

T. S. MILLER & J. H. DICKINSON.

LOG SKIDDING MACHINE.

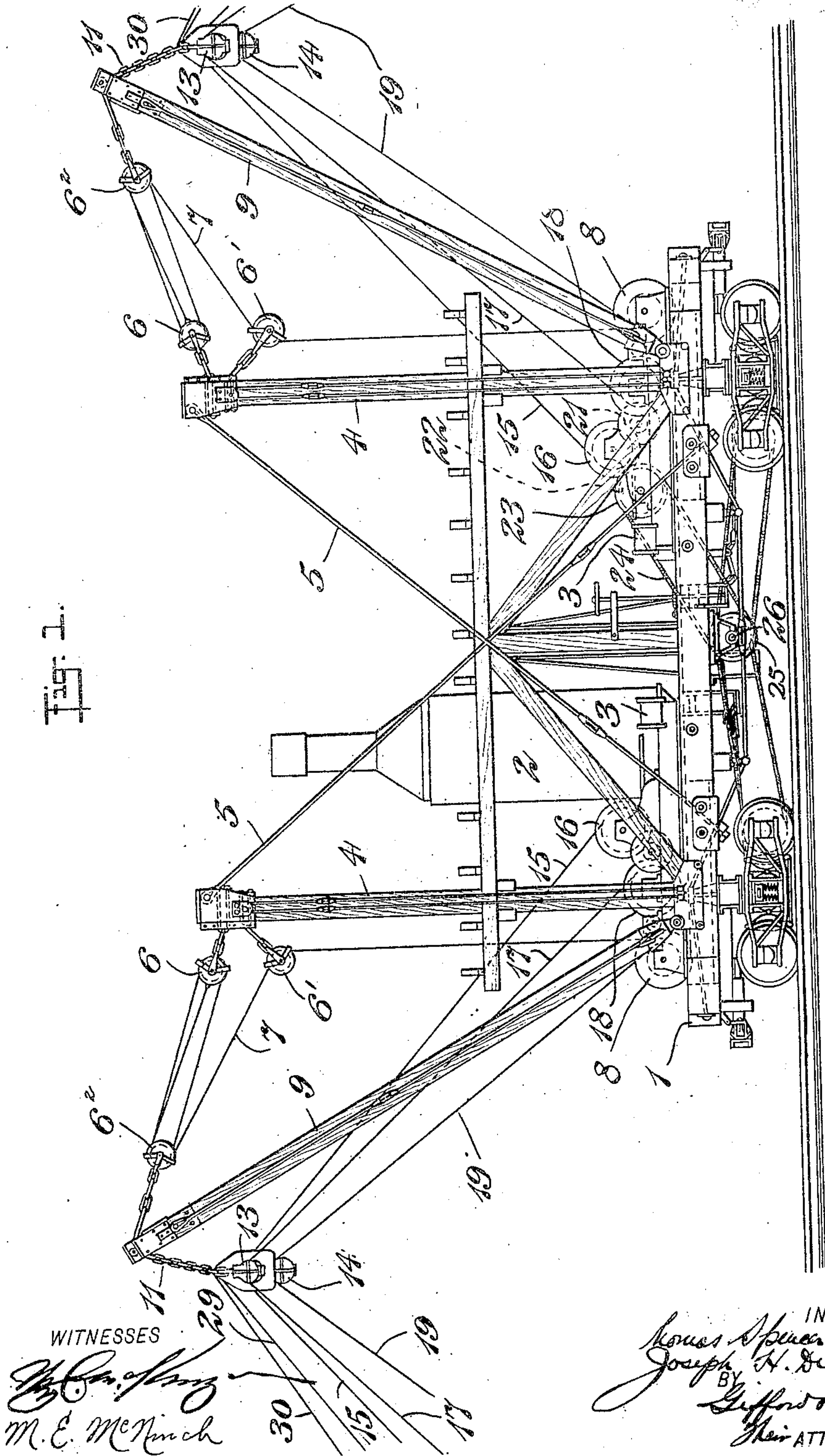
APPLICATION FILED AUG. 7, 1908.

Patented Mar. 9, 1909.

4 SHEETS—SHEET 1.

914,441.

Fig. 1.



