

No. 821,728.

PATENTED MAY 29, 1906.

A. D. McDONELL.  
LOGGING SLED.

APPLICATION FILED MAY 8, 1905.

3 SHEETS—SHEET 1.

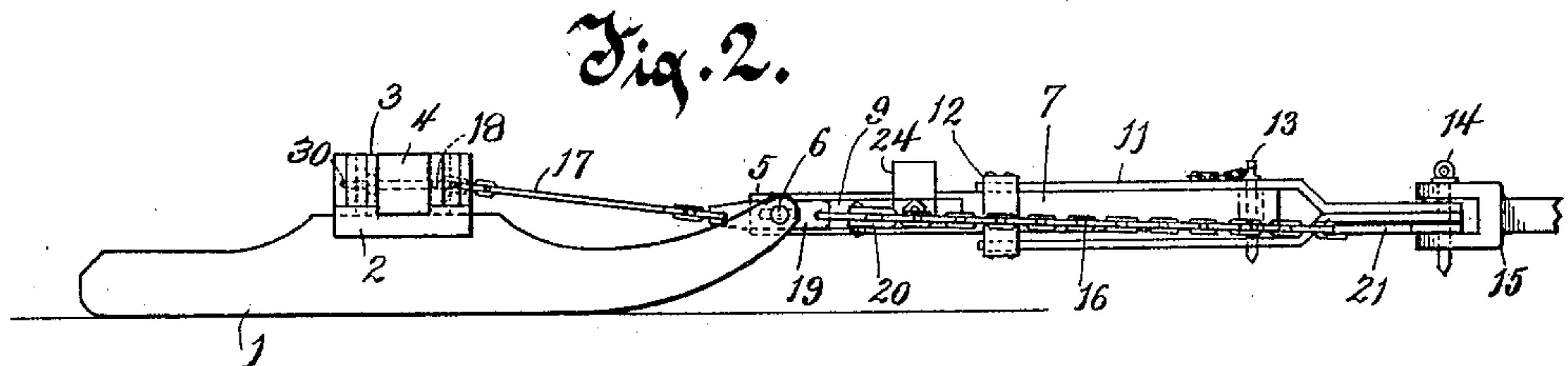
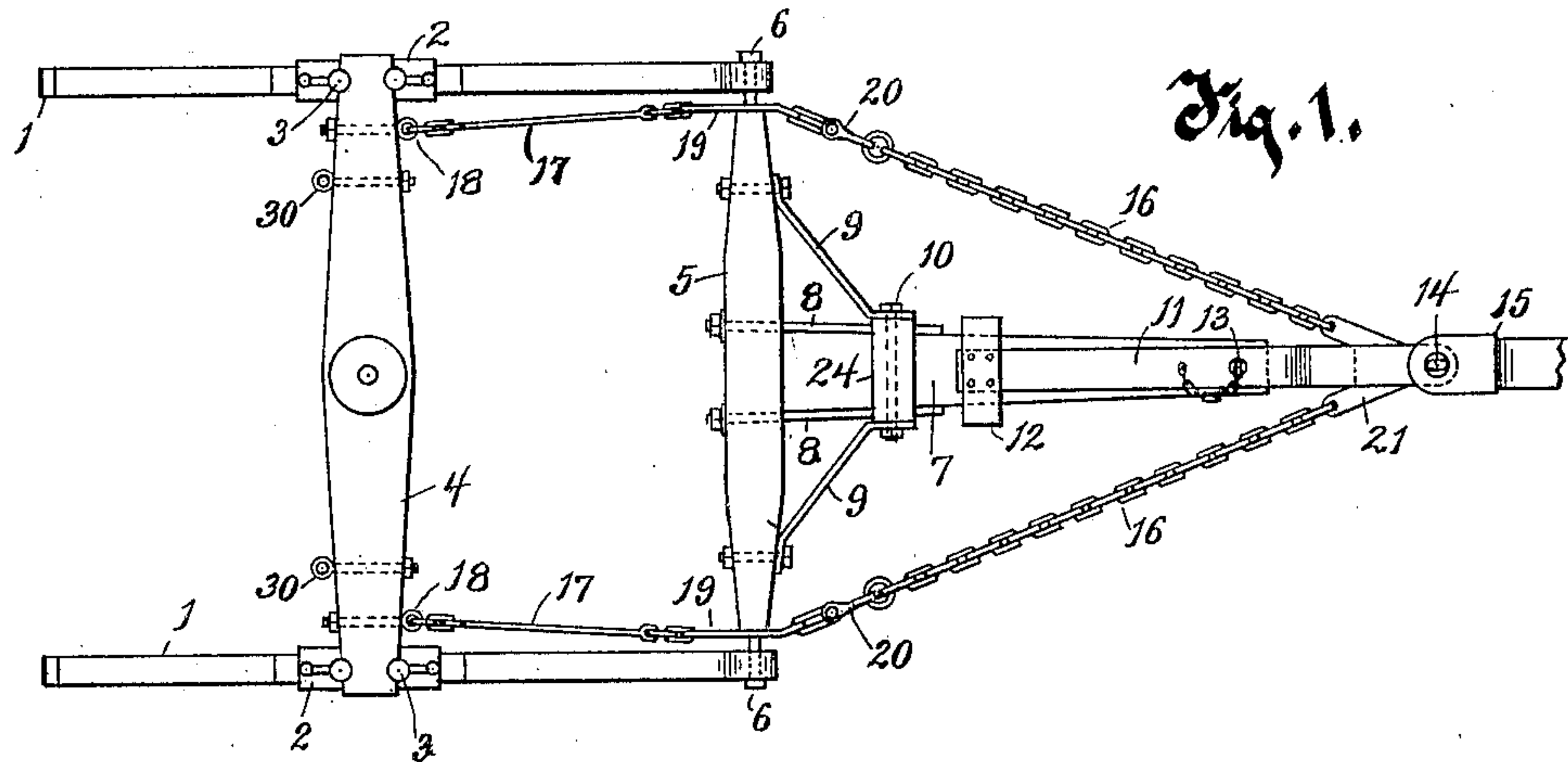


