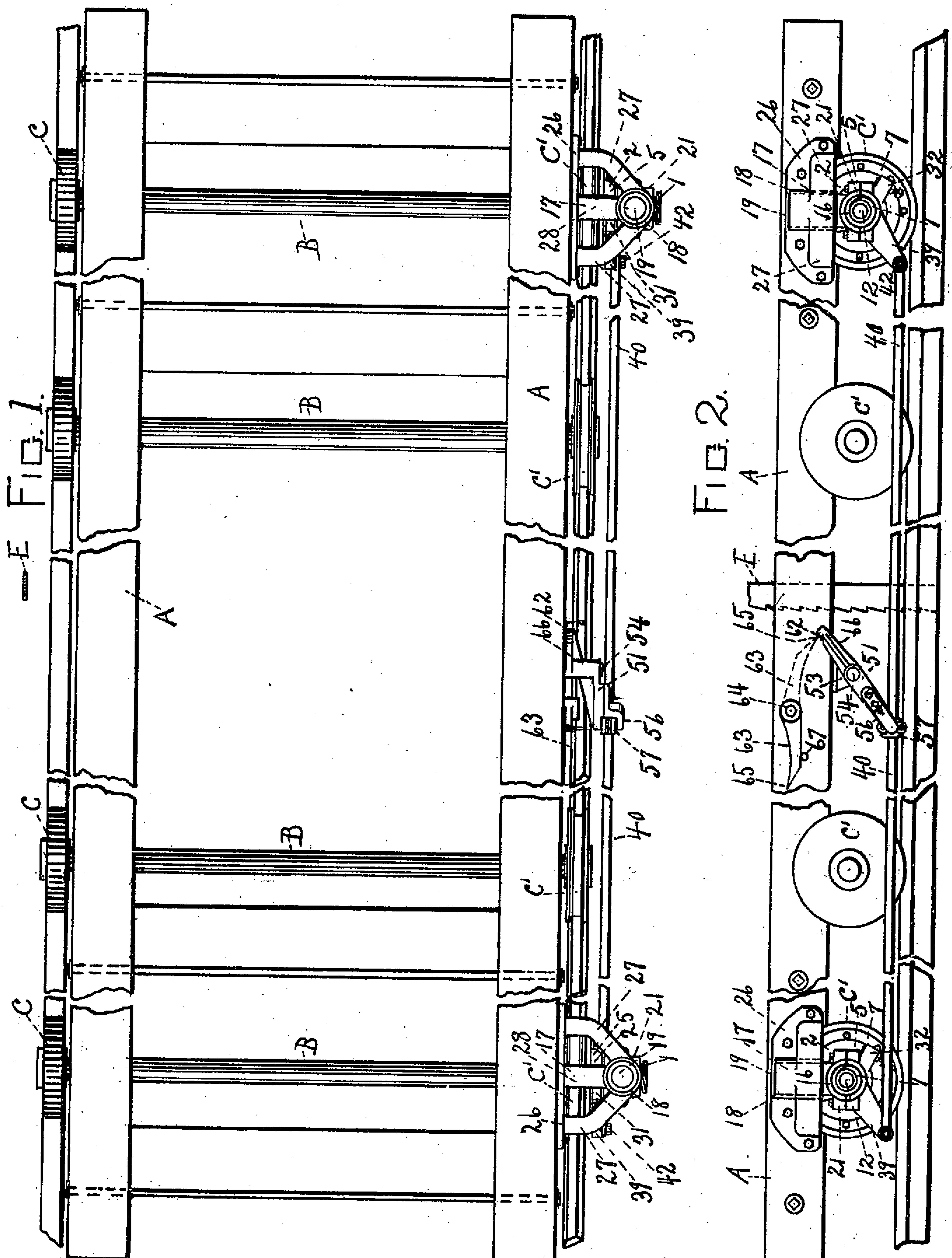
No. 658,108. Patented Sept. 18, 1900.

