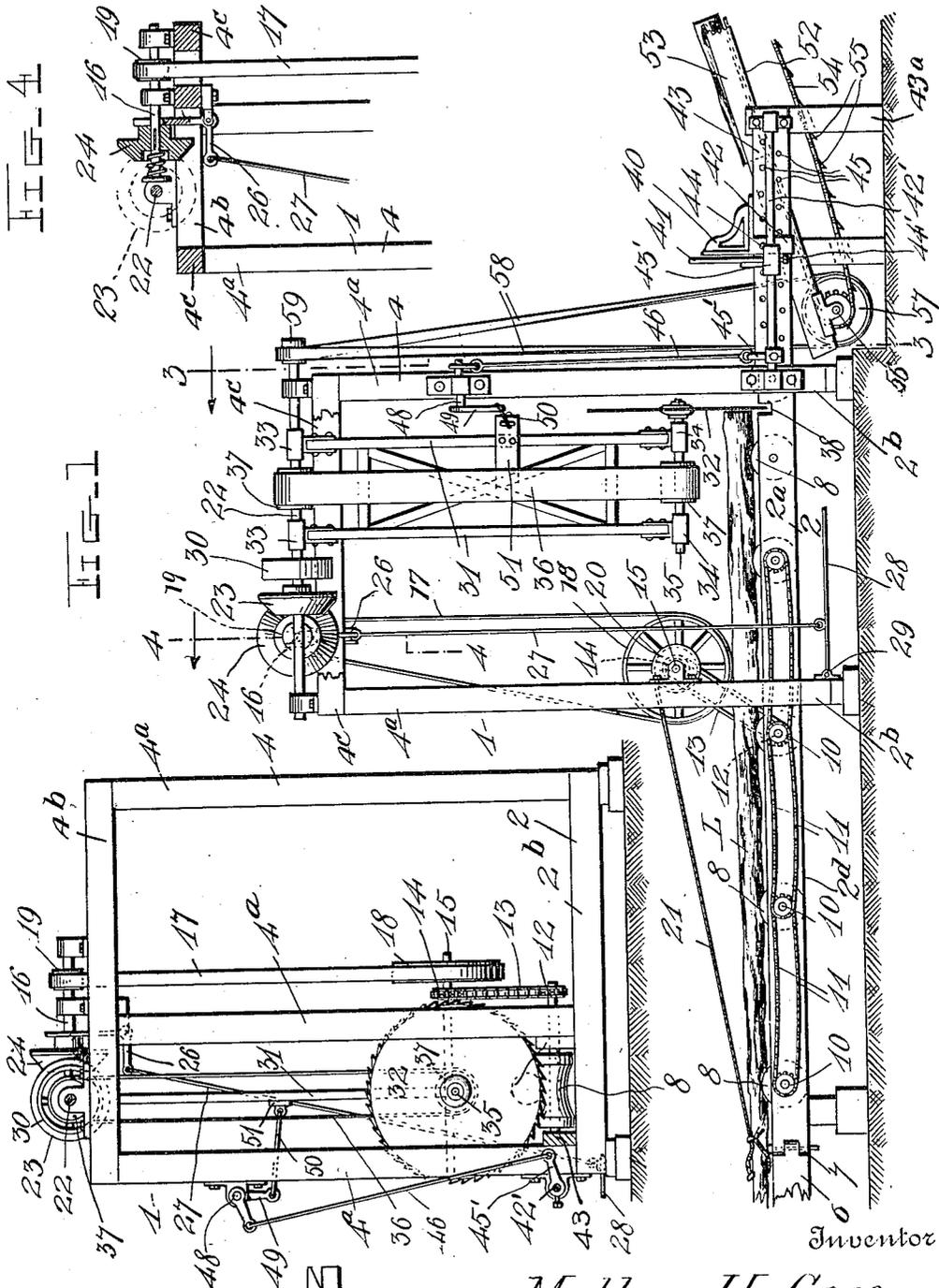


No. 825,518.

PATENTED JULY 10, 1906.

M. H. COX.
WOOD SAWING MACHINE.
APPLICATION FILED NOV. 28, 1904.

2 SHEETS—SHEET 1.



Witnesses
C. Schuster
C. H. Giesbauer.

FIG. 2

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2 SHEETS—SHEET 2.

