April 12, 1927. 1,624,285

C. A. SIDERS

LOG LOADING TRUCK

Filed Sept. 10, 1925 3 Sheets-Sheet 1

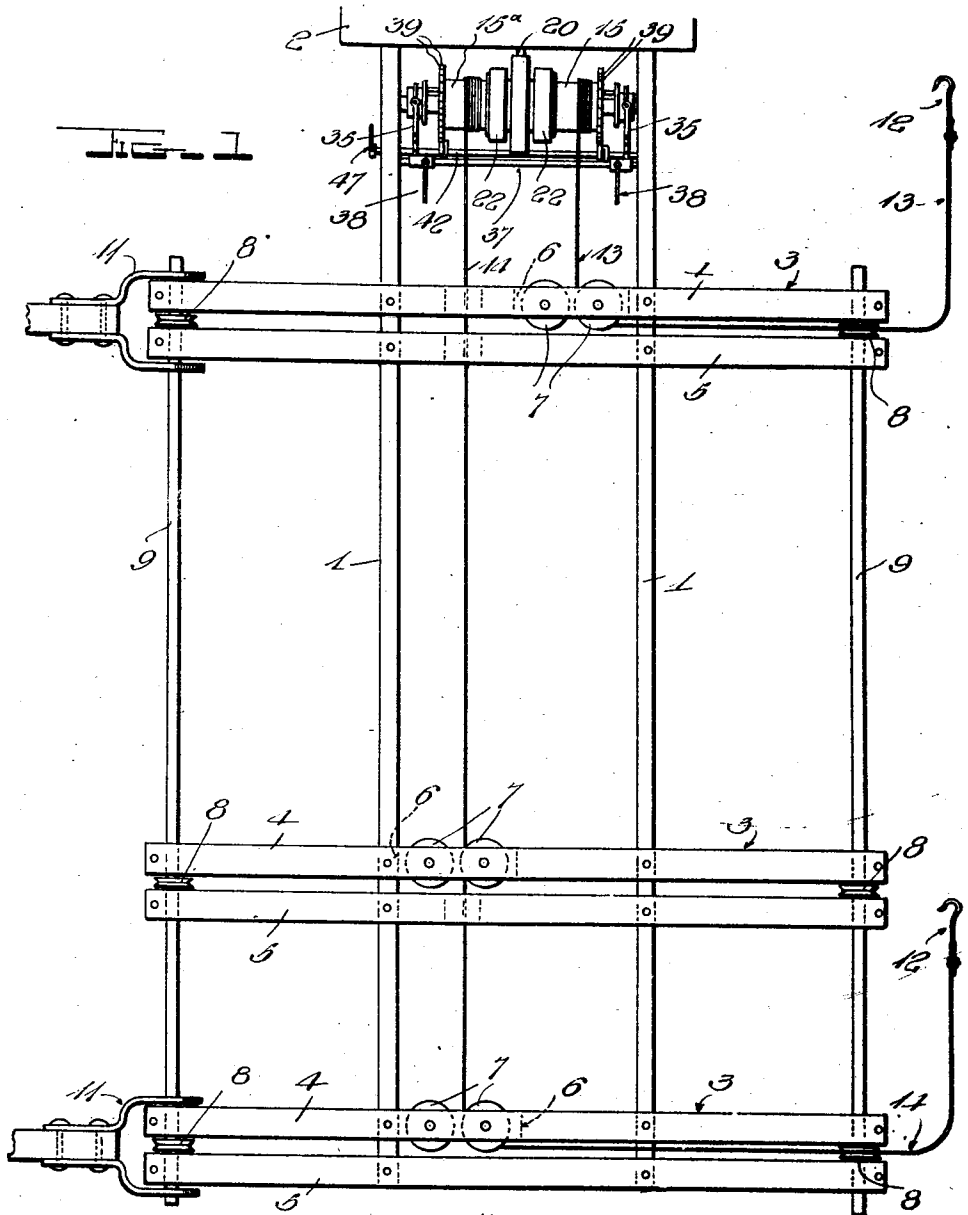


Fig. 1

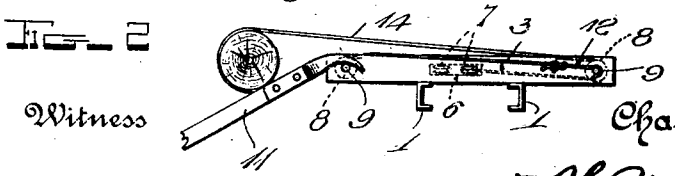


Fig. 2

Witness

Inventor

Chauncy A. Siders

By H. B. Williamson & Co