L. J. HANHART.

OFFSET MECHANISM FOR SAWMILL CARRIAGES.

(Application filed June 20, 1900.)

(No Model.) 2 Sheets—Sheet 1.



WITNESSES.

Earl R. Passel

Florence Brandes.

INVENTOR.

Louis J. Hanhart

by [illegible], His Attorney.

No. 658,108. Patented Sept. 18, 1900.

L. J. HANHART.

OFFSET MECHANISM FOR SAWMILL CARRIAGES.

(Application filed June 20, 1900.)

(No Model.) 2 Sheets—Sheet 2.

FIG. 3.

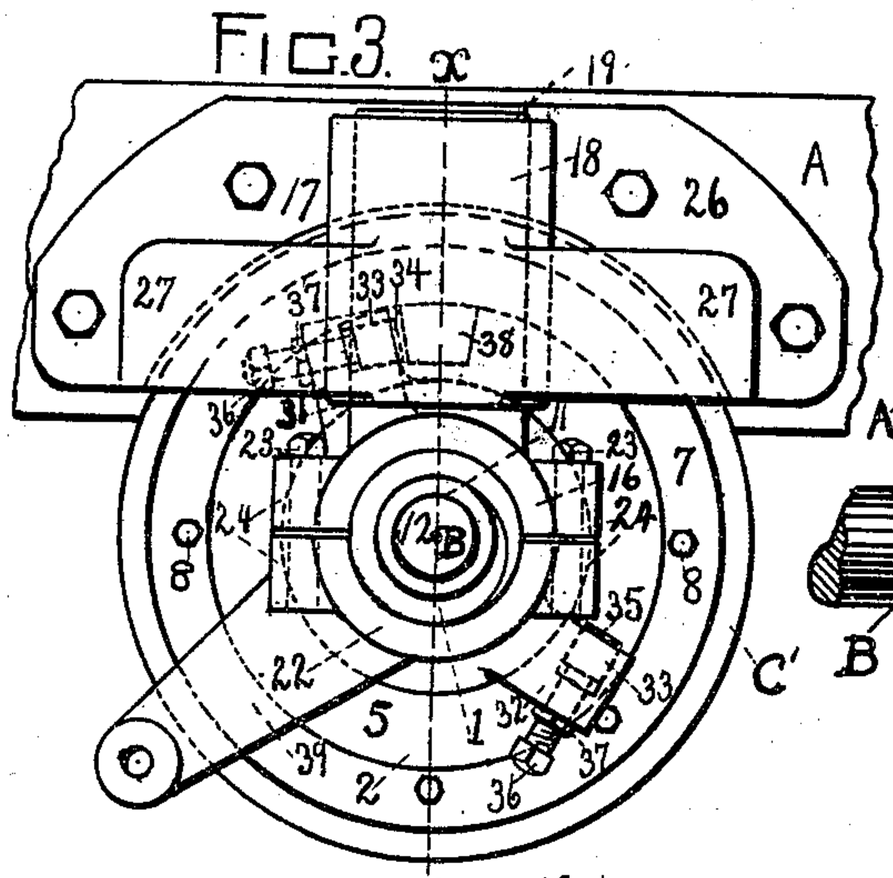


FIG. 4.

