

(No Model.)

W. O. CARLSON.

OFFSETTING DEVICE FOR SAWMILL CARRIAGES.

No. 564,866.

Patented July 28, 1896.

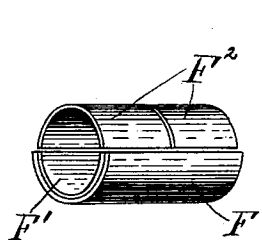
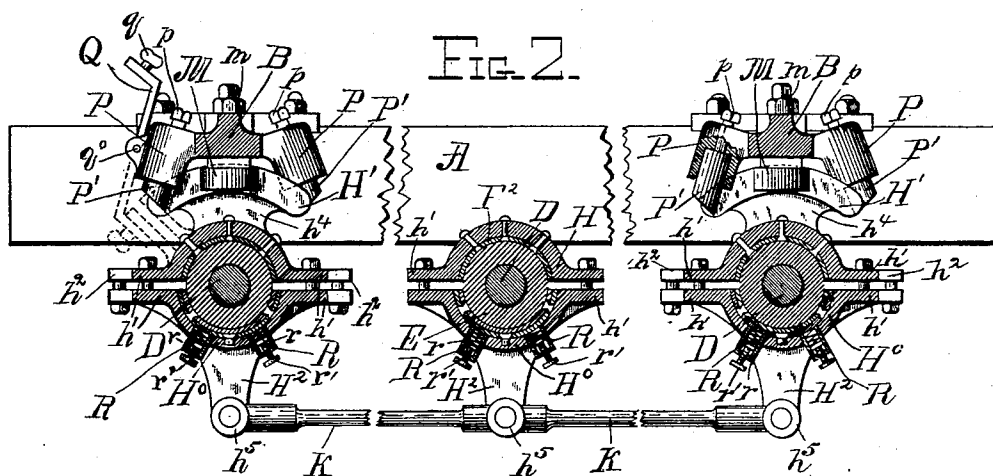
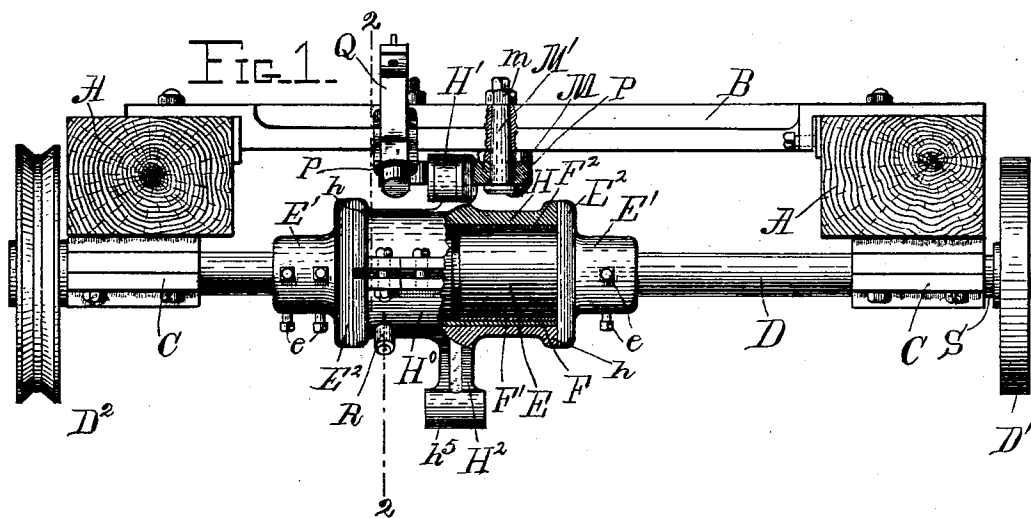


FIG. 4.

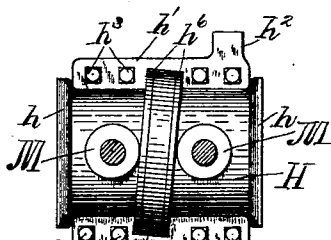


FIG. 3.