FIG. 2

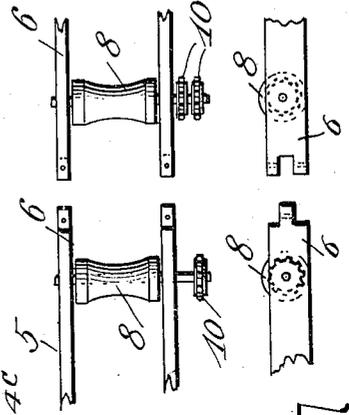
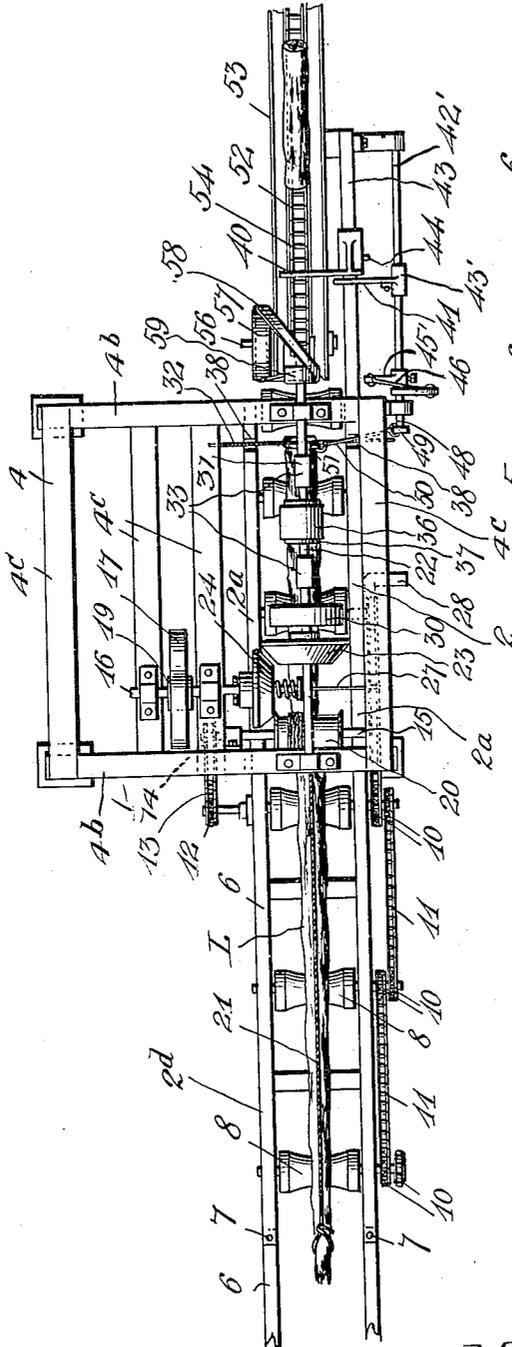


FIG. 6

FIG. 5

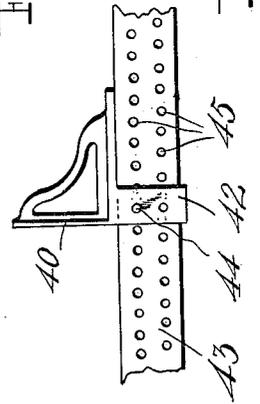


FIG. 7

Witnesses
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UNITED STATES PATENT OFFICE.

MELBER H. COX, OF WYOMING, ILLINOIS.

WOOD-SAWING MACHINE.

No. 825,518.

Specification of Letters Patent.

Patented July 10, 1906.

Application filed November 28, 1904. Serial No. 234,825.

To all whom it may concern:

Be it known that I, MELBER H. COX, a citizen of the United States, residing at Wyoming, in the county of Stark and State of Illinois, have invented a new and useful Wood-Sawing Machine, of which the following is a specification.

My invention relates to improvements in machines for sawing logs and other timber; and it consists in the novel construction, combination, and arrangement of devices hereinafter described and claimed.

One object of the invention is to provide a machine of this character, which has a log-feeding means and a transversely-swinging saw, with a simple, durable, and efficient means for causing the logs or timber to be automatically sawed into blocks or pieces of any desired length.

Another object is to improve and simplify the construction and operation of machines of this character, and thereby render the same more durable and efficient in use and less expensive to manufacture.