Fig. 2.

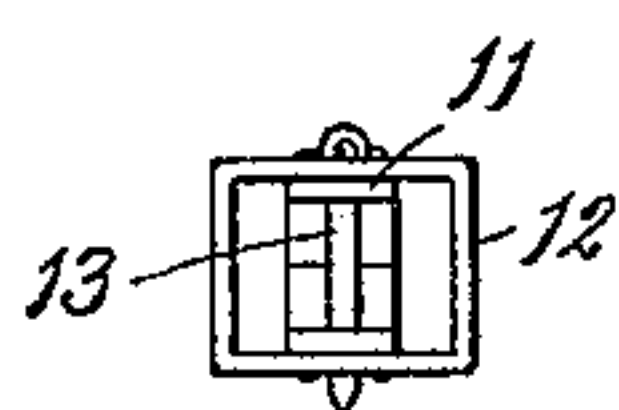


Fig. 3.

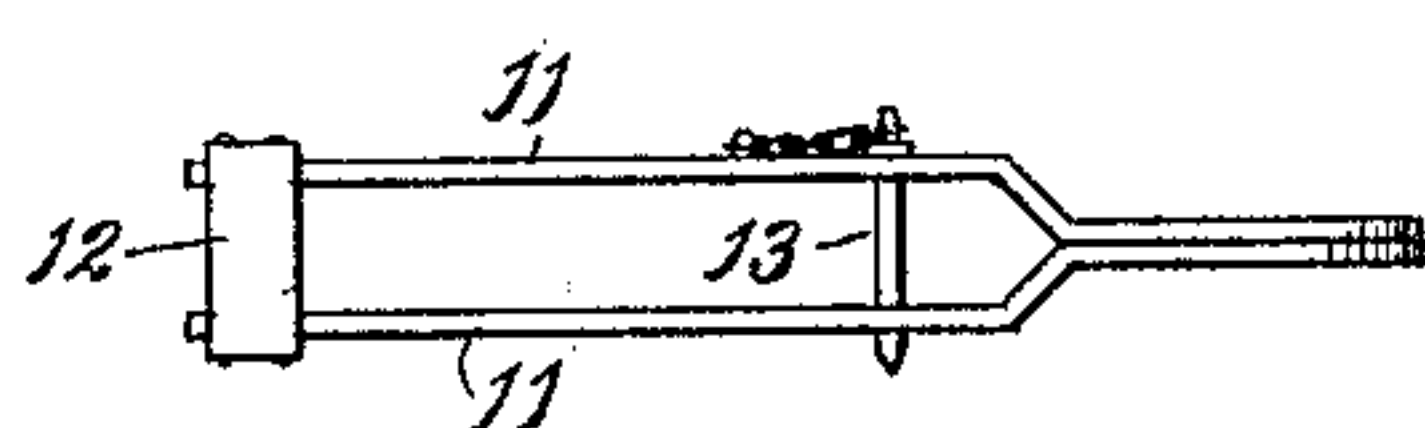


Fig. 5.

