

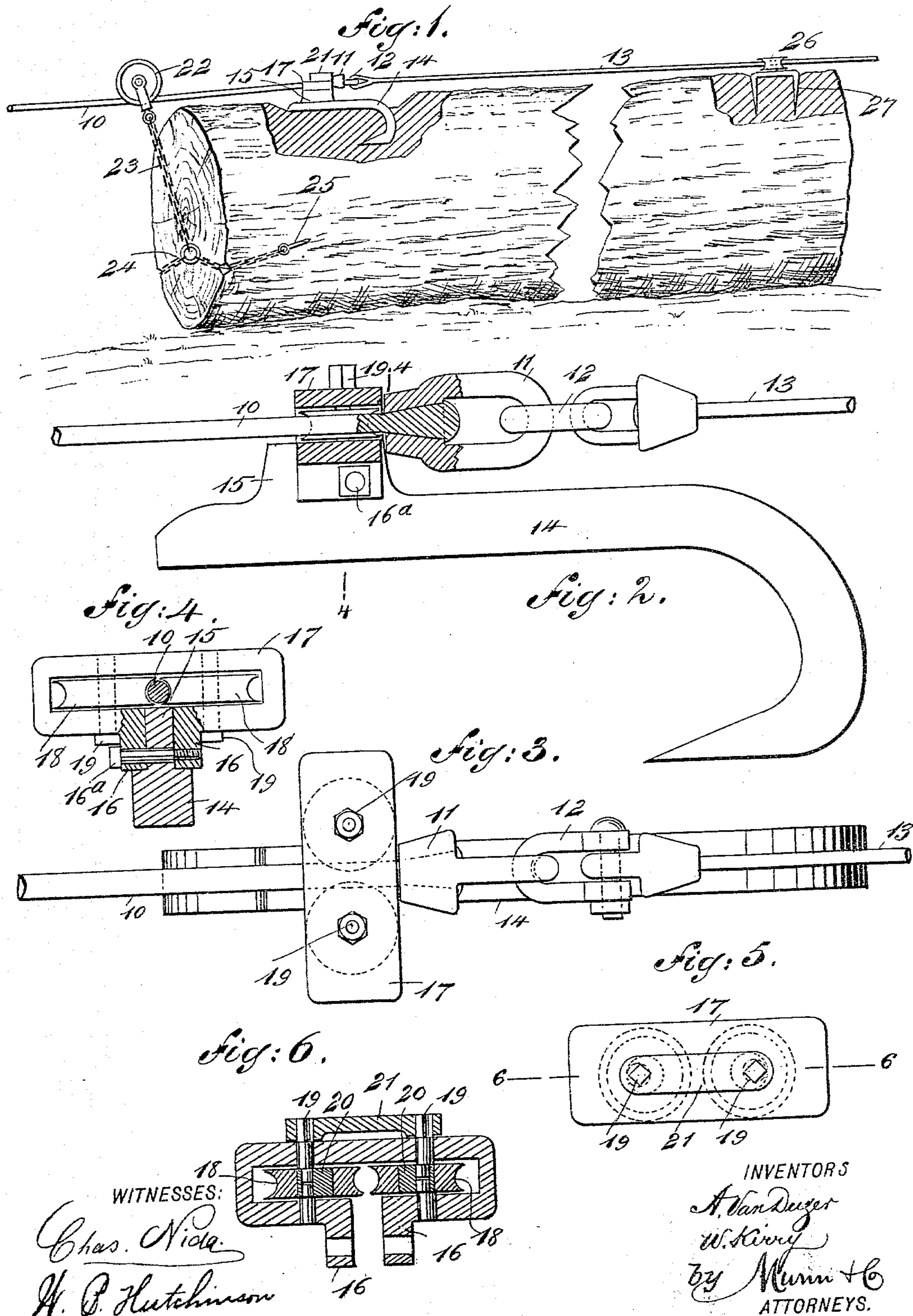
(No Model.)

3 Sheets—Sheet 1.

A. VAN DUZER & W. KIRRY.
LOG HAULING DEVICE.

No. 545,319.

