Oct. 14, 1952 W. H. MUNSON 2,613,702

ADJUSTABLE ROLLERWAY FOR SAWMILL FEED CARRIAGES

Filed Sept. 29, 1950 2 SHEETS—SHEET 1

Fig. 1.

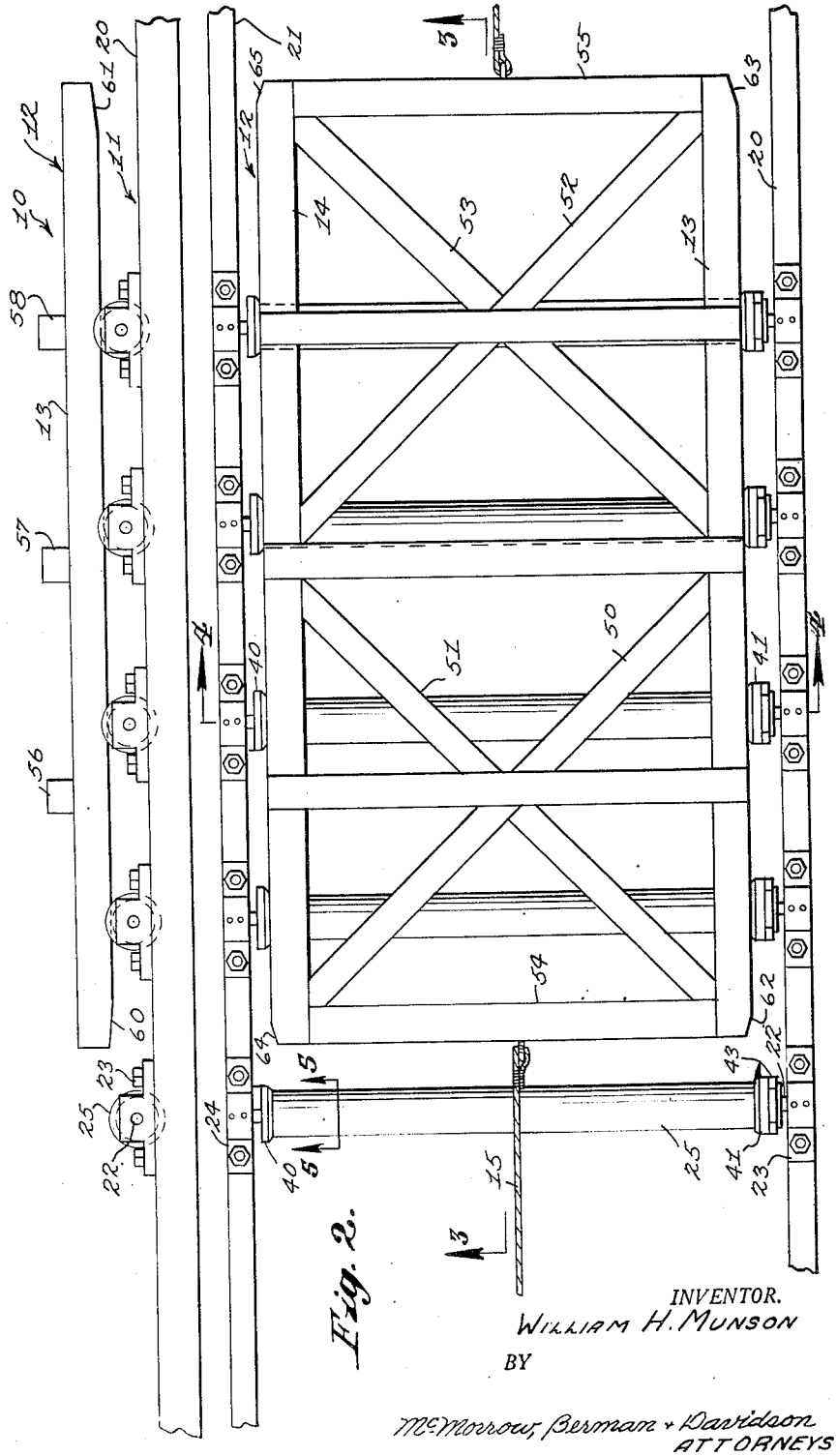


Fig. 2.

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Fig. 3.

