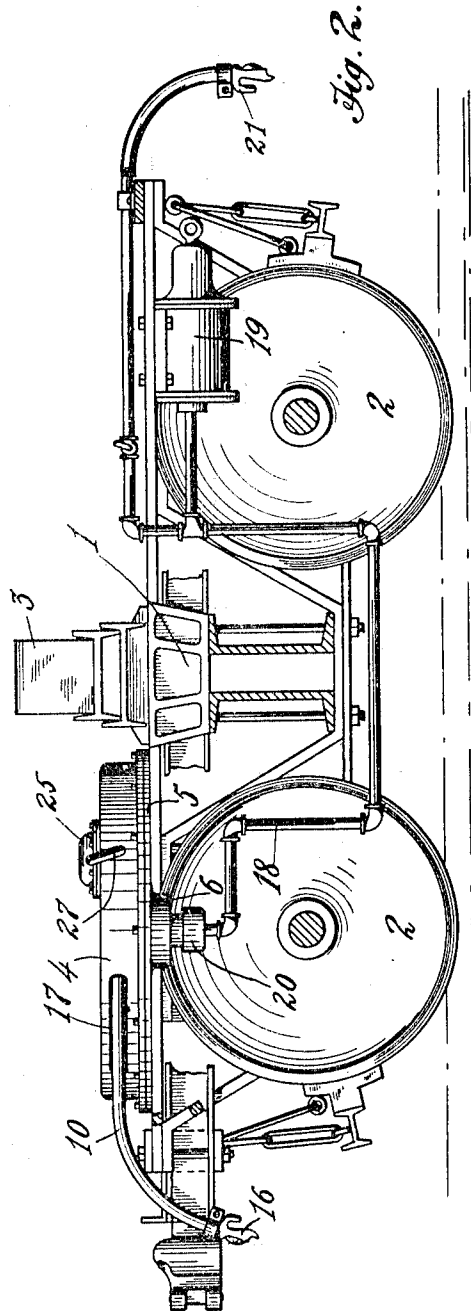
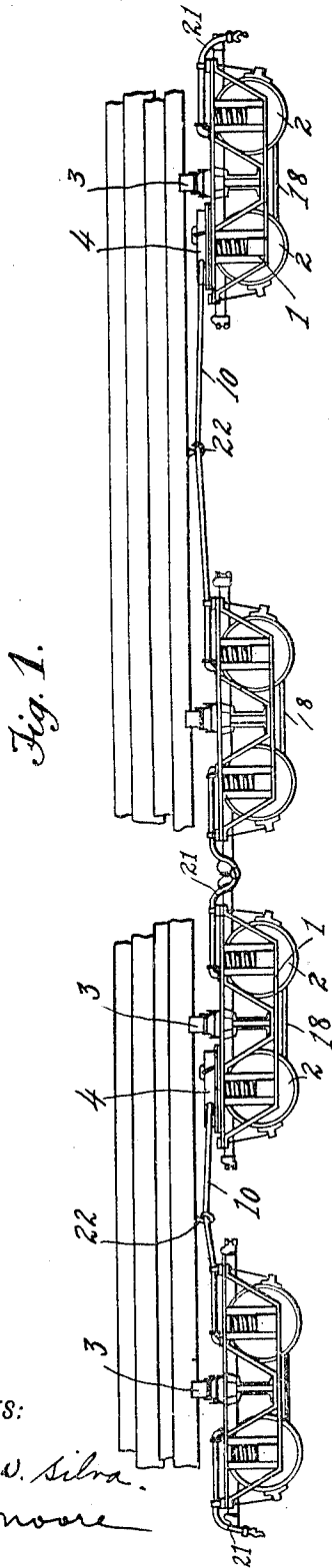


G. H. LIBBY & H. L. TURNEY.
AIR BRAKE MECHANISM FOR LOGGING TRAINS.
APPLICATION FILED DEC. 29, 1911.

1,040,222.

Patented Oct. 1, 1912.