Attorneys

April 12, 1927. 1,624,285

C. A. SIDERS

LOG LOADING TRUCK

Filed Sept. 10, 1925 3 Sheets-Sheet 2

Fig. 3

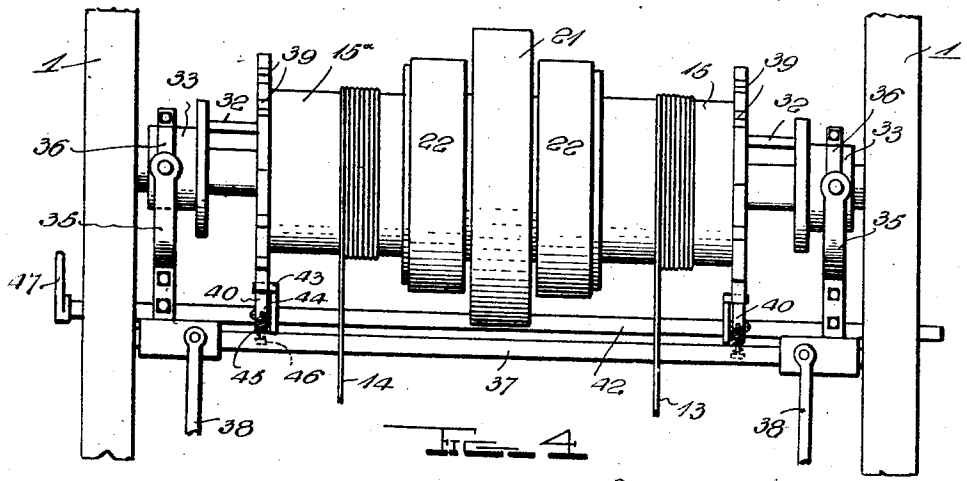


Fig. 4

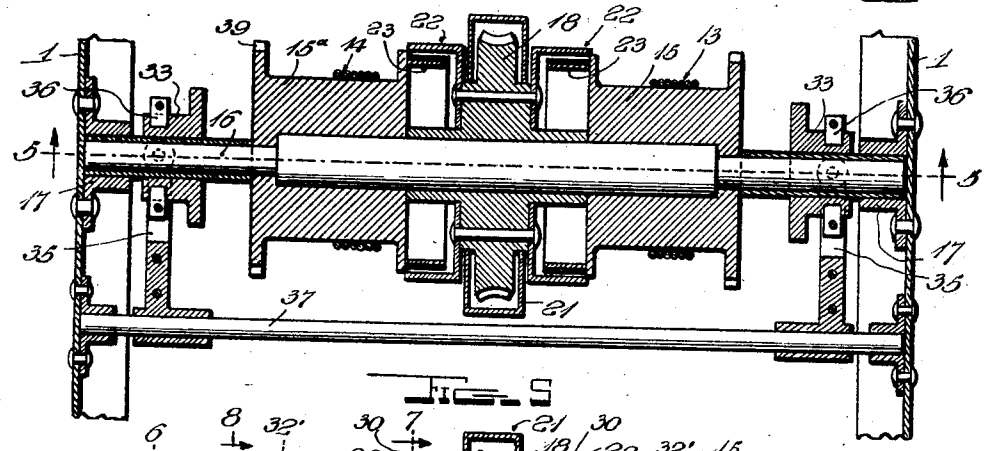
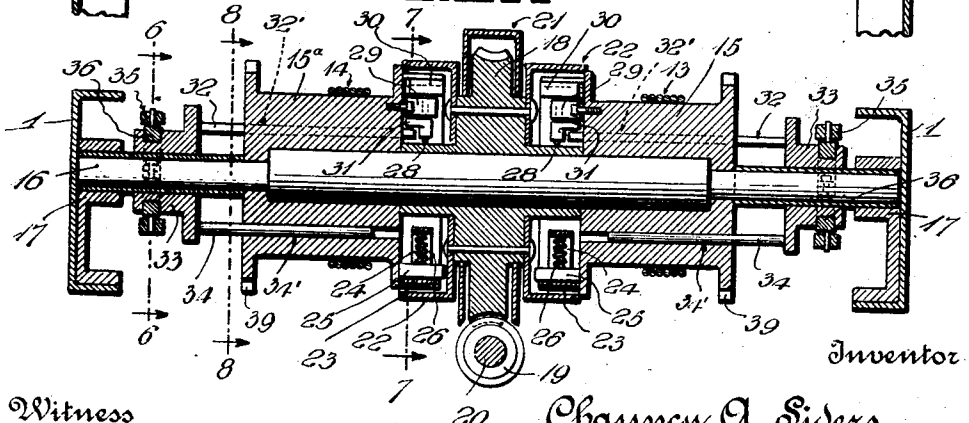