Patented Aug. 27, 1895.



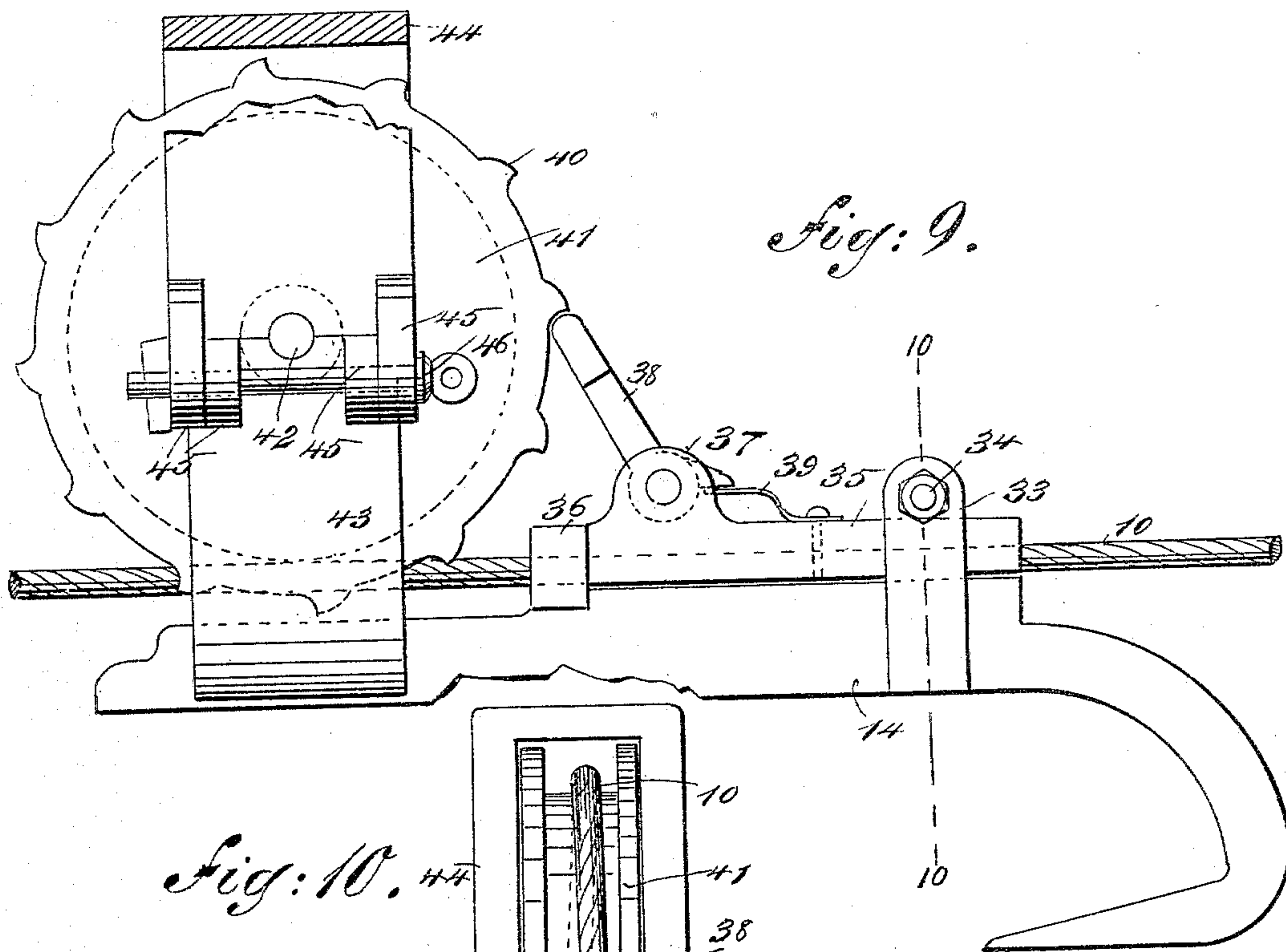
