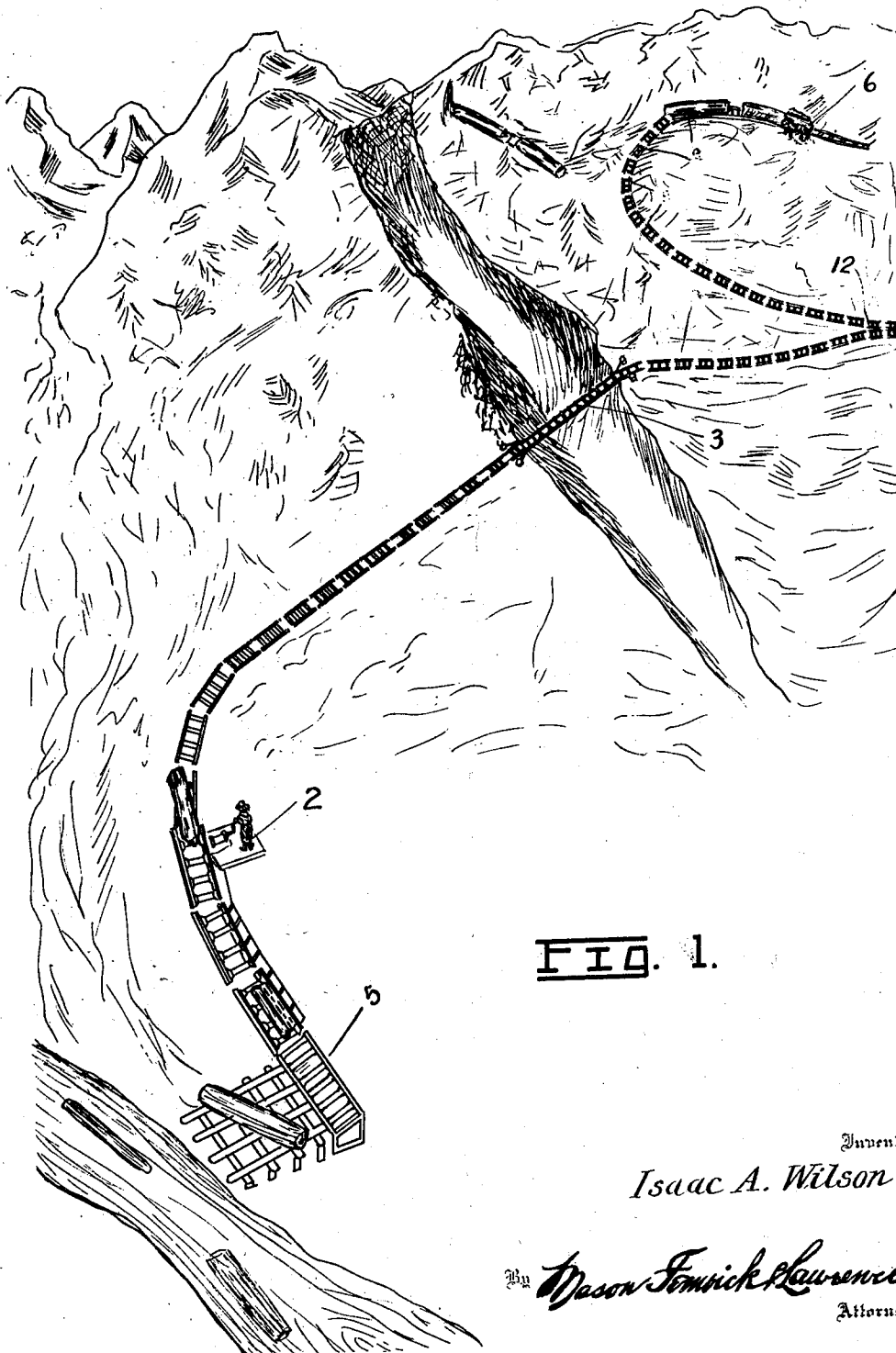


I. A. WILSON.
BRAKING DEVICE FOR PORTABLE LOGGING ROADS.
APPLICATION FILED JAN. 17, 1920.

1,406,709.

Patented Feb. 14, 1922.

