Aug. 16, 1932. C. D. GINTER 1,871,603

AUTOMATIC HOIST BOOM

Filed Nov. 25, 1930 3 Sheets-Sheet 1

Fig. 1.

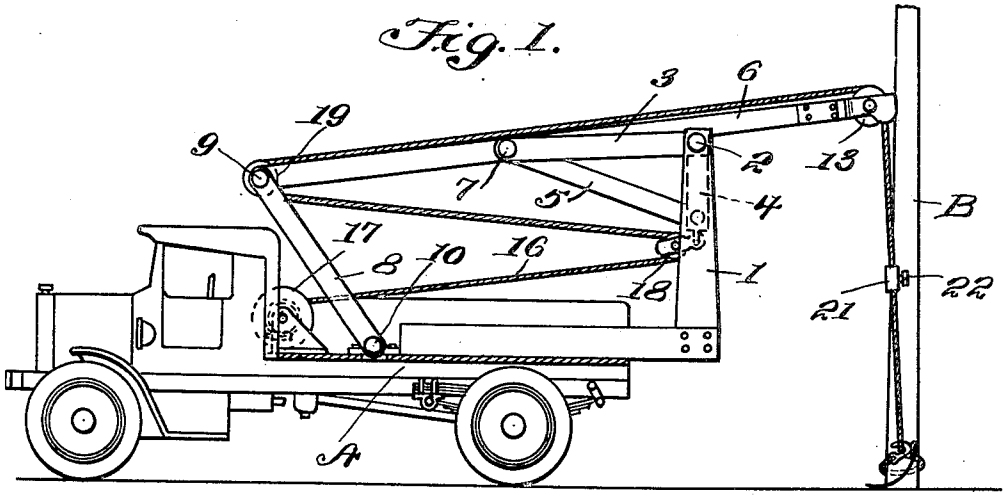


Fig. 6.

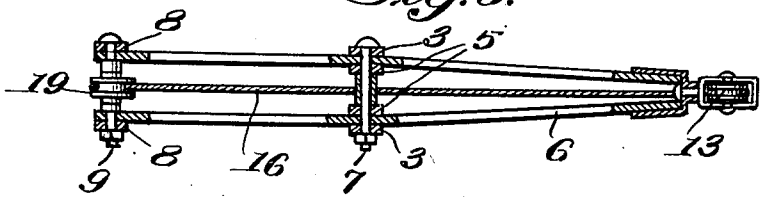
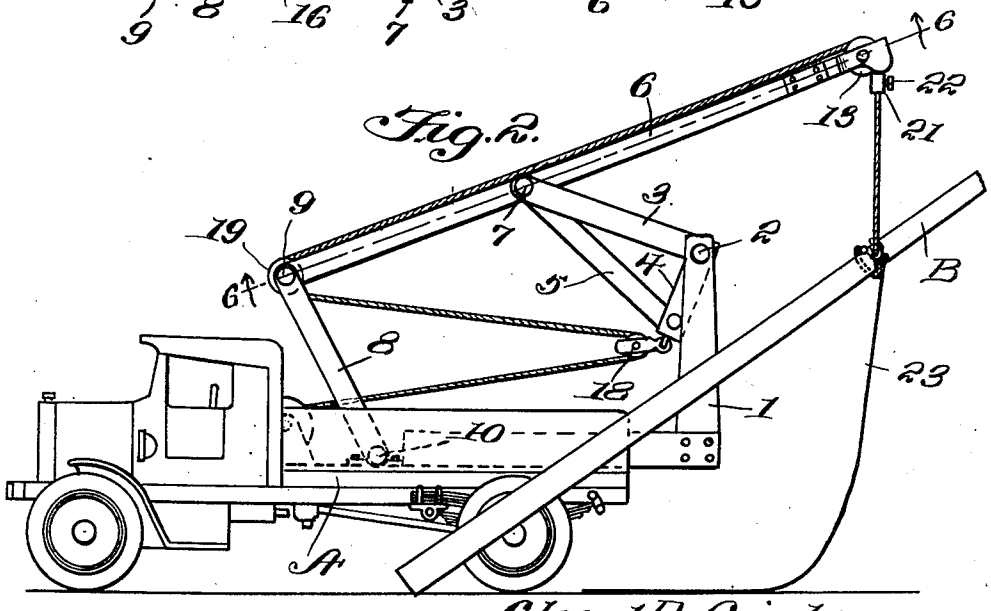


Fig. 2.