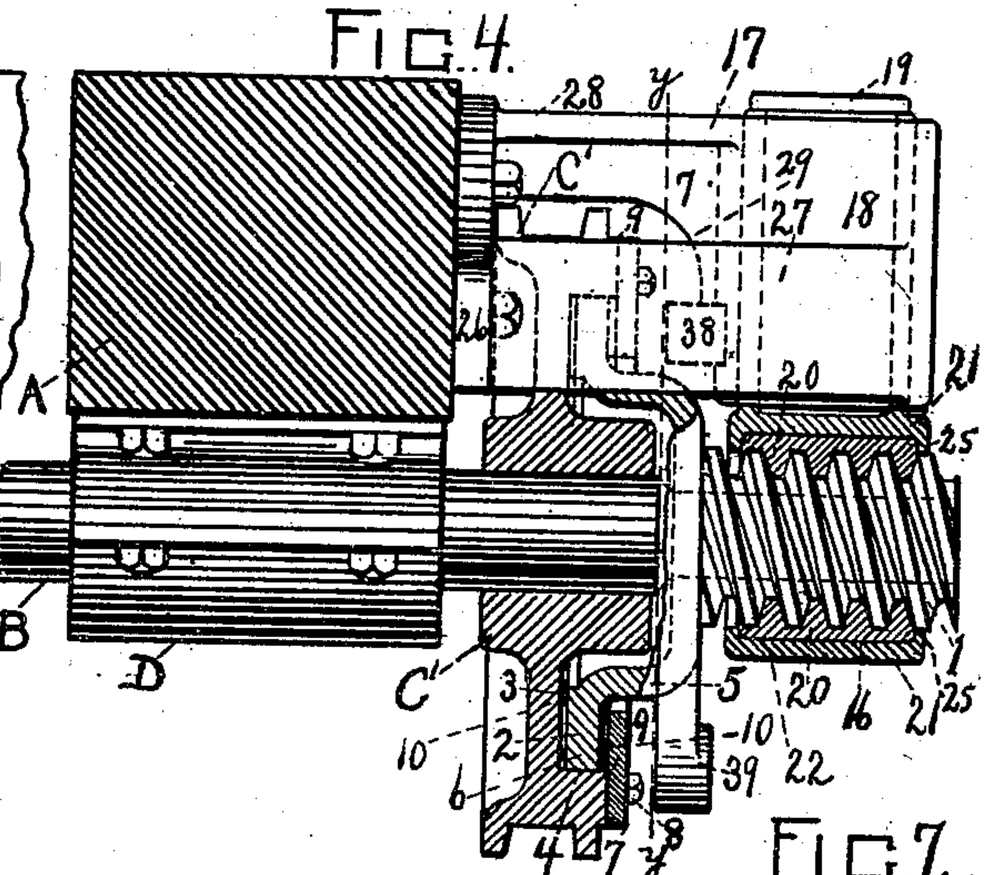


FIG. 5.

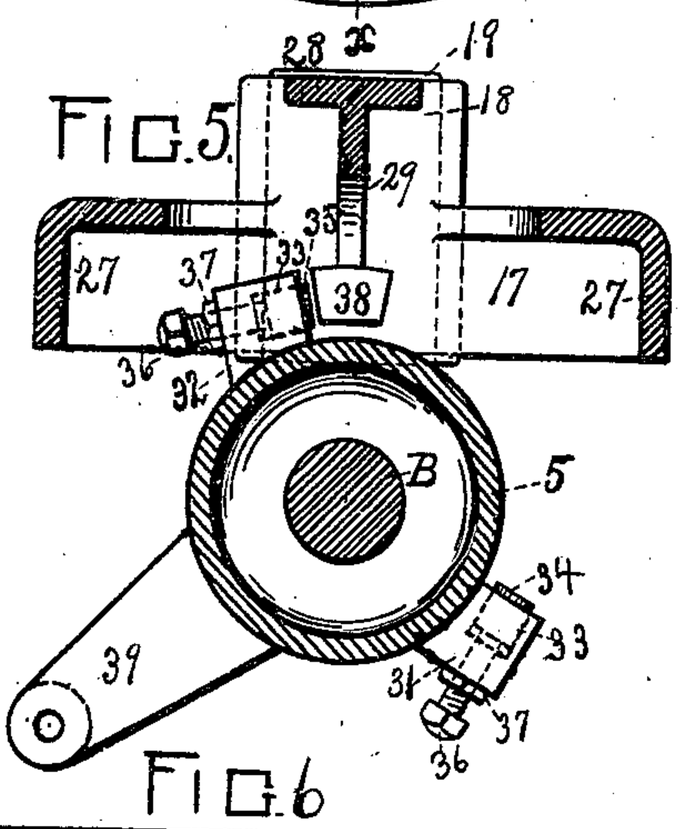


FIG. 6.