3 SHEETS—SHEET 1.



Inventor

Isaac A. Wilson

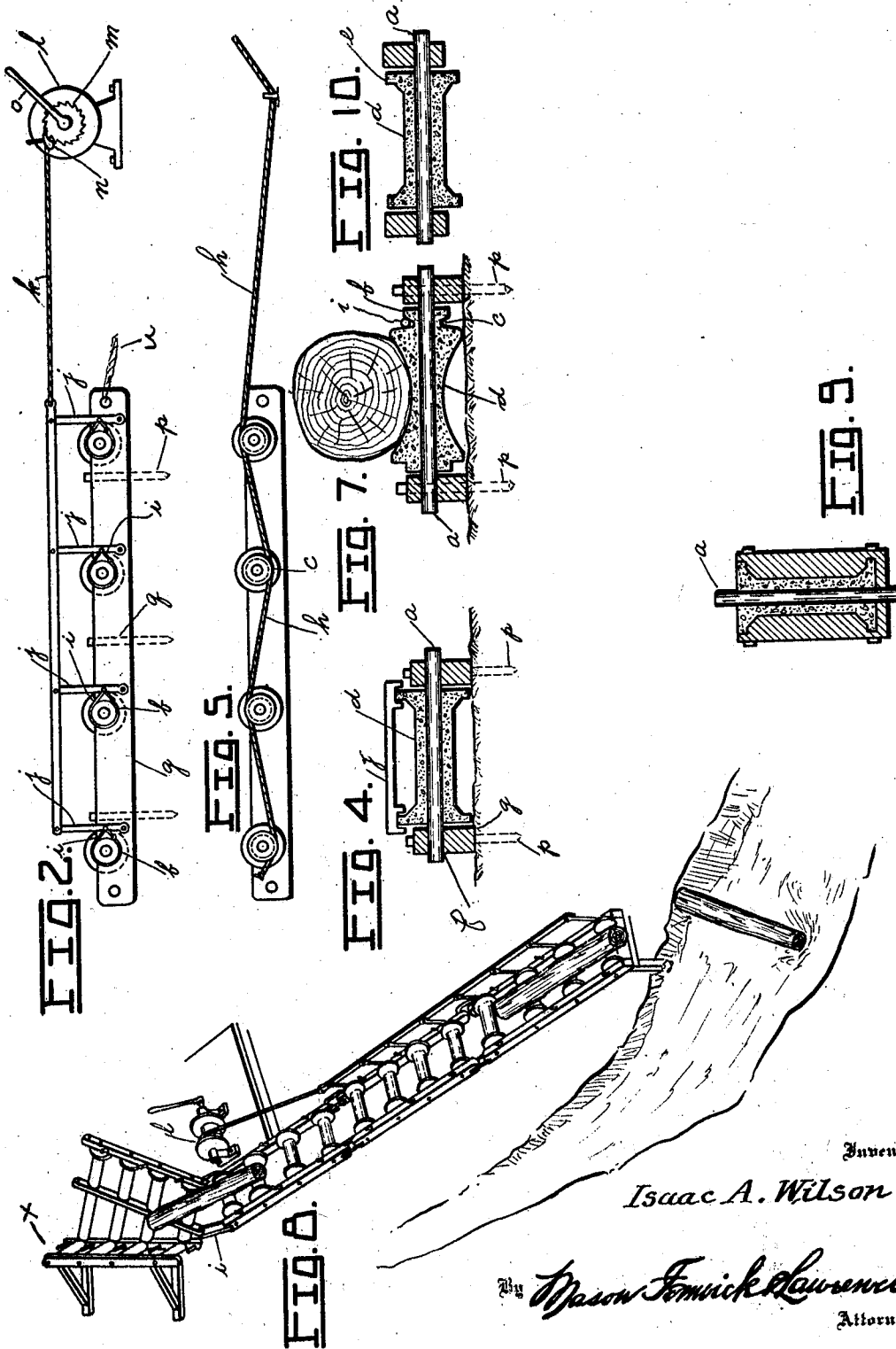
By

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3 SHEETS—SHEET 3.

FIG. 11

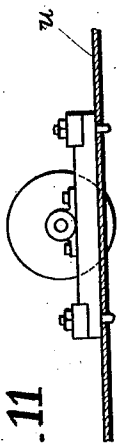


FIG. 3.

