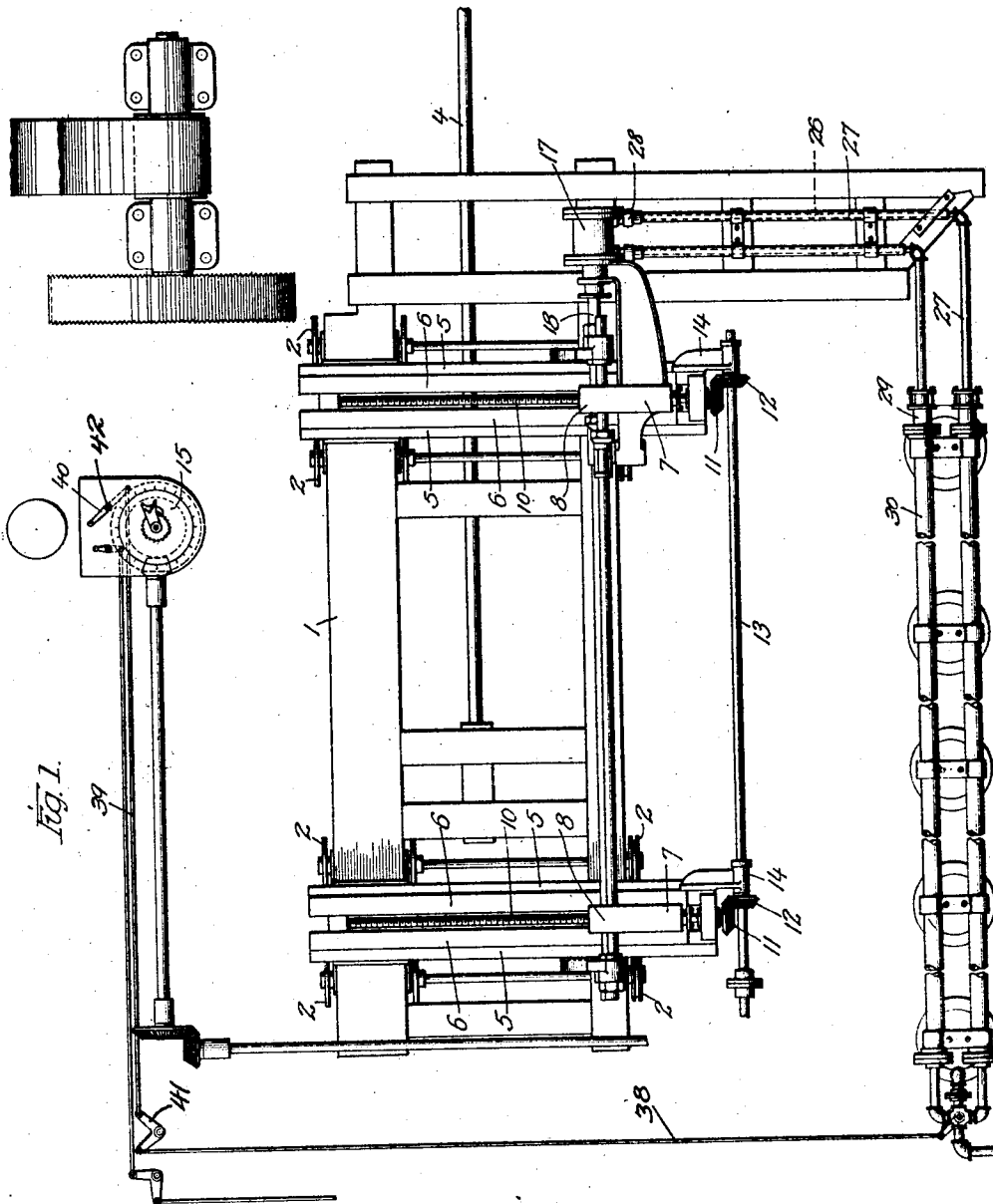


J. B. WEIR.
 DOGGING MECHANISM FOR SAWMILLS.
 APPLICATION FILED OCT. 11, 1918.

1,394,128.

Patented Oct. 18, 1921.

2 SHEETS—SHEET 1.



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2 SHEETS—SHEET 2.

Fig. 2.

