

**No. 706,311.**

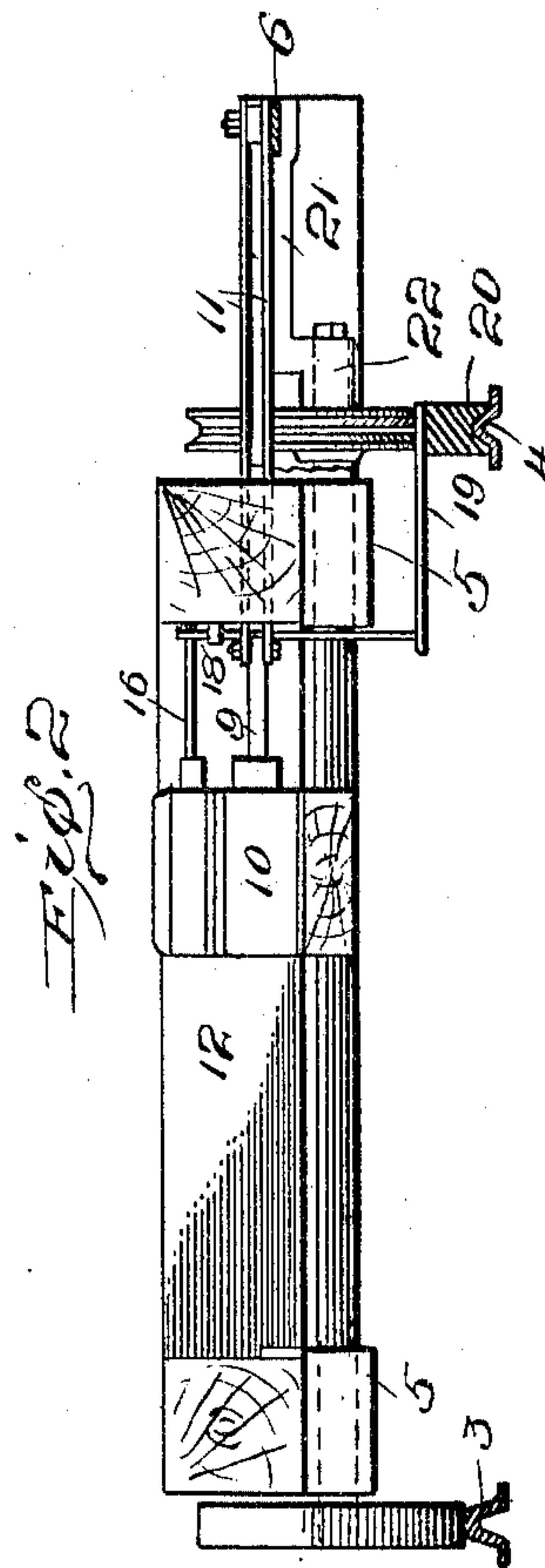
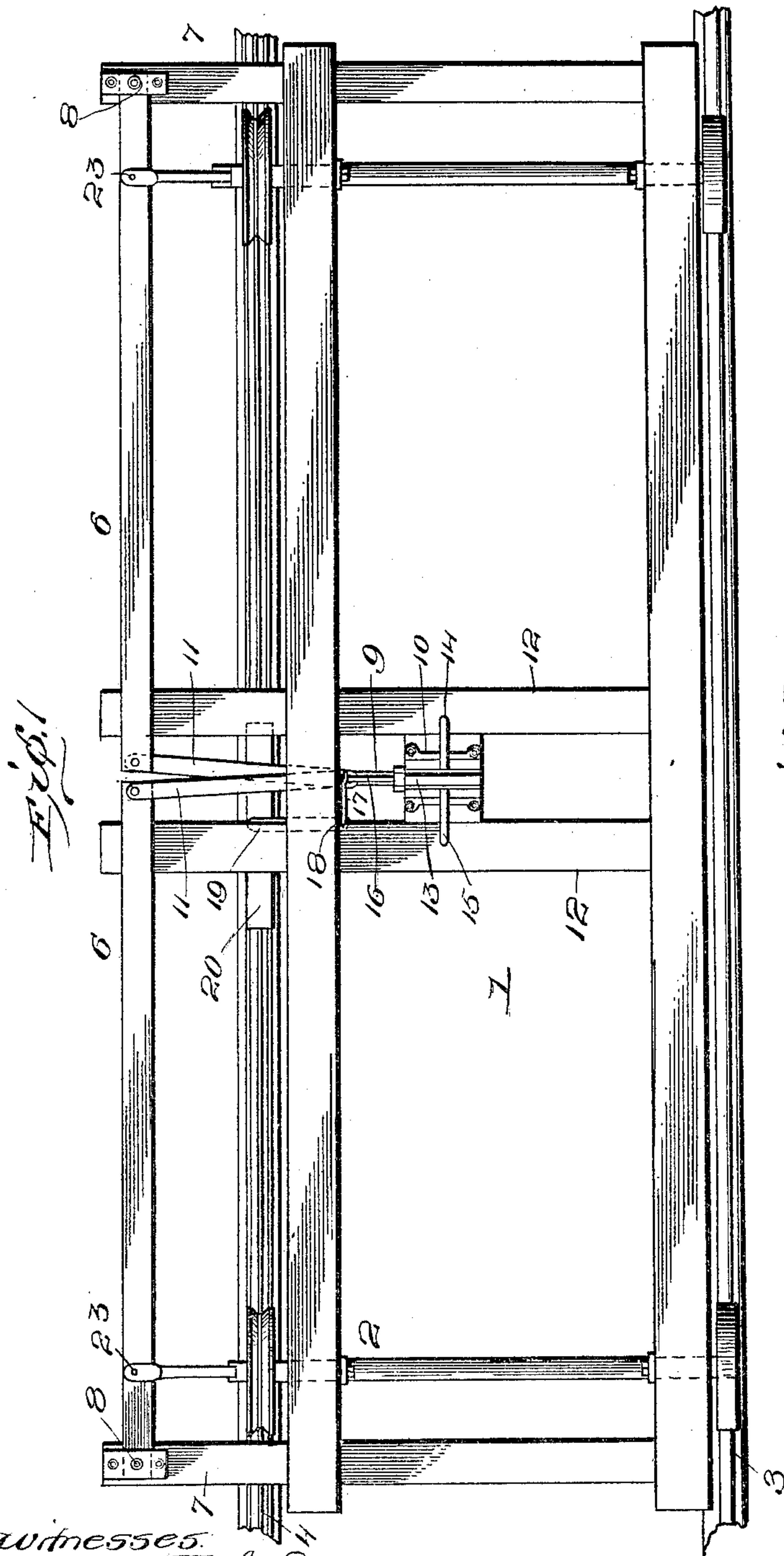
**Patented Aug. 5, 1902.**