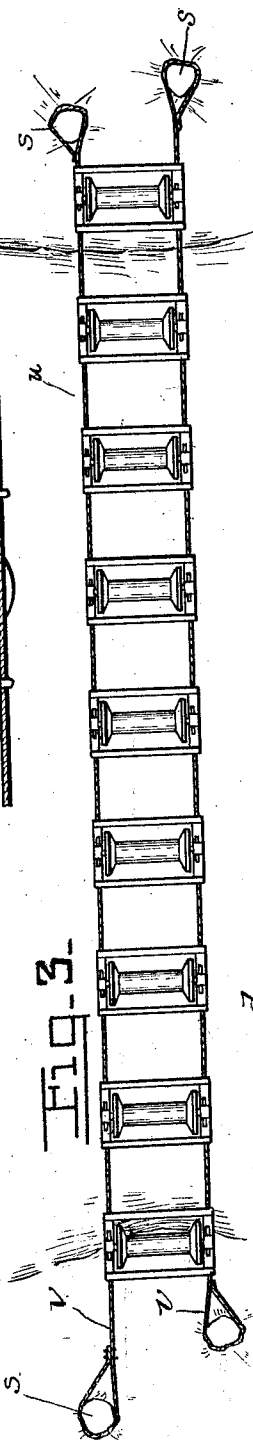


FIG. 12.

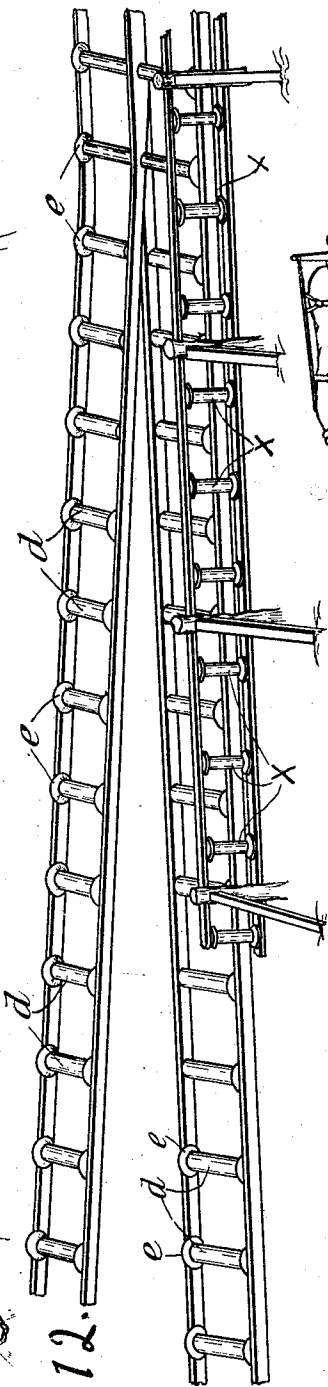
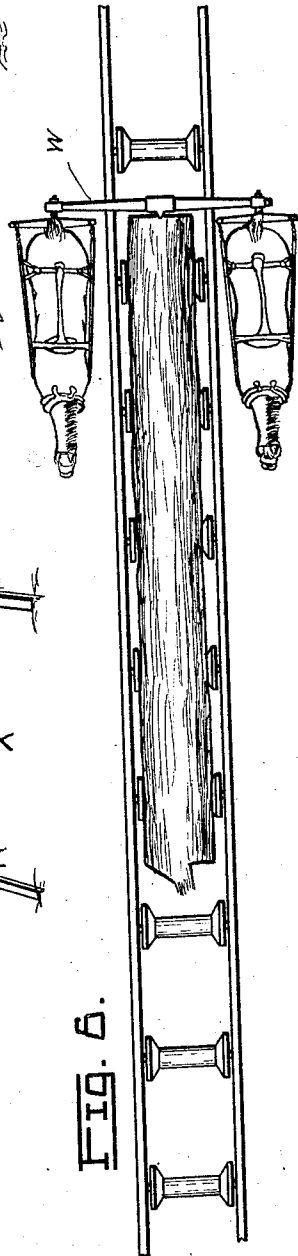


FIG. 6.



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UNITED STATES PATENT OFFICE.

ISAAC A. WILSON, OF LAKEBAY, WASHINGTON.

BRAKING DEVICE FOR PORTABLE LOGGING ROADS.

1,406,709.

