upper set of sheaves are designated 48 and are shown in plan in Fig. 4. The lower set of sheaves are designated 49 and are shown in Fig. 3. An important feature of the derrick construction, which I have illustrated, resides in the fact that it may be built up of spacer elements of the same character as used in the construction of the bridge frame, the fixtures for the derrick being such as to adapt my spacer elements for use as a mast, boom or stiff leg.

Thus, in the construction of the fittings for the derrick parts, they are made so as to fit over the spacers to be either bolted thereto or to be secured against sliding movement thereon by locking pins of the character which I have hereinbefore described.

The hoisting mechanism, i. e., either an electric, gas, or a steam hoist designated generally at 50 in Figure 2 may be mounted on the platform 28^a of the bridge and secured thereto in any suitable manner.

If desired, a railing 51 may be mounted at the edge of the bridge, as shown in Fig. 1, by using suitable fittings to support upstanding stanchions and horizontal railings. These stanchions and railings may be of the

same tubing as the spacers 15 and may, in fact, constitute the same construction elements.

The construction of shelter bridges to which I have particularly hereinbefore referred are shown as provided with horizontal roofing will, it will be clearly understood, that they may be provided with tilted roofing as indicated in dotted lines in Figure 7. This may be accomplished by merely adjusting one set of columns to a different height than the other set. The use of tilted constructions is illustrated for example in Figures 12 and 13. In the former figure, a temporary shelter is shown built up of the tubular metal telescoping and sectional structural parts of the same character, which I have hereinbefore described, but instead of being topped with the platform the parts corresponding to the platform constitute the roof which, in practice, may be conventionally of corrugated sheet metal.

In Fig. 13, another form of which the structural elements of the present invention may partake is illustrated. Here a temporary sluiceway is shown for temporarily diverting or detouring a stream of water as may be required from time to time in engineering projects. The structural details of Figure 13 are the same as in the preceding figures, except that they are assembled in a different way. Thus, it will be noted in this figure, that the structure embodies adjustable columns with spacers and braces together with fittings for securing these parts to one another. The trough 52 in which the water is caused to flow may be built of lumber suitably corked or metal as may be desired.

In Figs. 10 and 11, other structural framing is shown as illustrative of different structural forms of which the present invention may partake. The former figure represents a temporary walk bridge crossing a depression or excavation, while the latter represents another form of shelter or construction bridge. These figures show very clearly how easily and substantially the present invention meets widely varying requirements without loss of materials and without waste. It will of course be understood that in setting up the structures suitable foundations should be provided for the several columns. Lumber or cribbing may be laid down for this purpose, as shown in the footings 53 in the respective figures.

It will be apparent from the foregoing description that the present invention provides for a great flexibility of adjustment without waste of materials. The structural telescoping and sectional elements are preferably all perforated so that when said elements are assembled as circumstances may require, bolts or locking pins can be passed entirely through telescoping parts to secure them against relative movement. I have found that frictional slidable clamps are not safe, but when parts are secured together by locking pins and in telescoped relation, changes in positon of these parts is absolutely precluded.

Any suitable roofing platform or sheathing may be employed with the structural frameworks set up in accordance with this invention, but, in any event, they are firmly secured by means of yokes or other suitable convenient attaching means, so as to preclude displacement under wind pressure or otherwise. If desired, sheathing may be laid on the braces 21 under the platform 28 in order to protect pedestrians from seepage of rain, water, dust, or the like as shown in Figs. 1 and 2.

Experience has shown me that telescoping adjustments are the strongest, most convenient and durable form of construction for the purposes herein described. The parts may be readily knocked down or dismantled and may be conveniently set up in different arrangements as may be necessary to suit conditions. In knocked down form, they may be transported readily in compacted condition, and a relatively small assortment of elements in sufficient quantities will suffice for the construction of a wide variety of structures. As a matter of fact, large building contractors can find innumerable uses of the present invention in building temporary shelters, shelter bridges, construction bridges, excavation walks, sluiceways, viaducts, etc. In fact, the invention has an almost unlimited application, so far as particular structures are concerned and I therefore wish it understood that while I have shown certain practical arrangements in the accompanying drawings, the invention is to be understood as fully commensurate with the appended claims.

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

1. In a portable metal structure, a plurality of adjustable columns, each of which embodies telescoping sections longitudinally perforated to permit of the passage of locking bolts through alined perforations in the respective sections for the purpose of positively locking the sections in the desired adjustment, a coping fixture detachably secured to the top of each column and provided with an opening through which a spacer may be passed, tubular spacers passed through the coping fixtures of the respective columns and having longitudinally spaced perforations through which locking pins may be passed to lock the spacers against longitudinal movement, fixtures embracing at least some of the spacers and also perforated to receive locking pins adapted to be passed through the fixtures and the spacers,

and braces adapted to extend between fixtures and embodying relatively adjustable parts whereby the length of the braces may be regulated.

