May 9, 1933. W. H. ARMSTRONG 1,908,299

SUPPORTING DEVICE

Filed Feb. 6, 1931 2 Sheets-Sheet 1

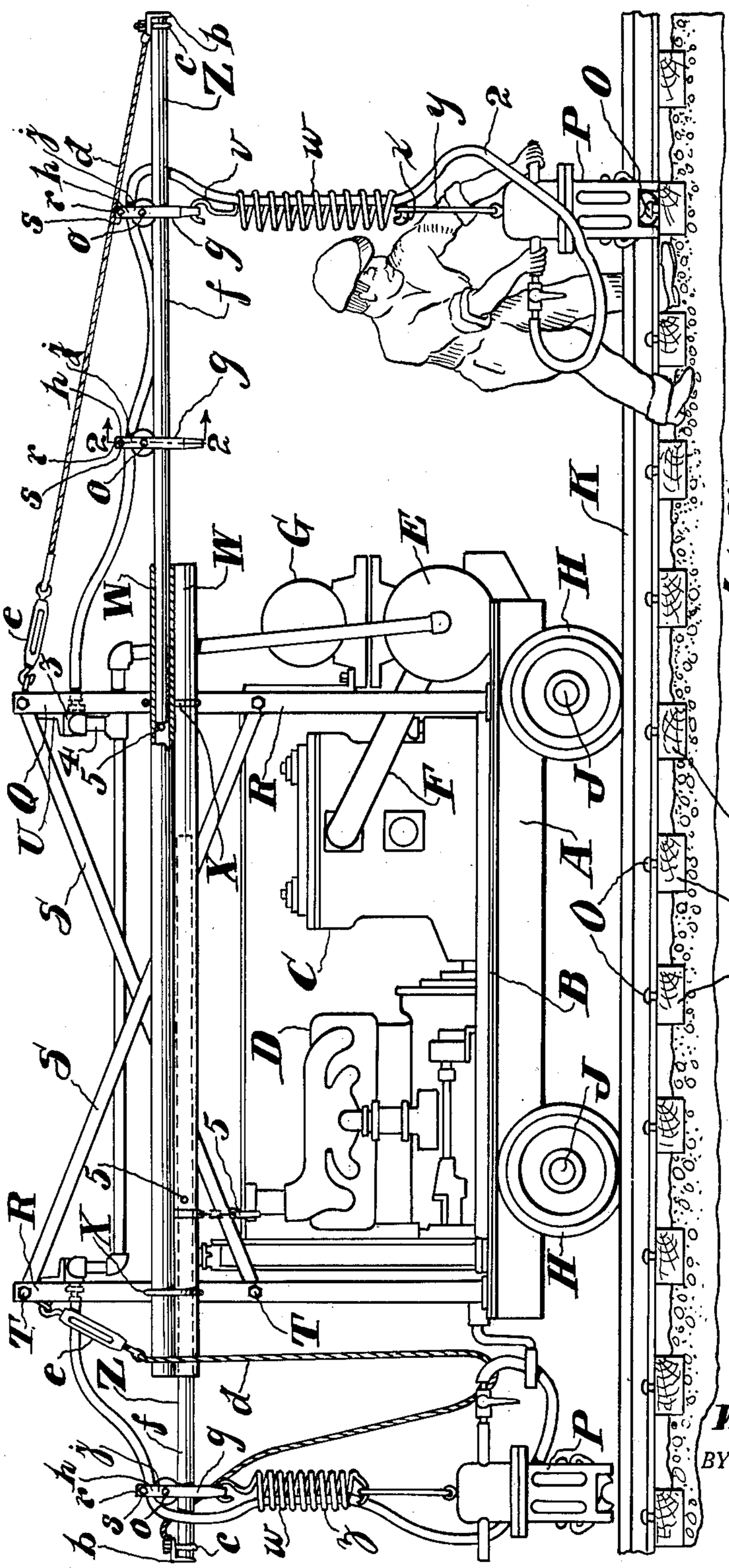

FIG. 1.