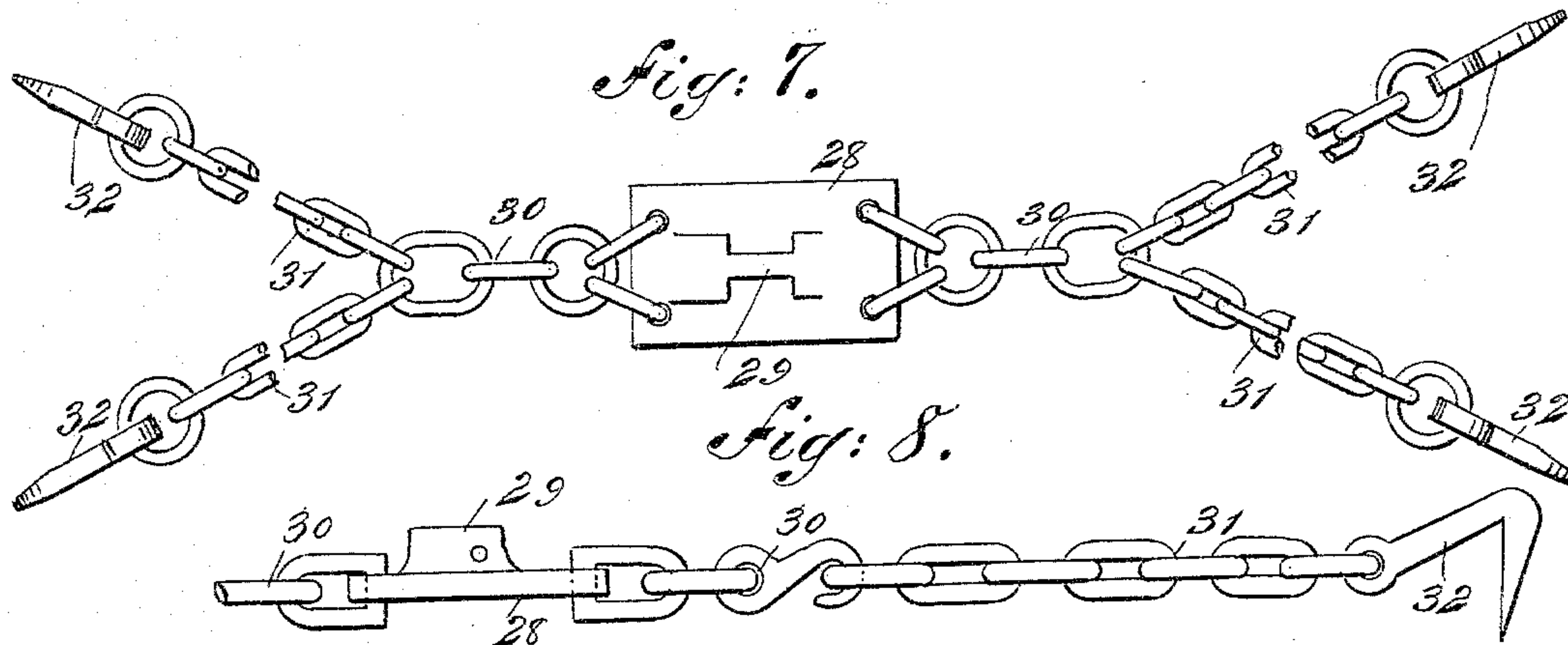
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(No Model.)