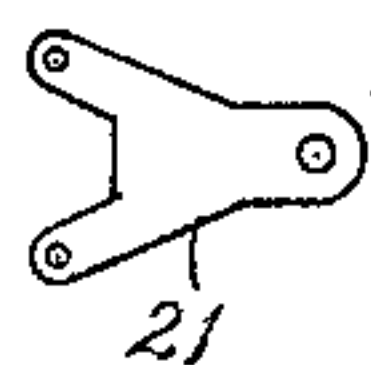
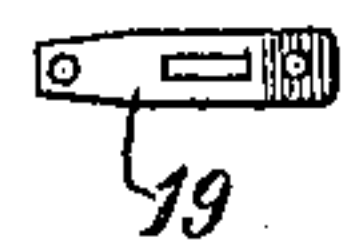


Fig. 6.



Witnesses.

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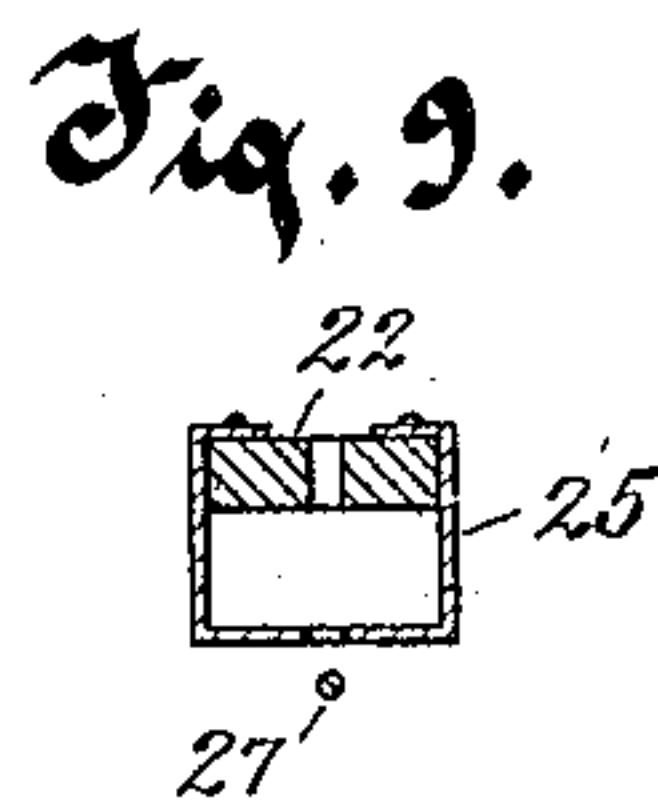