The above and other objects, which will appear as the nature of my invention is better understood, are accomplished by means of the construction illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of a wood-sawing machine constructed in accordance with my invention. Fig. 2 is a top plan view of the same. Fig. 3 is a vertical transverse sectional view taken on the plane indicated by the line 3 3 in Fig. 1. Fig. 4 is a detail vertical transverse sectional view taken on the plane indicated by the line 4 4 in Fig. 1. Fig. 5 is a detail view showing the adjustably-mounted stationary stop or head-block, and Figs. 6 and 7 are respectively plan and side views of disconnected ends of two sections of the log or work feeding table.

Referring to the drawings by numerals and letters, 1 denotes a suitable frame or support consisting of a horizontally-disposed portion 2, mounted upon suitable supporting-blocks 3, and a vertically-disposed portion 4, which is disposed over one end of the portion 2. The latter consists of longitudinal or side beams 2^a, which are connected by and supported upon cross-beams 2^b, and the vertical portion 4 of the frame consists of four uprights or corner-posts 4^a, mounted at their lower ends upon the cross-beams 2^b and connected together at their upper ends by transverse

beams or supports 4^b and longitudinal beams or supports 4^c, which latter are arranged at the ends of and at intermediate points between the beams 4^b, as clearly shown in Fig. 2. A suitable log or work feeding mechanism is mounted upon the extended end 2^a of the horizontal portion 2 of the main frame and upon one or more detachable table-sections 6, which are detachably connected together end to end and to the end 2^a, as shown at 7.

In Figs. 1 and 2 of the drawings only a portion of one of the sections 6 is shown, while in Figs. 6 and 7 of the drawings the adjacent ends of two of such sections are shown detached from each other. Each of these sections 6 consists of longitudinal side beams connected by transverse shafts, upon which are provided log supporting and feeding rollers 8 and sprocket-wheels 10. Similar rollers and sprocket-wheels are provided on shafts mounted in the longitudinal beams 2^a of the horizontal portion 2 of the frame, and the sprocket-wheels 10 of the adjacent shafts are connected by sprocket-chains 11, as clearly shown in Figs. 1 and 2. It will be understood that one or more of the sections 6, which latter may be of any desired length, may be employed, according to the length of the log or other work supported upon the rollers 8. Upon the shaft of one of the rollers 8 is secured a sprocket-wheel 12, which is connected by a sprocket-chain 13 to a sprocket-wheel 14, provided upon a transversely-extending shaft 15, mounted in suitable bearings upon two of the uprights 4^a of the vertical portion 4 of the frame. The shaft 15 is driven from a transversely-extending shaft 16, mounted in bearings upon longitudinally-extending bars, which connect the upper transverse supports or beams 4^b of the vertical portion 4 of the frame. The two shafts are connected by a belt 17, passed over pulleys 18 and 19, provided, respectively, on the shafts 15 16. It will be seen that when the shaft 15 is rotated its motion will be imparted to the rollers 8 to cause them to feed a log L or other piece of work toward the saw.

The feeding of the log L may be facilitated by providing upon the shaft 15 a drum 20, upon which is wound a cable or the like 21. The latter has its free end tied or otherwise secured to the outer end of the log, so that when the cable is wound upon the drum the

log will be fed forward to the saw, as will be readily seen upon reference to Fig. 1 of the drawings.

The shaft 16 is driven from a main drive-shaft 22, which is disposed longitudinally and mounted in suitable bearings upon the upper transverse supports or beams 4^b of the vertical portion 4 of the frame. This shaft may be geared to the shaft 15 in any suitable manner; but I preferably employ a pair of friction cone-wheels 23 and 24, the latter of which is mounted to slide longitudinally upon the shaft 16, but is keyed to rotate therewith, and the former of which is secured upon the shaft 22. The cone-wheel 24 is shifted into and out of engagement with the cone-wheel 23 by a clutch-lever 26, which latter is connected by a link 27 to a foot lever or treadle 28, which is pivotally mounted at 29 upon one of the horizontal cross-beams 2^b, as shown in Fig. 1 of the drawings. A clutch device of any form and construction may be substituted for the one just described, since it forms no part of my invention. It will be seen that when the free end of the treadle 28 is depressed the clutch-lever 26 will be operated to shift the cone-wheel 24 against the tension of its actuating-spring into frictional engagement with the cone-wheel 23, so that the latter will rotate the wheel 24, and hence the shaft 16. Upon the shaft 22 is secured a main drive-pulley 30, which may be driven from any suitable source of power.