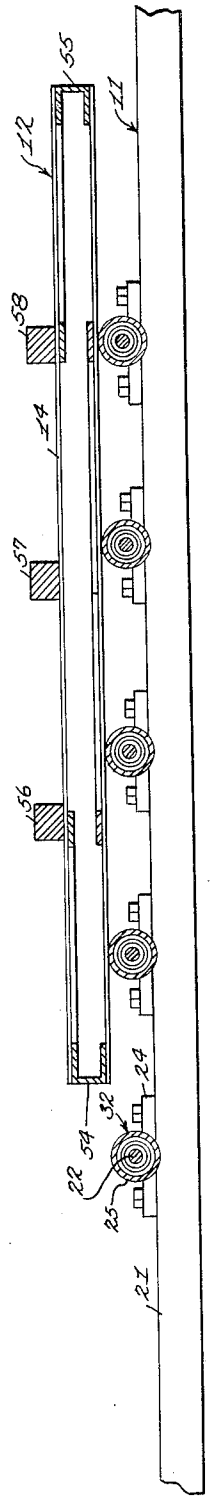


Fig. 4.

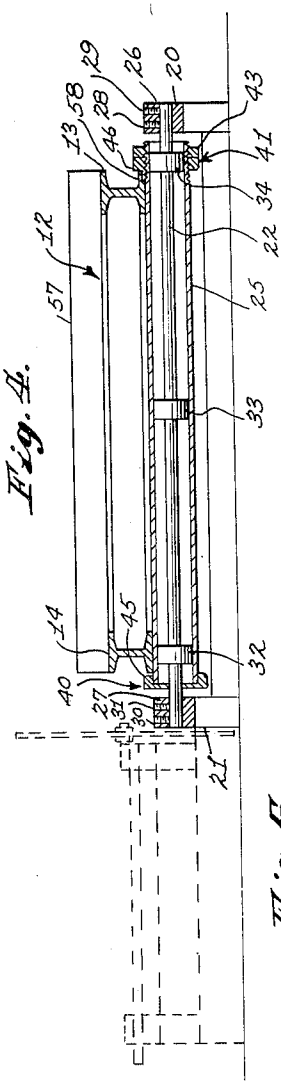


Fig. 7.

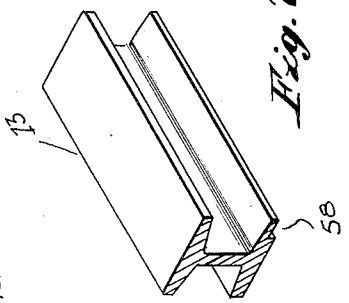


Fig. 6.

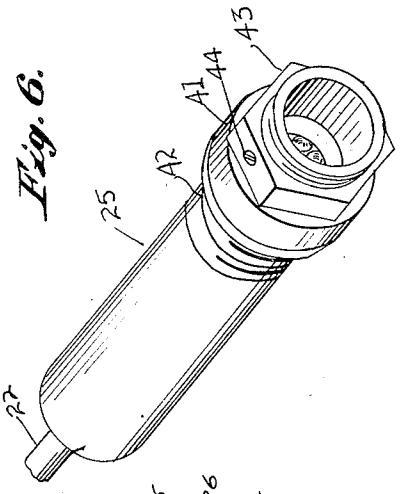
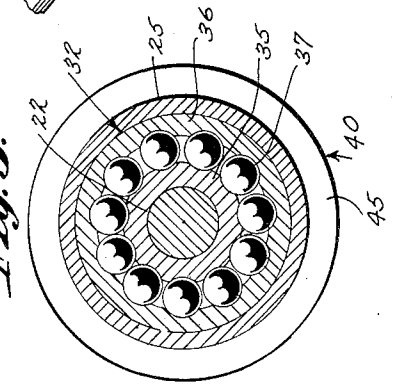


Fig. 5.



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ADJUSTABLE ROLLERWAY FOR SAWMILL FEED CARRIAGES

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2 Claims. (Cl. 143—105)

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This invention relates to sawmill equipment, and more particularly to an improved sawmill feed mechanism.

An object of this invention is to provide an improved sawmill trackway which is particularly adapted to guidingly support a head block carriage for reciprocatory movement at relatively high speeds.

Another object of this invention is to provide an improved sawmill rollerway for guidingly supporting a carriage for reciprocatory movement and for maintaining said carriage against lateral displacement during movement.

A further object of this invention is to provide improved sawmill feed mechanism constructed in a manner to avoid accumulations of chips, dust and other materials during milling of logs.

A still further object of this invention is to provide an improved sawmill rollerway for guidingly supporting a carriage, the rollerway including novel means for compensating for wear due to the engagement between the rollerway and the carriage.

A still further object of this invention is to provide an improved sawmill feed mechanism which is particularly adapted for high-speed operation over prolonged periods of time.