Specification of Letters Patent. Patented Feb. 14, 1922.

Application filed January 17, 1920. Serial No. 352,124.

To all whom it may concern:

Be it known that I, ISAAC A. WILSON, a citizen of the United States, residing at Lakebay, in the county of Pierce and State of Washington, have invented certain new and useful Improvements in Braking Devices for Portable Logging Roads; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to roadways and particularly to portable roadways for transporting logs, shingle bolts and the like. An object of this invention is to provide a quickly constructed roadway that can be easily constructed on the ground without importing thereto heavy and cumbersome material such as is very difficult to get into logging camps and inaccessible places and to provide molds so that many rollers, having a normal weight greatly in excess of that of the molds can be utilized for building these roadways such as making rollers for these roadways out of concrete or other plastic material in a mold on the ground. Ordinarily to carry a great number of rolls for building a logway or a way for carrying shingle bolts the weight of these rolls makes it very expensive of transportation owing to the inaccessibility often found in getting to logging camps and by making these molds for molding concrete rollers only a few molds need to be transported for making a multitude of rolls for logs. It is an object of this invention to provide such molds and thereby more easily and cheaply construct an efficient logging way and at the same time construct a logging way which will be practicable where otherwise it might not be so. A further object of this invention is to provide a logging way made up of sections having log rollers mounted on individual sections in such a manner that it may be utilized over different contours of the earth's surface. A further object of this invention is to make a log way of this character universal for delivering shingle bolts as well as logs and to handle these shingle bolts in a more satisfactory manner than they have been heretofore handled. A further object of this invention is to provide a

suspension bridge arrangement of sectional units carrying rollers of this type and to provide means for fastening such suspension bridges to stumps, trees and other natural land marks that may be accessible. A further object of this invention is to provide a means for drawing logs on a roadway of this character where gravity is not operative upon the logs in propelling them in the desired direction. A further object of this invention is to provide a means for easily and quickly equalizing the speed of logs upon a roadway of this character and for checking the speed of logs upon such a roadway and for controlling this checking means from a single point for various portions of said roadway. A further object of this invention is to provide a means of anchoring a roadway of this character to natural land marks and natural growths that might be in the vicinity of the roadway. A further object of this invention is to utilize a roadway of this character to make it a self-portable arrangement by utilizing the sleds for carrying the rollers to become cars operative upon said rollers and thereby providing means for loading parts of said roadway upon said cars and enabling easier transportation. A further object of this invention is to provide a means for checking the speed of logs of roadways of this character both by operation upon the logs and by brake automatically operative in relation to the rollers upon which the logs are rolling and also by a frictional arrangement in relation to said rollers independent of positive brake. A further object of this invention is to provide means for anchoring sleds holding rollers for roadways of this type by providing holes within the sleds themselves for anchoring pins. A further object of this invention is to provide for the angular difficulties caused by logs in turning a corner by providing means for lengthening the rollers at such turns and varying their angularity and also providing for additional roller length at such turns and also providing for counter rollers on vertical pivots. A further object of my invention is to provide an improved means for unloading logs from a roller roadway. With these and other objects in view as will become manifest to those versed in the

art, my invention consists in the construction, the combination, and in details and arrangement of the parts as more particularly set forth, wherein;

5 Figure 1 is a perspective of a continuous logway going over various contours upon a mountain side.

Figure 2 is an enlarged side elevation of a portion of the braking mechanism taken at point 2 of Figure 1.

Figure 3 is an enlarged plan taken at 3 on Figure 1, showing suspension cable mounts.

Figure 4 is an enlarged section, showing a skid converted into a car for shingle bolts.

15 Figure 5 is an enlarged perspective at 5 on Figure 1, showing a snub line for an auxiliary brake.

Figure 6 is a perspective of operation going uphill, taken at point 6 on Figure 1.

20 Figure 7 is a section across a roller with a log mounted thereon.

Figure 8 is a perspective view at a terminal and at a partial angular turn, showing the varying lengths of rollers and the varying angularity and also the flangless roller and double roller system and also brakes and dump.

Figure 9 is a section of a mold for making a roller.

30 Figure 10 is a section of a roller with skid reversed and converted into a car for transporting.

Figure 11 is an enlarged detail of a suspension mount roll.