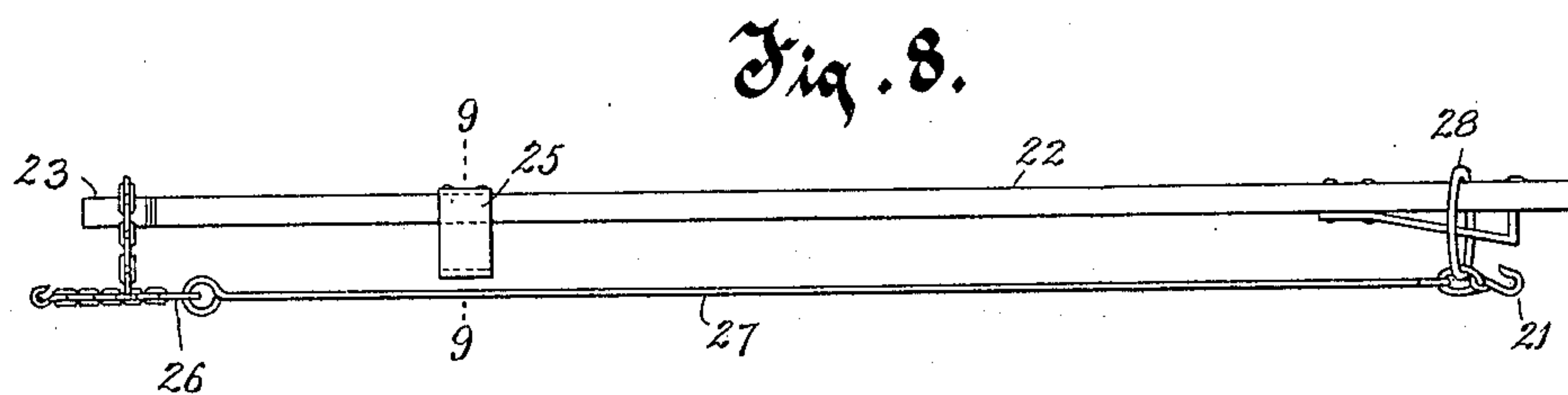
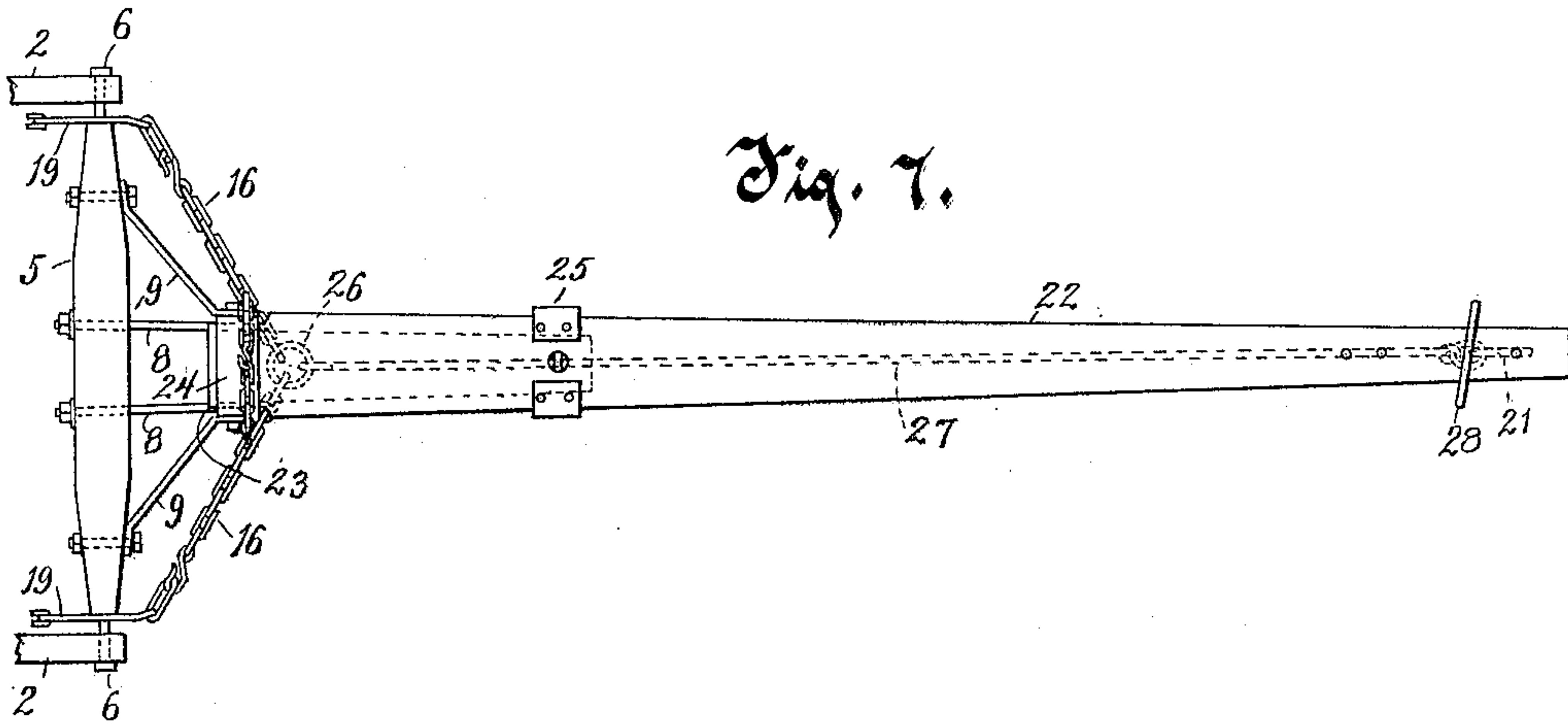
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3 SHEETS—SHEET 2.