Claud D. Ginter INVENTOR

BY Victor J. Evans

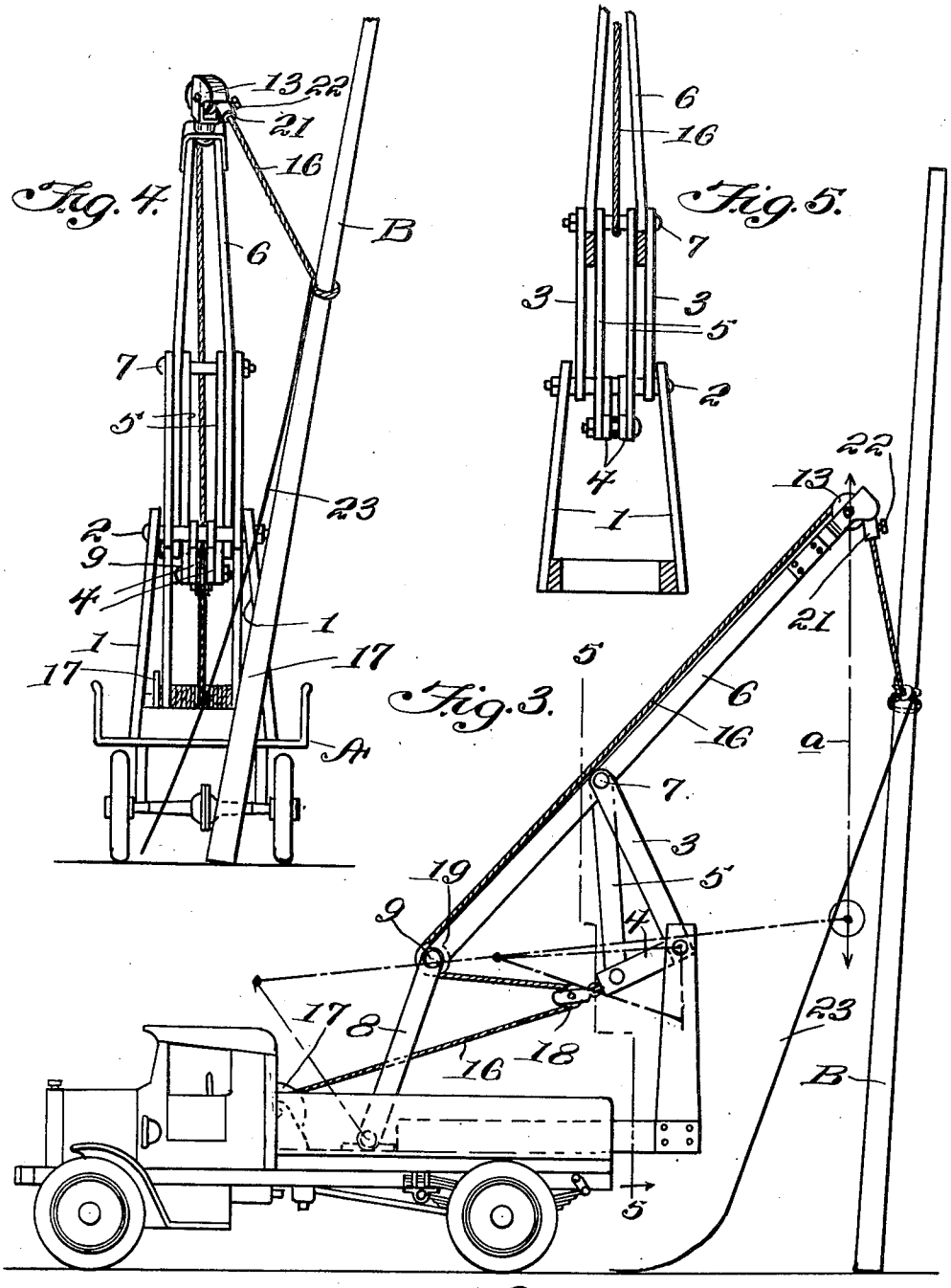
ATTORNEY

WITNESS: J. L. Wright

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AUTOMATIC HOIST BOOM

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Claud D. Ginter INVENTOR

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WITNESS: J. L. Wright

Aug. 16, 1932. C. D. GINTER 1,871,603

AUTOMATIC HOIST BOOM

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Fig. 7.

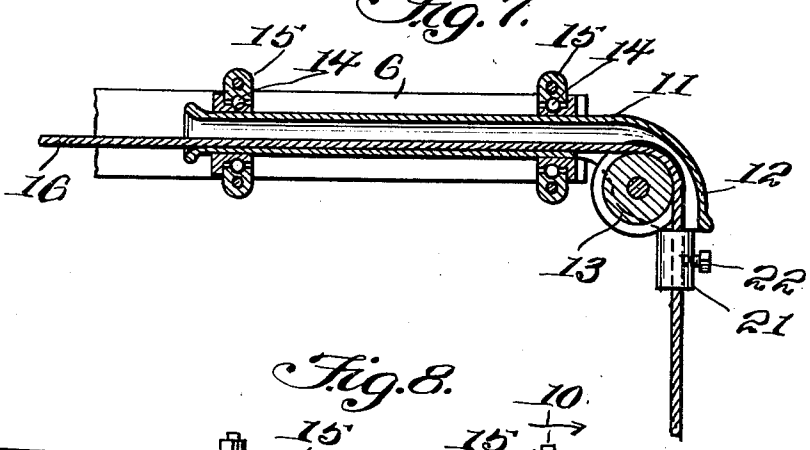


Fig. 8.