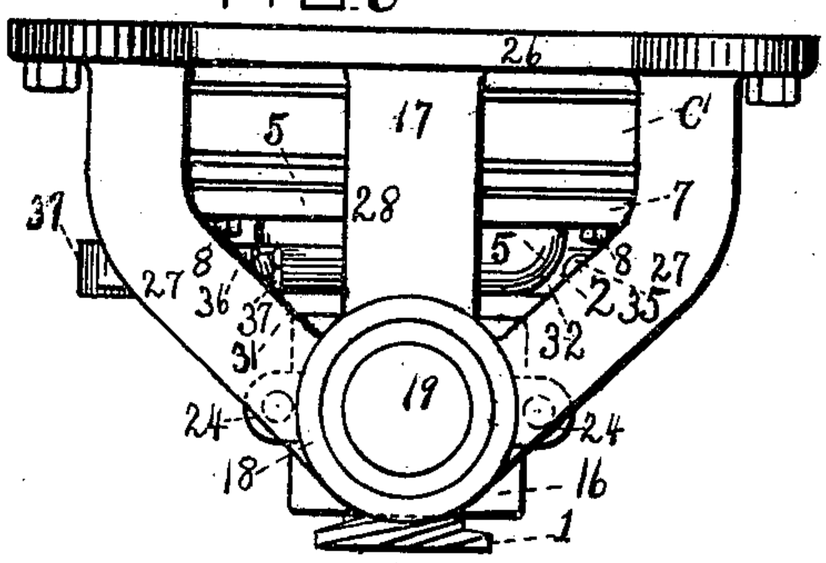


FIG. 8.