Fig. 5



Witness

Inventor

Chauncy A. Siders

By H. B. Williamson & Co

Attorneys

April 12, 1927. 1,624,285

C. A. SIDERS

LOG LOADING TRUCK

Filed Sept. 10, 1925 3 Sheets-Sheet 3

Fig. 6

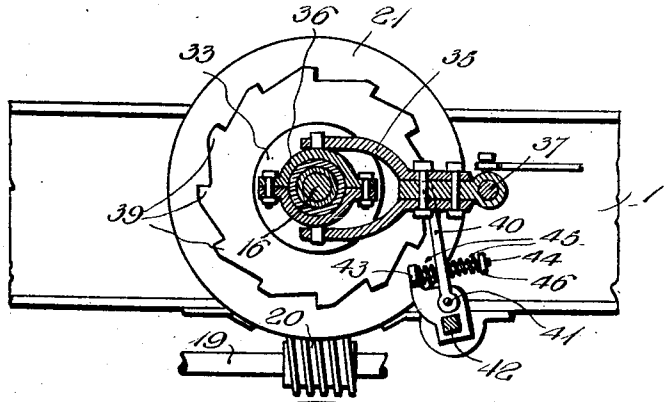


Fig. 7

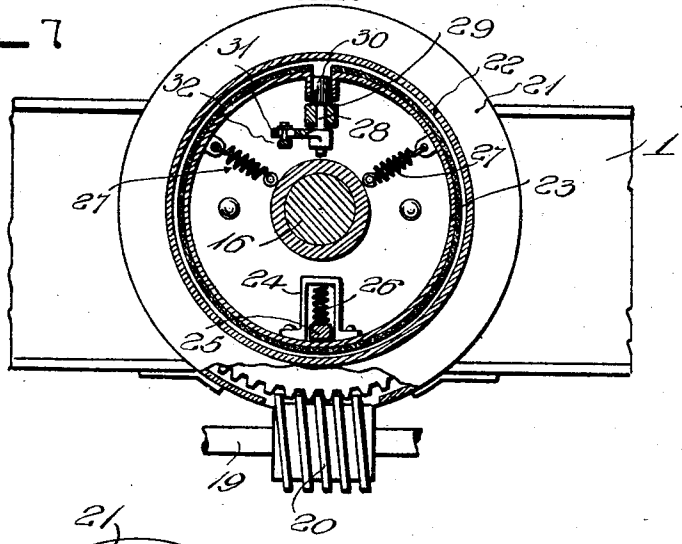
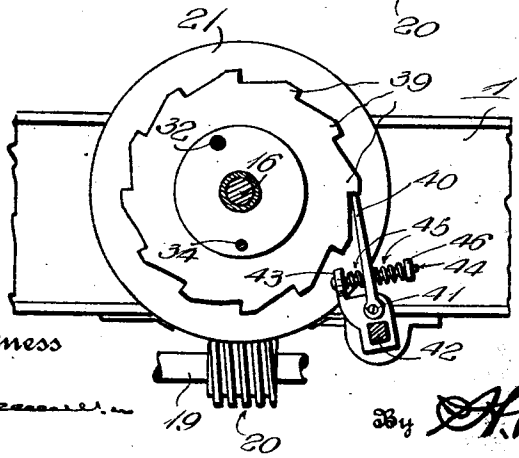


Fig. 8



Witness

Inventor

Chauncy A. Siders

By H. B. Williamson & Co

Attorneys

Patented Apr. 12, 1927. 1,624,285

UNITED STATES PATENT OFFICE.

CHAUNCY A. SIDERS, OF TWELVE MILE, INDIANA.

LOG-LOADING TRUCK.

Application filed September 10, 1925. Serial No. 55,557.

My invention relates to improvements in trucks for loading and hauling logs, and while heretofore it has been rather common to provide one power-driven drum on the truck frame for winding a log loading cable, difficulty has been encountered in properly controlling opposite ends of the logs, as they are rolled upwardly along the usual skids. Hence, the primary object of my invention is to provide a loading means embodying a pair of cables for engagement with opposite ends of a log, and a pair of winding drums for said cables respectively; together with means whereby said drums may be driven selectively or simultaneously, and means whereby either drum may be held against retrograde turning, so that a single operator will have the log absolutely subject to his will.