FIG. 2.

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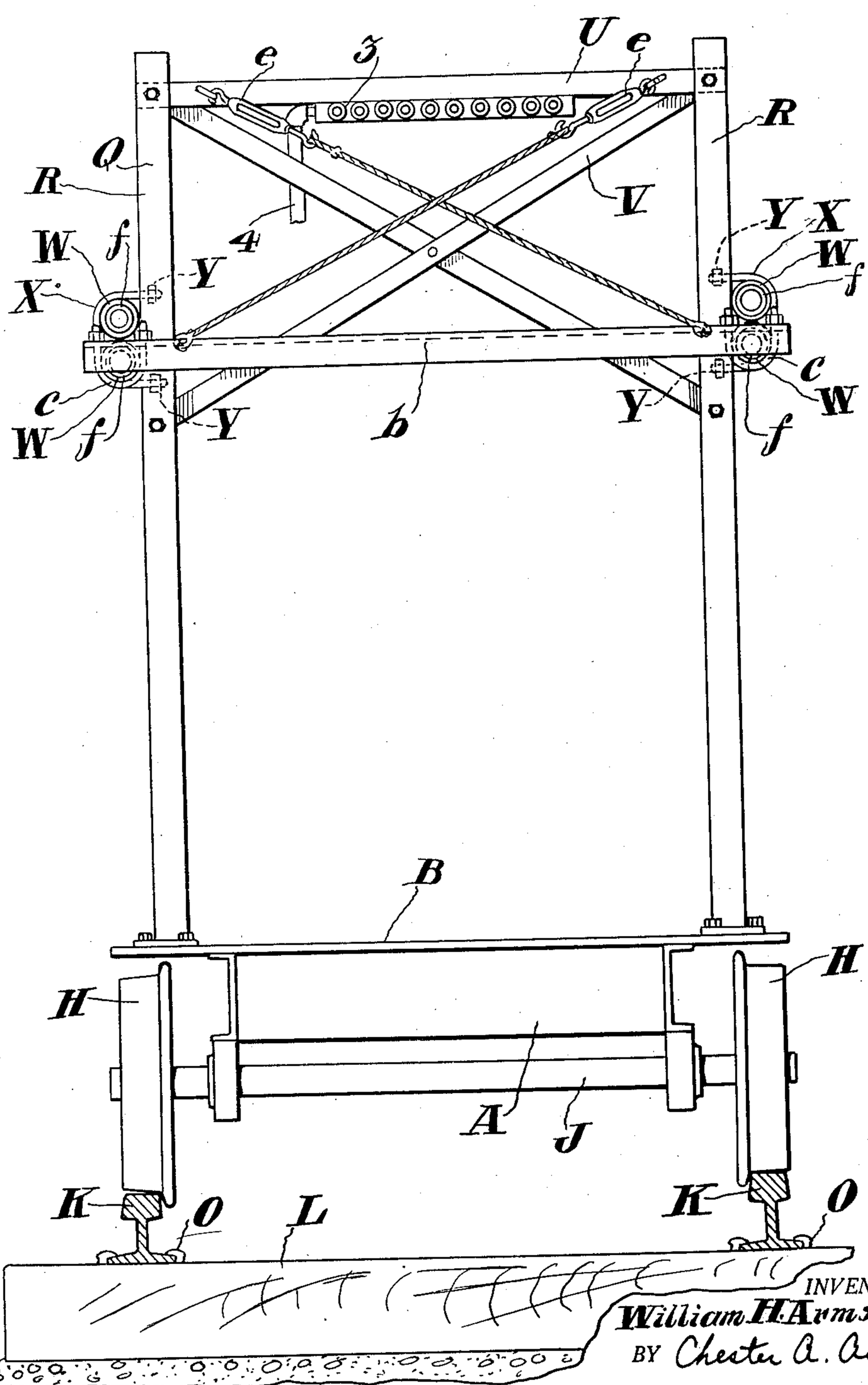

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FIG.-3.