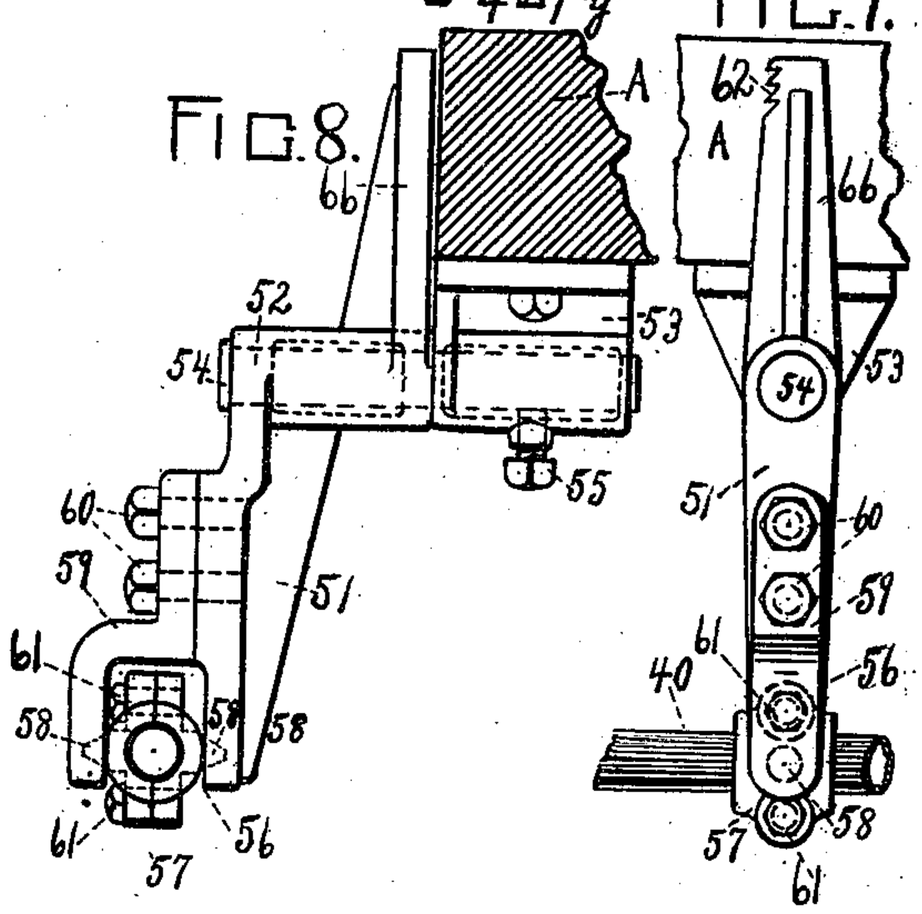


FIG. 7.

WITNESSES.

Earle R. Passel

Florence Brandes.

INVENTOR.

Louis J. Hanhart,

by D. D. Herbsleb, His Attorney.

UNITED STATES PATENT OFFICE.

LOUIS J. HANHART, OF CINCINNATI, OHIO, ASSIGNOR TO THE J. A. FAY & EGAN COMPANY, OF SAME PLACE.

OFFSET MECHANISM FOR SAWMILL-CARRIAGES.

SPECIFICATION forming part of Letters Patent No. 658,108, dated September 18, 1900.

Application filed June 20, 1900. Serial No. 21,010. (No model.)

To all whom it may concern:

Be it known that I, LOUIS J. HANHART, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Offset Mechanism for Sawmill-Carriages, of which the following is a specification.

My invention consists in providing a simple, effective, and durable mechanism of the character described that shall receive its power solely from the truck-wheel, so as to avoid lost motion and the effect of slippage between the truck-axle and its wheel, and thereby dispensing with the necessity for so intimate and substantial a connection between the axle and wheel; further, in providing an offset mechanism located to the outside of the framing of the sawmill-carriage, with the weight thereof carried by the framing and truck-wheel, and, further, in the parts and in the construction, arrangement, and combinations of parts hereinafter described and claimed.

In the drawings, Figure 1 is a plan view of my improved device shown in connection with a carriage with parts shown broken in places. Fig. 2 is a side elevation of the same. Fig. 3 is a side elevation of the offset mechanism proper. Fig. 4 is a view, partly in section, on the line *x x* of Fig. 3, and partly in side elevation, the socket and its connection with the carriage-frame and the lever and its connection to the friction-plate being shown in side elevation. Fig. 5 is a section looking from the rear on a line corresponding to *y y* of Fig. 4, with the lever in reversed position. Fig. 6 is a plan view of my improved offset mechanism proper. Fig. 7 is an end elevation of the intermediate support. Fig. 8 is a side elevation of the same.

A represents the carriage-framing. The framing is supported upon trucks comprising axles B and wheels C C′, the wheels being preferably shrunk on the axles. The axles turn in bearings D, secured to the framing, and the framing is allowed a slight lateral movement upon the trucks for purposes hereinafter explained. Preferably the wheels C′ most distant from the longitudinal plane of the saw-blade, which latter is indicated at E, are provided with flanges taking to both sides of their track to prevent lateral displacement of the wheels forming the guide-wheel. Preferably the end guide-wheels C′ of the carriage support a cam or screw 1, with a friction device 2 interposed between the cam or screw and the wheel. In the form of friction device shown the outer side of the wheel has a face 3 and a bearing 4, into which latter a friction-plate, shown as a cup or bell-mouthed shell 5, takes, the rim of which forms a flange 6. A retaining plate or plates 7, shown as secured to the wheel by bolts 8 against a face 9, hold the friction-plate in the bearing. A friction substance 10—for instance, rawhide—is placed between the rim of the friction-plate and the side of the wheel and the retaining-plate, respectively, the bolts 8 being drawn up sufficiently to afford the proper resistance between the wheel and the friction-plate for the operation of the devices. At its outer end the friction plate or shell is provided with cam-faces or screw 1. The shell and screw may be provided with a longitudinal aperture 11, into which a reduced end 12 of the axle may take and, if desired, may be journaled therein. This reduced end may, however, be omitted and the axle end at the wheel. Oppositely-arranged cam-faces or a nut 16, held against sidewise displacement with relation to the framing, connects with the cam-faces or screw 1. A bracket 17 is secured to the framing and extends therefrom above the screw and has a socket 18 therein, into which a shank 19, extending from the nut 16, is adapted to take. The shank is given a long bearing in the socket, but preferably is not held against endwise movement therein, so that it may readily accommodate itself to wear between the screw and nut and between the truck and its bearing D on the carriage-framing. The part of the nut encircling the screw I prefer to form of Babbitt or similar metal 20, surrounded by a bearing-box 21, connecting with the shank 19. (See Fig. 4.)

