Jan. 12, 1932. J. C. ALBAN 1,840,998

INDUSTRIAL BOOM ATTACHMENT FOR TRACK TYPE TRACTORS

Filed Feb. 27, 1931 3 Sheets-Sheet 1

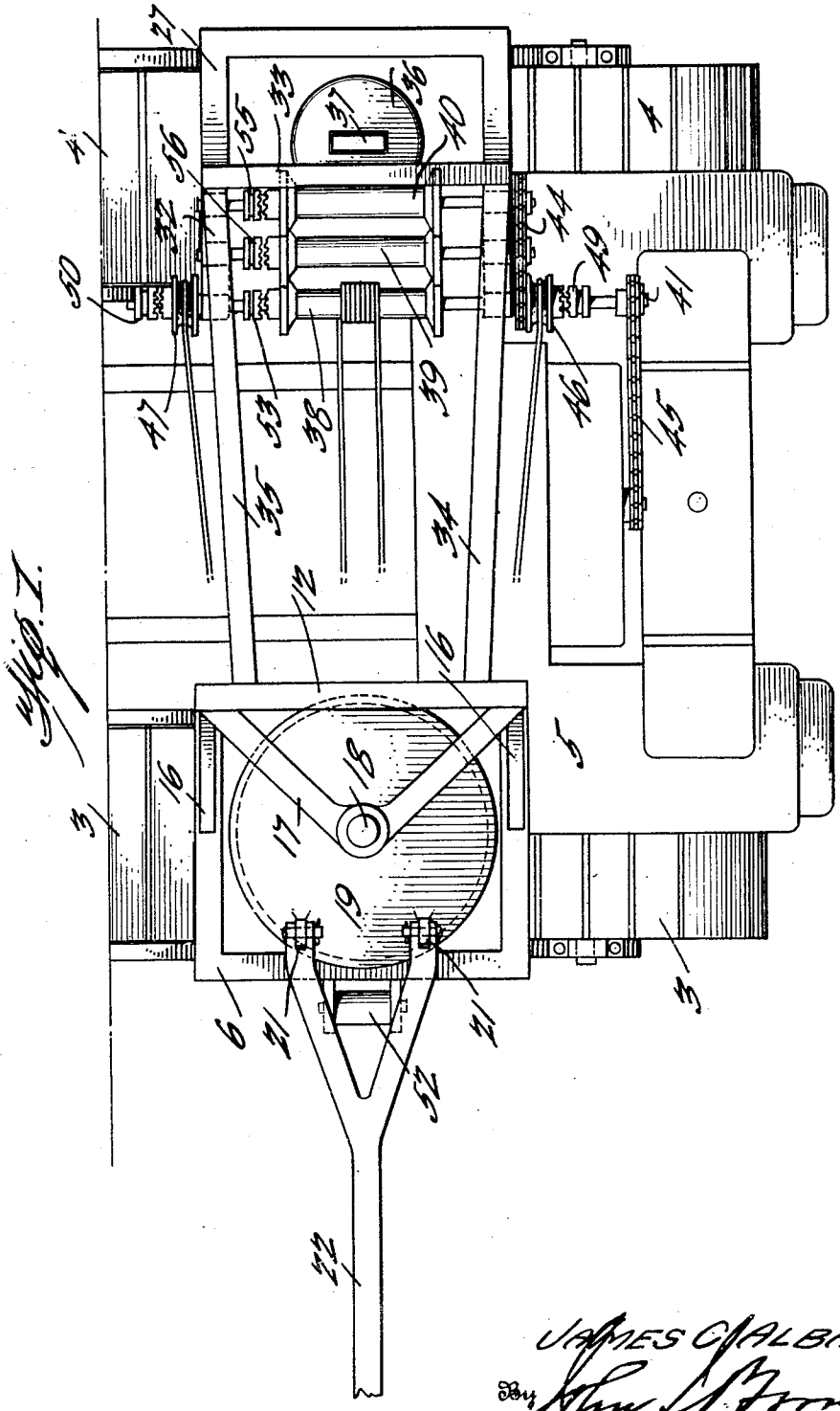


Fig. 1.