Other objects are to provide loading means which will operate to equal advantage regardless of the side of the truck at which the logs are located; to eliminate the dangers of all single cable loaders in which there is danger of the logs slipping around and coming down out of control; to provide an effective means for booming both ends of a load of logs after they have been rolled or skidded onto the truck; to provide a loading means light in weight, not adding materially to the load, and one which may be located well forward on the truck; and to provide loading means that will work equally well on semi-trailer outfits for hauling long materials, such as logs, poles, pipes, boilers, and the like.

With the foregoing and minor objects in view, the invention resides in the novel subject matter hereinafter described and claimed, the description being supplemented by the accompanying drawings.

Figure 1 is a top plan view of the frame of a log hauling truck embodying my improved loading means.

Figure 2 is a small rear end elevation illustrating the manner in which a log may be skidded or rolled onto the log bunks.

Figure 3 is a plan view of the cable-winding drums and associated parts.

Figure 4 is a horizontal sectional view through the parts disclosed in Fig. 3.

Figure 5 is a vertical section on line 5—5 of Fig. 4.

Figures 6, 7 and 8 are detail sectional views on lines 6—6, 7—7 and 8—8 of Fig. 5.

In the drawings above briefly described, the numerals 1 designate the side bars of a truck chassis frame, and 2 may be considered as designating a portion of the driver's cab or seat. The numerals 3 designate a plurality of log bunks which extend transversely of the truck frame and project laterally beyond such frame, each of said bunks comprising a pair of parallel bolsters 4 and 5 which are disposed in closely spaced relation, each of the bolsters 5 being shown as provided with a recess 6 intermediate its ends, in which a pair of sheaves 7 are mounted on vertical axes. Other sheaves 8 are disposed vertically between the ends of the bolsters 4 and 5, these sheaves being rotatable upon longitudinal rods 9 which pass through said ends of the bolsters and extend substantially throughout the length of the log-supporting portions of the frame structure. In addition to forming means for rotatably supporting the sheaves 8, the rods 9 are adapted for engagement with the usual hooks 10 on the upper ends of skids, such as indicated at 11 in Fig. 2. Furthermore, the rods 9 may be engaged by hooks 12 on the ends of a front cable 13 and a rear cable 14. The front cable 13 may be engaged with either of the sheaves 7 of the front bunk 3 and with either of the sheaves 8 of such bunk, according to the side of the truck at which the logs are located to be loaded. The rear cable 14 is similarly engageable with the sheaves of the rearmost bunk, or with those of an intermediate bunk, if rather short logs are to be loaded. Separate drums 15 and 15ª are provided for winding the cables 13 and 14, and provision is made whereby these drums may be driven either selectively or simultaneously, and held whenever desired against retrograde movement. Thus, it will be seen that when the two cables are engaged with opposite ends of a log, such ends may be drawn inwardly, either one at a time or simultaneously, according to the conditions encountered. If the log is not parallel with the truck frame, its most remote end may be drawn inwardly toward said frame without disturbing its other end, and when the log is in proper position to travel smoothly up the skids, both cables may be simultaneously wound so as to smoothly and easily skid the log onto the bunks. After the desired number of logs have been loaded, the cables 13 and 14 may be passed in any desired manner over the load and anchored. Then, the drums 15 and 15ª may be driven to take up all slack in said cables, so that the latter form ef-

fective means for booming opposite ends of the load. Obviously, suitable chocks will be provided at the ends of the bunks, but as they are well known, they have been omitted from the disclosure.

The drums 15 and 15ª are mounted to freely rotate upon a horizontal shaft 16 which extends between the side bars 1 and has its ends suitably connected with these bars, as indicated at 17. Mounted upon the aforesaid shaft 16, between the drums 15 and 15ª, is a drum-driving wheel 18 which is preferably in the form of a worm wheel meshing with a worm 19 on a shaft 20 driven by the motor of the truck. By preference, a suitable housing 21 extends around the wheel 18. Secured to opposite sides of this wheel and projecting outwardly therefrom are two clutch drums 22 which are open at their outer sides, but are substantially closed by the inner ends of the drums 15 and 15ª. Within the drums 22, between the wheel 18 and the cable-winding drums 15 and 15ª, I locate suitable friction clutches which may well be of the form disclosed most clearly in Figs. 5 and 7.