The bearing-box is preferably divided, having a cap 22, which may be removed or adjusted by means of bolts 23, connecting the two parts of the bearing through lugs 24 thereon. (See Fig. 3.) This permits wear

between the screw and the nut to be readily taken up. It forms a cheap construction, as I am thereby enabled to pour the Babbitt or other metal 20 into the box about the screw or pattern therefor in a melted state, thus saving machine-work, flanges 25 in the box aiding in holding the Babbitt in place.

The bracket 17 consists, preferably, of a plate 26, secured to the carriage-framing, to which the socket 18 is connected by side braces 27, extending to nearly the horizontal plane of the screw, and a top brace 28, extending to the socket above the wheel, with a downwardly-extending web 29 connecting with the socket, the side braces being also preferably L-shaped for additional strength.

Arms 31 32 extend from the friction plate or shell at suitable points and are preferably provided with sockets 33 for receiving contact-blocks 34 35, of wood or other suitable material, which may be adjustable therein by means of set-bolts 36. Jam-nuts 37 may also be provided. A lug 38 is provided on the bracket 17 to form a stop against which the blocks may strike to limit the rotary movement of the disk or shell and the consequent lateral movement of the carriage through the medium of the screw 1 and the nut 16, as hereinafter more fully explained. A lever 39 also extends from the friction plate or shell and is adapted to receive a connecting-rod 40, connecting the levers of the respective shells.

In operation the carriage is moved back and forth past the saw-blade position of the sawing-machine, the carriage supporting the log to be cut. The cutting operation is performed in the forward or feeding movement of the carriage. In returning the carriage to its initial position to take a fresh cut it is desirable that the log be slightly set back or offset from the saw-blade, so that the log will clear the blade in its return. I accomplish this offsetting operation automatically by simple, durable, and effective means having few parts. During the feed of the carriage the block 34 will be against the stop 38. Upon the return of the carriage the truck-wheel C′ will begin to revolve in the opposite direction, and by reason of the friction devices between it and the screw 1 the latter will be turned and continue to turn until the opposite block 35 strikes the stop 38, when the disk or shell to which the screw is attached will be held against further revolution, causing frictional slippage between the shell and wheel. The friction substance 10, of rawhide or other suitable substance, allows this slippage without abrasion of parts, with sufficient resistance maintained to revolve the screw when the blocks are out of contact with the stop. The screw is laterally unyielding by reason of its connection with the truck-wheel C′, which latter is laterally unyielding with relation to the saw-blade position by reason of its flanges taking against the sides of the track. The carriage-framing supporting the log is, however, laterally movable in its bearings about the truck-axles, and the screw 1 turning in the nut 16, which is laterally unyielding with relation to that framing, causes the nut to move laterally, carrying the carriage-framing and log with it away from the saw-blade and allowing the log to clear the saw-blade in the return movement of the carriage. When the motion of the carriage is again reversed to feed for the next cut, the reversal of direction of revolution of the truck-wheel C′ causes the carriage-framing to return to its initial lateral position with relation to the saw-blade ready for a new cut.

