

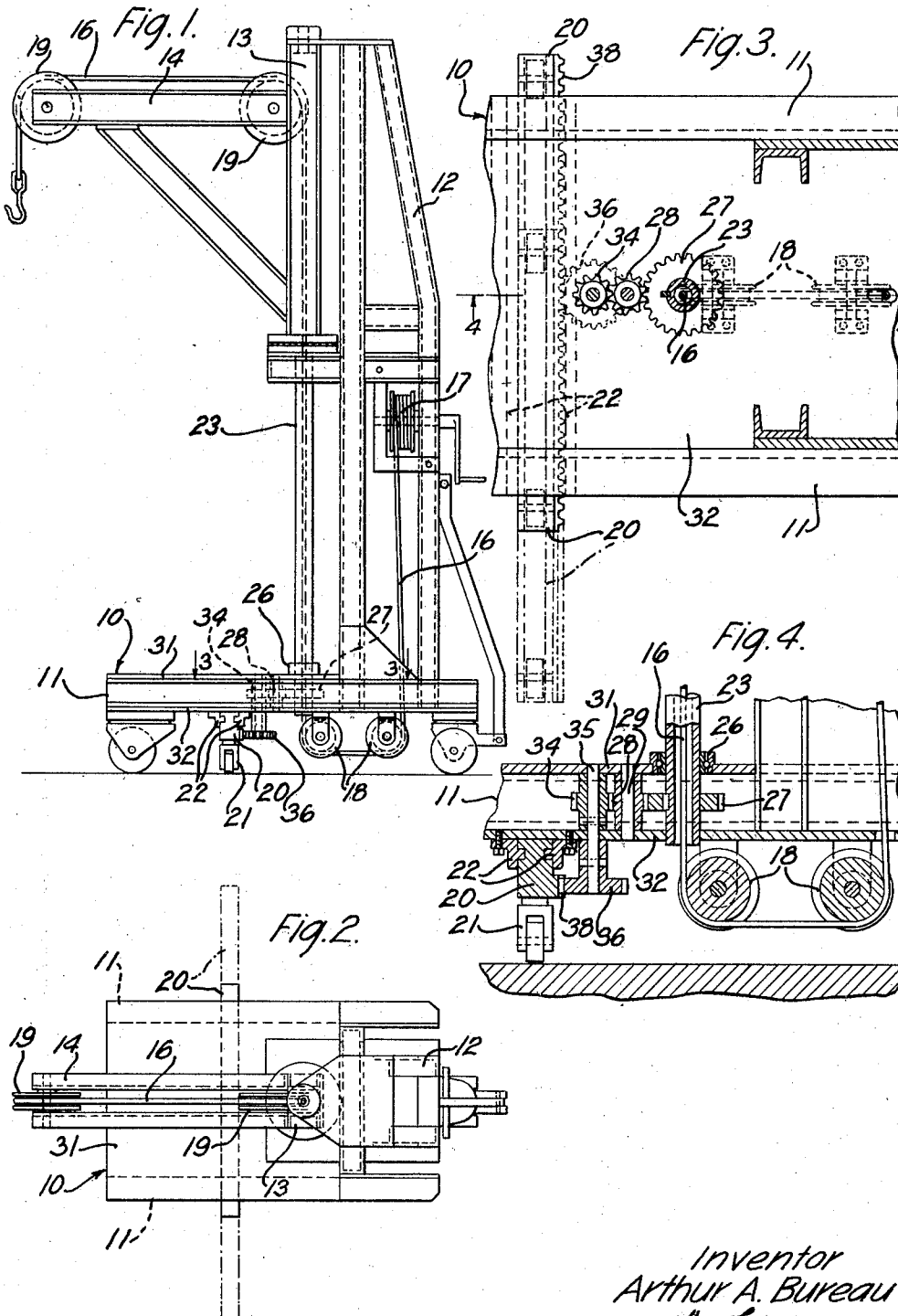
Nov. 25, 1930.

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1,782,406

PORTABLE CRANE

Filed Sept. 27, 1928



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UNITED STATES PATENT OFFICE

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PORTABLE CRANE

Application filed September 27, 1928. Serial No. 308,601.

This invention relates to portable cranes, and more particularly to an auxiliary support for portable crane trucks.

The principal object of the invention is to provide an auxiliary support for portable cranes which is rendered effective by the movement of the crane arm for properly bracing and supporting the crane.

In accordance with the general features of the invention, there is provided in one embodiment thereof a portable crane supporting truck having an auxiliary supporting member adapted to be extended by the swinging movement of the crane arm or gib from the side of the truck to which the gib is swung so as to prevent overturning of the crane truck due to the weight supported by the gib.

A clear understanding of the invention may be had from the following detailed description of one embodiment of the novel structure taken in connection with the accompanying drawing, wherein

Fig. 1 is a side elevational view of a crane truck having an extendable auxiliary support embodying the invention;

Fig. 2 is a plan view of the structure shown in Fig. 1;

Fig. 3 is an enlarged fragmentary plan section taken on line 3—3 of Fig. 1, and

Fig. 4 is a fragmentary vertical section taken on line 4—4 of Fig. 3.