WITNESSES

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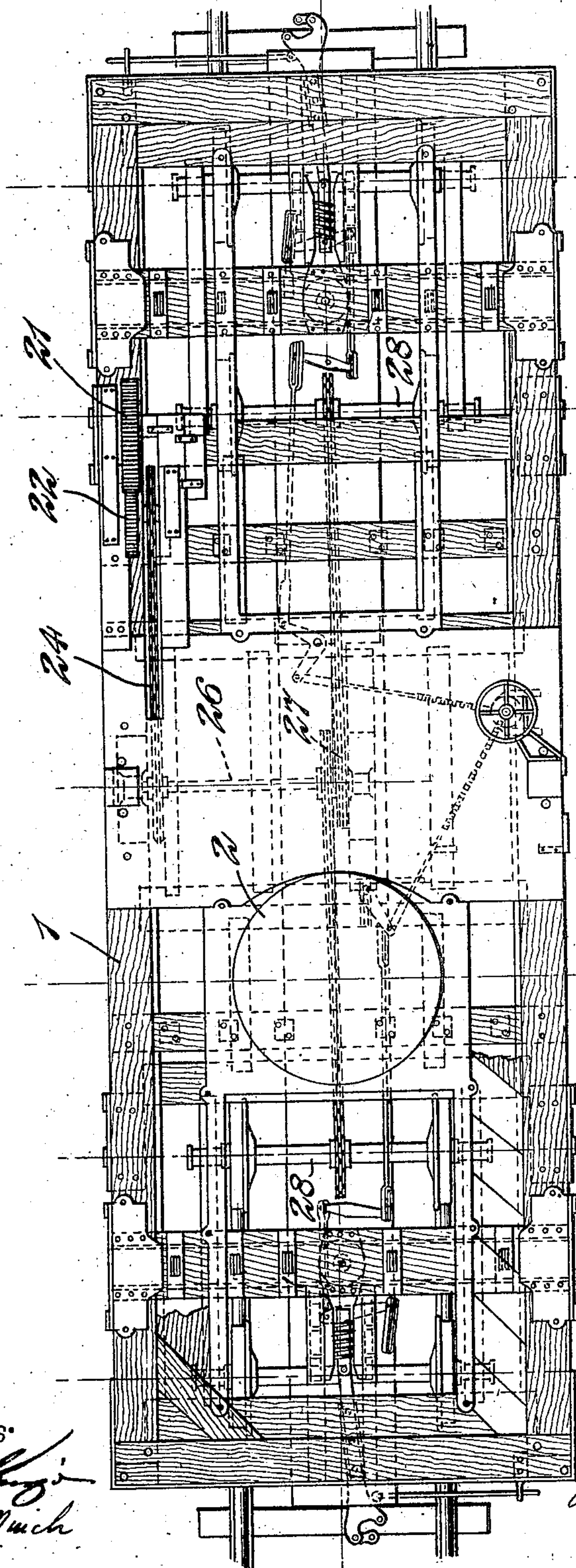
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4 SHEETS—SHEET 2.

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Fig. 2.