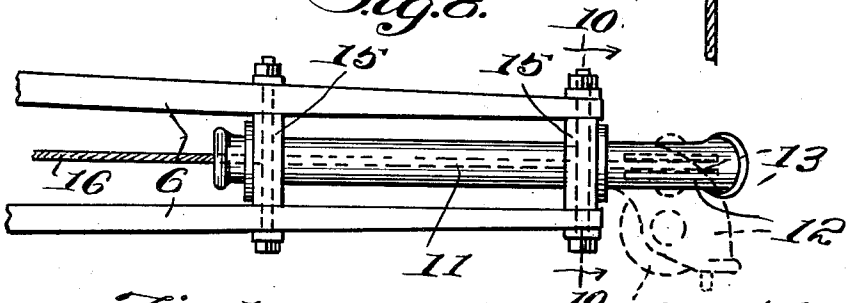


Fig. 10.

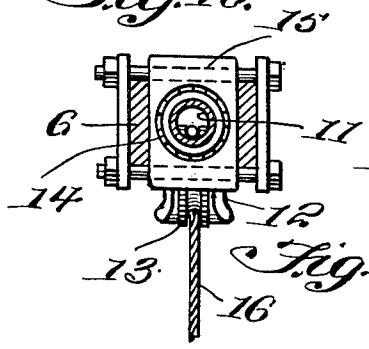


Fig. 9.

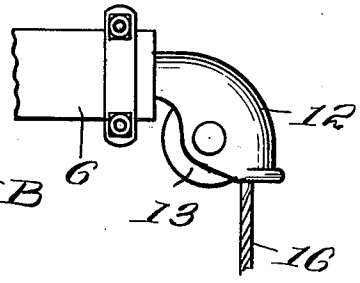


Fig. 12.

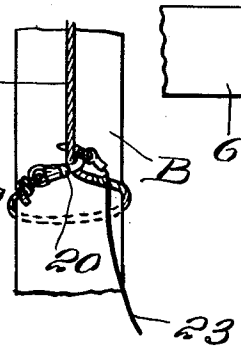
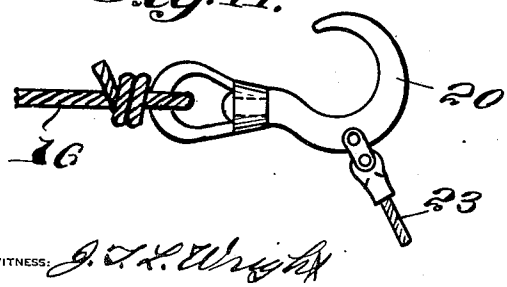


Fig. 11.



WITNESS: J. L. L. Wright

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Patented Aug. 16, 1932

1,871,603

UNITED STATES PATENT OFFICE

CLAUD D. GINTER, OF FRESNO, CALIFORNIA

AUTOMATIC HOIST BOOM

Application filed November 25, 1930. Serial No. 498,146.

This invention relates to an automatic hoist boom, the general object of the invention being to provide a collapsible boom mounted on a truck or the like with means whereby the boom is automatically raised when the object to which the cable of the boom is connected is lifted by the cable.

This invention also consists in certain other features of construction and in the combination and arrangement of the several parts, to be hereinafter fully described, illustrated in the accompanying drawings, and specifically pointed out in the appended claims.

In describing my invention in detail, reference will be had to the accompanying drawings, wherein like characters denote like or corresponding parts throughout the several views, and in which:

Figure 1 is an elevation with parts in section showing the boom in lowered position with the pole ready to be lifted.

Figure 2 is a similar view but showing the parts in partly raised position.

Figure 3 is a similar view with parts in full raised position.

Figure 4 is an end view of Figure 5.

Figure 5 is a sectional view on the line 5—5 of Figure 3.

Figure 6 is a section on the line 6—6 of Figure 2.

Figure 7 is a sectional view through the outer end of the boom and showing the guide means for the cable.

Figure 8 is a top plan view of Figure 7.

Figure 9 is a detail side view of the outer end of the boom.

Figure 10 is a section on the line 10—10 of Figure 8.

Figure 11 is a view of the hook attached to the outer end of the cable.

Figure 12 is a view showing how the cable is arranged on the pole to be lifted.

