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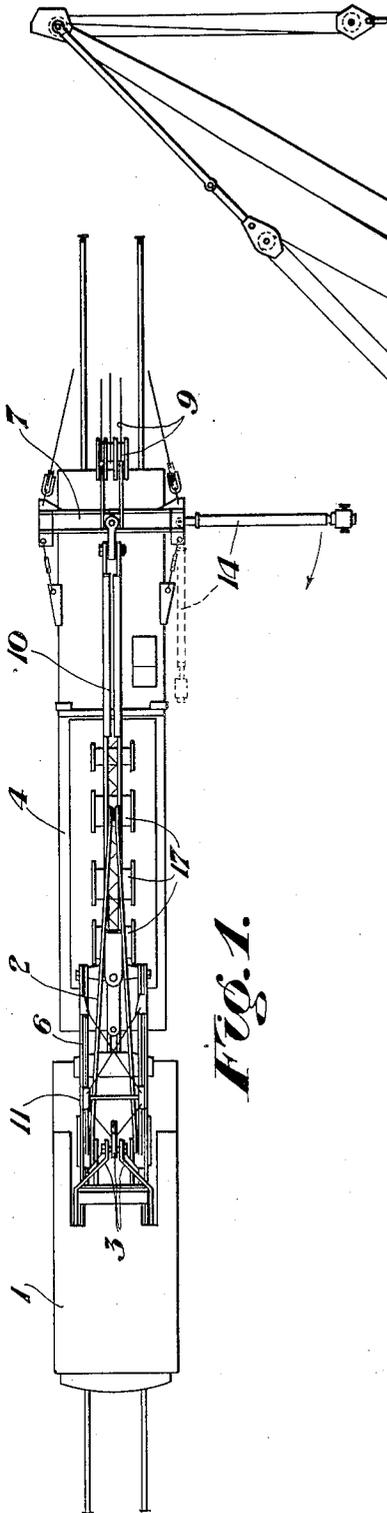
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1,925,629