The above and still further objects and advantages of the present invention will become apparent upon consideration of the following detailed description of the invention, when taken in conjunction with the accompanying drawings, wherein:

Figure 1 is a side elevational view of a sawmill mechanism of the present invention;

Figure 2 is a top plan view of the sawmill feed mechanism shown in Figure 1;

Figure 3 is a sectional view taken along the line 3—3 of Figure 2;

Figure 4 is a sectional view taken along the line 4—4 of Figure 1, showing the sawmill in phantom lines;

Figure 5 is an enlarged sectional view taken along the line 5—5 of Figure 2;

Figure 6 is an enlarged perspective view, with parts broken away, of one of the rollers forming a part of the rollerway of the present invention; and

Figure 7 is an enlarged fragmentary, perspective view, with parts broken away and shown in section, of a side rail of the carriage of the present invention.

Referring now more particularly to the drawings, wherein like reference numerals have been used throughout the several views to designate

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like parts, there is shown the sawmill of the present invention, generally designated by the reference numeral 10, which includes a horizontally disposed rollerway or trackway 11 resting upon a supporting surface and adapted to be secured thereto, and a horizontally disposed carriage 12 including spaced longitudinal side rails or members 13 and 14 positioned longitudinally within the rollerway 11 and mounted on the latter for longitudinal reciprocatory movement. The carriage 12 is particularly adapted to support a head block of the mill equipment, not shown, and is reciprocated by means of the wire cable drive 15.

The rollerway 11 includes a pair of side bars 20 and 21 arranged in spaced, parallel relation with respect to each other. Extending transversely of and between the side bars 20 and 21 are a plurality of horizontally disposed shafts, generally designated by the reference numeral 22, which are secured between the side bars 20 and 21 by means of the brackets 23 and 24. Circumposed about each of the shafts 22 is a hollow roller 25 which is mounted on the adjacent one of the shafts for rotary movement about a horizontal axis. Since the structure for mounting each of the shafts 22 and each of the rollers 25 is the same, it will suffice to describe only one in detail. As clearly shown in Figure 4, the side bar 20 is provided with a horizontally disposed, transversely extending bore 26 which is adapted to receive the adjacent end of the shaft 22 and the side bar 21 is similarly provided with a horizontally disposed, transversely extending bore 27 for receiving the other end of the shaft 22. Threadedly supported within the side bar 20 and engaging the adjacent end of the shafts 22 are the set screws 28 and 29 for detachably securing the adjacent end of the shaft to the side bar 20. Similarly, there is provided a second pair of set screws 30 and 31 for effecting the securement of the other end of the shaft 22 to the side bar 21. Secured at spaced intervals interiorly of and along the hollow roller 25 and the shaft 22 are the bearings 32 and 33 and 34. Since the operative connection between each of the bearings to the hollow roller 25 and the shaft 22 is the same, it will suffice to describe only one in detail. The bearing 32 includes an inner race 35 which is shrunk onto the shaft 22 or secured thereto in any similar manner. Circumposed about the inner race 35 is an outer race 36 which is similarly fixedly secured to the hollow roller 25. Interposed between the inner and outer races are the circumferentially spaced bearings 37 for rotatably

supporting the outer race **36** for rotation relative to the inner race **35**. It is to be noted that the shafts **22** upon which the rollers **25** are mounted are adjustable laterally with respect to each other and permit an easy and relatively speedy manner of aligning the respective rollers.

Carried by each of the rollers **25** are the opposed abutments **40** and **41** which are in engagement with the outer side faces of the side rails **13** and **14** of the carriage **12** and maintain the latter against lateral displacement during the longitudinal reciprocatory movement of the carriage. Since the opposed abutments **40** and **41** carried by each of the rollers **25** are of like structure, it will suffice to describe only one pair in detail. The abutment **40** is in the form of an annular flange which is circumposed about the roller **25** contiguous to one end thereof and fixedly secured thereto in engagement with the side rail **14** of the carriage **12**. The abutment **41** is in the form of a second annular flange disposed in spaced, confronting relation with respect to the annular flange **40** and adjustably mounted on the roller **25** for movement into engagement with the side rail **13** of the carriage **12**. The adjustable mounting for the flange **41** is provided by threading a portion **42** of the roller **25** and supporting the annular flange **41** in threaded engagement with the portion **42**. Circumposed about the roller **25** exteriorly of and abutting against the annular flange **41** is a lock nut **43**, the lock nut being supported in threaded engagement with the roller **25** and being provided with a set screw **44**. Accordingly, the annular flange **41** can be secured in a select position of its movement along the roller **25** and in engagement with the side rail **13** of the carriage **12**. It is to be noted that the inner faces of the flanges **40** and **41** are tapered from a point contiguous to the outer periphery outwardly toward the outer periphery to provide bearing surfaces **45** and **46** for engagement with the side rails **14** and **13**. Furthermore, the abutments or flanges **40** and **41** can be provided with a micrometer adjustment to obtain a perfect fit with the side rails **13** and **14** of the carriage **12**.

