

931,576.

6 SHEETS--SHEET 1.

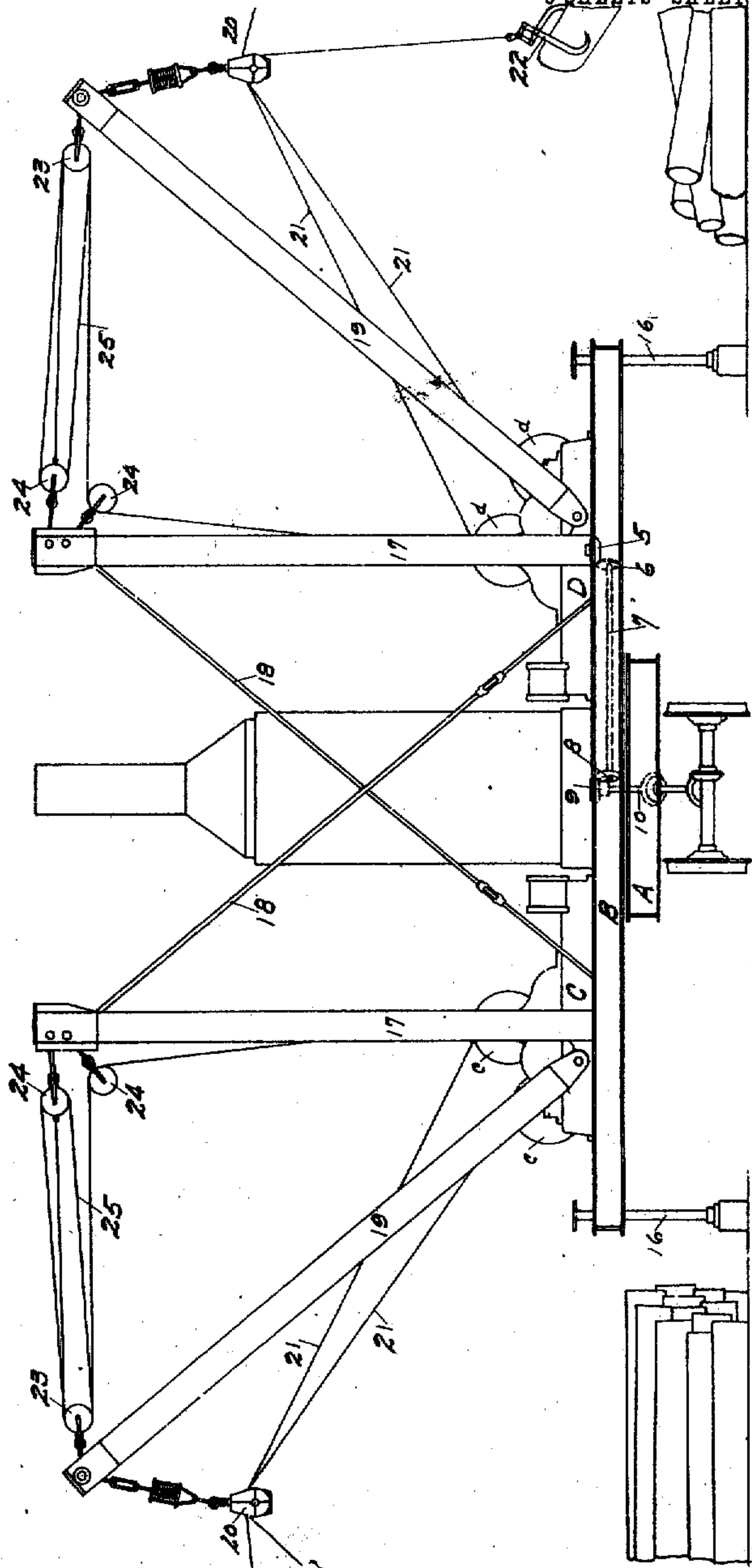


FIG. 1.

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LOGGING APPARATUS.

APPLICATION FILED APR. 7, 1908.

931,576.

Patented Aug. 17, 1909.