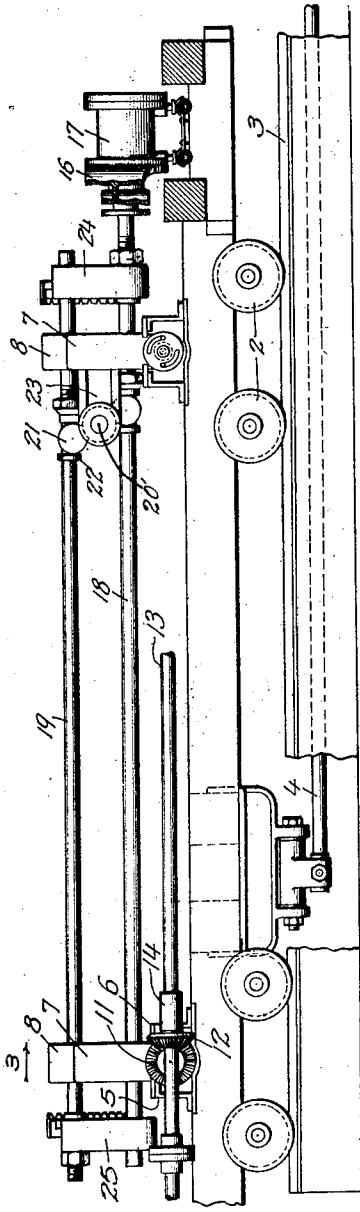


Fig. 4.

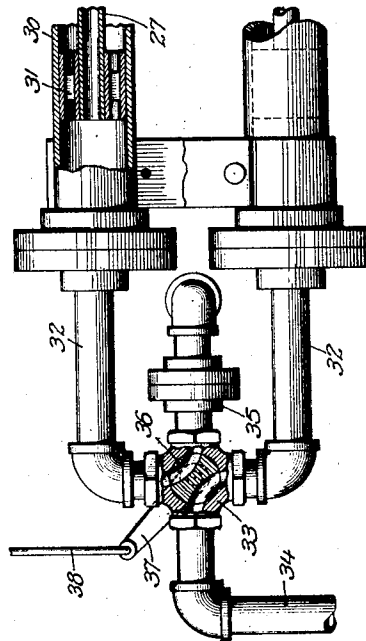
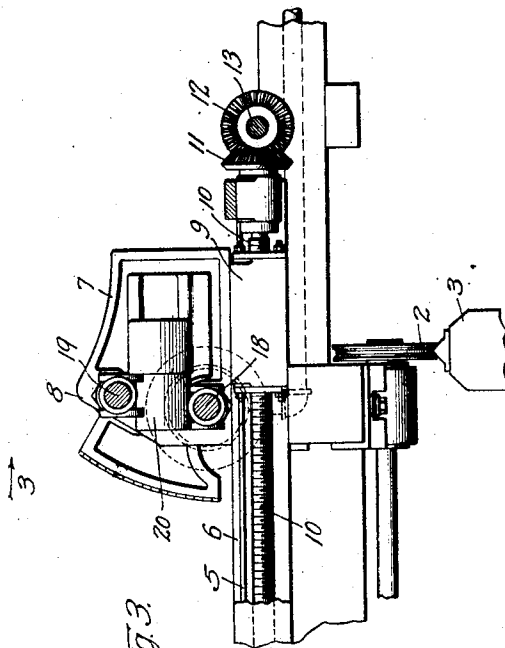


Fig. 3.



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UNITED STATES PATENT OFFICE.

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DOGGING MECHANISM FOR SAWMILLS.

1,394,128.

Specification of Letters Patent.

Patented Oct. 18, 1921.

Original application filed August 16, 1918, Serial No. 250,144. Divided and this application filed October 11, 1918. Serial No. 257,697.

To all whom it may concern:

Be it known that I, JOHN B. WEIR, a citizen of the United States, residing at Vancouver, in the Province of British Columbia, Dominion of Canada, have invented certain new and useful improvements in Dogging Mechanism for Sawmills, of which the following is a specification.

This invention relates to improvements in saw mills and particularly to power-operated dogging mechanism therefor, the principal object of the invention being the provision of such a construction wherein the operation of the power operated dogging mechanism is under control of an operator located elsewhere than on the carriage, such as the saw operator or other person.