2 SHEETS—SHEET 1.



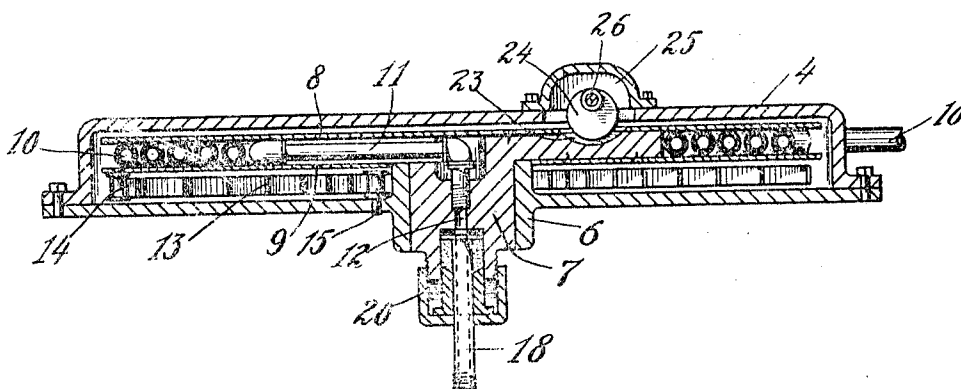
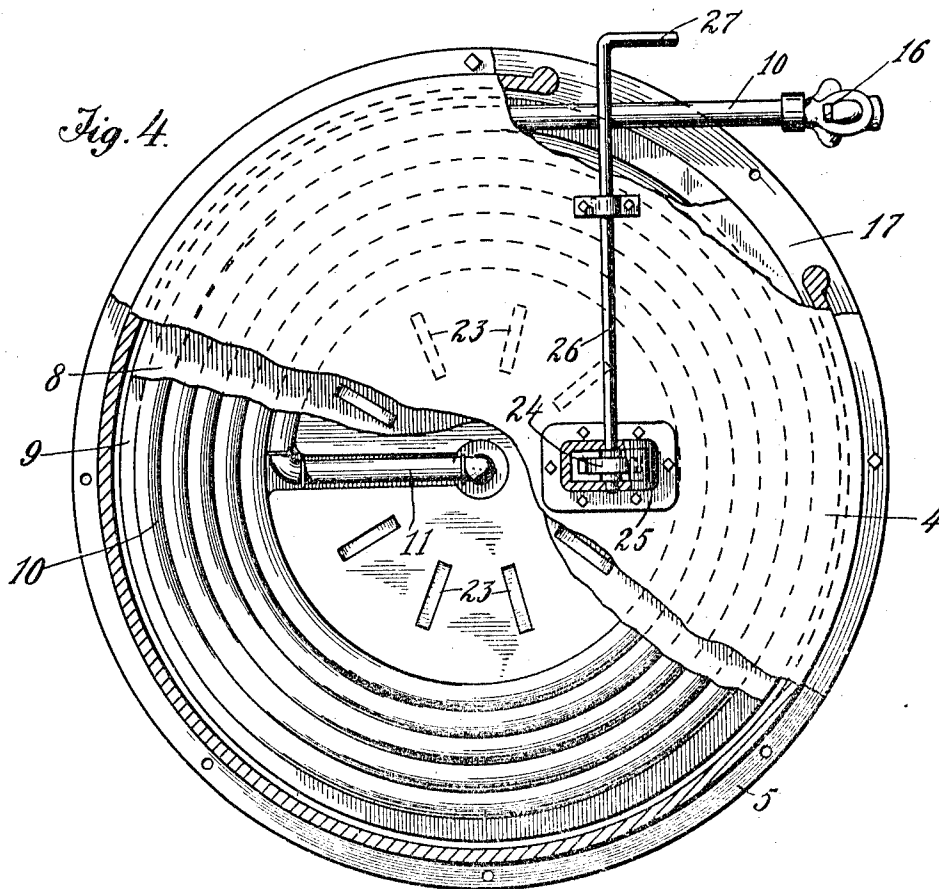
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2 SHEETS—SHEET 2.



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Fig. 3.

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AIR-BRAKE MECHANISM FOR LOGGING-TRAINS.

1,040,222.

Specification of Letters Patent.

Patented Oct. 1, 1912.

Application filed December 29, 1911. Serial No. 648,533.