**J. J. GALWAY.**

## OFFSET MECHANISM FOR SAWMILL CARRIAGES.

(Application filed Apr. 16, 1902.)

(No Model.)



Witnesses.

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# UNITED STATES PATENT OFFICE.

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## OFFSET MECHANISM FOR SAWMILL-CARRIAGES.

SPECIFICATION forming part of Letters Patent No. 706,311, dated August 5, 1902.

Application filed April 16, 1902. Serial No. 103,204. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN J. GALWAY, a citizen of the United States, residing at Duluth, in the county of St. Louis and State of Minnesota, have invented certain new and useful Improvements in Offset Mechanism 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 offset mechanism for sawmill-carriages, and has for its object the provision of a simple, durable, and positive means for offsetting a carriage from a saw when gigging back and for returning it again to its normal position at the commencement of the forward movement of the carriage.

It consists in an offsetting mechanism comprising means for mounting the carriage of a sawmill so that it may be moved longitudinally on the bearings of its trucks, means for automatically causing the said carriage to be thus moved initiated by the commencement of the carriage to move in either direction.

It also consists in certain other novel constructions, combinations, and arrangements of parts, as will be hereinafter fully described and claimed.

In the accompanying drawings, forming part of this application, Figure 1 is a plan view of a portion of a sawmill-carriage showing the supporting-rails therefor and the mechanism for offsetting the carriage. Fig. 2 is a vertical cross-section through the said carriage and supporting-rails, further illustrating the invention.

In carrying out this invention a sawmill-carriage 1 is employed, which is of any suitable or ordinary construction and is mounted upon trucks 2, each truck preferably consisting of an axle and a pair of wheels. Suitable flat and grooved tracks, as 3 and 4, are employed to engage the wheels, which are made with correspondingly flat and grooved peripheries in the usual and well-known manner. The wheels of the trucks are separated a sufficient distance to permit of the sawmill-carriage having a small amount of lateral movement between them. To secure such

movement, the carriage is formed with sleeve-bearing boxes 5, which are adapted to engage bearing portions on the shafts of the said trucks 2. The axles of the trucks will thus be capable of revolving within said bearing-boxes, and yet the said boxes can be moved longitudinally upon the axles. The trucks of course are fixed against lateral movement with respect to the carriage by the grooved wheels engaging the V-shaped track 4.

In order to move the carriage laterally on the trucks for accomplishing the proper offsetting of the same, I preferably employ levers 6, which are preferably made of considerable length and are pivoted at their outer ends to the laterally-projecting ends of some of the carriage-beams. The levers are pivoted to said projecting beam ends at in any suitable manner and preferably extend toward each other, as shown in Fig. 1. The inner ends of the said levers 6 preferably approach each other quite closely, so that they may be readily connected with and operated by a common piston-rod 9 of any suitable pressure-cylinder 10. Such piston-rod 9 is connected with the ends of the levers 6 by means of links 11, the inner ends of the said links being connected by a common pivotal bolt with the piston-rod 9. The power-cylinder 10 may be of any desired construction and may be suitable for operation by steam, compressed air, or other means. The cylinder is mounted below the surface of the carriage between lateral cross-beams 12 of the same. The power-cylinder is also provided with a valve-chest 13, which is connected with a power-supply by means of suitable piping, as 14, and has an exhaust, as 15. The valve operating in the said valve-chest is moved by a valve-stem 16, which extends from the end of the said chest and is connected with a bell-crank lever 17. The bell-crank lever 17 is mounted in vertical bearings 18, secured to one of the side rails of the carriage, the said lever projecting downwardly below the said rail and having one end, as 19, connected by a pivot-and-slot connection with a drag-block 20. The track-block 20 is provided with a V-groove in its under surface adapted to fit upon the V-shaped rail 4, so that when the carriage moves in one direction the dragging of the said block on the rail will move the



valve in the valve-chamber in one direction and when the carriage is moved in the other direction the dragging of the block will cause the reversal of the valve and the operation  
5 of the engine or power-cylinder.