Witnesses.

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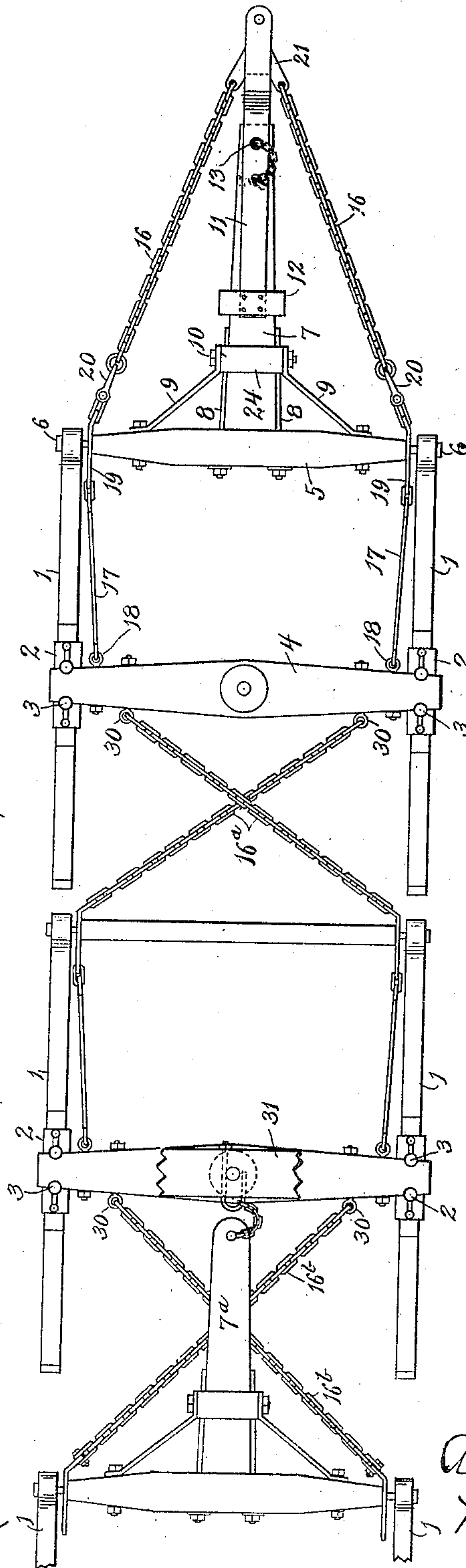
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3 SHEETS—SHEET 3.

Fig. 10.



Witnesses.

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# UNITED STATES PATENT OFFICE.

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## LOGGING-SLED.

No. 821,728.

Specification of Letters Patent.

Patented May 29, 1906.

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*To all whom it may concern:*

Be it known that I, ALEXANDER D. McDONELL, residing in Medford, in the county of Taylor and State of Wisconsin, have invented new and useful Improvements in Logging-Sleds, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

What are known as "logging-sleds" are employed chiefly for transporting logs from the locality where the trees are cut in forests to streams, railroads, or mills. The sleds are required to be strong and capable of enduring severe strains generally imposed suddenly on the sled. These severe strains often occur in or in connection with the hauling of the sled and its load along and involve the means by which the sled is connected up to the team or motor. It is quite common at the present day to employ a steam traction-engine or motor for hauling the sleds and their loads.

My present improvements relate chiefly to the means for pulling the sled or sleds and their manner of connection to the sled.

As traction-engines are in some parts of the country used more commonly than teams for hauling logs, I have herein illustrated my invention in its principal form as adapted to sleds for use with a traction-engine. These sleds are commonly used in sets of two or more; but as principal features of my invention are employed with each sled I have deemed it sufficient to illustrate my improvements in connection with a single sled, not, however, intending to limit my invention thereby.

The invention consists of the devices, their parts and combinations, as herein shown, described, and claimed, or the equivalents thereof.

In the drawings, Figure 1 is a plan of a logging-sled having a form of my improvements therewith. Fig. 2 is a side elevation of the same sled shown in Fig. 1 with my improvements therewith in the same form as shown in Fig. 1. Figs. 3 and 4 are respectively a side and rear end view of a tongue extension. Fig. 5 is a detail of a coupling device. Fig. 6 is a detail of a chain-plate having a specific form for a special purpose. Fig. 7 is a plan of a form of construction adapted for use with teams of horses. Fig. 8 is a side view of the

tongue and draft-chain shown in Fig. 7. Fig. 9 is a transverse section on line 9 9 of Fig. 8, and Fig. 10 shows my improvements with a plurality of sleds.