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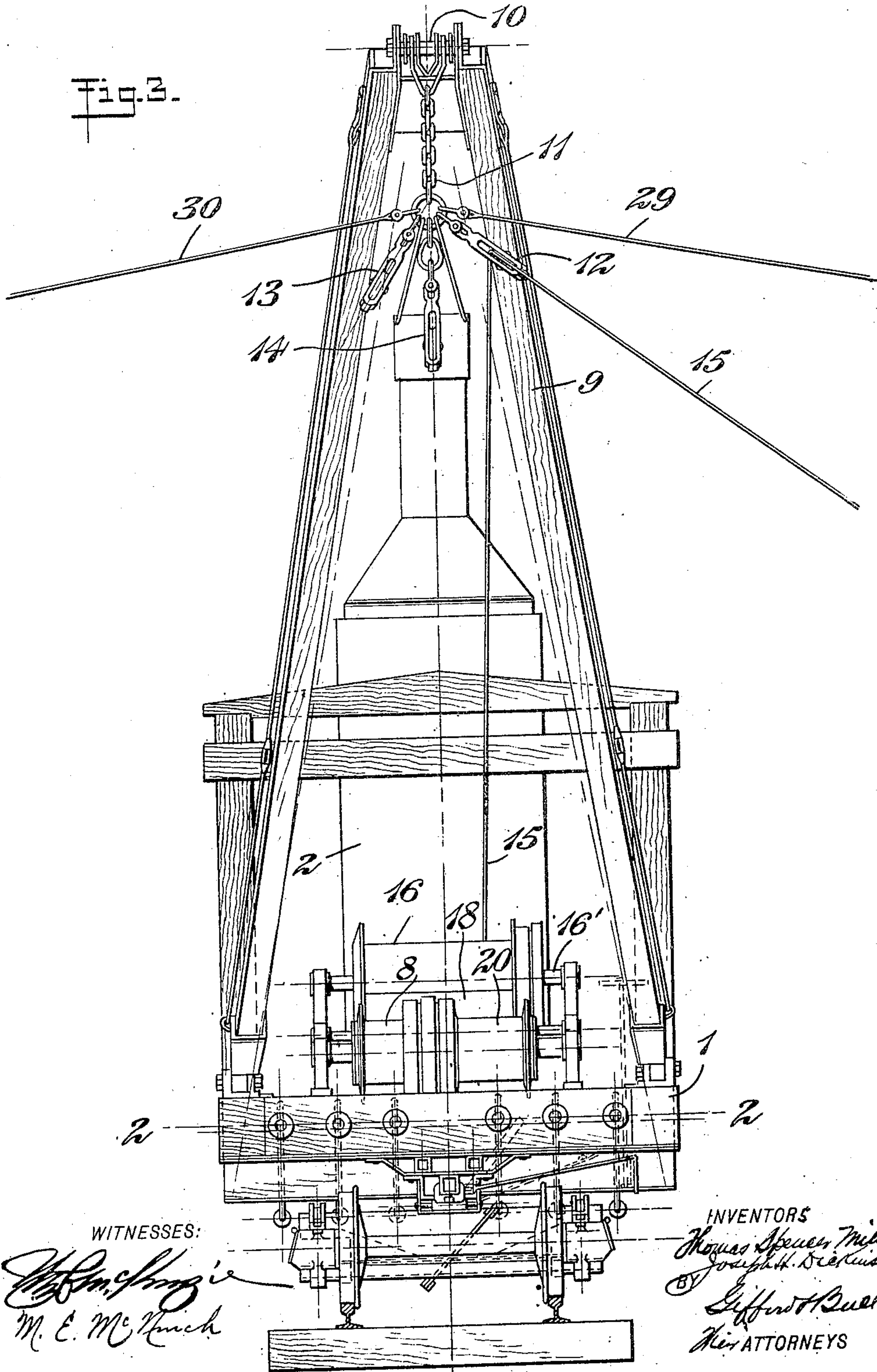
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Fig. 3.



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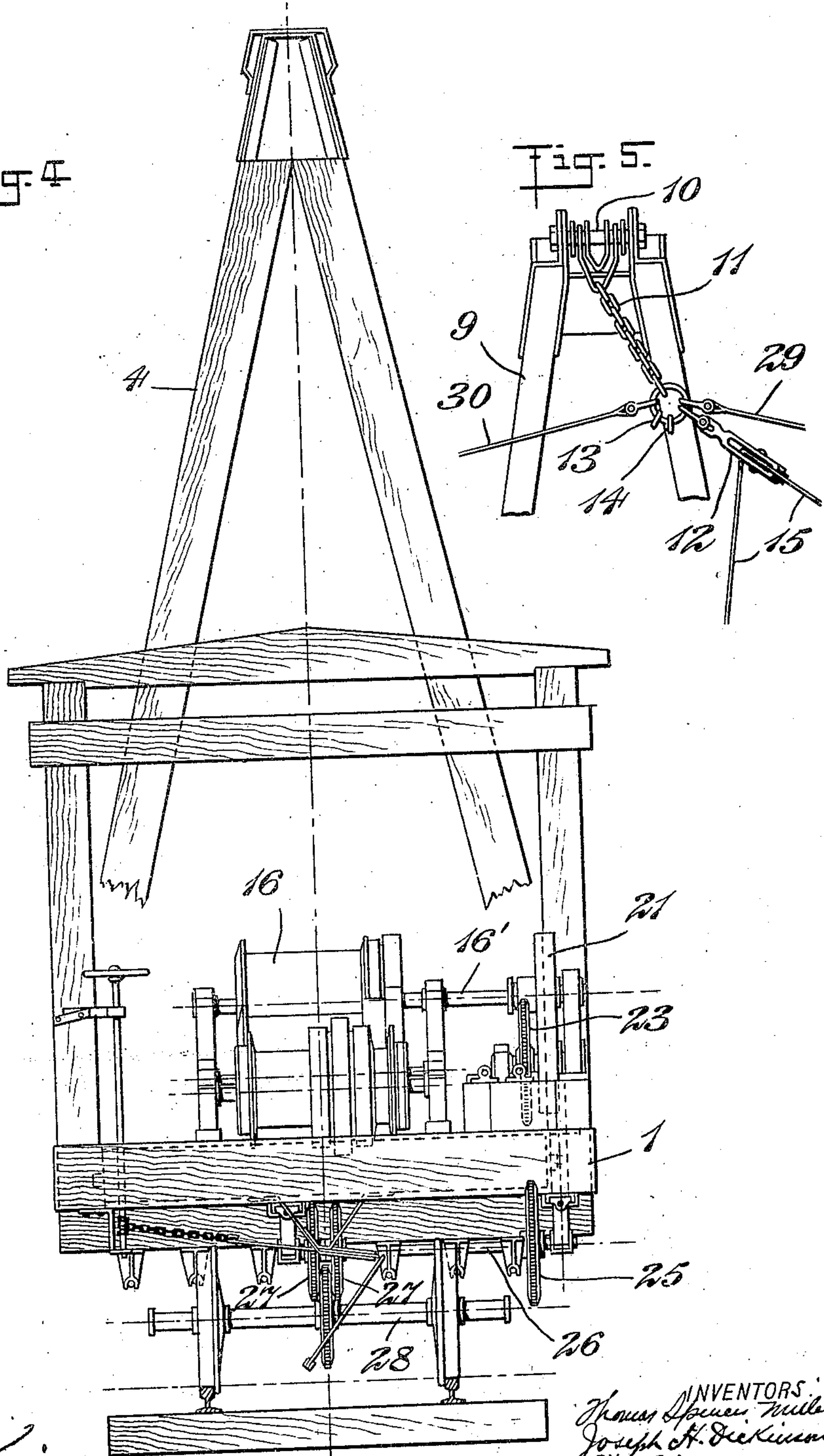
Patented Mar. 9, 1909.