5 SHEETS—SHEET 2.

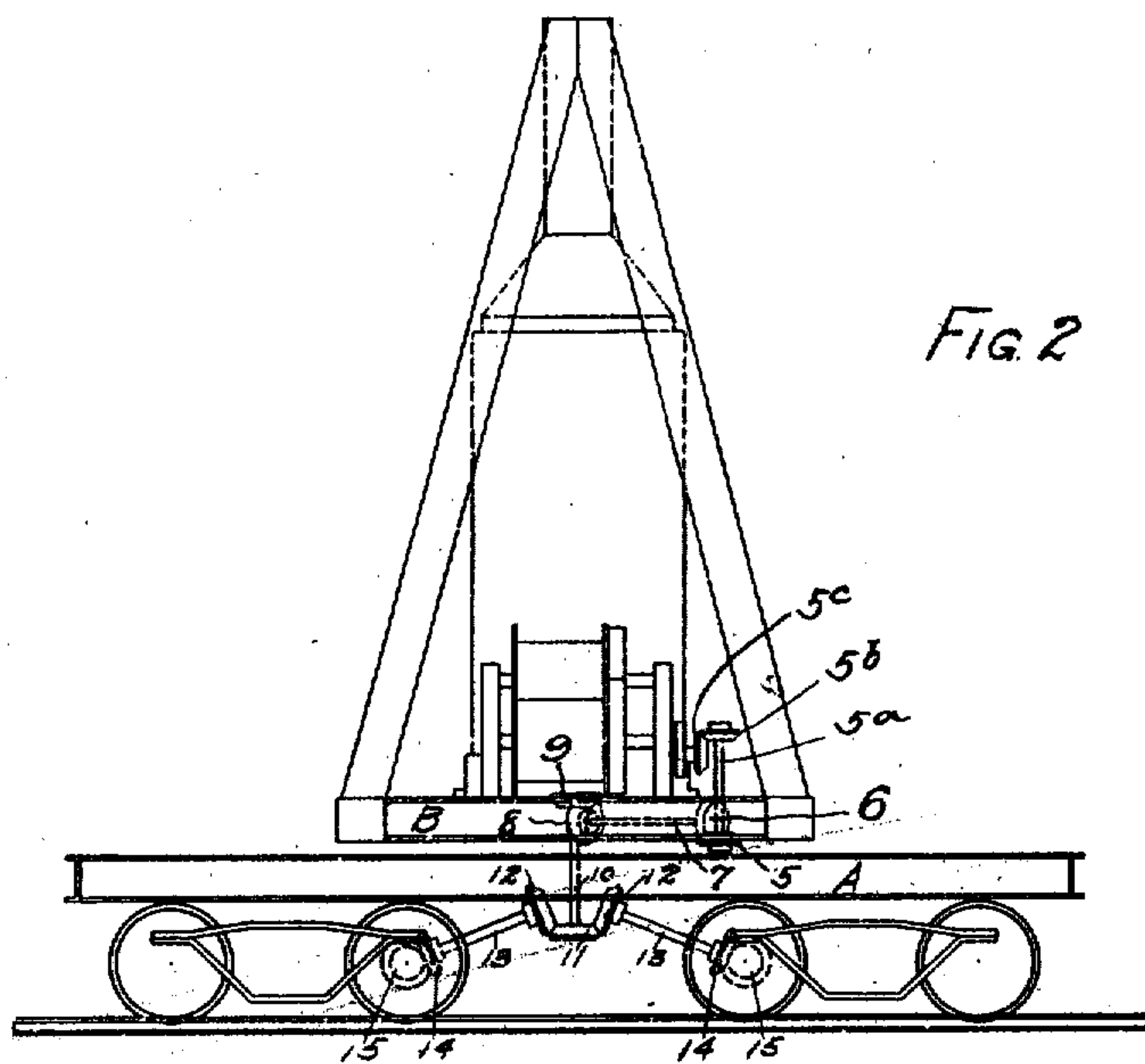


FIG. 2

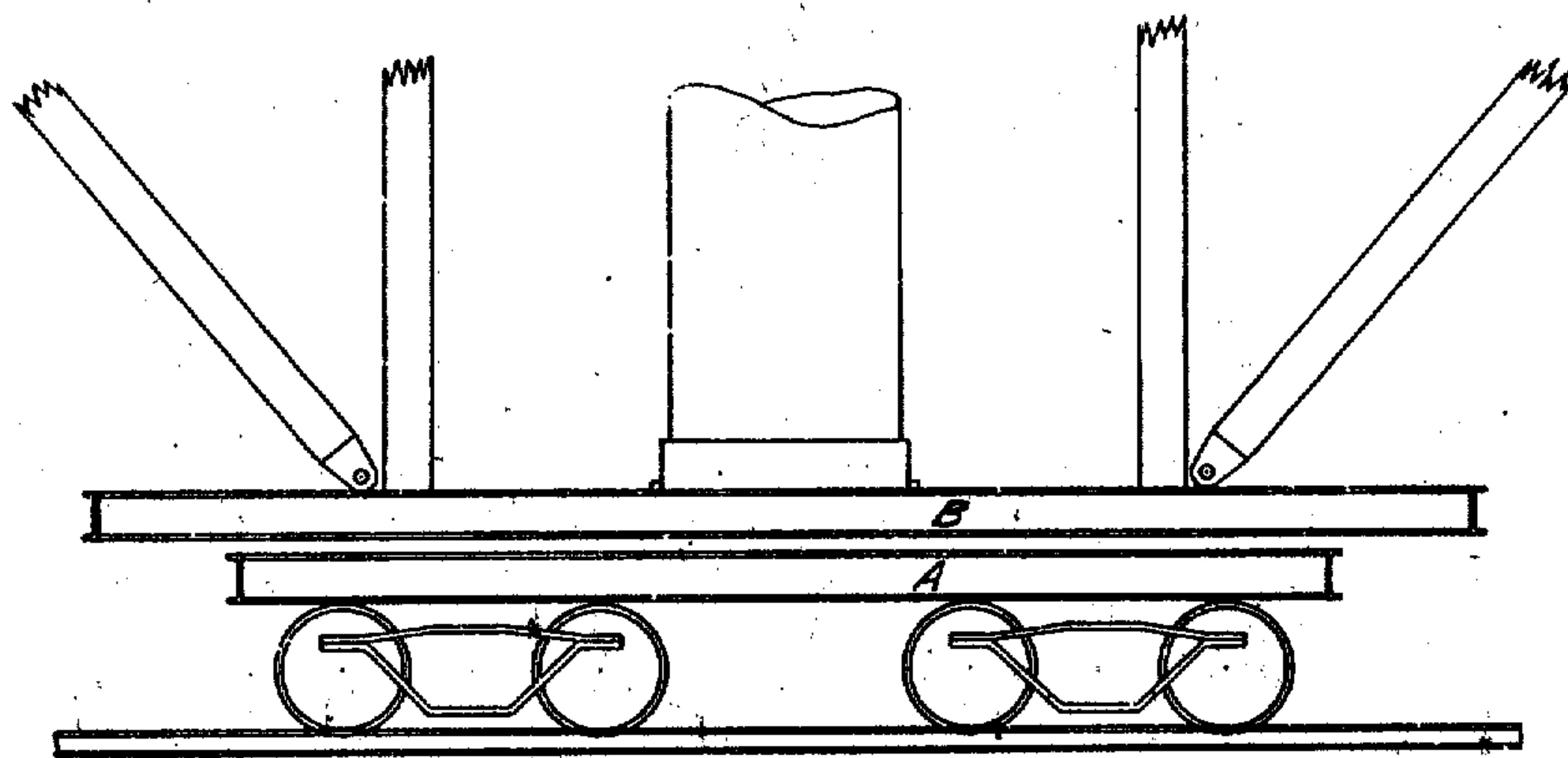


FIG. 3.