Heretofore in machines of this character, it has been customary to provide an operator for the saw and an operator on the carriage, the first operator supervising the operation of the saw and the second operator supervising and controlling the operation of the set work and the dogging mechanism.

By constructing the apparatus as set forth in this application, it is obvious that the control and operation of the dogging mechanism may be under the control of one operator who also supervises the operation of the saw.

A further object of this invention is the provision of a fluid pressure operated dogging mechanism, the control for which is located adjacent an indicating and controlling mechanism for the set works whereby the same operator who controls the set works may also control the setting of the dogging mechanism, this operator being located off the carriage. The sawyer or other person may perform this service.

Other objects of this invention include improvements in details of construction and arrangement, whereby an effective mechanism is provided to accomplish these and other purposes which will be apparent from a consideration of the following specification.

This application is filed as a division of my prior application, filed August 16th, 1918, Serial No. 250,144.

To the accomplishment of the foregoing and such other objects as may hereinafter appear, my invention consists in the construction, combination and arrangement of parts hereinafter described and then defined

in the claims, the accompanying drawings forming a part hereof, and which show, merely for the purpose of illustrative disclosure, a preferred embodiment of my invention, it being expressly understood how- ever that various changes may be made in practice within the scope of the claims without digressing from my inventive concept.

In the drawings:

Figure 1 represents a top plan view of a saw mill carriage and operating mechanism constructed to embody my invention, part of the arrangement being diagrammatic for convenience in illustration.

Fig. 2 is a side elevation of the mechanism shown in Fig. 1, parts being broken away to facilitate the disclosure.

Fig. 3 is a vertical transverse section taken substantially on line 3—3 of Fig. 2, and on a scale somewhat enlarged over that figure.

Fig. 4 is a detail view in plan and section of the controlling end of the fluid pressure means for operating the dogging mechanism.

In the drawings the numeral 1 designates the frame of the saw mill carriage, which is movably supported on the trucks or wheels 2 which run on the guides or track 3, as well understood, so as to present the logs to the saw, the position of which is indicated in Fig. 1 of the drawings. This carriage is moved back and forth by means of the rod or shaft 4, which is connected to the piston of a fluid pressure operated mechanism, or any other suitable mechanism, as is well understood in this art.

Arranged transversely of the carriage and supported in an upstanding position thereon, are the pairs of Z-bars 5, which are spaced apart and arranged in opposed relation to provide a slot or opening therebetween, extending transversely across the carriage. Suitable supporting bars or plates 6 rest upon the upper flanges of said Z-bars to support the logs to be cut. The knees 7 are slidably arranged on said plate members, each being provided with the bearing portion 8, and also with the depending sleeve 9 which is positioned between said Z-bar members 5, each sleeve 9 being internally screw threaded to receive the screw threaded rod or shaft 10 which extends transversely across the carriage. On the end of this shaft 10 I provide the beveled

pinion 11 which meshes with the corresponding beveled pinion 12 on the set shaft 13, which extends longitudinally of the carriage and is supported in suitable brackets or arms 14 extending outwardly therefrom. This shaft 13 is driven in either direction from a suitable source of power by means fully disclosed in the original application and therefore need not be disclosed or described in this application.

The means for controlling the operation of the knees is mounted on a pedestal 15 located to one side of the machine and off the carriage and preferably adjacent the position assumed by the sawyer, so that he can control and operate the set works, as clearly disclosed and described in the above mentioned original application.

I provide fluid pressure operating dogging mechanism which is controlled from the same pedestal 15 so that the dogging mechanism may be set by the same operator who controls the adjustment of the knees and also supervises and controls the operation of the saw. This mechanism includes the extension 16 of one of the knees which forms the cylinder cover for the cylinder 17, in which cylinder is mounted a piston to which is connected the piston rod or shaft 18 which is elongated and extends longitudinally of the carriage and is loosely movable through knees 7. Another rod, or shaft 19, is positioned above and in parallelism with this first mentioned rod or shaft and is also movably arranged in the knees. These rods, or shafts 18 and 19, are connected together for cooperative movement by means of the toggle lever 20 which has the bifurcated end portion 21 engaging said rods or shafts between the collar members 22. This toggle lever is pivoted as at 20' to the arm or bracket 23 extending from one side of one of the knees 7, as clearly shown in Fig. 2 of the drawing.