3 Sheets—Sheet 3.

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Fig. 11.

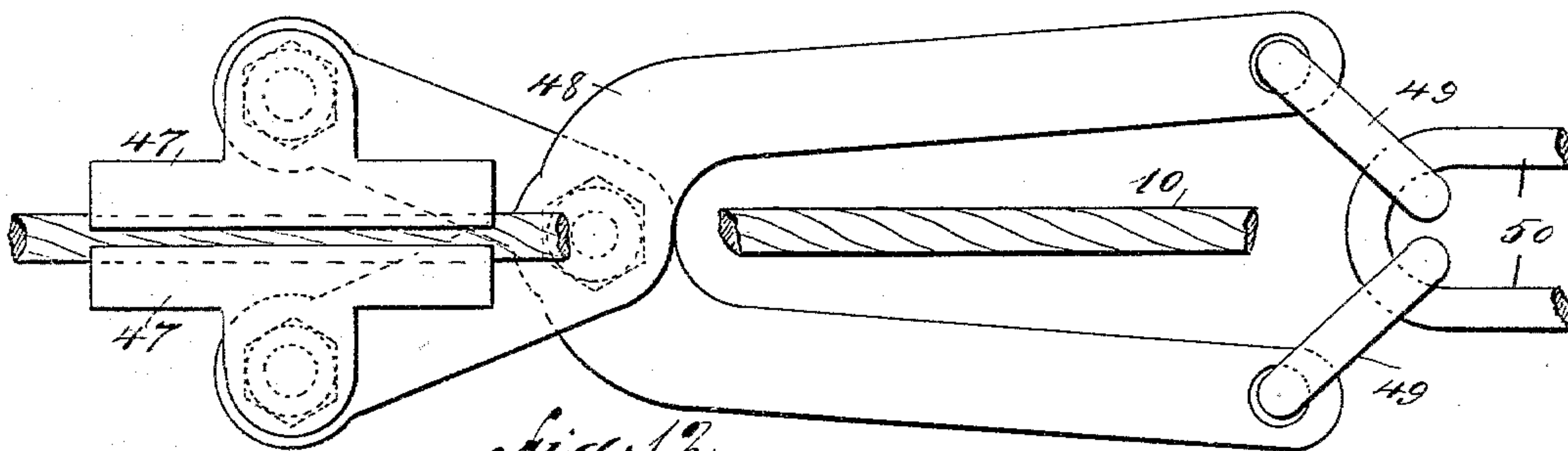


Fig. 12.

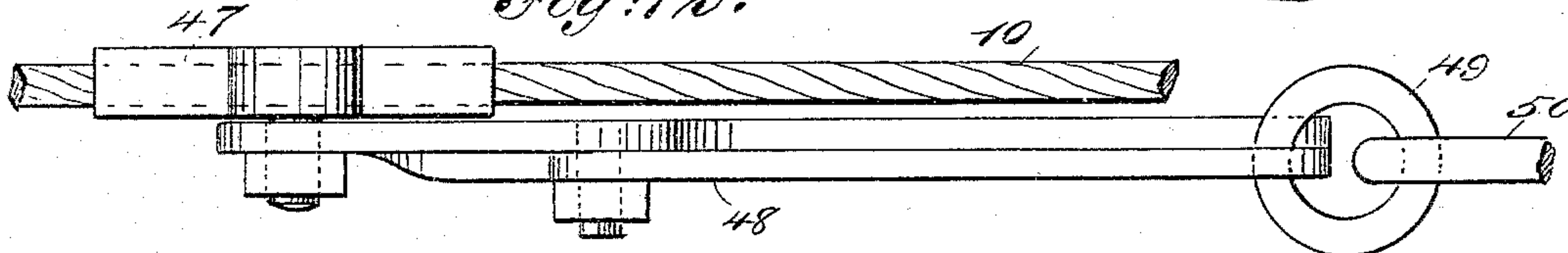


Fig. 13.