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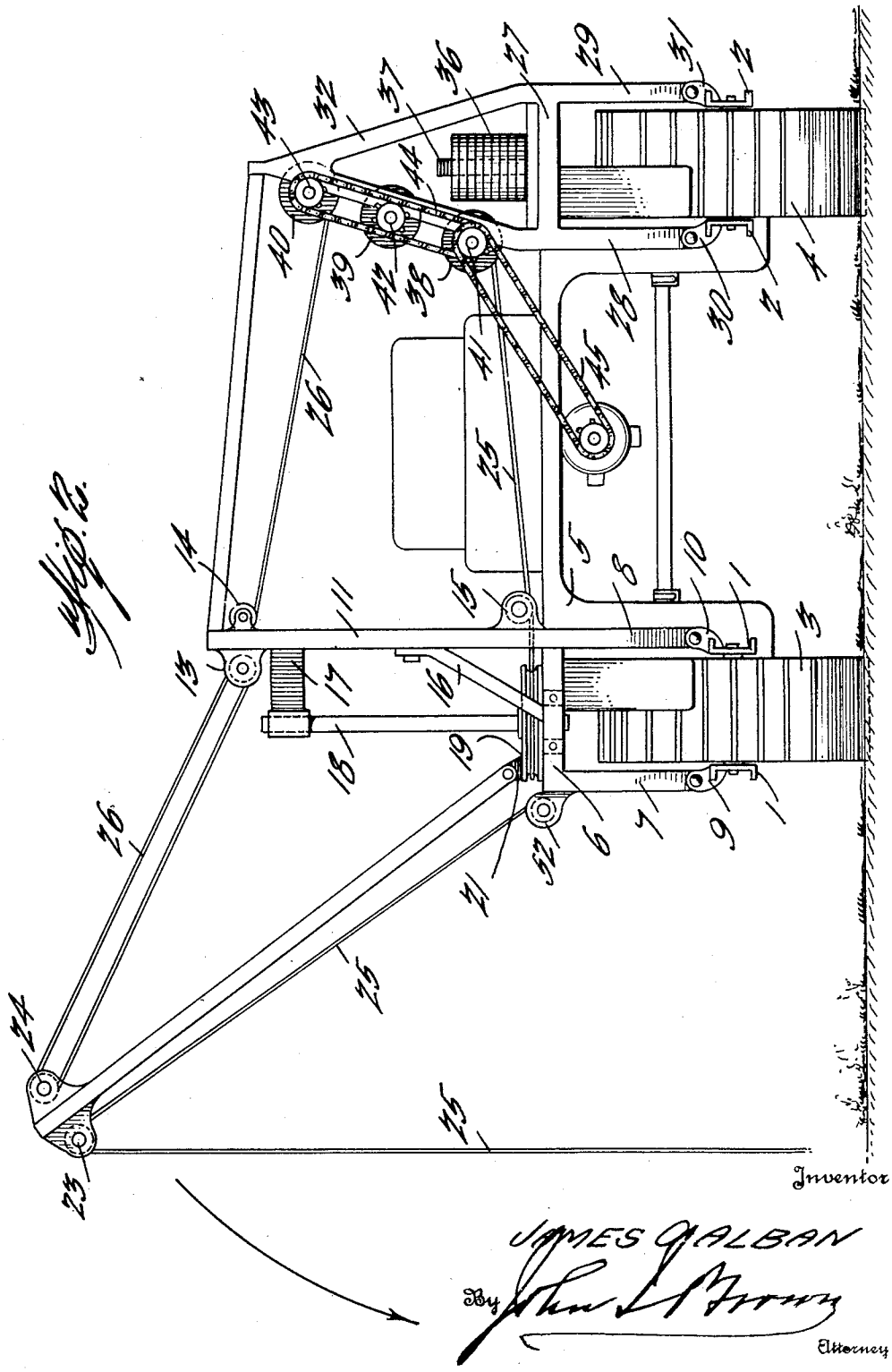
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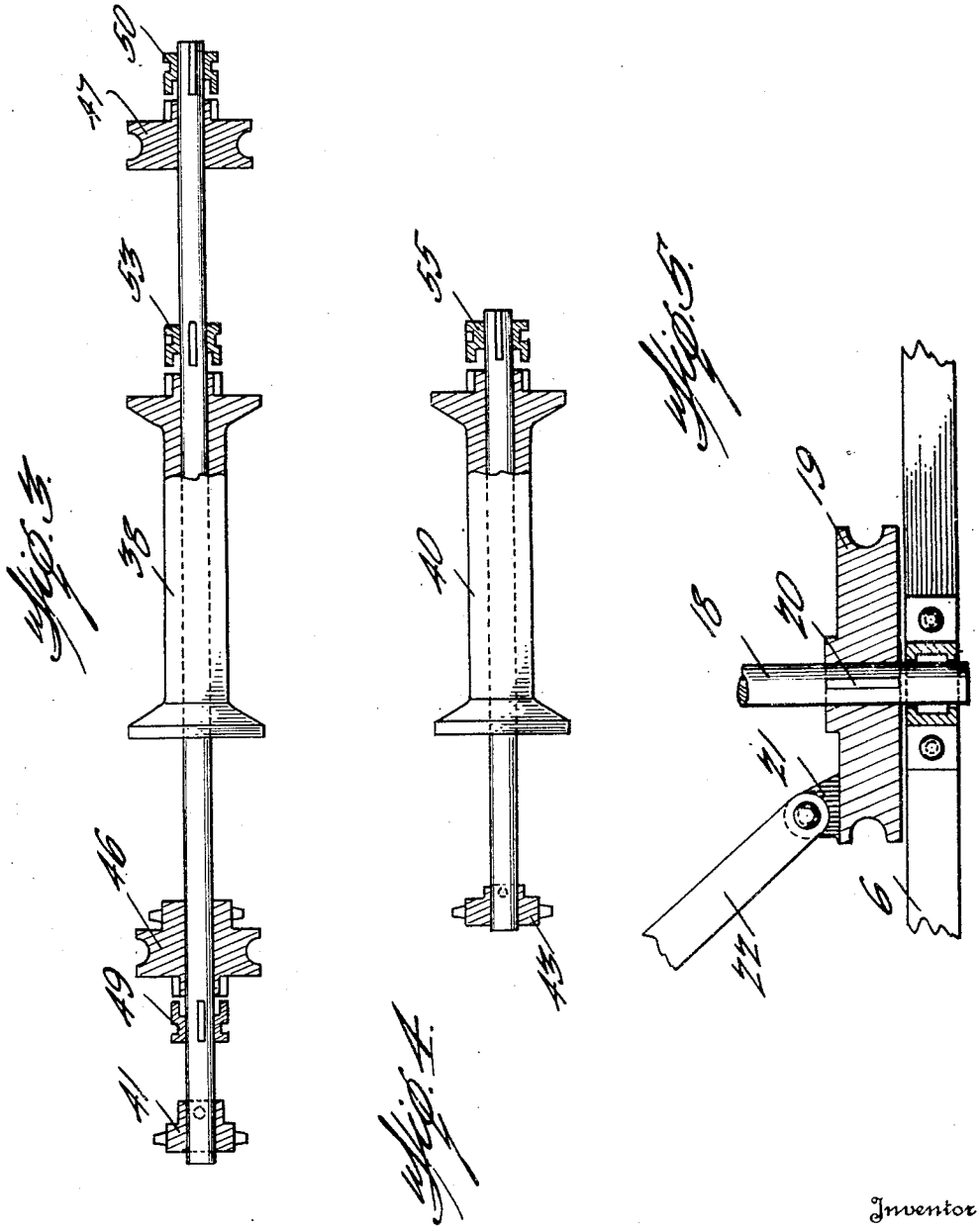
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INDUSTRIAL BOOM ATTACHMENT FOR TRACK TYPE TRACTORS