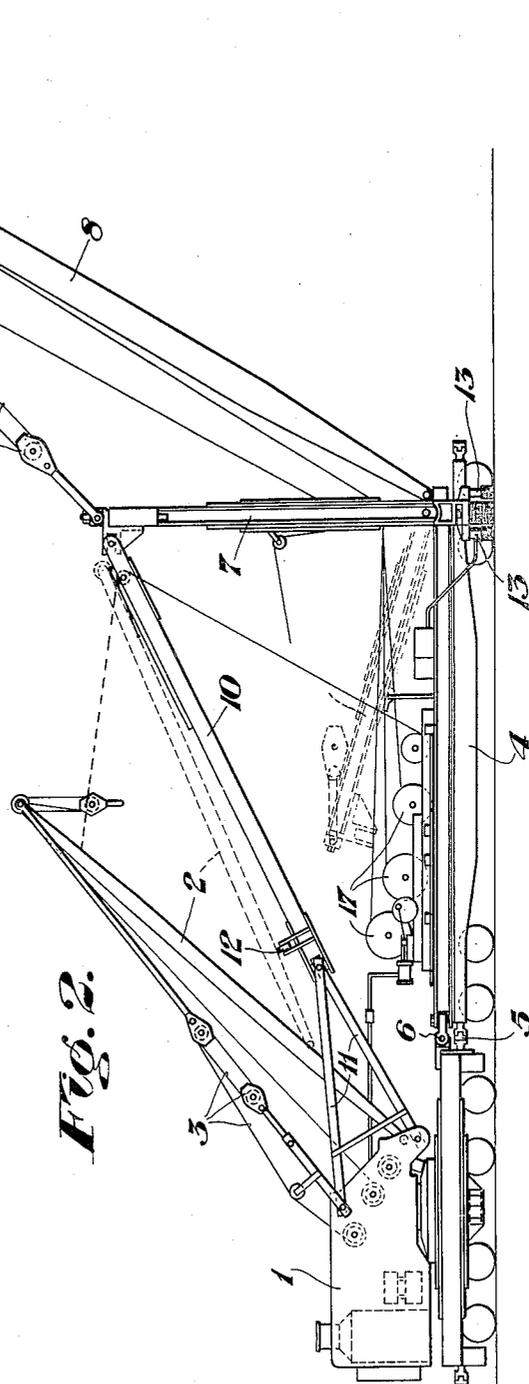
LOCOMOTIVE CRANE DERRICK CAR

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**FIG. 1.**



**FIG. 2.**

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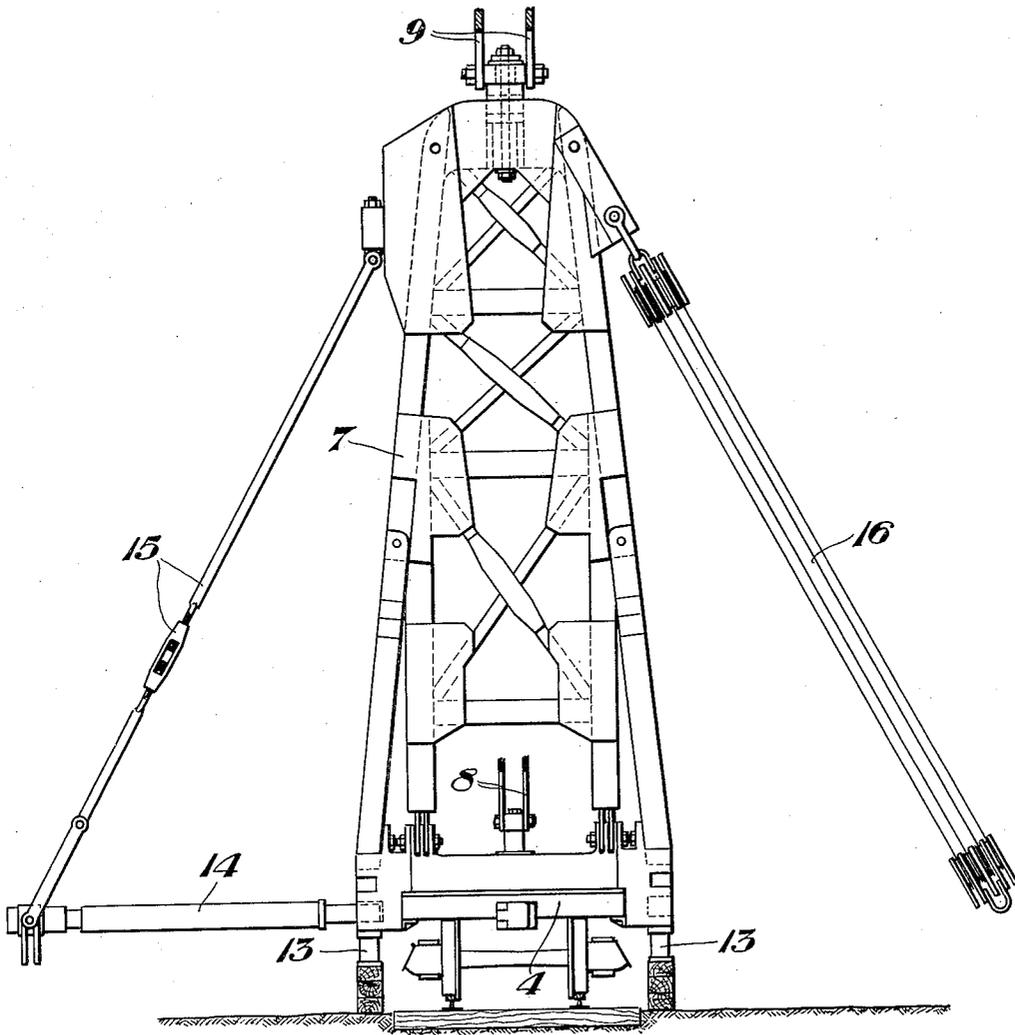
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*Fig. 3.*



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# UNITED STATES PATENT OFFICE

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## LOCOMOTIVE CRANE DERRICK CAR

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Application March 19, 1932. Serial No. 600,034

3 Claims. (Cl. 212-8)

This invention relates to locomotive cranes, derrick cars and the like, one of the objects being to greatly increase the lifting capacity of such units. Other objects will be understood from the following.