To all whom it may concern:

Be it known that we, GEORGE H. LIBBY and HARRY L. TURNEY, citizens of the United States, residing at Portland, in the county of Multnomah and State of Oregon, have invented certain new and useful Improvements in Air-Brake Mechanism for Logging-Trains, of which the following is a specification.

Our invention relates to a logging train, and more particularly to the brake mechanism of such a train.

Logging trains are usually composed of flat cars comprising a car-body supported on a couple of pivoted wheel-trucks and equipped with air-brakes. The objection to this train system is, that the length of a flat car is fixed, while logs vary materially in length, wherefore the logs which are sufficiently uniform in length to be carried economically on a flat car, only comprise a small percentage.

A more convenient manner of arranging a logging train is to couple up a series of wheel-trucks in pairs, one pair to each load of logs, as in this fashion the two trucks of each load can be spaced to accommodate the length of the logs, they are to carry. As however no practical way has heretofore been known of adjustably inter-connecting the air-brakes of each pair of wheel-trucks, hand-brakes have been resorted to. But hand-brakes necessitate the employment of a brakeman on each truck, and what is more serious, hand-brakes are the direct cause of most accidents and wrecks, for the reason that they do not act fast enough to instantly check the motion of the train, in case the latter gets beyond control, and because the brakemen cannot apply all of the brakes simultaneously in case of such an emergency. The brakemen are also stationed in a very dangerous place, and have absolutely no chance of escape when the train runs away.

On all logging roads the grade constantly changes, making it necessary to set and release the brakes a great many times during the haul, and also for this reason the hand-brakes are objectionable on account of their slowness of operation.

In order to overcome these difficulties our

object is to provide each truck of an entire train of the last named type with an air-brake, and with means for inter-connecting said air-brakes, and with this object in view our invention consists in placing a flexible, spring-held air-hose mechanism between each pair of trucks. To this end we mount a reel in a casing on one of the trucks of a pair, and on the reel we place a coil of air-hose, the inner end of which extends to the brake mechanism of the said truck, while the outer free end of the hose projects outside the casing.

A further object is to provide a suitable spring mechanism adapted to yieldingly retain the coil within the casing, and to permit it to adjust itself to variations in the distance between the trucks when the train travels around curves. The hose thus mounted also automatically adjusts itself to any distance the trucks may be spaced to accommodate the length of the logs, that are to be loaded, and it maintains full air-pressure at all times.

On the return trip, after the logs have been unloaded, the trucks are all coupled up together, each hose magazine taking care of its extra length of hose by automatically winding it up on the reel, whereby full pressure of air is maintained, so that the brakes can be operated as on an ordinary train of flat cars.

The objects and features of our invention are clearly set forth in the following description and illustrated in the appended drawings, in which:

Figure 1 shows two cars of a logging train in which our invention is embodied, Fig. 2 is a side elevation of a truck, shown partly in section, and with parts removed in order to illustrate the magazine and hose connections, Fig. 3 is a cross sectional view of the hose magazine, and Fig. 4 is a plan view of the hose magazine with portions of the top-plate removed.

Truck-body 1 is mounted on wheels 2, and is provided with a pivoted cross-beam 3, on which the logs rest. The hose casing is rigidly secured to the platform of the truck; it comprises a circular cover 4 and a base 5, and as the top surface of the beam sets considerably higher than the top of the

casing, there is no danger of the logs colliding and possibly crushing the casing. Base 5 is made with a central perforated hub 6, which serves as a bearing for the hub-portion of a disk 7, and this disk, together with its fixed flanges 8, 9, forms the reel on which hose 10 is wound. The inner end of said hose terminates in a pipe 11, which extends to the center of the reel, and at the center said pipe communicates with an air passage 12. Between the reel and base 5 is placed a heavy band spring 13, the outer end of which is secured to stud 14 of the reel, while its inner end is fixed on stud 15 of the base. The action of said spring is to wind the hose on to the reel, and, when the hose is uncoupled, its free end is held from being accidentally drawn into the casing by coupling 16, which is larger than width of casing-aperture 17.