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UNITED STATES PATENT OFFICE

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INDUSTRIAL BOOM ATTACHMENT FOR TRACK TYPE TRACTORS

Application filed February 27, 1931. Serial No. 518,798.

This invention relates to an improved boom attachment for track type tractors, and more particularly to a boom attachment which will be supported upon the opposite frames within the track type treads or tracks, and which will be approximately confined within the lateral limits of the said treads.

An object of the invention is to provide an improved boom attachment for track type tractors which will be so arranged that the boom may have an approximate 190 degree swing, and which will be provided with suitable counterweights which will offset the downward pull on the tractor when an object is being lifted by the boom.

Another object of the invention is to provide an improved boom attachment for track type tractors which will be clamped by inverted U-shape clamping elements to the frames within the opposite track type treads for supporting the turn table for the boom over one tread and a suitable counterweight over the other tread, and to have a power take off from the tractor engine to operate the said boom attachment, the same being controlled by a series of clutch mechanisms of any desired type.

A further object of the invention is to provide an improved boom attachment for track type tractors which will be supported upon the opposite frame elements of the tractor within the lateral limits of the treads or track, and which will be highly efficient in operation and comparatively inexpensive to manufacture.

Other objects will appear as the description proceeds.

In the accompanying drawings which form a part of my application,

Figure 1 is a plan view of my improved boom attachment showing the same attached to a track type tractor;

Figure 2 is a rear elevation of a track type tractor showing my improved boom attachment attached thereto;

Figure 3 is a detail view showing the main winding drum and boom swinging drums with their controlling clutches;

Figure 4 is a detail view of the boom elevating drum and controlling clutch therefor, and

Figure 5 is a detail view showing the rotatable turn table with boom supported thereon.

Like characters of reference are used throughout the following specification and the accompanying drawings to designate corresponding parts.

In carrying out my invention, I intend to attach my improved boom attachment to the side frames 1 and 2 within the track type treads or tracks 3 and 4 of a tractor 5 having the usual parallel spaced tracks at its extreme lateral limits.