In the figures just referred to, expansible clutch bands 23 are shown, said bands having driving stirrups 24 into which lugs 25 project from the ends of the drums 15 and 15ª. Compression springs 26 are located within these stirrups and exert their force to normally move the intermediate portions of the clutch bands 23, inwardly toward the axis of the drums. Tension springs 27 connect the end portions of these bands with the inner ends of the drums 15 and 15ª and thus the two bands 23 are normally contracted. To expand them, I have shown radial rock shafts 28 mounted in bearings 29 carried by the drums 15 and 15ª, the outer ends of said shafts having T-heads or cams 30 disposed between the ends of the bands, while at the inner ends of said shafts, crank arms 31 are provided, these crank arms being connected to rods 32 which slide within bores 32′ formed longitudinally in the drums 15 and 15ª. The outer ends of the rods 32 are connected to collars 33 which are slidable upon the end portions of the shaft 16, and if desired, these collars may be provided with stabilizing rods 34 slidable in additional bores 34′ in the drums 15 and 15ª.

Any desired controlling means may be provided for the collars 33. For illustrative purposes, I have shown shifting forks 35 having running connections 36 with said collars, the outer ends of the forks being slidable along a transverse rigidly mounted rod 37. Any suitable operating connections may be provided for sliding the forks 35, portions of such connections being indicated at 38. It will be understood that these connections vary according to the style of truck upon which the invention is used, and at the points at which the controls must be located. In all instances, however, they will be such as to permit the driving clutch of either of the drums 15 and 15ª to be thrown into play without the other clutch, or to permit both clutches to function at the same time.

The outer ends of the drums 15 and 15ª are provided with ratchet teeth 39, co-operating with appropriate dogs 40 which are pivotally mounted at 41 on a transverse rock shaft 42 which is parallel with the drums. In the construction shown, arms 43 project from this rock shaft adjacent the dogs 40, bolts 44 pass through these arms and dogs, and coiled compression springs 45 are provided on the bolts, at the opposite sides of said dogs, the outer ends of said springs engaging the arms 43 and suitable stops 46 on the bolts. By yieldably mounting the dogs in this manner, it will be seen that when the shaft 42 is held in the position disclosed in Fig. 8, the outermost of the springs 45 will yield as the dogs snap over the teeth 39, said springs functioning to re-engage the dogs with the teeth as they are successively forced outwardly by said teeth. The innermost of the springs 45 permit the setting of the shaft 42 at dog-releasing position, even though the dogs may be so tightly held by the ratchet teeth that they cannot immediately move to such released positions. With the shaft 42 set in this manner however, and the springs 45 under compression, as soon as the drums are slightly rotated to relieve their frictional engagement with the dogs 40, the springs 45 will function to force said dogs outwardly to released position. Then, the clutches may be thrown out and the cables allowed to unwind from the drums.

Any desired means may be provided for rocking the shaft 42, a crank arm 47 being shown on one of its ends for operative relation with the actuating connections, leading to the driver's cab or to some other appropriate point.

It will be seen from the foregoing that I have provided a very unique structure for carrying out the objects of the invention, and as excellent results have been obtained from the general construction shown, it may well be followed. However, within the scope of the invention as claimed, various modifications may be made and as hereinbefore suggested, the invention is not restricted to use in connection with trucks in which a single chassis frame carries all of the load, but is well adapted to semi-trailer outfits, in which the chassis supports the front end of the load and a trailer carries its rear end. Under such conditions, it would simply be necessary to equip the truck frame and the trailer frame with bunks of the nature above described, in which instance, the rear cable would extend across the gap between the truck frame and

the trailer and would engage the sheaves of the trailer's bunk or bunks.

I claim:

1. In a log loader, cable winding means comprising a pair of drums having ratchet teeth, means for rotating either or both of said drums in one direction, pivoted independently operable spring-pressed dogs mounted for coaction with the two sets of ratchet teeth, and spring means for yieldably exerting a releasing force on both dogs and means for actuating said spring means.

2. In a log loader, cable winding means comprising a pair of drums mounted in axial alinement and having ratchet teeth, means for rotating either or both of said drums in one direction, a rock shaft mounted parallel to the drums, pivoted independently-operable spring-pressed dogs mounted on said shaft for co-action with the two sets of ratchet teeth, and spring means on said shaft for yieldably exerting a releasing force on both dogs when the shaft is turned in one direction.

In testimony whereof I have hereunto affixed my signature.

CHAUNCY A. SIDERS.