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UNITED STATES PATENT OFFICE

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SUPPORTING DEVICE

Application filed February 6, 1931. Serial No. 513,881.

This invention relates to supporting devices, but more particularly to a supporting device adapted for use in connection with a portable compressor apparatus to support working tools of the type actuated by the pressure fluid supplied by the compressor apparatus.

One object of the invention is to relieve the operator of a pressure actuated tool, such as a spike puller or percussive tool, of the work of supporting the weight of the tool.

Another object is to produce a simple and compact supporting device adapted to support a working tool or tools at points closely adjacent to the compressor apparatus or at points remote with respect thereto.

Other objects will be in part obvious and in part pointed out hereinafter.

In the accompanying drawings and in which similar reference characters refer to similar parts,

Figure 1 is a side elevation, partly broken away, of a compressor apparatus having the invention applied thereto,

Figure 2 is a transverse view taken through Figure 1 on the line 2—2 looking in the direction indicated by the arrows, and

Figure 3 is an end elevation of the compressor apparatus.

Referring more particularly to the drawings, A designates generally a portable compressor outfit comprising a platform B upon which are mounted a compressor C, its driving motor D and a receiver tank E into which the medium, such as air, compressed by the compressor C is conveyed by a discharge pipe F. Disposed at the same end of the platform B as the receiver tank E, and in this instance superimposed with respect thereto, is a tank G to accommodate the fuel required for operating the motor D.

Being of the portable type the compressor apparatus A is provided with flanged wheels H disposed on axles J whereon the compressor apparatus rests, and the wheels H rest and are adapted to run on rails K arranged in parallelism to form a track in the customary manner, said rails K being secured to ties L by means of spikes O.

As is well known, apparatus of the character to which the present invention pertains is used to a great extent in connection with track work or in such other lines of work where it is essential that the apparatus may be readily shifted about from one site to another. Moreover, apparatuses of this nature are generally used for supplying pressure fluid to pressure actuated tools of the manually supported and guided types, as for instance, a spike puller designated by P and which may be like that disclosed in United States Patent No. 1,771,712, granted to F. A. Jimerson, July 29, 1930.

Tools of this type are frequently of considerable weight so that the labor of shifting them from one spike to another throughout the course of the work may result in tiring the operator to such an extent that the tool is often operated at speeds much below that of which it is capable. In view of the foregoing facts it is contemplated to relieve the operator of the burden of supporting the weight of tools. To this end the compressor apparatus A is provided with tool supporting means designated generally by Q and being in the form of a frame mounted upon the platform B.

The tool supporting means comprises a plurality of upright members or posts R arranged in pairs on the opposite sides of the platform B and are braced by diagonal members S to assure rigidity of the posts R. The posts R, as well as the diagonal members S, may be of structural shapes and the diagonal members may be secured to the posts R in any convenient manner, as by bolts T.

Similarly, posts R located at the same ends of the platform B may be stabilized and supported by cross members U bolted to the posts and, if desired, by diagonal members V. The means for bracing the posts R are shown merely by way of example and it is to be understood that any suitable and well known means may be employed for this purpose.

Extending longitudinally of the compressor apparatus and preferably located on the outer side of each pair of posts R are guide members W illustrated as being in the form of pipes and as lying in the same vertical plane. The pipes W are preferably lo-

cated at such a height that the operator may readily pass thereunder and are secured to the posts R by means of U-bolts X which may embrace both guide members of a pair and are provided with nuts Y for clamping the guide members securely against the sides of the posts R.

The guide members W serve as bearings and as guides for rods or arms Z which are arranged telescopically within the guide members W and, when extended, are adapted to project beyond the ends of the platform B to a considerable extent. The outer or free ends of each pair of arms Z which extend beyond the same end of the compressor apparatus may be conveniently connected by a cross brace *b* secured to the arms Z by U-bolts *c*, or otherwise, so that both arms Z of a pair may be simultaneously extended over the work or be retracted into the guide members W.