The turn table supporting frame or platform 6 is rectangular in shape and is adapted to lie above the left hand track type track, and is provided with depending spaced arms 7 and 8, having adjustable frame clamping members 9 and 10 pivotally supported at their lower extremities, and which are adapted to engage with the inside and outside frames 1 about which the track 3 moves. Spaced upright standards 11 are extended upwardly from the inner edge of the platform 6 and are connected by an upper cross member 12 and support the cable guide pulleys 13, 14 and 15.

Suitable bracing arms 16 are positioned between the upright standards 11 and the platform 6 for reinforcing the same, while the bearing supporting frame 17 extends laterally from the said arms to position the upper bearing for the vertical turn table spindle 18. The lower end of the spindle 18 is mounted in a bearing carried by the platform 6, and has the turn table 19 keyed thereto by the key 20. The turn table 19 is provided with an annular groove and is formed with spaced upturned bearing ears 21 between which the lower end of the boom 22 is pivotally supported. The outer end of the boom 22 is formed with the usual pulleys 23 and 24 for the load hoist cable 25 and the boom elevating cable 26.

A platform 27 is disposed above the right hand track 4 and is likewise provided with the depending arms 28 and 29 carrying the adjustable frame clamping members 30 and

31 pivotally supported at their lower extremities for clamping on the inside and outside frames 2 about which the track 4 moves. A pair of converging upright standards 32 extend upwardly from the opposite sides of the frame or platform 27 and are connected by a cross member 33, while the connecting members 34 and 35 connect the upright standards 11 and the standards 32. A series of counterweights 36 are disposable on the stud guide member 37, and serve to balance the pull of the boom when in operation to prevent the overturn of the tractor. Of course, the counterweights 36 will be positioned above the track 4.

A series of operating drums 38, 39 and 40 are mounted longitudinally of the tractor between the upright standards 32, and are driven through the medium of the sprockets 41, 42 and 43 which are connected by the chain 44, which in turn derives its power from the tractor motor through the medium of the chain 45. Spaced drums 46 and 47 are positioned on the same shaft with the drum 38 and are connected with the cable 26 which passes around the groove in the turn table 19 and are controlled by the clutches 49 and 59 for moving the said turn table around an arc of approximately 190 degrees. The lifting cable 25 is wound around the lower drum 38 and passes over the pulley 15 and pulley 52 on the side of the platform 6, and from thence over the pulley 23 on the outer end of the boom 22 to be attached to whatever load is desired. A clutch 53 will be cooperatively connected with the drum 38 for controlling the same.

The boom lifting cable 26 is wound around the drum 40 and from thence passes over the pulleys 14 and 13 and over the pulley 24 at the outer end of the boom 22. A clutch 55 is employed to control the winding and unwinding of the cable on the drum 40. An intermediate drum 39 will be provided for any desired use, and will be controlled by the clutch 56.

It it understood that a highly important feature in my improved boom attachment is that it is approximately confined within the lateral limits of the tractor treads or tracks, and that the device may be efficiently operated by one man by having connections leading from the various clutches and controls to a central point adjacent the seat on the tractor.

It will be further understood that many minor changes in detail of construction may be resorted to without departure from the spirit of the invention.

Having thus described my invention what I claim as new and desire to secure by Letters Patent of the United States is:

1. A boom attachment for track type tractors comprising a pair of interconnected inverted U-shape supporting frames adapted to be disposed over the treads of a tractor and to be secured to tractor frame at the opposite sides of the treads, a turn table and attached boom supported over one inverted U-shape frame, and a compensating counterweight supported over the other frame.

2. A boom attachment for track type tractors comprising a pair of interconnected inverted U-shape supporting frames adapted to be disposed over the treads of a tractor and to be secured to the tractor frame at the opposite sides of the treads, a turn table rotatably supported over one of said inverted U-shape frames, a boom pivotally supported on said turn table, upwardly extending standards formed on the other frame, a plurality of drums supported on said standards, and operating cable connecting said drums with said boom and turn table.

3. A boom attachment for track type tractors comprising a pair of platforms having depending spaced attaching arms and pivoted connecting means at their outer ends adapted to extend on the opposite sides of a tractor track and to be secured to the tractor frame, a turn table rotatably supported on one of said platforms, a boom pivotally mounted on said turn table and rotatable therewith, standards extending upwardly from said platform, alined bearings carried by said platform and said standards forming a mounting for the turn table, upwardly extending standards supported on the other platform, connecting means between said first mentioned and last mentioned standards, a plurality of drums mounted on said last mentioned standards, cables connecting said drums with said boom and with said turn table, means for connecting said drums with the engine of a tractor, clutches associated with said drums for selectively operating the same, and a counterweight mounted over the last mentioned platform.

In testimony whereof I affix my signature.

JAMES C. ALBAN.