The levers 6 are fulcrumed upon the trucks 2 of the carriage, and the fulcrumed points are preferably secured by arranging arms 21 on the ends of the truck-axles, the said arms  
10 having a sleeve 22, adapted to be journaled upon a projecting end of a truck-axle. The outer end of each arm 21 is pivoted to a lever 6, as at 23. These fulcrum-points are arranged comparatively close to the load ends  
15 of the lever, as shown in Fig. 1, while the outer ends of the levers are at a considerable distance from said fulcrums. The levers will therefore be quite powerful for operating the offsetting movement of the carriage, and it  
20 will not be necessary to employ a heavy pressure in the cylinder 10.

In operating the mechanism a suitable pressure is maintained in the cylinder 10, which moves and holds the piston-rod in accordance  
25 with the position of the valve in the valve-chest. When the carriage is started forward by any suitable or usual mechanism, (not illustrated,) the dragging of the block 20 on the rail 4 will move the valve so as to admit pressure at one end of the cylinder 10, and the lever 6 will be so actuated as to force the carriage laterally upon the trucks toward the saw of the sawmill. As soon as the sawing operation has been accomplished and the carriage has been started back against the dragging of the block 20 upon the rail 4 in the opposite direction will at once cause a reversal of the valve in the valve-chest and the pressure will be applied at the other end of the  
40 cylinder for offsetting the carriage or moving it laterally upon the axles of the trucks away from the saw. I preferably employ a power-cylinder which will have a cushioned stroke, such cushioning being provided for  
45 in any suitable and well-known manner. It will be observed that the parts of the mechanism can be altered or varied in minor details without departing in the least from the spirit of the present invention.

50 The device can be made in a simple and inexpensive manner and will be found very reliable for accomplishing the offsetting of a sawmill-carriage, as above described.

Having fully described my invention, what  
55 I claim as new, and desire to secure by Letters Patent, is—

1. An offset mechanism for sawmill-carriages, comprising means for moving a carriage laterally upon its trucks, fulcrums projecting beyond the trucks, levers arranged longitudinally of the carriage and connected at one of their ends with the carriage-frame, the said levers being pivoted to said extended fulcrums, and means for moving the other  
65 ends of the said levers for shifting the carriage upon the trucks, substantially as described.

2. An offset mechanism for sawmill-carriages, comprising a carriage movably mounted on the axles of suitable trucks, fulcrum-pieces projecting from the ends of said axles, comparatively long levers pivoted to said fulcrum-pieces, the outer ends of said levers being connected with the carriage-frame, a power mechanism carried by the truck and  
75 connected with the inner ends of said levers for simultaneously moving them to shift the position of the carriage upon its trucks, substantially as described.

3. An offset mechanism for sawmill-carriages, comprising a frame, trucks supporting the same, extension-pieces on the ends of the truck-axles, forming fulcrum-pieces, levers arranged longitudinally of the carriage outside the wheels thereof and pivoted to the  
85 fulcrum-pieces, the outer ends of the levers being connected with the carriage, a power-cylinder carried by the carriage, a piston moving therein, means connecting the inner ends of the said levers with the said piston, 90 the power means thus being capable of simultaneously moving the said levers, to offset the carriage, and means operated by the movement of the carriage for controlling the application of power in the power-cylinder, 95 substantially as described.

4. An offset mechanism for sawmill-carriages, comprising comparatively long levers pivoted to the ends of the carriage-axles, means for connecting both the inner ends of  
100 the said levers with a power mechanism, a valve mechanism for controlling the power mechanism, and a drag engaging one of the tracks in which the carriage travels for automatically operating the valve mechanism in 105 accordance with the direction in which the carriage is moved, substantially as described.

5. An offset mechanism for sawmill-carriages, comprising levers extending longitudinally of the carriage and pivoted thereto  
110 at their outer ends, fulcrum-pieces projecting from the axles of the carriage so as to support the said levers at points near their connections with the said carriage, a power-cylinder carried by the carriage, means for connecting 115 its piston with the inner adjacent ends of the levers at a suitable distance from their fulcrum-points, a valve for controlling the application of power to said cylinder, a comparatively light drag-block fitting upon 120 one of the tracks of the carriage, a bell-crank lever connecting the same with the valve mechanism of the power-cylinder so that the valve will be controlled for admitting pressure to the piston in accordance with the direction in which the carriage is traveling, 125 substantially as described.

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

JOHN J. GALWAY.

Witnesses:

JAMES T. WATSON,  
H. W. MERCHANT.