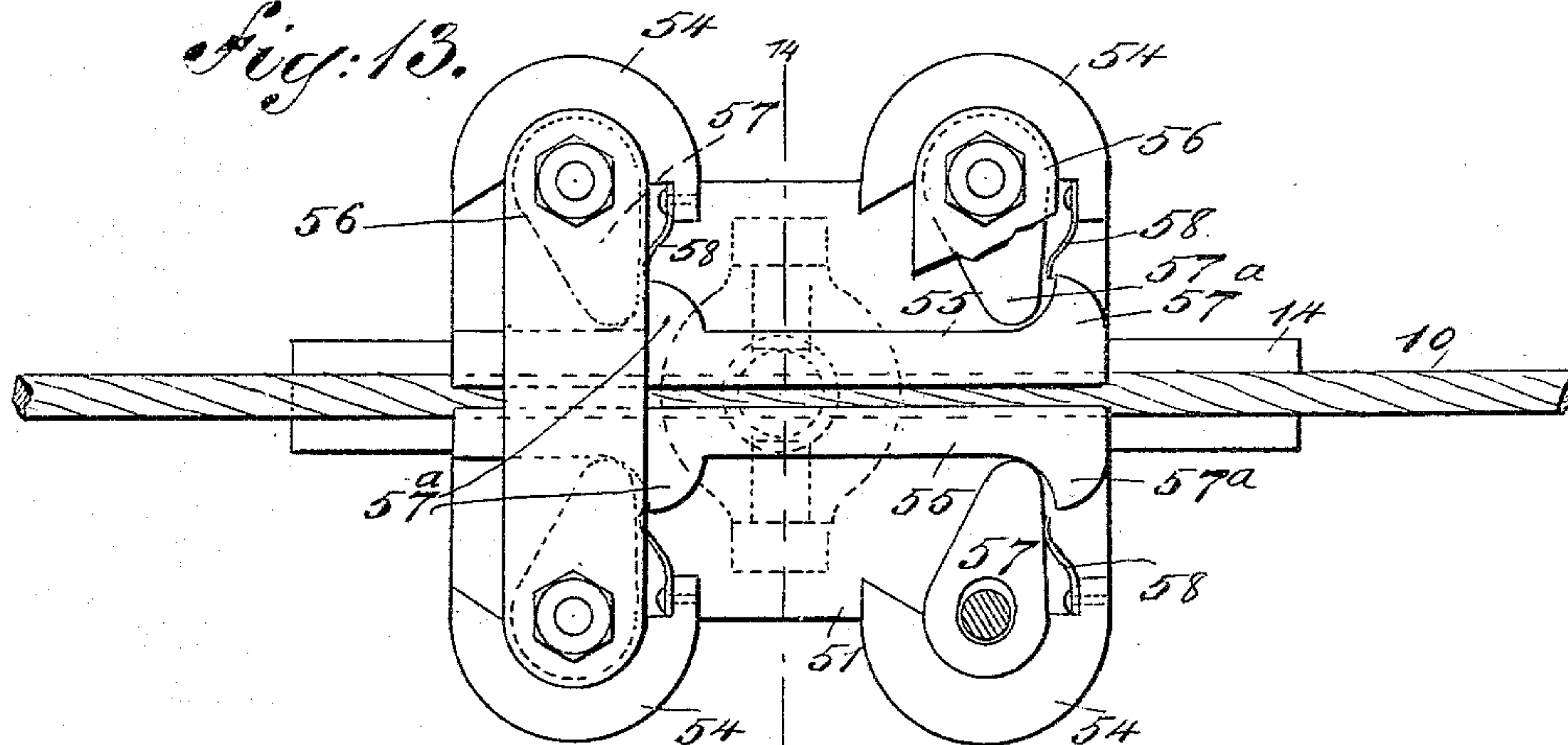