As clearly shown in Figures 2 and 4, the side rails **13** and **14** of the carriage **12** are preferably formed of I-beams and are interconnected by spaced pairs of cross braces arranged in criss cross relation with respect to each other and secured to the side rails **13** and **14**, one pair of the cross braces being designated by the reference numerals **50** and **51**, and the other pair being designated by the reference numerals **52** and **53**. The carriage **12** further includes the end braces **54** and **55** to which is secured wire cable drive **15**. Disposed transversely of and resting upon the carriage **12** are the longitudinally spaced supporting blocks **56**, **57** and **58** which adapt the carriage **12** for securement to a head block or similar support, not shown.

As clearly shown in Figure 7, the portion of the I-beam side rail **13** of the carriage **12** contiguous to the threaded portion **42** of the rollers **25** is longitudinally undercut, as indicated by the reference numeral **58**, to avoid any possible contact between the side rail **13** and the threaded portion **42**. The undercut **58** is also clearly shown in Figure 4.

As shown in Figure 1, the bottom of each of the side rails **13** and **14** is tapered inwardly from a point contiguous to the free end thereof and terminating at the free end, the tapered portions being designated by the reference numerals **60** and **61**. Similarly, the outer side faces of each

of the side rails **13** and **14** are tapered inwardly from a point contiguous their free ends and terminating at the free ends, the tapered portions being designated by the reference numerals **62**, **63**, **64** and **65**, Figure 2. The aforementioned tapered portions prevent a sharp contact between the side rails **13** and **14** and the rollers **25** and abutments **41** and **42** during the longitudinal reciprocatory of the carriage **12** with respect to the rollerway **11**.

The spacing of the rollers **25** and the spacing of the side bars **20** and **21** of the rollerway **11** eliminates the tendency of the rollerway and carriage to clog with sawdust, chips or other material. In fact, a conveyor can be disposed immediately contiguous to and below the rollerway **11** to carry away sawdust and like accumulations.

From the foregoing, it is readily apparent that the mechanism of the present invention is particularly adapted for guiding carriages to be used in carrying logs, timbers or other objects that are to be operated on by a saw or other tool or machine, and positively prevents lateral movement of the carriage with respect to the rollerway.

Although only one embodiment of the improved sawmill feed carriage of the present invention has been described, it is readily apparent that numerous modifications can be made without departing from the spirit of the invention as set forth in the appended claims.

What I claim is:

1. In a sawmill feed mechanism, a rollerway comprising spaced longitudinal side rails, transverse shafts extending between and non-rotatably secured on said side rails, tubular rollers surrounding said shafts, bearings rotatably mounting said rollers on the shafts and precluding endwise movement of the rollers relative to the shafts, a fixed annular flange on one end of each of the rollers, an axially adjustable annular flange on the other end of each of the rollers, means for securing the adjustable flanges in selected adjusted positions on the rollers, and a carriage having longitudinal side members resting upon the rollers within the flanges, the flanges engaging the laterally outward sides of the longitudinal side members of the carriage, the adjustable flanges being adjusted on the rollers to confine the carriage to longitudinal movement parallel to the rollerway and preclude lateral movement of the carriage relative to the rollerway.

2. In a sawmill feed mechanism, a rollerway comprising spaced longitudinal side rails, transverse shafts extending between and non-rotatably secured on said side rails, tubular rollers surrounding said shafts, bearings rotatably mounting said rollers on the shafts and precluding endwise movement of the rollers relative to the shafts, a fixed annular flange on one end of each of the rollers, an axially adjustable annular flange on the other end of each of the rollers, means for securing the adjustable flanges in selected adjusted positions on the rollers, and a carriage having longitudinal side members resting upon the rollers within the flanges, the flanges engaging the laterally outward sides of the longitudinal side members of the carriage, the adjustable flanges being adjusted on the rollers to confine the carriage to longitudinal movement parallel to the rollerway and preclude lateral movement of the carriage relative to the rollerway, said securing means comprising screw-threads on the adjustable flanges engaging screw-threads on the rollers, and lock nuts threaded on the rollers at

the laterally outward sides of and engageable with the adjustable flanges.

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