The sleds employed for hauling logs are usually long and wide, and I have shown a sled of this character which consists of a pair of runners 1 1, turned up at their front ends and supporting and being connected medially of their length by a beam 4. The beam 4 at its ends is let into knee-blocks 2 2, the beam being cut away on its vertical sides to receive therein the laterally-rounded ribs or projections 3 3 on the blocks. The blocks 2 2 are channeled longitudinally in their lower surfaces and fit on the runners and are bolted thereto. At the front end of the sled a tongue-roller 5 is secured in place between the runners advisably by means of pivot or journal pins 6, passing loosely through the front extremities of the runners and inserted and fixed in the ends of the roller 5. The roller is provided with a tongue 7, conveniently and advisably secured to the roller by side straps 8, one at each side of the tongue, which pass through the roller and are fastened thereto by nuts thereon at their inner or rear ends and by braces 9, also bolted to the roller at their outer rear ends, the tongue and the side straps and the braces being secured together by a bolt 10 through the braces and straps at their front ends and through the interposed tongue 7.

In sleds that are to be used with a traction-engine the tongue 7 is preferably made short, and the tongue is provided with an extension consisting of furcated metal straps, the furcate legs 11 of the extension being adapted to slip on to the front end of the tongue 7 above and below, there being a metal band or loop 12 on and secured to the ends of the extension-straps, the band being of a form and size adapted to fit to and about the tongue 7. Medially the straps are provided with pin-apertures adapted to receive there-through a pin 13, which pin also passes through the front end of the tongue 7, whereby the tongue extension is secured to the tongue proper. The front extremity of the extension is provided with a pin-hole adapted to receive therethrough the coupling-pin 14 in the draw-bar head 15 of the traction-engine.

For connecting the sled to the draw-bar



head of the traction-engine or other means for hauling the sled along I provide means or devices that are independent of the tongue of the sled and which consist of a pair of chains  
 5 or cables, including long or short links, or both, and any other form of cable adapted for this purpose. In the drawings the cables are shown as consisting of the chains 16, having near their rear ends the long links 17 and  
 10 toward the front having shorter links. These chains at their rear ends are attached to the beam 4 conveniently by means of eyebolts 18 through the beam and secured thereto by nuts turning thereon. These chains are fast-  
 15 ened to the beam respectively near each end of the beam on the inside of the sled-rails 2 and extend therefrom toward the front, passing the roller 5 at the ends thereof advisably by means of link-plates 19, which plates me-  
 20 dially are provided with elongated slots, through which the pivot-pins 6 pass, whereby the chains are supported in position, and are held apart by means of the interposed roller 5, against the ends of which the plates bear and  
 25 at the same time by means of the elongated slots in the plates are permitted to have limited forward and back movement thereon. In front of the plate-links 19 I advisably provide in each chain a clevis-link 20, by means  
 30 of which the sections of the chains can be readily coupled together, and means are thereby provided for separating the sections of the chains in case of breakage or other need therefor. The chains in front of the  
 35 roller converge toward each other and at their front ends are severally secured to a common coupling device 21, preferably in a generally triangular form and limitedly furcate, the chains being severally secured to  
 40 the furcate legs of the plate and the other end of the plate or device being provided with a pin-hole adapted to receive there- through the coupling-pin 14 of the draw-bar of the traction-engine.

45 It will be observed that the length of the chain is such as to bring the coupling device 21 when the chains are taut to the coupling-pin 14 in coincidence with the front end of the tongue extension; but to permit of a cer-  
 50 tain amount of play in the tongue, so that no draft strain shall be put on the tongue, the hole through the tongue 7 for the pin 13 is elongated toward the front and rear, so as to provide lost motion to obviate any pull that  
 55 might otherwise come on the tongue.