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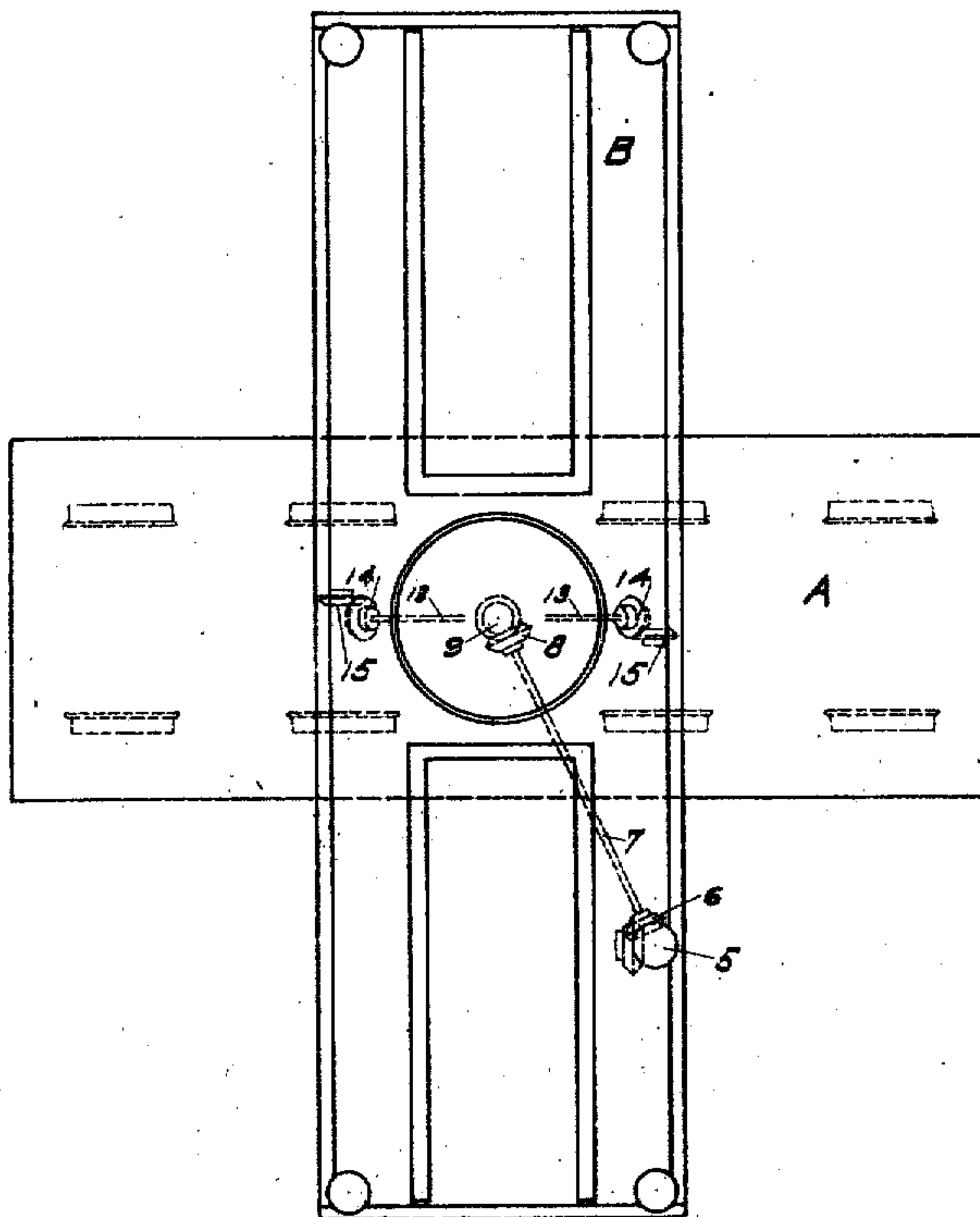
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6 SHEETS—SHEET 3.