35 Figure 12 is an enlarged view of a switchback, taken at point marked 12 on Figure 1.

In constructing this roadway, I transport or build on the ground a mold and sometimes a set of molds, such as is shown in Figure 40 9, depending upon the contour of the ground, sometimes I use a set of varying molds for different shaped rolls. I cast these rolls around a piece of pipe in these molds allowing the ends of the pipe to stand out beyond the roll as shown at *a* in Figures 4, 7, 9 and 45 10, and having a drum *b* and a V-shaped groove *c* and concavity at *d* to conform to the shape of the logs and flange at *e*, the magnitude of said flanges depending entirely upon the angularity at the place of mounting 50 of the roller and also upon whether or not it is desired to utilize the said track both for shingle bolts and for logs and under other varying conditions. The ends *a* of the pipe are journaled in bearings *f* of skids *g*. The groove *c* in the roller is used for frictional engagement with a strap *i*. Strap *i* is mounted on one end fixedly with skid *g* and at the other end upon a lever *j*. A series of 60 levers *j* are suitably joined together by means of a connecting rod, one end of which is attached to a cable *k* which passes to and around a drum *l*. Fixedly mounted with drum *l*, is a ratchet *m* having a suitable pawl 65 *n* and also fixedly mounted with drum *l* is

a crank *o* so that when crank *o* is turned in the proper direction the drum rotates and makes taut cable *k* thereby causing straps *i* to operate as a brake on the rollers, the ratchet and pawl then serving to hold the 70 said cable *k* in a predetermined tautness. The auxiliary cable *h* may also be mounted upon a drum or be manually controlled and serves as a safety arrangement in the event of anything interfering with the operation of 75 the brake straps *i* or the mechanism operating these straps and also serves for the purpose of a brake at such times as it is more convenient to utilize it, than it is to utilize the strap brakes. One end of this cable *h* may 80 be secured to one of the skid members *g* and then alternately arranged upon opposite sides of the drum and thence wound upon a cable adapted to be manually operated so that in case anything happens to the 85 brake straps *i*, tension can be applied to this cable *h* which will bind against the drums and tend to brake the same in the same manner as the straps *i*. This auxiliary cable *h* may be located upon the opposite end of the 90 drum from the straps *i*. The skids *g* are anchored by pins *p* through holes *q* and also by a guy rope *v* to such means as a stump *s* or a tree or other suitable land marks when normally resting upon the ground; but when 95 for instance it is desired to suspend these skids across a ravine for instance, the skids, being coupled together by couplings *u*, are held in suspension by guys *v* mounted or snubbed upon trees or stumps or other suitable 100 landings or anchorings. On the level or at an incline at which gravity does not effect the movement of the logs in the desired direction, a draw bar *w* or like means is put behind the logs and the logs are 105 manually or by horses or other power pushed over the rollers. Gravity normally carries the logs downward and when the hills are too steep, I use an angularity element as shown in Figure 12 and at 12 in Figure 1. 110 In such an element to overcome the angularity of the logs and changes in their angularity I use upright rollers *x* pivotally mounted on vertical pivots at a portion of this angle and also utilize a roller having 115 a flange only on one side. The skids *g* as shown in Figure 10 are mounted upon a set of rollers in which the skids form a car with the rollers forming the wheels to easily deport the skids and the rollers in changing 120 the position and placing of these tracks and rollers. In cases where it is desired to transport shingle bolts instead of logs I use a car *v* in which I may utilize one of the skids *g*. 125

My angularity changing means may be called a form of switchback, somewhat similar to a narrowed V form, whereby logs on a steep side hill may be carried down by being moved in a zigzag roadway down the 130

face of the incline. At the end of the zig-zag lines, the lower track converges with the upper one, and the flanges removed from the ends of the rollers where they adjoin, so
5 that as the log reaches the point of convergence, it rolls down upon the lower track or skid and then begins to travel down that lower track in an opposite direction from what it took on the upper one. This means
10 may be employed where it is impossible to secure a suitable grade by curving around the face of the incline.

What I claim is:

In a log roadway, spaced skids, rollers mounted between said skids, said rollers 15 having grooves, brake straps within said grooves, means connecting said straps, a cable attached to the connecting means, a drum for winding said cable and a ratchet 20 and pawl attached to the drum to check backward rotation of the same.

In testimony whereof I affix my signature.

ISAAC A. WILSON.