Having reference to the accompanying drawings which illustrate a specific example of the invention:

Figure 1 is a top plan.

Figure 2 is a side elevation.

Figure 3 is an end elevation.

These drawings show a locomotive crane 1 with a detachable boom 2 operated by the usual cable arrangement 3. This locomotive crane is, of course, self-propelled and is capable of moving along the various railroad sidings or tracks to a derrick car 4 and placing the latter's hoisting apparatus in position by means of its boom 2. It is then coupled to this derrick car through the usual coupling 5 and a heavy coupling 6 which is especially designed to allow horizontal, vertical and circular movements between the two.

The lifting apparatus positioned by the locomotive crane's boom includes a heavily constructed A-frame strut 7, a main lifting boom 8 and boom lifting cables 9 which are arranged to transmit lifting stresses to the strut 7. The boom 2 on the locomotive crane is now used to lift a backstay beam 10 so that it may be connected to the top of the strut 7 and to a frame 11 fixed to the locomotive crane structure. An anti-friction roller 12 is fixed to the top of the backstay beam 10 so that when the boom 2 is detached from the locomotive crane it may be drawn up over this roller and fixed on the backstay 10 where it will be out of the way. This may be done by the block and cable shown or any other means.

The front truck of the derrick car 4 is provided with lifting jacks 13 of the usual pattern so that the wheels and truck carriage will not receive the downward forces transmitted by the A-frame strut 7 when the combination is in lifting operation. A horizontally swinging arm 14 is fixed to one side of the derrick car adjacent the bottom of the A-frame strut, and a tie-rod 15 is fixed between the end of this arm and the top of the A-frame strut. When in lifting position the end of this arm is anchored firmly to the ground or some suitable structure, and a block and tackle falls 16 is fixed to the top of the A-frame strut and also firmly anchored to the ground or structure. By this means the strut 7 is firmly supported against side sway.

The derrick car has a number of power-operated drums 17 which are driven by steam engines receiving their steam power from the boiler of the locomotive crane 1 through suitable steam lines. These drums do the major part of

the work in lifting loads by the boom 8. One of these drums may power a cable 2<sup>a</sup> fixed to the boom 2 and running over a block or sheave fixed to the backstay 10 near the top, and thus serve to move the boom onto the backstay, as already mentioned. This cable may be removed during the boom's working. The controls for the drum 17 may be brought to a central point where the operator of the locomotive crane 1 may conveniently reach them so that one man may control the entire combination. These drums are supplied with the usual air brakes which preferably also receive their power from compressors on the locomotive crane 1.

When the combination is to be transported, the boom 2 is replaced in operative position on the locomotive crane 1 so that it may lift the backstay 10 from the derrick car 4 and place it on some suitable transporting unit. The locomotive crane is then uncoupled from the car 4 and run beside it on a side track where it removes the boom 8 and places it with the backstay 10. It then lowers the A-frame strut 7, which is pivotally carried by the car 4, as indicated by dotted lines in the drawings.

Although a specific form of this apparatus has been shown and described in accordance with the patent statutes, it is not intended to limit the scope of the invention exactly thereto, except as defined by the following claims.

I claim:

1. The combination including a locomotive crane having a detachable lifting boom, a derrick car coupled to the front of said locomotive crane and having a boom, a strut and boom lifting cables between said boom and said strut, a backstay arranged between the top of said strut and said locomotive crane, and means for moving said detachable lifting boom from its operating position to a resting position on said backstay.

2. The combination including a locomotive crane having a detachable lifting boom, a derrick car coupled to the front of said locomotive crane, a backstay fixed to said locomotive crane and constructed and arranged to transmit derrick car tilting forces caused by lifting to this locomotive crane, anti-friction means on the top of said backstay and means for drawing said lifting boom when detached up on said backstay over said anti-friction means.

3. The combination of a locomotive crane including a detachable lifting boom, a frame built on said crane, a derrick car including a strut and lifting boom, and a backstay constructed for application to said frame and the top portion of said strut and including anti-friction means on its upper side for the carriage of said locomotive's boom when detached.

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