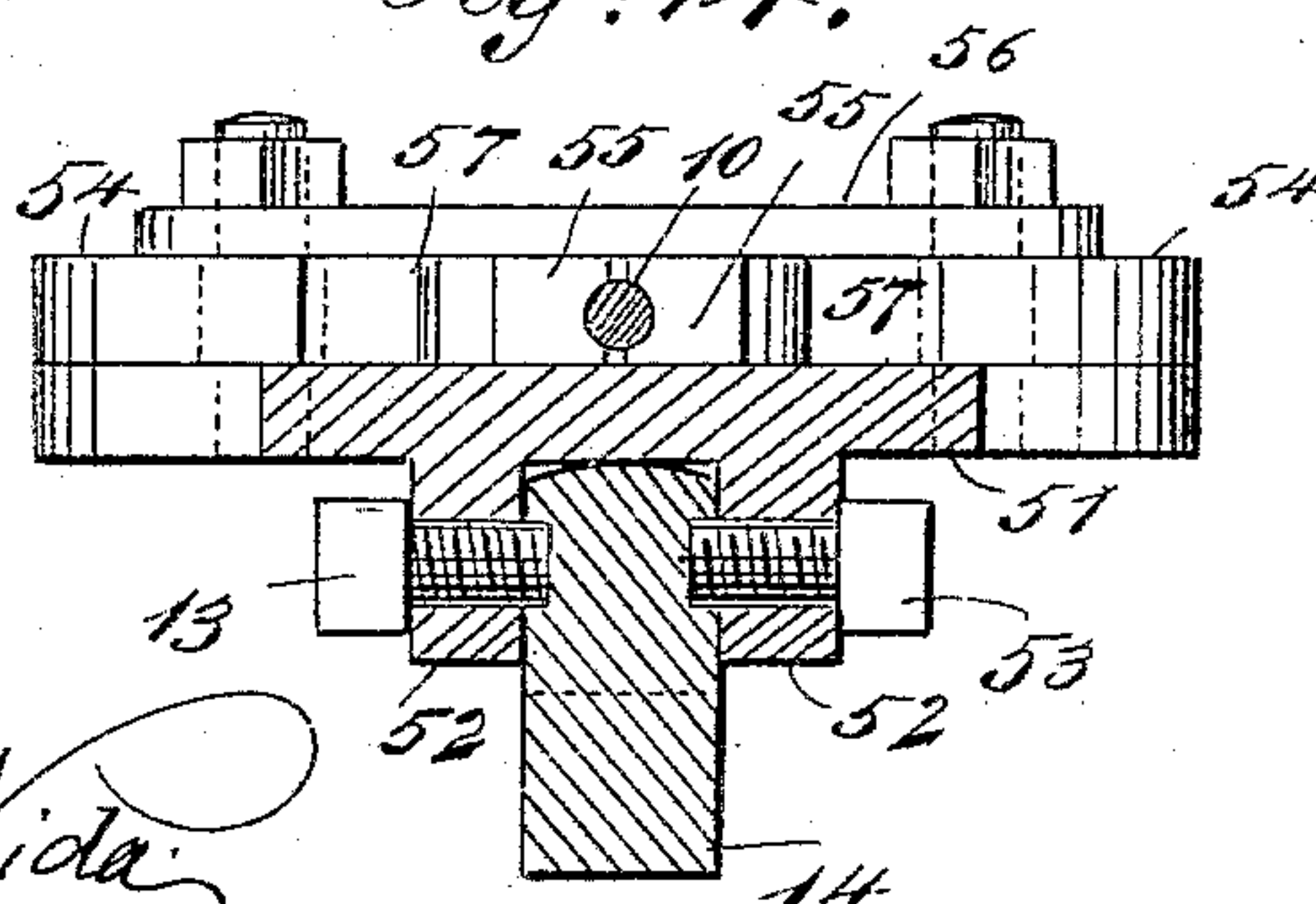