Pivotally mounted upon the shaft 22, so as to swing transversely, is a frame 31, upon which the saw 32 is mounted. This frame 31 is of rectangular form, consisting of side beams connected by cross and diagonal bars and having at their ends hangers and bearings 33 34. The hangers 33 receive the shaft 22, and the bearings 34 receive a shaft or spindle 35, which has the saw 32 secured upon its forward end. The shaft 35 is driven from the shaft 22 by a belt or band 36, which passes around pulleys 37 of the same diameter, secured upon said shafts, as clearly shown in Fig. 1. The saw 32 is of circular form and is adapted to travel through transverse kerfs or slots 38 in the longitudinal beams 2^a of the horizontal portion 2 of the main frame when the frame 31 is swung transversely.

In order to permit the log L or any other work to be sawed into blocks or pieces of the same length I provide at the forward end of the horizontal portion 2 of the frame or support a stationary head-block or stop 40 and a transversely-swinging head-block or stop 41. This stationary stop 40 is slidably and adjustably mounted upon a longitudinally-extending beam or bar 43, which is arranged in longitudinal alinement with one of the side beams 2^a of the horizontal portion 2 of the main frame and has its outer or forward end supported by an upright 43^a. The station-

ary stop 40 is in the form of an arm which extends transversely and is formed upon a guide 42, which engages and slides upon the beam 43. In this guide 42 are formed upper and lower apertures which are adapted to align with upper and lower rows of apertures 45, formed in the beam 43. These apertures 45 are arranged in a staggered or zigzag relation, so that a locking-pin 44 may be passed through one of the openings in the guide 42 and one of the openings 45 to permit the stationary stop 40 to be secured in an adjusted position. This construction permits the stationary stop 40 to be adjusted at any desired distance from the saw.

The swinging stop 41 is adapted to swing transversely and close to the rear or inner face of the stationary stop 40, the thickness of the swinging stop 41 being such that the blocks or sawed-off portions of the log will be permitted to readily drop into a discharge chute or conveyer after said swinging stop 41 is swung upwardly from between the stationary stop 40 and the end of the block or cut portion of the log. The swinging stop 41 is adapted to be in longitudinal alinement with the center of the log-feeding means when the saw 32 is swung to one side and the log is fed up against said stop, and it is adapted to be automatically swung from between the end of the log and the stationary stop 40 as the saw cuts its way through the log. The removal of the swinging stop 41 in this manner permits the block or cut portion of the log to readily drop as it is severed. If this space is not provided to permit the block to readily drop, it wedges between the stop and the saw or the end of the remaining portion of the log and will not drop into the discharge-conveyer 52. The stationary stop 40 serves both to guide the swinging stop 41 and to assist it in resisting the forward thrust of the log. The swinging stop 41 consists of an arm formed or secured upon a sleeve or casting 43', which slides upon a shaft 42' and may be secured in an adjustable position thereon by a set-screw or other suitable means 44'. It will be understood that the swinging stop 41 must be adjusted whenever the stationary stop 40 is adjusted, so that the former swings close to the latter, and it will also be understood that the stationary stop 40 is adjusted according to the length of the blocks or sections into which the log or work is to be cut. The swinging stop 41 is operated automatically by the saw-frame 31 by securing upon the shaft 42' a crank 45', which is connected by a link or rod 46 to one end of a double-crank shaft 48, mounted in suitable bearings upon one of the uprights 4^a of the vertical portion 4 of the main frame. The other crank 49 of the double-crank shaft is connected by a link or rod 50 to a bracket 51, which is connected to the frame 31. It will be seen that when the latter is swung trans-

versely these sections will oscillate the shaft 42' and cause it to swing the stop 41 up and down in a vertical-transverse plane.

The conveyer 52 for conveying the blocks 5 or sawed pieces of wood from the machine consists of a trough 53, of substantially V shape in cross-section, and an endless conveyer 54 in the form of a chain which carries projecting lugs 55. The chain 54 passes over a sprocket-wheel secured upon a shaft 56, journaled in suitable bearings upon the conveyer-frame and having upon one of its ends a belt-wheel 57, which is connected by a crossed belt 58 to a belt-wheel 59, provided upon the shaft 22. The endless conveyer 54 is thus driven from the main shaft 22, so that the block or piece of wood cut by the saw will be carried away from beneath the stationary and swinging stops 40 41.