Fig. 4



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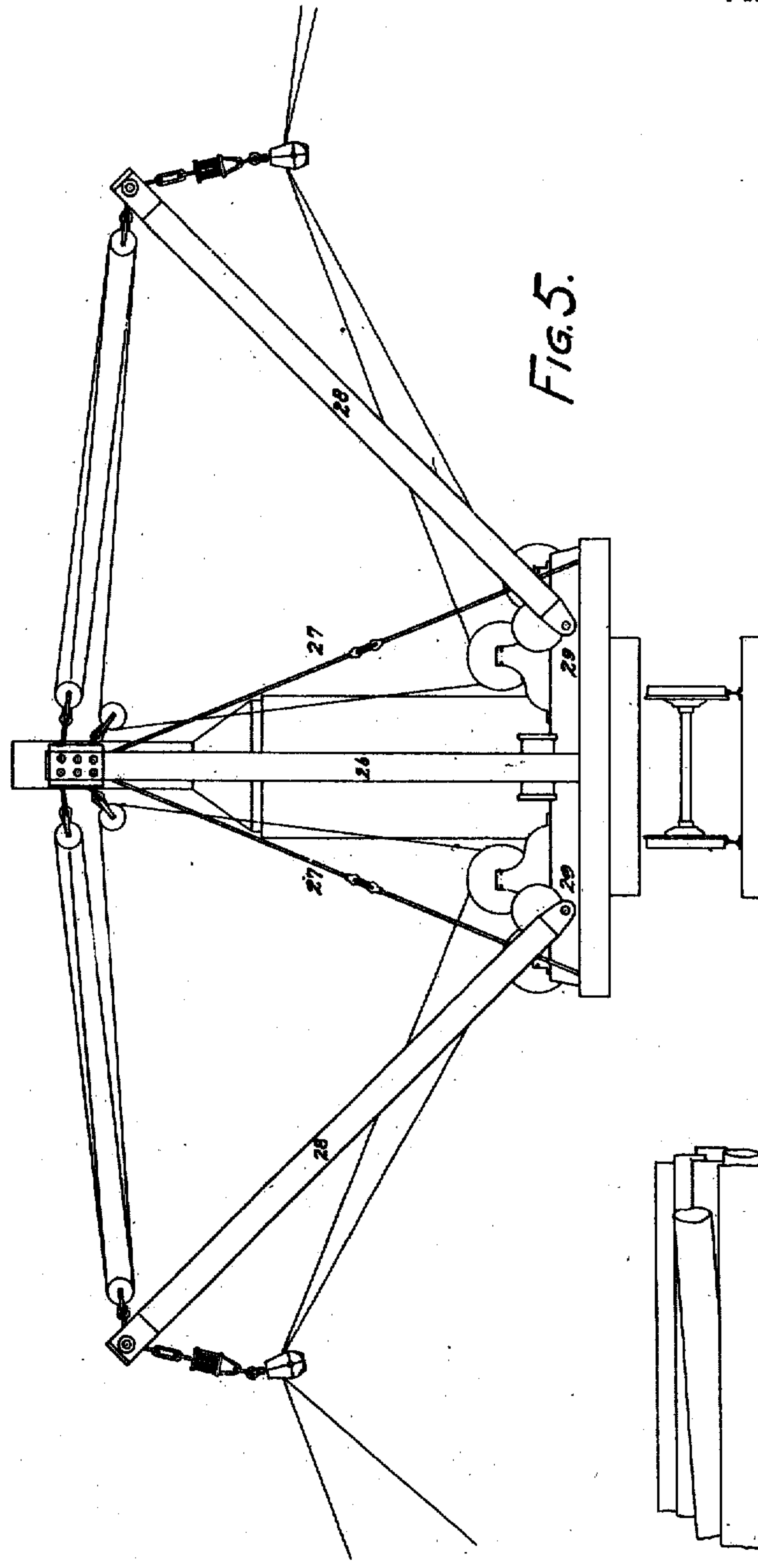
LOGGING APPARATUS.