Fig. 14.



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UNITED STATES PATENT OFFICE.

ALBERT VAN DUZER AND WALTER KIRRY, OF SCOTIA, CALIFORNIA.

LOG-HAULING DEVICE.

SPECIFICATION forming part of Letters Patent No. 545,319, dated August 27, 1895.

Application filed April 26, 1894. Serial No. 509,104. (No model.)

To all whom it may concern:

Be it known that we, ALBERT VAN DUZER and WALTER KIRRY, of Scotia, in the county of Humboldt and State of California, have invented certain new and useful Improvements in Log-Hauling Devices, of which the following is a full, clear, and exact description.

Our invention relates to improvements in log-hauling devices, and particularly to such devices as are used in connection with cables actuated by "Bull donkey-engines" and adapted for use in a hilly region. In devices of this kind the cable frequently gets under the logs, owing to the fact that the logs slide rapidly down steep grades and are likely to turn, and as a result the cable gets badly twisted and soon wears out, while the logs are not handled as rapidly as is desirable.

The object of our invention is to overcome these difficulties by producing simple attachments for a hauling-cable which may be conveniently applied to the cable and to the log to be hauled, which are adapted to release and permit the logs to slide freely down a steep grade, and which are held in such a way that the cable cannot get beneath the log, but is always in position to do the most effective work.

To these ends our invention consists of certain features of construction and combinations of parts, which will be hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of a cable as applied to a log to be hauled, and shows the arrangement of our improved devices with relation to the log and cable. Fig. 2 is a detail side elevation, partly in section, of the main draft-hook and its connection with the cable. Fig. 3 is a plan view of the hook and cable connections. Fig. 4 is a cross-section on the line 4 4 of Fig. 2. Fig. 5 is a plan view of the sheave-housing which is applied to the hook. Fig. 6 is a longitudinal section on the line 6 6 of Fig. 5. Fig. 7 is a plan view of a modified form of sheave-carrying and cable-guiding device which may be substituted for the hook

shown in Figs. 2 and 3. Fig. 8 is a side elevation of the construction shown in Fig. 7. Fig. 9 is a broken side elevation, partly in section, of a modification of the invention, in which the draft-hook is provided with a wheel-actuated grip to engage the cable. Fig. 10 is a cross-section on the line 10 10 of Fig. 9. Fig. 11 is a plan view of a hand-grip as applied to a cable. Fig. 12 is a side elevation of the same. Fig. 13 is a plan view of a toggle-grip which may be used instead of the wheel-grip shown in Figs. 9 and 10, and Fig. 14 is a cross-section on the line 14 14 of Fig. 13.

The cable 10 is used in the ordinary way—that is, is actuated by an engine—to draw a string of logs which may be arranged end to end, and the main cable 10 connects by means of a swivel 11 and clevis 12 with the smaller cable 13, which is adapted to carry devices like that described below for connecting with another log. The cable 10 carries a draft-hook 14, (see Fig. 2,) which is adapted to be driven into the top of a log, as shown in Fig. 1, and on the shank of the hook is a lug 15, which is adapted to fit between the flanges 16 on the under side of the sheave-housing 17, and the housing is held in place on the hook by a bolt 16^a, which projects through the flanges 16 and through the lug 15.

In the housing 17 is a pair of sheave-pulleys 18, which are adapted to clamp and guide the cable 10, and these pulleys are journaled on bolts 19, which extend vertically through the housing and have eccentrics 20, forming the journals of the sheave-pulleys, so that by turning the bolts the pulleys may be made to tightly clamp the cable or they may be separated so as to release the cable. By removing the hook the cable can be separated from the housing. The upper ends of the bolts 19 are squared to receive a wrench 21, by which they may be turned, as specified, and the wrench may be left on the two bolts, as shown in Figs. 5 and 6, to prevent the bolts from turning and disarranging the sheave-pulleys. The housing 17, besides serving as a support for the sheave-pulleys, serves also as an abutment for the swivel 11, and when the swivel strikes against the housing and the cable is drawn forward it draws on the hook 14 and so

pulls along the log to which the hook is attached. Just in front of the head log is arranged a guide-pulley 22, which runs on the cable 10 and from which depends a chain 23, 5 which is secured to the bridle 24, this bridle extending transversely across the end of the log near the bottom, as shown in Fig. 1, and it has dogs 25 at the ends which are driven firmly into the sides of the log, and thus the draft 10 comes upon three points—to wit, the two dogs 25 and the draft-hook 14—and as the dogs are arranged below the center of the log the log is held steady and is prevented from turning. The cable 13 runs between pulleys 26, which 15 are fastened to the rear end of the log by means of staples 27, on which the pulleys are journaled, and these devices may be secured to every three or four logs, so as to serve as guides for the cable. The pulleys 26 are far 20 enough apart to permit the swivel 11 and clevis 12 to run between them in case the log slides down hill faster than the cable is moving. Instead of using a draft-hook 14 a plate 28 may be used, as shown in Figs. 7 and 8, 25 this plate having a lug 29 thereon corresponding to the lug 15 of the hook and to which the housing 17 may be attached, as already specified. To the ends of the plate 28 are secured chains 30, which terminate in branch 30 chains 31, having terminal dogs 32, and these branch chains may be made to straddle the log in front of and behind the plate 28, and when the dogs are driven into the log the plate is held securely in place. In practice 35 the log is preferably spotted where the hook or plate is attached.