The construction, operation, and advantages of the invention will be readily understood from the foregoing description, taken in connection with the accompanying drawings. It will be seen that a single operator standing at one side of the machine may readily control any part of it. When the treadle is depressed, it will be fed forward until it engages the swinging stop 41. The saw 32 is then swung transversely to cause it to cut through the log, and as the frame 31 swings across the machine the swinging stop 41 will be swung upwardly from between the stationary stop 40 and the end of the block or cut portion of the log, so that said cut portion may drop into the trough 53, along which it is conveyed by the chain 54. By adjusting the two stops 40 41 the log or other timber may be cut into pieces of any length.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

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

1. In a sawing-machine, the combination of a work-support, a stationary stop comprising a transversely-extending arm in longitudinal-alinement with the work upon said support, a transversely-movable saw, and a stop movable transversely between said saw and said stationary stop in close proximity to the latter, whereby when said stop is retracted the work cut by said saw will be permitted to drop between said stationary stop and said saw.

2. In a sawing-machine, the combination of a support or frame, a work-feeding means thereon, a transversely-movable saw-carrier, a stationary stop having a transverse arm in longitudinal alinement with said work-feeding means, means for adjusting said stop longitudinally toward and from said saw-carrier, and an adjustably-mounted, movable

stop to work between the work upon said feeding means and said stationary stop in close proximity to the latter, substantially as described and for the purpose set forth.

3. In a sawing-machine, the combination of a suitable frame, a work-feeding means thereon, a transversely-movable saw-carrier, a longitudinally-extending support, a stationary stop slidable upon said support, means for securing said stop in an adjusted position, a longitudinally-extending shaft, and a swinging stop adjustably secured upon said shaft and adapted to move between said work-feeding means and said stationary stop in close proximity to the latter, substantially as described.

4. In a sawing-machine, the combination of a suitable frame, a work-feeding means thereon, a transversely-movable saw-carrier, a longitudinally-extending support, a stationary stop slidable upon said support, means for securing said stop in an adjusted position, a longitudinally-extending shaft, a swinging stop adjustably secured upon said shaft and adapted to move between said work-feeding means and said stationary stop in close proximity to the latter, and means actuated by said saw-carrier for oscillating said shaft, substantially as described and for the purpose set forth.

5. In a sawing-machine, the combination of a suitable frame, a work-feeding means thereon, a transversely-swinging saw-carrying frame, a longitudinally-extending support, a stationary stop slidably and adjustably mounted upon said support and having a transversely-extending arm in longitudinal alinement with said work-feeding means, a longitudinally-extending shaft, a transversely-swinging stop adjustably mounted upon said shaft and adapted to swing in close proximity to the inner face of said stationary stop, a crank upon said shaft, a double-crank shaft, a connection between one of the cranks of said double-crank shaft and said swinging saw-carrying frame, and a connection between the other crank of said double-crank shaft and the crank upon the first-mentioned shaft, substantially as described.

6. In a sawing-machine, the combination of a suitable frame having a horizontally-extending portion and a vertically-extending portion at one end of the latter, a work-feeding means upon said horizontally-extending portion, a saw-carrying frame mounted in the vertical portion of said frame to swing transversely across said feeding means, a longitudinally-extending beam formed with rows of apertures arranged in staggered relation, a stationary stop having a transversely-extending arm and a bracket portion to engage said apertured beam and slide thereon, said bracket portion being formed with apertures to coact with the rows of apertures in said beam, a pin passed through alining apertures

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in said stop and beam to adjustably secure the former upon the latter, a longitudinally-extending shaft, a transversely-swinging stop slidably and adjustably secured upon said
5 shaft and adapted to swing in close proximity to said stationary stop, a crank upon said shaft, a double-crank shaft upon said frame, and connections between the cranks of said
double-crank shaft, the crank upon said longitudinally-extending shaft and said transversely-swinging saw-carrying frame, substantially as shown and described.

MELBER H. COX.

Witnesses:

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JOHN W. FLING, JR.