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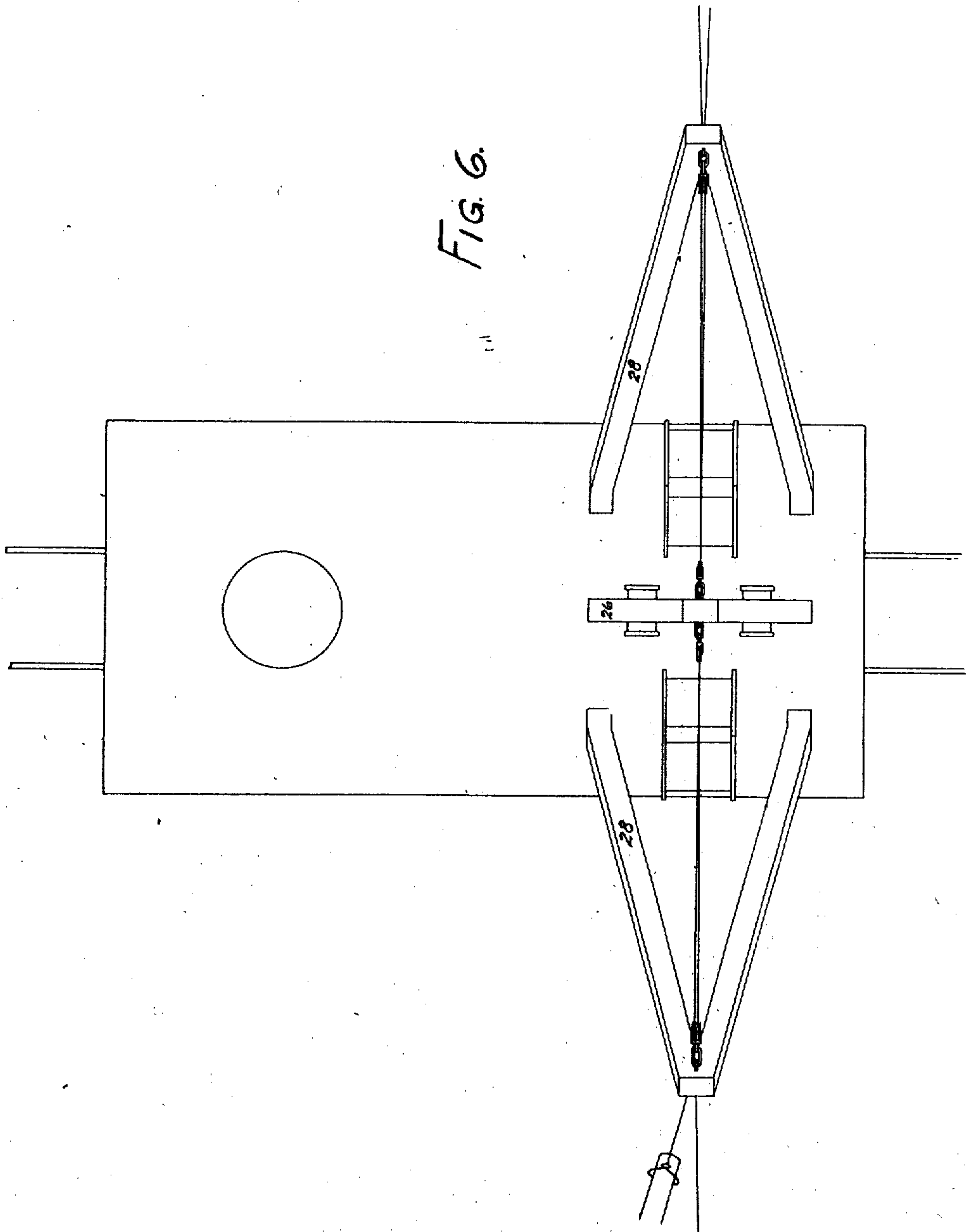
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# UNITED STATES PATENT OFFICE.

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## LOGGING APPARATUS.

No. 931,576.

Specification of Letters Patent.

Patented Aug. 17, 1909.

Application filed April 7, 1908. Serial No. 425,646.