4 SHEETS—SHEET 4.

914,441.

Fig. 4

Fig. 5



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UNITED STATES PATENT OFFICE.

THOMAS SPENCER MILLER, OF SOUTH ORANGE, AND JOSEPH H. DICKINSON, OF MONTCLAIR,
NEW JERSEY.

LOG-SKIDDING MACHINE.

No. 914,441.

Specification of Letters Patent.

Patented March 9, 1909.

Application filed August 7, 1908. Serial No. 447,365.

To all whom it may concern:

Be it known that we, THOMAS SPENCER MILLER, of South Orange, and JOSEPH H. DICKINSON, of Montclair, both in the county of Essex, State of New Jersey, have invented a new and Improved Log-Skidding Machine, of which the following is a full, clear, and exact description.

Our invention relates to a log skidding machine, the object being to construct a self-propelled machine having two skidding booms arranged to carry at their tops, through a swinging connection, any desired number of blocks from which the lines may lead in any direction; and a set of guy lines also attached to said swinging connection so that, when the booms are raised upon the arrival of the machine at the point where logging operations are to be commenced, the raising of the booms will tighten the guys without, however, subjecting the booms to undue or unequal strains due to inequalities in the lengths of the guy lines or differences in their angular relation with the base of the machine.

The invention will be understood from the following description taken in connection with the accompanying drawings in which—

Figure 1 is a side elevation of the complete machine; Fig. 2 is a horizontal section on the plane of the line 2—2 of Fig. 3; Fig. 3 an end elevation; Fig. 4 a transverse vertical section; and Fig. 5 a detail view to explain the mode of operation of a part of the machine.

Similar reference characters indicate similar parts in the several views.

The machine herein described is mounted on a car body 1 adapted to travel on rails. The car may be of any usual or approved type built in a substantial manner and braced to afford a proper support for the parts carried thereby. As shown in Fig. 2, it is provided with suitable braking and coupling appliances. We prefer that the car shall be self-propelled as hereafter described.

The capacity and stability of the machine of the character herein described is increased by having two skidding booms and we have, therefore, shown two such booms, and in the description will apply the same reference numerals to like parts at the opposite ends of the car.

Near the middle of the car is stationed a

boiler 2 which furnishes steam for two double cylinder logging engines 3, it being understood that the term "engine" is used as a general designation for the cylinder, driving connections, and drums. Near each end of the car is a vertical A mast 4 the legs of which are stepped in suitable thrust blocks and stayed by tension rods 5. The mast 4 supports the tightening up blocks 6, 6' and 6², the latter being attached to the skidding boom 9. The rope 7 is fastened to block 6 and passes around the three blocks, as shown in Fig. 1, to friction drum 8 on the logging engine.