As these sleds are sometimes employed with teams instead of with a traction-engine, a longer tongue is required than with the en-  
 60 gine. For adapting the sled for use with a team I provide a longer tongue extension 22, as shown in Figs. 7 and 8, than the extension 11 of Figs. 1 and 2. This longer extension 22 is adapted to be secured to the short tongue  
 65 7 by being placed thereon and having its rear contracted end 23 inserted in a loop-band 24,

which loop-band is secured to the tongue 7, in connection with the straps 8 and braces 9, by the bolt 10, which passes through the ends of the band, as seen in Figs. 1, 2, and 7. The  
 extension 22 is also provided with a metal  
 70 loop-band 25, so located as to be adapted to slip on and about the front end of the tongue 7 when the rear end of the extension goes into the loop 24, and in this position the pin  
 13 goes through the extension and the tongue  
 75 7, whereby the extension-tongue is secured detachably to the permanent tongue 7. In this form of construction the pull on the draft-chains 16 is mainly produced by a team  
 80 or teams in front of the team alongside the tongue of the sled, and for attaching the draft-chain 16 to such front team or teams the chains are brought together and connect-  
 ed to a coupling device in the form of a ring 26, and a draw-rod 27 runs thence forwardly  
 85 to the front end of the extension-tongue, where it may be supported by means of a ring 28, connected thereto and adapted to go on over the extension-tongue, and is adapted to be connected to the whiffletree or draft-  
 90 chain ahead by means of a hook 29.

Other and following sleds may be secured to the front sled by draft-chains 16<sup>a</sup> 16<sup>b</sup> like the chains 16, secured at their front ends  
 95 severally to rings or eyebolts 30 in the beam of the preceding sled. Advisably the draft-chains of the following sleds should be crossed to right and left between the beam of the preceding sled and the roller of the fol-  
 100 lowing sled, as shown in Fig. 10.

The following sled or sleds may have a short tongue 7<sup>a</sup>, as shown in connection with the third sled in Fig. 10, or the tongue may be omitted, as shown in the second sled in the  
 105 same Fig. 10. When a tongue 7<sup>a</sup> is employed, it may be connected to the bolster 31 on the beam of the preceding sled.

For hauling long logs any required number of sleds may be employed, and being coupled together by the improved means the loads  
 110 can be moved successfully and with the best possible distribution of strain on the sleds and the means for pulling them along.

What I claim as my invention is—

1. In a logging-sled, a medially-disposed  
 115 transverse beam, a roller in the front end of the sled, the roller being provided with a tongue, draft-chains secured to said beam and passing the ends of the roller by which the chains are held in place apart from each  
 120 other and coming together in front of the roller, and means for connecting the front ends of the chains and coupling them to a hauling device.

2. A sled having a medially-disposed  
 125 transverse fixed beam, draft-chains secured at their rear ends to this medially-disposed sled-beam, a roller provided with a tongue, and a coupling device on the tongue at a distance in front of the sled to which the chains  
 130



at their front ends are directly secured and which coupling device is adapted to couple the chains up to a hauling means.

3. A sled having a fixed medially-disposed transverse beam, draft-chains secured to the beam, plate-links in the chain provided with longitudinal slots, a roller in the front end of the sled, said roller having pin-pivot terminals that pass through the slots in the plate-links, and means for coupling the chains at their front ends to a hauling means.

4. In a sled, a roller, a tongue fixed to the roller, an extension-tongue secured detachably to the tongue and having means for securing it detachably to a hauling means, and means other than the tongue secured to the sled at the rear of the roller adapted to be attached in front of the roller detachably to the hauling means for pulling the sled along.

5. In a sled, a roller having a thereto-secured rigid tongue, a detachable tongue extension having furcate legs adapted to straddle and fit on the tongue, a band on the ends of the legs also adapted to fit on the tongue, said tongue extension being provided with pin-holes for pins to secure it to the tongue, and to a hauling means.

6. In combination, a sled with a medially-disposed fixed beam, draft-chains secured at a distance apart severally to the beam, a tongue-roller interposed between the chains keeping them apart at the front end of the sled a distance substantially equal to the width of the sled, and a coupling device to which the front ends of the chains are secured near together and having means for coupling it to a hauling means.

7. In combination, a plurality of sleds one following another, a roller between and mounted in the front ends of the runners of each sled, a single transverse beam medially on and secured to the runners, a pair of sled-connecting chains attached at a distance apart to the beam of the preceding sled and at their rear ends to the beam of the following sled, said chains being crossed medially and held apart by the roller of the following sled.

In testimony whereof I affix my signature in presence of two witnesses.

ALEXANDER D. McDONELL.

Witnesses:

H. J. WOLLENBERG,  
F. F. ROLAND.