2. In a portable metal structure, a plurality of adjustable columns, each of which embodies telescoping sections longitudinally perforated to permit of the passage of locking bolts through alined perforations in the respective sections for the purpose of positively locking the sections in the desired adjustment, a coping fixture detachably secured to the top of each column and provided with an opening through which a spacer may be passed, tubular spacers passed through the coping fixtures of the respective columns and having longitudinally spaced perforations through which locking pins may be passed to lock the spacers against longitudinal movement, fixtures embracing at least some of the spacers and also perforated to receive locking pins adapted to be passed through the fixtures and the spacers, and braces adapted to extend between fixtures and secured to the latter, said braces embodying telescoping perforated sections through the perforations of which locking pins may be introduced to lock the braces in adjustment, and locking pins for securing the parts in adjustment.

3. In a portable metal structure, a plurality of adjustable columns, each of which embodies telescoping sections longitudinally perforated to permit of the passage of locking bolts through alined perforations in the respective sections for the purpose of positively locking the sections in the desired adjustment, a suitable base for each column, a coping section detachably associated with each column and having an opening through which a tubular spacer may be passed, tubular spacers extending through the openings of the coping fixtures of the respective columns, tubular fixtures slidable on the tubular spacers, said tubular spacers and their fixtures being perforated, a plurality of longitudinally adjustable braces, means for securing the opposite ends of the braces to spaced apart parts of the structure, and locking pins adapted to be passed through registering perforations and cooperating parts of the structure to lock said parts against relative movement.

4. In a portable metal structure, a plurality of vertically adjustable columns, each of which is provided with a fixture through which a tubular spacer may be passed, and which fixtures are perforated, spacers passed through the fixtures of the several columns and perforated to allow of the passage of locking pins through the perforations in the spacers and the fixtures to lock the parts against relative movement, fixtures embracing the spacers and perforated to allow of the passage of locking pins through the fixtures and the perforations of the spacers to lock said fixtures against shifting on the spacers, and longitudinally adjustable braces, one end of each of which is secured to one of said fixtures and the other end of which is secured to a column.

5. In a portable metal structure, a plurality of vertically adjustable columns, each of which is provided with a fixture through which a tubular spacer may be passed, and which fixtures are perforated, spacers passed through the fixtures of the several columns and perforated to allow of the passage of locking pins through the perforations in the spacers and the fixtures to lock the parts against relative movement, fixtures embracing the spacers and perforated to allow of the passage of locking pins through the fixtures and the perforations of the spacers to lock said fixtures against shifting on the spacers, perforated collars adjustable longitudinally of the respective columns, and longitudinally adjustable braces secured to said collars and to the fixtures of the spacers.

6. In a demountable metal structure, a plurality of adjustable stationary columns, each of which embodies telescoping sections longitudinally perforated to permit of the passage of locking bolts through alined perforations in the respective sections for the purpose of positively locking the sections in the desired adjustment, a cross T fixture detachably secured to the top of each column and provided with an opening through which a spacer may extend, tubular spacers passed through the T fixtures of the respective columns and having longitudinally spaced perforations through which locking pins may be passed to lock the spacers against longitudinal movement, fixtures embracing at least some of the spacers and also perforated to receive locking pins, braces adapted to extend between fixtures and embodying relatively adjustable parts, whereby their length may be regulated, a derrick mast mounted on at least one of the sleeve fixtures and forming an upward extension of the associated column, a longitudinally adjustable brace secured at one end to the mast head and at its other end to the T fixtures of another column, and a derrick boom associated with the mast.

7. In a portable metal structure, a plurality of adjustable columns, each of which embodies telescoping sections longitudinally perforated to permit of the passage of locking bolts through alined perforations in the respective sections for the purpose of positively locking the sections in the desired adjustment, a suitable base for each column, a coping section detachably associated with each column and having an opening through which a tubular spacer may be passed, tubular spacers extending through the openings of the coping fixtures of the respective col-

umns, tubular fixtures slidable on the tubular spacers, said tubular spacers and their fixtures being perforated, a plurality of longitudinally adjustable braces, means for securing the opposite ends of the braces to spaced apart parts of the structure, locking pins adapted to be passed through registering perforations and cooperating parts of the structure to lock said parts against relative movement, and a suitable roof demountably mounted on and supported by said spacers.

In testimony whereof I have signed the foregoing specification.

JOHN BERGESEN, Sr.