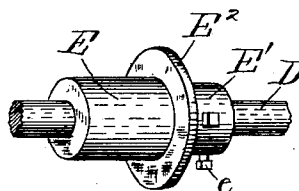


FIG. 5.

Witnesses

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UNITED STATES PATENT OFFICE.

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OFFSETTING DEVICE FOR SAWMILL-CARRIAGES.

SPECIFICATION forming part of Letters Patent No. 564,866, dated July 28, 1896.

Application filed May 9, 1896. Serial No. 590,882. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM O. CARLSON, residing at Menominee, in the county of Menominee and State of Michigan, have invented certain new and useful Improvements in Offsetting Devices for Sawmill-Carriages; 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.

My invention relates to improvements in offsetting devices for sawmill-carriages; and it consists in providing an offsetting device operated by friction, which will operate efficiently, will rarely require adjustment, may be conveniently adjusted when desired, has little or no lost motion, and will withstand heavy shocks and strains, such as are experienced with sawmill-carriages using steam log-turners.

The said invention will be understood by reference to the accompanying drawings, in which the same parts are indicated by the same letters throughout the several views.

Figure 1 represents a transverse section through the sawmill-carriage, parts being broken away. Fig. 2 represents a section through the sawmill-carriage along the line 2 2 of Fig. 1 and looking to the right. Fig. 3 represents a plan view, partly in section, of the upper part of one of the friction-sleeves, and shows the cam thereon and the guide-rollers therefor. Fig. 4 is a perspective view of the friction-pads of leather or like material with semicylindrical steel plate mounted beneath the lower pads. Fig. 5 is a perspective view of the friction-hub made fast to the axle of the carriage.

A represents the carriage-frame, and B a cross-bar secured thereto.

The journal-boxes C are constructed to allow a slight longitudinal play, as shown at S in Fig. 1, on the axles D, on which the wheels D' and D² are mounted. The wheel D² is grooved to travel on the tongue-rail, as is common in sawmill-carriages.

E represents a friction-hub which is provided with the boss E' and flange E², which hub is held fast on the axle D by means of the set-screws e. This friction-hub E is surrounded by strips of leather or like material

F' and F², which do not quite meet either along their longitudinal edges or their ends, as indicated in Fig. 4. The two lower leather strips F' are preferably supported in a metal semicylindrical plate F, which is held in the lower member H⁰ of the outer friction-sleeve. The upper member H of the friction-sleeve is secured to the lower member by bolts h³, passing through flanges h', provided on the sides of said members, which flanges do not quite meet, as is shown in Fig. 2. These flanges are provided with wings or lugs h², for the purposes hereinafter to be described.

The ends of the outer friction-sleeve are flanged, as at h, to bear against the flange E² of the friction-hub E. The lower member H⁰ of the friction-sleeve is provided with a downwardly-projecting arm H², with journal-bearings h⁵ for the connecting-rod K, which unites the two adjacent arms of the various friction devices, causes them to operate together, the advantage gained thereby being that in case one friction-sleeve does not operate the others will.

In ordinary carriages but two of these friction devices, one at each end of the carriage, would be sufficient; but where the carriage is long or the lumber heavy it is advisable to have one or more intermediate friction devices, as shown in Fig. 2. This intermediate friction device is connected by means of the rods K to the adjacent friction devices and moves synchronously therewith.

The upper member H of the friction-sleeve carries the cam or segment of screw-thread H', which is cast integral with the upper member H of the friction-sleeve and is preferably faced with steel wear-plates h⁶. These wear-plates are preferably made removable. The cam H' with its wear-plates travels between the antifriction-rollers M, mounted on the pins M', which pins are made taper set, as shown in Fig. 1, and have their axes eccentric to the axis of the roller M, whereby the said roller may be moved toward or away from the bearing-plates h⁶, and thus a very nice adjustment may be had. By making the pins M' taper set, as shown, and held in place by nuts m, the said nuts may be unscrewed slightly. A slight blow of a wrench or hammer will force down the pin M' enough to facilitate the turning of the same to the desired angle, the tops

of the pins being made square to receive the wrench, when the nuts m may be set up again and the roller M held firmly at the desired adjustment relative to the cam H' . In this manner a ready and very rapid adjustment of the rollers M relative to the cam H' may be effected, and lost motion between the rollers and the cam may be obviated.