*To all whom it may concern:*

Be it known that we, JOSEPH H. DICKINSON, a citizen of the United States, and a resident of Montclair, in the county of Essex and State of New Jersey, and MERIAN H. DICKINSON, a citizen of the United States, and a resident of Seattle, in the county of King and State of Washington, have invented certain new and useful Improvements in Logging Apparatus, of which the following is a specification.

This invention enables a log to be skidded from a distant point and decked at one side of a railroad track by a single automatic operation and a single skidder line actuated from the platform of a car.

Hitherto, in portable skidders with which we are acquainted, it has been customary to locate the lead blocks in a position approximately above the track upon which the apparatus moves, so that it was necessary to pull the logs out approximately at right angles to the supports for said blocks, such as the loading or skidding boom carrying the blocks. To such construction certain disadvantages are incident. For example, the rope running from the engine on the platform had to pass over the lead block in a position approximately above and parallel to the track and then in engaging the log off the track, it is necessary for the rope to bend sharply at right angles. This usually results in wearing out the side of the sheave block rapidly, in sawing or wearing the rope, and also results in placing an abnormal strain upon the pin of the sheave block. Furthermore, in such a construction it is impossible to properly pile the logs without employing a decking rope, and a decking crew, especially when large quantities of logs are to be piled. That is to say, when the skidding boom projected above and approximately parallel with the track and the ropes led off at an angle to such boom, the logs could not be piled or decked for the following reason: Should several logs be drawn in by the skidding line to a position adjacent to the track, logs subsequently hauled in could not be elevated or lifted at one end before they reached the position of the previously drawn in logs, with the result that the forward end of the incoming logs would nose or strike, against those already at the machine. Consequently, to pile or deck the logs, it is necessary to employ an additional line commonly termed the

decking line, which is used to engage the logs at the track and pile or deck the same, that is, bringing the logs around parallel to the track.

A further disadvantage in the machines of the type referred to is that as the skidding lines extend at approximately right angles to the boom, it is necessary to guy the opposite side of the boom and resist the strain or pull resulting from the skidding line and its load.

In the present invention it is our purpose to provide a skidding machine whereby the logs may be piled or decked adjacent to the machine without the necessity of rehandling the log, after it has been skidded, by a decking line or otherwise.

A further advantage incident to our construction is that the pull or lead of the skidding line is always approximately straight, or direct over the sheave block, instead of at a great angle, with the result that the wear upon the sides of the block is avoided, the strain upon the pin of the block relieved and the rapid wearing or sawing of the skidding rope reduced to a minimum.

Still another advantage incident to our invention is that it is unnecessary to employ guy ropes to resist the opposing pull of the skidding line.

With these and other objects of a like nature in view, the invention consists in the construction, combination and arrangement of parts set forth in and falling within the scope of the appended claims.

In the accompanying drawings, Figure 1 is a view in elevation of our improved apparatus, such view illustrating a portable skidder in position for logging. In this case the platform carried by the traction device is swiveled, and is shown as turned at approximately right angles to the car. Fig. 2 is a side view of the transporting vehicle, and also showing the platform turned into the same position as shown in Fig. 1; Fig. 3 is a view showing the platform turned approximately parallel with the track and in position to be transported from place to place; Fig. 4 is a plan view showing a driving mechanism for making the car self-propelling, so arranged that the apparatus may be propelled irrespective of the position of the platform upon the car; Fig. 5 is a view of a modified form of apparatus, in this instance, the platform remaining normally stationary



relative to the transporting cars, and having mounted thereon skidding apparatus adapted to haul the logs transversely of the track; Fig. 6 is a top plan view of the construction shown in Fig. 5.

Referring now to the accompanying drawings in detail, and especially to Figs. 1 to 4 inclusive, A designates a vehicle or transporting car of any suitable improved character, having revolvably mounted thereon the platform or base B. C and D designate engines mounted upon the base, and when the apparatus is to be made self-propelling, one of the engines, for instance, the engine D, may be used to drive the transporting truck or car. One method of accomplishing this is shown in the drawings, wherein 5 is a beveled gear driven in any manner from the engine D, as shown in Fig. 2, as by a shaft 5<sup>a</sup> upon which the said gear is mounted, said shaft having fixed thereon a beveled gear 5<sup>b</sup>, which in turn meshes with a beveled gear 5<sup>c</sup>, the latter being driven in any suitable manner from a rotating part of the engine or its appurtenances. The gear 5 meshes with a similar bevel 6 carried by the shaft 7, such shaft at its opposite end carrying a gear 8 intermeshing with gear 9 carried by the vertical shaft 10 which projects through the platform of the car, which shaft also acts as a king-pin or swivel for the derrick platform, whereby the latter may be turned in the manner of a turntable upon the car. The lower end of the pin 10 carries the gear 11 meshing with the gears 12, 12 carried by the inclined shafts 13, 13, the latter in turn carrying gearing 14 meshing with the gears 15 on the axles of the car trucks. By such an arrangement it will be readily observed that power may be transmitted from the engine to the trucks to propel the apparatus as desired. When the platform is turned approximately transversely to the car and track and it is desired to maintain the same in position, as shown in Fig. 1, we may provide suitable jacking mechanism or standards, 16, which act as supports and give rigidity to the apparatus and maintain the latter in stationary position. We may employ any suitable number of these supports 16, four being generally considered sufficient. Mounted upon the platform B are the vertical uprights or masts 17, of any suitable character, said masts being trussed or braced by the truss rods 18, 18. Preferably pivoted adjacent to the foot of each mast is a skidding boom 19, carrying the lead blocks 20, over which pass the skidding lines 21 carrying suitable log-engaging devices such as tongs 22. These skidding lines are operated from the drums c, c, and d, d, of the engines. Each boom preferably also carries the pulley 23, and the masts 17 carry pulleys 24, and through the pulley of the boom and the pulleys of the mast is reeved the rope 25, having