In order that both ends of the carriage may move simultaneously and equidistantly, I connect the shifting devices by means of a rod 40, so that if there should be slippage between the track and wheel of one shifting device motion to it may be imparted from the other by means of the rod. Each end of the rod has a bolt 42 taking through an aperture or bearing in the rod and into the lever. If a long rod is used, I desire to give it support intermediate of its ends at suitable points, so as to prevent buckling or sagging. This I do by means of a swinging arm 51, pivoted about a stud 52, taking into a part 53, attached to the carriage at the desirable point. The stud may have a head 54 and take into an aperture in the part 53 and be secured therein by a set-bolt 55. The arm preferably depends from and swings on the stud. It preferably has a bifurcated end 56 and supports a clamp 57 on trunnions 58. The bifurcated end may be formed by the lever proper and a plate 59 attached, thereto by bolts 60, and the clamp may be a two-part clamp connected by bolts 61, with a trunnion on each part taking into bearings respectively in the arm proper and plate 59. The clamp 57 takes about the rod, and the parts are thus constructed for ready assembling, as will be readily understood by reference to the drawings. In the movement of the rod the levers on the shells and the arms move in unison.

It is sometimes desirable to move the carriage back without offsetting, as when a spike or other obstruction is encountered in the log. To offset under such circumstances would throw the blade from the wheels, because the blade is in the midst of a cut. For this purpose I provide the arm 51 with an upward extension 66, having teeth or a roughened surface or engaging face 62. A brace 63 is pivoted to the carriage-framing at 64 and normally rests on a pin 67. If it is desired to return the carriage without offsetting, the brace 63, which preferably has a pawl end 65, is thrown against the engaging face 62, as shown in dotted lines in Fig. 2. When the carriage is then returned, the levers are maintained in the positions they occupy and the offset mechanism is prevented from operating.

In my improved device all the parts are compact, substantial, and closely related or associated. In prior constructions, where the

shaft was the source of power for the shifting devices, it frequently happened that the wheel would work loose from its shaft, owing to the great twisting strain between the two, and great precaution was required to get a substantial connection between the two, which often failed, however, in spite of all care exercised. I avoid these objections and provide a more substantial structure by obtaining my source of power for the shifting device direct and solely from the guide-wheel, and I do this by means of a cam device or screw journaled in the guide truck-wheel and receiving its power solely therefrom, which communicates its motion direct to the carriage by means of a nut having a direct substantial connection with the carriage through a bracket braced above and to the side of the truck-wheel and extending to substantially the horizontal plane of the screw, forming altogether a device few and compact in its parts, simple and durable, easily manipulated, simple and economical in construction, easily attached, and convenient in position for attachment, manipulation, attention, or repair. In my improved construction also the shifting devices extend to the outside of the truck-wheels and carriage-framing, so that the framing can be made independent of regard for the location of the shifting devices without danger of having cross-girths interfere with the operation or location of the shifting devices, as was so frequently the case in older constructions, where the shifting devices were located on the inner span of the truck-axles. By operating my shifting devices direct from the truck-wheel and locating them to the outside of the truck-wheel I get a compact construction independent of regard for cross-girths and within small compass, one that projects but slightly beyond the longitudinal vertical plane of the carriage and is easily accessible in all its parts.

I claim—

1. A sawmill-carriage having an offsetting mechanism operated solely from truck-wheel.

2. A sawmill-carriage having an offsetting mechanism directly connected to and operated solely from two or more truck-wheels directly interconnected through the offsetting mechanism.

3. The combination, in a sawmill-carriage, of framing arranged to slide laterally upon its axles to and from the saw-blade, of a truck comprising an axle and wheels, and a shifting mechanism connecting with the framing to move the same laterally and frictionally secured solely to a truck-wheel for imparting the lateral movement to the carriage, substantially as described.