The cross-bars B are provided with holding-sleeves P , having adjustable stops P' , which are adjusted by means of the screws p . In order to increase and adjust the friction on the leather pieces between the inner and outer friction-sleeves, coil-springs R are placed in cases r , projecting through the lower member H^0 of the friction-sleeve, the inner ends of which springs press on the plate F , while the outer ends are pressed on by the adjusting-screws r' , whereby the tension of the springs may be varied as may be desired, and the corresponding pressure of the plate F on the leather pieces F' may be regulated at will.

It will of course be obvious that it is desired to have no more friction than is necessary in order to insure offsetting and yet to have enough friction to prevent any possibility of the failure of the carriage to offset when desired. By the herein-described manner of clamping the outer friction-sleeve and adjusting the pressure on the plate F a very nice regulation of the friction devices is effected.

It will be obvious from an inspection of the drawings, assuming the parts to be in the position shown in Fig. 2, that if the carriage moves in either direction, for instance, as for giggering, the friction devices will swing the cams H' until the lugs or wings h^2 strike the adjustable stops P' , during which time the operation of offsetting of the carriage will be completed, and after these lugs h^2 strike their corresponding stops the further motion of the friction devices will cease and the hubs E will continue to turn inside of the leather friction-pieces until the end of the travel of the carriage is reached. As soon as the carriage is moved in the reverse direction the lugs h^2 will be released and the friction devices will cause the cams H' to move in the opposite direction until the opposite lugs h^2 strike their corresponding stops P' , when the carriage will be brought back to the initial position relative to the saw-line. After each cut the carriage will be offset, and after giggering it will be returned toward the saw-line, this entirely independently of the action of the set-works.

It will thus be seen that the carriage will be offset during the very first part of the backward motion thereof.

It frequently becomes necessary to prevent the carriage from offsetting when its motion is reversed, as, for instance, when backing out of a partly-completed cut, and to effect this I provide a holding-bar Q , pivoted at q^0 and provided with a clamp-screw q , adapted to en-

gage in a recess in or beneath the flanges h^1 of the lower member of the outer sleeve H^0 , as shown in dotted lines in Fig. 2.

When swung down into this position, the arm Q^0 will hold the offsetting device locked, and the carriage may be moved in either direction without offsetting.

The construction of the friction-sleeves E , fast to the axle D , transfers any sudden lateral thrust on the carriage, as, for instance, that due to the rolling of a heavy log by means of a steam nigger or log-turner, from the more delicate parts of the friction devices to the heavy flange E^2 , referred to, and does not affect the operation of the friction devices in any way. Even if this hub should be forced backward slightly by heavy strains the friction devices would still operate the offsetting devices.

It will be seen that I have provided a strong, simple, and efficient offset that will require adjustment rarely and can stand the shocks and jars and rough usage to which such devices are ordinarily subjected.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. In an offsetting device for sawmill-carriages, the combination with a plurality of axles with wheels carried thereby, of a carriage-frame supported on said axles, and having a limited lateral play thereon, flanged friction-hubs secured on two or more of said axles, friction-pieces of leather or like material inclosing said hubs, friction-sleeves composed of two parts bolted together and inclosing said hubs and said leather pieces, and bearing against the flanges of said hubs, cams carried by said friction-sleeves, and rollers mounted on said carriage-frame and engaging said cams, with means for adjusting the positions of said rollers relative to said cams, substantially as described.

2. In an offsetting device for sawmill-carriages, the combination with a plurality of axles, with wheels rigidly attached thereto, and supporting the same, of a carriage-frame supported on said axles and having a limited lateral play thereon, flanged friction-hubs secured on two or more of said axles, friction-pieces of leather or like material inclosing said hubs friction-sleeves composed of two parts bolted together and at a short distance apart inclosing said hubs and said leather pieces, and bearing against the flanges of said hubs, adjustable stops carried by said carriage-frame, and adapted to limit the rotation of said friction-sleeves, cams carried by said friction-sleeves, and rollers mounted on the carriage-frame, and engaging said cams, with means for adjusting the position of said rollers relative to said cams, substantially as described.