In order to control the action of the reel, in case at any time it becomes necessary to uncouple a hose, we provide means for locking said reel against rotation, as best shown in Figs. 3 and 4. A plurality of radially disposed notches 23 are cut in the reel for registration with a cam 24, to which is rigidly affixed a rod 26, and the latter journals in a casing 25, secured to the top of cover 4. Rod 26 extends across the cover, and is at its outer end provided with a handle 27, by means of which said rod is rotated to cause said cam to engage the notches of the reel, and to disengage the cam from said notches.

Rigidly secured to the truck-body is a pipe 18, which operatively connects central passage 12 with air-cylinder 19 of the brake-mechanism. As said pipe is stationary, and the reel is free to rotate, it is necessary to provide an air-tight joint between the pipe and the reel, and this we accomplish by the introduction of a suitable stuffing-box 20.

The operation of our device is readily understood from the foregoing description. In Fig. 1 we show the trucks of each load spaced to accommodate long and short logs. It is noticed that only one truck of each pair carries a magazine, and that the hose from said magazine extends to the other truck of the pair. The hose connection between each section or car is of any well known type, and is indicated by reference number 21.

In conclusion we wish to state, that we may suspend supporting hooks from the load, such as hooks 22 in Fig. 1, and by resting the hose on these hooks, the strain on the hose and the coil spring in the magazine is greatly relieved.

Having thus described our invention, we claim:

1. In a logging train, the combination with a pair of wheel-trucks, each truck provided with an air-brake, and with means for carrying a load of logs; of means for

adjustably inter-connecting the air-brakes of the two trucks, in order that said trucks may be spaced to accommodate the length of the logs they are to carry, said means including a hose magazine horizontally placed on the platform of one of said trucks so as to clear the superimposed load.

2. In a logging train, the combination with a pair of wheel-trucks, each truck provided with an air-brake, and with means for carrying a load of logs; of means for adjustably inter-connecting the air-brakes of the two trucks, said means comprising, a casing rigid on one truck, a reel rotatably hung in said casing, an air-hose mounted on said reel, a coil spring operatively connected with said reel and adapted to wind said hose on to the reel; and means for connecting said air-hose with the brake mechanism of the second truck.

3. In a logging train, the combination with a pair of wheel-trucks, each truck provided with an air-brake, and with means for carrying a load of logs; of a hose-magazine horizontally placed on the platform of one truck so as to clear the superimposed load and communicating with the air-brake of the said truck, a connecting hose yieldingly suspended in said magazine; means for connecting said air-hose with the brake mechanism of the second truck; and means for locking said hose magazine against rotation.

4. In a logging train, the combination with a pair of wheel-trucks, each truck provided with an air-brake, and with means for carrying a load of logs; of a hose-magazine horizontally placed on the platform of one truck so as to clear the superimposed load and communicating with the air-brake of the said truck, a connecting hose yieldingly suspended in said magazine; means for connecting said air-hose with the brake mechanism of the second truck; and means for locking said hose magazine against rotation.

5. In a logging train, the combination with a pair of wheel-trucks, each truck provided with an air-brake, and with means for carrying a load of logs; of a casing secured to the platform of one of the trucks, a reel rotatably hung in said casing, an air-hose mounted on said reel, a coil-spring operatively connected with said reel and adapted to wind said air-hose on to the reel, and means for connecting said air-hose with the brake mechanism of the second truck.

6. In a logging train, the combination with a pair of wheel-trucks, each truck provided with an air-brake, and with means for carrying a load of logs; of means for adjustably inter-connecting the air-brakes of the two trucks, said means comprising, a casing secured to the platform of one of the trucks, a reel rotatably hung in said casing, an air-hose mounted on said reel, a coil-spring operatively connected with said reel

and adapted to wind said hose on to the reel, means for connecting said air-hose with the brake mechanism of the second truck, and means for locking said reel against rotation.

7. In a logging train, the combination with a pair of wheel-trucks, each truck provided with an air-brake, and with means for carrying a load of logs; a casing secured to the platform of one of the trucks, a reel rotatably hung in said casing, a coil-spring operatively connected with said reel and adapted to wind said air-hose on to the reel, and means for connecting said air-hose with

the brake mechanism of the second truck; means for locking said reel against rotation, said means comprising, a series of radially disposed notches in the reel, a cam journaled on the magazine casing, a hand-lever operatively connected with said cam by means of which said cam is caused to engage said notches.

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