To one end of the rod or shaft 18, I securely connect the dog 24. To the other end of shaft 19 I secure a similar dog 25 which slidably receives the free end of the other shaft 18. It is seen, therefore, that when the piston in cylinder 17 is moved, shafts 18 and 19 will be moved in opposite directions so as to move the dogs to a setting or release position, depending upon the direction of movement of said piston in the cylinder. Of course, it is to be understood that this mechanism is suitable for use only with logs of substantially the same or uniform length, as the dogs engage the ends of the logs.

The movement of the piston in the cylinder 17 is controlled by steam, or other fluid under pressure, admitted to either one of pipes 26 which are telescopically arranged in the larger pipes 27, leakage being prevented by the expansion joint 28. These

pipes 27 pass through pipes 29 into larger pipes or tubes 30 and have on the ends thereof suitable heads 31 shown particularly in Fig. 4. To the ends of these pipes or tubes 30 are connected the inlet and exhaust pipes 32 which are connected to a fourway valve 33 to provide a union with the discharge or exhaust pipe 34 and supply pipe 35, the turning plug member of the valve being designated 36, and operated by a lever 37 and link 38 which link is connected to link 39 by a bell crank 41. Link 39 is connected to a vertically arranged shaft 42 in the pedestal, on the upper end of which shaft is a controlling lever 40, which is positioned on top of the pedestal 15 so as to be convenient for operation by the same operator who controls the saw and the setting of the knees.

In the position of the parts shown in Fig. 1 and also in Fig. 4 of the drawing, fluid pressure is admitted to the upper one of the tubes or pipes 30 into the front end of cylinder 17, so that the piston therein is forced to the right, in Fig. 1, thereby holding the shafts 18 and 19 and the dogs 24 and 25 in the release or extended positions, shown in Fig. 2 of the drawing. When fluid under pressure is admitted to the lower one of the pipes or tubes 30, it will pass through the connection shown into the rear end of the cylinder 17 and drive the piston therein to the left, so as to set the dogs 24 and 25 upon the ends of the logs, as is well understood.

It is to be noted that the arrangement of the connections for operating these various mechanisms as shown in the drawings is rather diagrammatic and conventional and any other arrangement may be made which will be found best in practice.

Having described my invention, what I claim is:—

1. A mechanism of the character described including in combination, a saw mill carriage, dogging mechanism thereon, including a shaft and fluid pressure means for moving said shaft, an additional shaft operatively connected to said first shaft to move in opposition thereto, and a dog connected to one end of one shaft and a dog connected to the other end of the other shaft between which to secure a log.

2. A mechanism of the character described including in combination, a saw mill carriage, dogging mechanism thereon, including a shaft and fluid pressure means for moving said shaft, an additional shaft operatively connected to said first shaft to move in opposition thereto and a dog connected to one end of one shaft and a dog connected to the other end of the other shaft to move said dogs toward and from each other and means for controlling said fluid pressure means located off the carriage.

3. A saw mill carriage adapted to receive 12

and hold logs of a substantially predetermined length, setting knees thereon, a pair of shafts loosely mounted in said setting knees and extending longitudinally of the carriage, a dog secured to one end of one shaft and another dog secured to the other end of the other shaft and means for operating said shaft to cause them to move in opposite directions to set or release the dogs from engagement with the ends of the log.

4. A saw mill carriage adapted to receive and hold logs of a substantially predetermined length, setting knees thereon, a pair of shafts loosely mounted in said knees, and extending longitudinally of the carriage, a dog secured to one end of one shaft and another dog secured to the other end of the other shaft, said dogs being adapted to engage the ends of the log, a connection between said shafts so as to cause them to move in opposite directions and means for actuating one of

said shafts whereby the dogs will be moved to set or release position with respect to the log.

5. A mechanism of the character described including in combination a saw mill carriage, a plurality of knees thereon, a pair of shafts loosely mounted in said knees, a lever pivotally connected to one of said knees and operatively connected to said shafts, whereby when one of said shafts is moved in one direction, the other will be moved in the other direction, a dog on the end of one of the shafts, another dog on the other end of the other of said shafts, said dogs being adapted to engage the ends of the log, and means for moving one of said shafts so as to set or release said dogs.

In testimony whereof I hereunto subscribe my name.

JOHN BROOMFIELD WEIR.