one end passing down to and operated by the adjacent engine, the above arrangement forming a block and fall, being employed to raise and lower the boom relative to the mast. This block and fall arrangement between the mast and the boom presents certain advantages. For instance, the pulling or skidding booms may be raised to approximately a vertical position adjacent to the mast and the machine thereby narrowed during the transportation, especially when it is only desired to move the machine a short distance and thereby render it unnecessary to turn the platform from its position transversely of the carrying vehicle to a position approximately longitudinally thereof.

From the above description the construction and operation of the apparatus as shown in Figs. 1-4 inclusive will be readily apparent to those skilled in the art. Presuming the machine to be traversing the track to the point of use, the platform is generally turned into the position shown in Fig. 3; that is to say, longitudinally of and parallel with the car platform. When the machine has reached the point of use the platform is turned upon its pivot, or swung to the position shown in Fig. 1, that is, so that such platform extends approximately transversely of the track and the jack screws or supporting legs are then lowered to give rigidity and stability to the structure. The skidding lines are then drawn out in the usual manner, for connection with the logs and in this position, as shown in Fig. 1, it will be noted that not only do the skidding ropes take a direct lead over the skidding blocks at approximately right angles to the track, but a direct lead is also had off the engine drums. By this arrangement the logs may be hauled in to a position adjacent to the machine. As a log approaches the machine the tendency will be for the forward end of the log to rise when it is a short distance from the machine and in front of the skidding boom, due to the direction of the pull. This enables the logs to be piled or decked in the direction they are skidded without the necessity of rehandling the logs, or employing a decking crew or line.

In Figs. 5 and 6 we have shown a slightly modified form of apparatus, in this case the platform carrying the skidding apparatus being permanently mounted upon the trucks, as contradistinguished from the construction shown in Figs. 1-4 inclusive, where the platform was swiveled or mounted in the manner of a turntable upon the car body. In these Figs. 5 and 6 we mount a center mast preferably in the nature of an A-frame suitably supported, as by the stay rods 27. The skidding booms 28 are also preferably of an A-frame form and pivoted as at 29, although it will be understood that these booms may



be rigidly mounted, if desired. It will be noted that the booms extend approximately transversely or at right angles to the track, so that, as in the case of the device shown in Figs. 1-4, the skidding lines have an approximately direct lead and the pull or skidding action is at approximately right angles to the track and the other advantages above mentioned as incident to the construction shown in Figs. 1-4 are also resident in the type of apparatus shown in Figs. 5 and 6. A further object of construction shown in Figs. 5 and 6 is that we are enabled to employ a relatively narrow base and thereby obviate the employment of supporting jacks or legs and may also dispense with the employment of guys, as in this construction we bring the center of gravity of the machine well over the trucks. In skidding operations, especially where strictly portable machines are employed, it is always desirable to skid the logs directly at right angles to the track and directly opposite to the machine, rather than to make the longer pulls caused by skidding in every direction from the machine. For instance, if a log be lying 800 feet distant from the machine, to one side and forward thereof, but only 200 feet from the track in a direct line, it is preferable to transport the machine to a position approximately opposite the log and make the pull of 200 feet, than to make the longer pull of 800 feet.

While we have herein shown and described preferred embodiments of our invention, we wish it to be understood that we do not limit ourselves to the details of construction and arrangement set forth, as modification and variation may be resorted to without departing from the spirit of the invention or exceeding the scope of the claims. For example, in the structure shown in Figs. 5 and 6, we have shown a comparatively short car carrying a boiler at one end and two skidding booms, but the number of booms may be multiplied and the boiler may be located approximately in the center of the platform or in any suitable situation to permit the employment of additional skidding booms and the platform may be lengthened to suit the occasion.