Pivotally supported at each end of the car is a skidding boom 9, the side members of each boom being connected by a cross bar 10. To this cross bar is connected one end of a non-extensible member as a chain, rope or rod 11, the first-named being illustrated. The free end of said chain is of such form that the guy and skidding lines may be attached thereto, a convenient form being to make one of the links in the form of a ring, as shown in Fig. 3, of such diameter as to accommodate three or more blocks. The connection 11 is so attached to the boom, and is of sufficient length to permit a free swinging movement thereof under the strains to which the guy lines are subjected. Attached to the chain 11 are the skidding blocks 12, 13 and 14, each having a swivel connection with the chain so that it may turn in any direction. The skidding line 15 passes over the block 12 and is connected to the drum 16 of the logging engine. The line 17 passes over block 13 and is secured to the drum 18. The third skidding line 19, which may be used as a decking line, passes around block 14 and is secured to drum 20. The drums of each engine are independently driven by friction clutches as usual in all logging machinery. On the shaft 16' of drum 16 is keyed a spur gear 21 which meshes with a pinion 22. On the shaft of the latter is a sprocket wheel 23 connected by link belting 24 to a sprocket wheel 25 on a shaft 26 carried in bearings below the floor of the car. Said shaft carries sprocket wheels 27 connected by link belting to similar wheels on axles 28 of the car trucks, as clearly shown in the drawings. The engine for propelling the car will have a reverse link motion similar to that on known types of self-propelled vehicles so that it may be run in either direction. The guy ropes 29

and 30 are also attached to the chain 11 and preferably to the large link or ring to which the skidding blocks are attached. The guy lines are usually about 175 feet in length and their outer ends are secured to suitable anchorages, such as the stump of a tree, so that when the skidding boom is raised said guy lines will be tightened. In actual use it is practically impossible to find two anchorages equally distant from or making similar angles with the base of the machine. The guy lines are run ahead of the machine in any convenient direction and usually at about an angle of 60 degrees to the machine, said lines being run ahead to hold the skidding blocks clear of the boom. Also the higher the skidding blocks the less interference of the skidding lines with the decking of the logs. By connecting the skidding and guy lines with the boom through a swinging connection many advantages are attained over a direct connection with said boom which is always held as rigidly as possible. When attached directly to the boom, if the guy lines are of unequal length or at different angles to the base of the machine, the raising of the boom 9 to tighten the guy lines will produce a greater strain upon one than upon the other. A swinging connection, however, will adjust itself to one side or the other, as indicated in Fig. 5, to equalize the strains on the guy lines, thereby adding to the efficiency and stability of the machine. This equality will be maintained throughout the logging operations at a given setting thereby relieving the skidding booms of strains which will tend to unseat or distort it.

It will be readily understood that when operating the machine the arrangement permits simultaneous use of the skidding lines at each end of the machine, and they may be run out on either side of the track in any direction to pull in logs within a radius depending upon their lengths. The skidding line 19 may be used as a decking line simultaneously with the use of the other lines for skidding. The use of two skidding booms enlarges the capacity of the machine as the lines connected thereto may be in simultaneous use.

In practice the chain 11 is from 18 inches to two feet in length and by its use when a log is being skidded by line 15 the side pull will be resisted by the opposite guy line and will relieve the boom from tortional strains. Similarly the guy line 29 will resist the pull of the skidding line 17.

What we claim and desire to secure by Letters Patent is:—

1. In a machine of the character described the combination of a skidding boom, a non-extensible member attached to the free end of said boom, guy lines connected to said member, means for raising and lowering said boom, said member permitting an adjustment of said guy lines directly to the strains thereon when the boom is raised for tightening said lines.

2. In a machine of the character described the combination of a skidding boom, a non-extensible swinging connection attached to the free end of said boom, and guy lines attached to said connection.

3. In a machine of the character described the combination of a skidding boom, a non-extensible swinging connection attached to the free end of said boom, and skidding blocks and guy lines attached to said connection.

4. In a machine of the character described the combination of a skidding boom, a non-extensible chain attached to the free end of said boom and capable of a swinging movement about its point of attachment, and skidding blocks and guy lines attached directly to said chain.

5. In a machine of the character described the combination of a car adapted to travel on rails, two skidding booms secured to said car at opposite ends thereof, blocks attached to the free ends of said booms through a non-extensible swinging connection, guy lines also attached to said connection, and winding mechanism for the skidding lines mounted on the car between said booms.

6. In a machine of the character described the combination of a skidding boom, a non-extensible swinging connection of substantial length attached to the free end of said boom, blocks secured to said connection, and guy lines oppositely attached to said connection so that the pull on a given block will be directly resisted by the oppositely disposed guy line to thereby relieve the boom of tortional strains.

In testimony whereof we have hereunto signed our names in the presence of two subscribing witnesses.

THOMAS SPENCER MILLER.
JOSEPH H. DICKINSON.

Witnesses:

LOUIS G. RUGGLES,
FRANK M. McCORD.