3. In an offsetting device for sawmill-carriages, the combination with a plurality of axles with wheels rigidly attached thereto and supporting the same, of a carriage-frame

supported on said axles and having a limited lateral play thereon, friction-hubs secured on two or more of said axles, friction-pieces of leather or like material inclosing said hubs, a curved plate partly inclosing said leather pieces, friction-sleeves composed of two parts bolted together and inclosing said hubs, said plate and said leather pieces, springs pressing on said plate with means for adjusting the tension of said springs, cams carried by said friction-sleeves, and rollers mounted on the carriage-frame and engaging said cams, substantially as described.

4. In an offsetting device for sawmill-carriages, the combination with a plurality of axles with wheels rigidly attached thereto and supporting the same, of a carriage-frame supported on said axles, and having a limited lateral play thereon, friction-hubs secured on two or more of said axles, friction-pieces of leather or like material inclosing said hubs, a curved plate partly inclosing said leather pieces, friction-sleeves composed of two parts bolted together and inclosing said hubs said plate and said leather pieces, springs pressing on said plate with means for adjusting the tension of said springs, adjustable stops carried by said carriage-frame, and adapted to limit the rotation of said friction-sleeves, cams carried by said friction-sleeves, and rollers mounted on the carriage-frame and engaging said cams, substantially as described.

5. In an offsetting device for sawmill-carriages, the combination with a plurality of axles with wheels rigidly attached thereto and supporting the same, of a carriage-frame supported on said axles, and having a limited lateral play thereon, flanged friction-hubs secured on two or more of said axles, friction-pieces of leather or like material inclosing said hubs, friction-sleeves composed of two parts bolted together and inclosing said hubs and said leather pieces, and bearing against the flanges of said hubs, cams carried by said friction-sleeves, wear-plates on each side of said cams, rollers engaging said wear-plates, and eccentric-pins adjustably secured in said carriage-frame and forming journal-bearings, for said rollers, substantially as described.

6. In an offsetting device for sawmill-carriages, the combination with a plurality of axles with wheels rigidly attached thereto and supporting the same, of a carriage-frame supported on said axles, and having a limited lateral play thereon, friction-hubs secured on two or more of said axles, friction-pieces of leather or like material inclosing said hubs,

friction-sleeves composed of two parts bolted together and inclosing said hubs and said leather pieces, cams carried by said friction-sleeves, rollers engaging said cams, and eccentric-pins made tapering and adjustably secured in said carriage-frame and forming bearings for said rollers, substantially as described.

7. In an offsetting device for sawmill-carriages, the combination with a plurality of axles, with wheels rigidly attached thereto, and supporting the same, of a carriage-frame supported on said axles and having a limited lateral play thereon, flanged friction-hubs secured on two or more of said axles, friction-pieces of leather or like material inclosing said hubs, friction-sleeves composed of two parts bolted together and at a short distance apart inclosing said hubs and said leather pieces, and bearing against the flanges of said hubs, adjustable stops carried by said carriage-frame, and adapted to limit the rotation of said friction-sleeves, cams carried by said friction-sleeves, rollers mounted on the carriage-frame, and engaging said cams, with means for adjusting the position of said rollers relative to said cams, and a locking-arm pivoted to said carriage-frame and adapted to swing under and engage a projection on one of said sleeves and to hold the same locked, substantially as described.

8. In an offsetting device for sawmill-carriages, the combination with a plurality of axles, with wheels rigidly attached thereto, and supporting the same, of a carriage-frame supported on said axles and having a limited lateral play thereon, flanged friction-hubs secured on two or more of said axles, friction-pieces of leather or like material inclosing said hubs, friction-sleeves composed of two parts bolted together and at a short distance apart inclosing said hubs and said leather pieces, and bearing against the flanges of said hubs, adjustable stops carried by said carriage-frame, and adapted to limit the rotation of said friction-sleeves, cams carried by said friction-sleeves, rollers engaging said cams, and eccentric-pins made tapering as shown forming bearings for said rollers, and adjustably mounted in the carriage-frame, substantially as described.

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

WILLIAM O. CARLSON.

Witnesses:

M. H. KERN,
HENRY W. PACKER.