Having thus described our invention, what we claim and desire to secure by Letters Patent is:—

1. The combination of a portable platform, an engine mounted thereon, the skidding boom, a block carried by said boom, and a skidding rope leading directly from the drum of the engine and approximately directly over said block in a direction transversely of the track.

2. The combination of a platform, traction devices therefor, an engine on said platform, power transmitting mechanism for imparting motion to the traction devices, a plurality of oppositely disposed booms carried by said

platform, and projecting in a direction transversely of the track, blocks carried by said booms and suspended thereby to one side of the track, and skidding lines passing over said blocks.

3. The combination of a portable platform, a mast carried thereby, a plurality of oppositely disposed booms also carried by the platform and projecting in a direction transversely to the track, blocks carried by said booms, and skidding lines passing over said blocks.

4. The combination of a portable platform, a mast carried thereby, a plurality of oppositely disposed block supports extending at approximately right angles to the track, a plurality of blocks on said supports and located in positions above and at the sides of the track, and skidding lines extending over said blocks.

5. The combination of a vehicle, a platform carried thereby, means permitting the rotation of the platform on the vehicle, a plurality of masts carried by the platform, a plurality of oppositely disposed booms adapted to project in a direction transversely of the track, a block carried by each of said booms in a position above and to the side of the track, and a skidding line passing over each of said blocks.

6. The combination of a portable platform, a mast carried thereby, a plurality of oppositely disposed booms, extending at approximately right angles to the track, blocks carried by said booms and suspended above and to the sides of the track and skidding lines for said blocks.

7. The combination of a portable platform, supporting legs or jacks for said platform, a mast on said platform, two oppositely disposed booms projecting from said platform at an angle thereto and approximately transversely of the track, a block suspended from each of said booms above and to the side of the track, and a skidding line passing over each of said blocks.

8. The combination with a car, a revolving platform mounted thereon, an engine, a propelling mechanism operated by said engine to propel the car, irrespective of the position of the platform on the car, skidding booms carried by the platform, sheaves carried by the booms and skidding lines passing over said sheaves.

9. The combination of a platform, a mast, oppositely disposed booms carried by the platform, blocks carried by the mast, ropes leading from said blocks, to the oppositely disposed booms, and means for operating said ropes to move said booms relative to said mast.

10. In combination, a trackway, a car movable thereon, a skidder engine on the car, a skidder and decking boom projecting from one side of the car and overhanging a



space adapted for a deck of logs at one side of the track, a pivotal connection between said boom and car permitting the vertical movement of said boom, a skidder block suspended from said boom over said space, a skidder line whereby the logs are dragged toward said deck, then raised at the forward end above said deck and dragged onto said deck, and a skidder line drum arranged on the car with its axis of revolution lengthwise of the trackway, and parallel to the pivotal movement of the boom.

11. In combination, a portable platform, a skidder engine thereon, a skidder boom normally projecting from the car during the skidding operation in a vertical plane transversely of the track, a skidder block suspended from said boom, and a skidder and decking line traveling through said block and operated by the skidder engine, said line traveling throughout its length in substantially the same vertical plane transversely of the track occupied by the skidder boom and block.

12. In combination, a portable platform, a skidder engine thereon, a skidder boom normally projecting from one side of the platform in a vertical plane transversely of the track during the skidding operation, and overhanging a space adapted for a deck of logs at one side of the track, a skidder block suspended from said boom over said space, and a skidder and decking line traveling throughout its length in a vertical plane transversely of the track common to the boom and block, the arrangement being such that during the hauling-in operation the logs are dragged toward the deck, then raised at the forward end above said deck and dragged on to the deck to take a position with their longitudinal axes at an angle to the track.

13. A log skidding and decking machine comprising a portable platform, a skidder engine thereon, a skidder boom normally pro-

jecting from the car during the skidding and decking operation in a vertical plane transversely of the track and overhanging a space adapted for a deck at one side of the track, a skidder block suspended from said boom over the deck space, and a combined skidder and decking line traveling throughout its length in a vertical plane transversely of the track common to the boom and block, the arrangement being such that the single skidding and decking line during the hauling-in operation drags the logs toward the deck, then raises them at the forward ends above said deck and then drags them onto the deck.

14. A log skidding and decking machine comprising a trackway, a portable platform movable on the trackway, a skidder engine thereon, a skidder boom normally projecting laterally from the car during the skidding and decking operation and in a plane at an angle to the track, and overhanging a space adapted for a deck at one side of the track, a line guide carried by the boom over the deck space, a combined skidder and decking line traveling in said guide and operated by the skidder engine, and a skidder line drum arranged with its axis of revolution lengthwise of the trackway, the arrangement being such that during the hauling-in operation the single line operates to drag the logs toward the deck, raise them at the forward ends above the deck, and drag them on to the deck.

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

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