In Figs. 9 and 10 we have shown a modified form of draft-hook and gripping device, the gripper being adapted to engage auto- 40 matically when the cable is pulled and to disengage when the log slides faster than the cable. As here shown, the hook 14 has upwardly-extending lugs 33 on its sides, which receive the bolt 34, by which the gripping-jaw 45 35 is held in place, the back of the hook serving as a jaw and the cable being held between the hook and the jaw 35. The lugs 33 also serve to guide the jaw 35, and the jaw is guided at its opposite end by lugs 36 on the 50 hook. On the jaw are lugs 37, between which is pivoted a pawl 38, which is pressed by a spring 39 into engagement with the teeth 40 on the flanges of the wheel 41, which wheel has an axle 42, journaled in supports 43 and 55 44, the former being fastened rigidly to the hook and the latter being secured to the support 43. The part 44 of the support serves as a housing for the wheel 41, and the two parts 43 and 44 have lugs 45 adapted to lie 60 side by side and receive the bolts 46, by which the parts of the support are held together. The cable 10 extends through the grip and is given a turn around the wheel 41, as shown in Fig. 10, and when any strain is applied to

the cable, the wheel is turned and the teeth 65 40 striking the pawl 38, force the jaw 35 firmly upon the cable 10, thus binding the hook to the cable but if the log slides faster than the cable the grip slips freely over the cable.

In Figs. 11 and 12 we have shown a hand- 70 grip which may be applied to the cable at any desired point and is adapted for use in assembling logs and arranging them in a train. This hand-grip has oppositely-arranged jaws 47, which grip the cable, and the 75 jaws are carried by tongs 48, which have their longer ends connected by links 49 with a chain 50, which may be provided with an ordinary hook or dog to engage a log. The chain 50 may be made fast to a log and then 80 the jaws 47 may be clamped by hand to the cable, and as soon as any strain is applied to them the tension on the chain 50 causes the tongs to firmly press the jaws against the cable, and thus the log is drawn along. 85

In Figs. 13 and 14 we have shown another modification of a device to be attached to the log and grip the cable, this arrangement having a toggle-grip. As here illustrated, a plate 51 is provided with depending lugs 52 90 to straddle the hook 14, to which they are pivoted by bolts 53, and on the plate are gripping-jaws 55, which are adapted to grasp the cable 10, these jaws moving beneath guide-bars 56, which are secured to the raised end 95 portions 54 of the plate. On opposite sides of the jaws 55 are the toggles 57, which are pivoted beneath the guide-bars and pressed normally out of engagement with the jaws by springs 58. These toggles are adapted to en- 100 gage projections 57^a on the jaws, and when the cable moves faster than the log the toggles strike the projections 57^a and force the jaws firmly against the cable, so as to cause the log to be hauled thereby. 105

We have shown a variety of ways of connecting the log with the cable so as to permit the log to slide freely down a steep grade or to be automatically engaged and drawn by the cable, and we do not limit ourselves to 110 the construction shown.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

1. The combination with a cable, of a hook 115 for engaging a log, and a grip carried by the hook for engaging the cable, said grip automatically gripping the cable when the cable moves faster than the log, and releasing the same when the log moves faster than the 120 cable, substantially as described.

2. The combination, with the hook, of the plate fastened thereon, the movable jaws slidably secured to the plate, and the toggles pivoted on the plate to engage the jaws, sub- 125 stantially as described.

3. The combination with a hook, of jaws carried by the hook and provided with pro-

jections, and spring pressed and pivoted toggles adapted to engage the projections of the jaws, substantially as described.

5 4. The combination with a hook, of a plate to which the hook is pivoted, jaws carried by the said plate, toggles pivoted on the plate and adapted to engage the jaws, and springs engaging the toggles to hold them out of en-

gagement with the jaws, substantially as described.

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