In these drawings the letter A indicates the truck on which the boom is mounted. A pair of uprights 1 is arranged at the rear end of the truck and support a shaft 2 which passes through the upper ends of the uprights. A pair of long arms 3 is carried by the shaft and a pair of short arms 4 is also carried by the shaft. The outer ends of these arms are connected together by the braces 5 and the arms and braces form a bell crank lever. The boom 6 is of skeleton formation and is pivoted intermediate its ends to the long arm of the bell crank as shown at 7. The inner end of the boom is pivoted to the arms 8 as shown at 9 and the lower ends of these arms are pivoted to the truck body as shown at 10. A tubular member 11 is rotatably supported at the outer end of the boom and has an elbow 12 at its outer end which carries a pulley 13. Anti-friction means 14 are arranged between the tubular member and the bearing parts 15 attached to the boom.

A cable 16 has one end attached to a drum 17 on the truck body and said cable passes over a pulley 18 supported from the short arms of the bell crank and then said cable passes forwardly over a pulley 19 carried by the pivot or shaft 9, and then the cable passes along the boom into the member 11 and over the pulley 13 and passes from the elbow 12. A hook 20 is attached to the free end of the cable so that the free end of the cable can be passed around a pole B or the like and the hook placed over part of the cable so as to attach the cable to the pole as shown in Figure 12. A stop 21 is adjustably connected to the cable by a set screw 22 and this stop will engage the elbow when the cable is wound a certain distance around the drum.

From the foregoing it will be seen that when the boom is not in use it will rest upon the uprights 1 so that the truck with the boom thereon can readily pass under wires or other objects stretched or projecting over a road. It will also be seen that the boom does not extend a very great distance beyond the end of the truck. When a pole or other object is to be raised the cable is attached to the same as shown in Figure 12 with the boom in lowered position and then the drum is rotated to exert a pull upon the cable. Thus the object is partly lifted until the stop 21 engages the elbow when further movement of the cable is prevented and then the pull on the cable will cause the arms 8 to swing rearwardly, thus raising the inner end of the boom and thereby raising its rear end as shown in Figures 2 and 3. The rear end of the boom moves

vertically as shown by the line *a* in Figure 3 and as the rear end of the boom moves upwardly it carries the pole or other object to which the cable is attached with it.

After the object is raised into a desired position a pull on a cable 23 which is fastened to the hook 20 will release the hook from that part of the cable with which it engages so that the cable will be detached from the pole or object. After the pole is set up the drum is rotating in the opposite direction so as to slack the cable and thus the parts of the boom will return to their lowered position.

Thus is provided a boom for a truck or the like which will permit the truck to pass under objects strung or projecting over a road and the boom will raise objects when the cable to which the object is attached is pulled upon.

It is thought from the foregoing description that the advantages and novel features of the invention will be readily apparent.

It is to be understood that changes may be made in the construction and in the combination and arrangement of the several parts, provided that such changes fall within the scope of the appended claims.

What I claim is:

1. A device of the class described comprising a support, an upright on the support, a bell crank having arms of unequal length carried by the upper end of the upright, a boom pivoted to the outer end of the long arm of the bell crank intermediate the ends of the boom, an arm pivotally connected with the support and the forward end of the boom, a pulley supported from the short arm of the bell crank, a cable passing over the said pulley, a pulley at the forward end of the boom over which the cable passes, a pulley at the rear end of the boom over which the cable passes, and a stop upon the cable for engaging the rear end of the boom when the cable is pulled upon, whereby the rear end of the boom will be raised to lift an object to which the cable is attached.

2. In combination with a truck, a boom, uprights at the upper end of the truck, a bell crank having arms of unequal length pivotally supported by the uprights, means for pivotally connecting the boom to the end of the long arm of the bell crank, arms pivotally connected with the forward end of the boom and with the truck, a tubular member rotatably supported at the rear end of the boom and having an elbow at its rear end, a pulley carried by the elbow, a pulley at the forward end of the boom, a pulley connected with the short end of the bell crank, a cable passing over the pulleys and depending from the elbow, an adjustable stop on the depending part of the cable for engaging the rear end of the boom for raising the same when the cable is pulled upon.

3. In combination with a truck, a boom, uprights at the upper end of the truck, a bell crank having arms of unequal length pivotally supported by the uprights, means for pivotally connecting the boom to the end of the long arm of the bell crank, arms pivotally connected with the forward end of the boom and with the truck, a tubular member rotatably supported at the rear end of the boom and having an elbow at its rear end, a pulley carried by the elbow, a pulley at the forward end of the boom, a pulley connected with the short end of the bell crank, a cable passing over the pulleys and depending from the elbow, an adjustable stop on the depending part of the cable for engaging the rear end of the boom for raising the same when the cable is pulled upon, a hook on the depending end of the cable for enabling the cable to be attached to an object, and a cable attached to the hook for releasing the first cable from the object.

In testimony whereof I affix my signature.

CLAUD D. GINTER.