4. The combination, in an offset mechanism, of a truck comprising an axle and wheels, a log-supporting framing laterally slidable on the axle, a cam mechanism, with friction devices connecting the latter frictionally solely with a truck-wheel, a bracket secured to the framing of the carriage and extending outwardly about the truck-wheel, a counterpart cam mechanism laterally unyieldingly secured to the bracket and connecting with the first-named cam mechanism, constructed and arranged for being supported solely from the framing and truck-wheel, substantially as described.

5. The combination, in an offsetting mechanism, of a truck comprising an axle and wheels, a framing slidable laterally thereon, a plate journaled in and frictionally secured to the outer side of a wheel, and a cam mechanism between the plate and framing for shifting the latter, substantially as described.

6. The combination, in an offsetting mechanism, of a truck comprising an axle and guide-wheel, a framing slidable laterally thereon, cam mechanism outside of the guide-wheel and frictionally secured thereto, with a transversely-unyielding connection between the cam mechanism and the framing, and with the friction device between the cam mechanism and the guide-wheel, substantially as described.

7. In an offset mechanism, the combination of a truck-wheel, a plate journaled thereon and frictionally secured thereto, a screw on the plate extending outwardly beyond the carriage-framing, a bracket secured to the framing and extending outwardly therefrom, and a nut connecting laterally unyieldingly with the bracket and taking about the screw and with the friction device for the plate and wheel located between the screw and nut and the truck-wheel, constructed and arranged for shifting the framing, substantially as described.

8. In an offset mechanism, the combination of a truck-wheel, a plate journaled thereon and frictionally secured thereto, a truck of which the wheel forms a part, a carriage-framing slidable laterally on the truck, with a bearing between the framing and truck, a bracket rigidly secured to the framing, cam mechanism secured to the plate, oppositely-arranged cam mechanism, a shank therefor, a socket for the shank on the bracket, and constructed and arranged for unyieldingly holding the shank laterally with relation to the bracket while permitting its movement longitudinally of the socket, substantially as described.

9. In an offset mechanism, the combination of a truck comprising an axle and wheels, a carriage-framing slidable laterally thereon, an annular face on the outer side of the wheel, a shell revoluble upon the face, a retaining-plate for the shell, a friction device between the wheel and the shell, a screw extending from the shell, a nut connecting with the screw, a bracket secured to the framing, with the nut secured to the bracket, constructed and arranged for permitting the shell to normally rotate with the wheel, and a stop to arrest the rotation of the shell, substantially as described.

10. In an offsetting mechanism, the combi-

nation of a plurality of trucks, guide-wheels therefor, a carriage-framing slidable laterally on the trucks, annular faces on the outer sides of the wheels, plates revoluble upon the faces, retaining-plates for the latter plates, friction devices between the wheels and said latter plates, cam mechanisms between the said latter plates and the framing, levers extending therefrom, a rod connecting the levers, an intermediate lever, an extension therefor, an engaging face for the extension, and a stop pivoted with relation to the framing for engaging the face and arranged for locking the shifting mechanism, substantially as described.

11. In an offset mechanism, the combination of trucks, each comprising an axle and wheels located near the respective ends of the carriage, a carriage-framing slidable laterally thereon, with shifting mechanism on each truck comprising an annular face on the outer side of a wheel, a shell revoluble upon the face, a retaining-plate for the shell, a friction device between the wheel and the shell, a screw extending from the shell, a bracket secured to the framing, a nut connecting the bracket with the screw, constructed and arranged for permitting the shell to normally rotate with the wheel, a stop to arrest the rotation of the shell, and a lever extending from each shell, with a rod connected with each lever, and an arm extending from the carriage-framing and pivotally connected thereto, intermediate of the shells, and a trunnion-clamp for the rod in the arm, substantially as described.

In testimony whereof I have signed my name hereto in the presence of two subscribing witnesses.

LOUIS J. HANHART.

Witnesses:
PARKE S. JOHNSON,
PHILIP W. TOZZER.