Referring to the drawings, wherein like numerals are used to designate similar parts throughout the various figures, it will be observed that a portable truck is designated generally by the numeral 10 and comprises a wheeled platform 11 on which is mounted vertical framework 12 for supporting a rotatable crane mast or post 13 from which projects a crane arm or gib 14 which is adapted to transfer material to and from the truck platform. The usual hoisting cable 16 is attached at one end to a winding drum 17 from which it passes around guide pulleys 18, 18 depending from the truck platform and over guide pulleys 19, 19 carried by the gib 14.

An auxiliary support is provided for preventing overturning of the truck due to the weight of the material supported by the crane

gib when the gib is swung to either side of the truck. In the present embodiment of the invention this support consists of a bar or sill 20 disposed beneath the platform 11 and slidable transversely thereof between a pair of dove-tailed guide rails 22, 22 secured to the underside of the platform. The supporting bar 20 is operatively connected to the rotatable crane mast 13 so that the swinging of the gib transversely of the truck platform automatically causes the supporting bar to be extended from the same side of the truck to which the gib is swung. Castors 21 provided at each end of the supporting bar engage the surface of the floor, thus insuring a free and smooth movement of the bar.

As shown in Fig. 1, a vertically disposed hollow shaft 23 is connected at its upper end to the crane mast 13 so as to be rotatable therewith and is journaled at its lower end in the truck platform 11 as indicated at 26. A gear 27 secured to the lower end of the shaft 23 meshes with an idler gear 28 rotatably mounted on a vertical stud shaft 29 journaled in horizontal plates 31 and 32 secured to the top and bottom, respectively, of the truck platform 11, as clearly shown in Fig. 4. A gear 34 meshing with gear 28 is secured to a vertical shaft 35 rotatably journaled in the plates 31 and 32. The shaft 35 extends downwardly from the plate 32 and a gear 36 secured thereto meshes with a rack 38 secured to or formed integral with the supporting bar 20. From the construction just described it will be obvious that the swinging of the crane gib to either side of the truck simultaneously causes the auxiliary supporting bar 20 to be extended from the side of the truck to which the gib is swung.

The operation of the invention is believed to be apparent from the above description and the accompanying drawing. When the gib 14 is rotated to either side of the truck the shaft 23 rotating therewith actuates the gear 27, which through the idler or intermediate gear 28 actuates the gear 36 which meshes with the rack 38 secured to the supporting bar 20 to extend the support to the side of the truck to which the gib is rotated. It is apparent that with the support-

ing bar 20 thus extended, any possible overturning of the truck due to the load supported by the gib 14 is positively prevented. It is obvious that with the disclosed gear mechanism the supporting bar 20 is automatically extended to either side of the truck to counteract the overturning bending movement that may be set up by a load suspended from either side. When the gib 13 is rotated to its normal, inoperative position longitudinally of the truck, as shown in Fig. 1, the auxiliary supporting bar 20 is centrally located with respect to the base 10, and when so positioned the truck may be conveniently transported through comparatively narrow aisles, which renders it desirable for use in manufacturing establishments.

It is to be understood, of course, that the invention is not limited to the specific embodiment disclosed, but is capable of numerous other applications within the scope of the appended claims.

What is claimed is:

1. In a crane, a supporting frame, a mast rotatably supported thereby, a gib carried by said mast and rotatable therewith, an auxiliary crane supporting member extendible horizontally from the frame, and means actuated by the rotation of the gib for extending the member from the frame.
2. In a crane, a supporting frame, a horizontally rotatable gib supported therein, an auxiliary frame supporting member slidable on the frame, and means actuated in response to a rotary movement of the gib for rendering the member effective.
3. In a crane, a portable truck, a mast rotatably supported thereby, a gib carried by said mast and rotatable therewith, an auxiliary crane supporting member secured to the truck and extendible from opposite sides thereof, and means actuated by a rotary movement of the gib for simultaneously extending the member from a side of the truck in accordance with the direction of the movement of the gib.
4. In a crane, a base a rotatable mast supported by the base a gib carried by said mast and rotatable therewith to either side of the base, an auxiliary supporting member attached to the base and extendible from the side of the base to which the gib is rotated to prevent the base from tipping, a rack connected to the auxiliary supporting member, and gear mechanism connected to the gib for actuating the rack contemporaneously with the rotation of the gib.
5. In a crane, a supporting frame, a mast rotatably supported therein, a gib carried by said mast and rotatable therewith, an auxiliary crane supporting member slidable in the frame, and means interposed between the mast and the auxiliary member for sliding the latter out from the frame.
6. In a crane, a portable supporting truck,

a gib horizontally rotatable thereon, an auxiliary crane supporting member extendible from the truck, and means horizontally actuated by a rotary movement of the gib for extending the member from the truck simultaneously with the movement of the gib.

7. In a crane, a portable truck, a mast rotatably supported thereby, a gib carried by said mast and horizontally rotatable therewith, an auxiliary crane supporting member secured to the truck and extendible therefrom, and means connected to the mast and the auxiliary member for extending the latter simultaneously with the rotation of the gib.

In witness whereof, I hereunto subscribe my name this 15th day of September, A. D. 1928.

ARTHUR ALFRED BUREAU.