To the end that the arms Z may be held against undue flexion and possible distortion said arms are provided with guys *d*, as for instance, cables which may be crossed with respect to each other and have one end connected to the cross brace *b* and the opposite end to a portion of the frame, such as the cross brace U. In order to assure an equal distribution of weight to each guy of a pair, said guys may have interposed therein turnbuckles *e*.

The arms Z, two of which may be included in each unit, may be in the form of pipes or rods *f* and serve as tracks for bearings or hangers *g*. The hangers *g*, any suitable number of which may be disposed on each pipe *f*, comprise in the present instance U-shaped straps *h* of which each leg *j* is provided with an aperture or bore *k* to receive trunnions *o* of a sheave *p*. The sheave *p* may, as illustrated, be provided with a suitable groove *q* to conform to the shape or curvature of the rod *f* upon which it is adapted to run.

Preferably the free ends *r* of the straps *h* are suitably braced with respect to each other, as for instance, by means of a bolt *s* which extends through the ends of the legs *j* and through a spacer *t* interposed between the legs *j*.

The curved or U-shaped portion *u* of the hangers *g* serves as a seat for a hook *v* of a spring *w* which is connected with its opposite end or hook *x* to a link *y* on the tool P. The spring *w* may be suitably calibrated to support the weight of the tool P in such wise that when the tool P is released by the operator the said tool will be lifted clear of the work by the spring *w*, in the manner illustrated more particularly at *z* at the left hand end of Figure 1. In this way, when the tool P is released by the operator, the spring *w* will immediately lift the tool to a position wherein it will be held free of the track during the shifting of the apparatus from one position to another.

The spring *w* may also serve as a means for maintaining the flexible supply line or hose 2 for the tool P in substantially the proper position. This may be accomplished by extending the hose 2 through the spring and the hose 2 may further be arranged in the space between the sheave *p* and the spacer *t* of each bearing *g*. The opposite end of the hose 2 may be connected to a supply manifold 3 mounted in this instance upon a portion of the frame, such as the cross brace U and being connected to the receiver tank *e* by a pipe 4.

Any suitable and convenient means may be provided for maintaining the arms Z in the extended position. The means provided for this purpose consist of pins 5 extending laterally through the guide members W to form abutments for the inner ends of said arms.

In practice the present invention has been found to be extremely efficient for use in connection with track and similar work. It forms a convenient means for supporting the weight of working tools and, when not required, the arms Z may be easily and quickly retracted into the guide members W and will therefore not interfere with the close approach of the apparatus to obstructions such as building during other forms of usage than that illustrated.

I claim:

1. A wheel supported platform having mounted thereon means to provide a supply of pressure fluid, a frame thereon having members extendible beyond the limits of the platform and adapted to support a pressure fluid operated tool, means supported by the frame to conduct pressure fluid from the source of supply to the tool, and means to permit supported movement of the tool along the extended frame members.

2. A wheel supported platform having mounted thereon means to provide a supply of pressure fluid, a frame thereon having members extendible beyond the limits of the platform and adapted to support a plurality of pressure fluid operated tools, means to conduct pressure fluid from the source of supply to manifold connections on the frame at each end of the platform, and a plurality of flexible means supported by the extendible members for conveying pressure fluid to the tools.

3. A wheel supported platform having mounted thereon means to provide a supply of pressure fluid, a frame thereon having members extendible beyond the limits of the platform and adapted to support a pressure fluid operated tool, means to conduct pressure fluid from the source of supply to the tool, and means slidable on the extended frame members to suspend and

guide the fluid conducting means and to support the tool.

4. A wheeled platform having mounted thereon means to provide a supply of pressure fluid, a frame thereon having members extendible beyond the limits of the platform and adapted to support a plurality of pressure actuated tools, a manifold at each end of the platform supported by the frame and having a plurality of outlet connections, means to conduct pressure fluid from the source of supply to the manifolds, and a plurality of flexible means supported by the extendible members to conduct pressure fluid from the manifolds to the pressure actuated tools.

In testimony whereof I have signed this specification.

WILLIAM H. ARMSTRONG.