

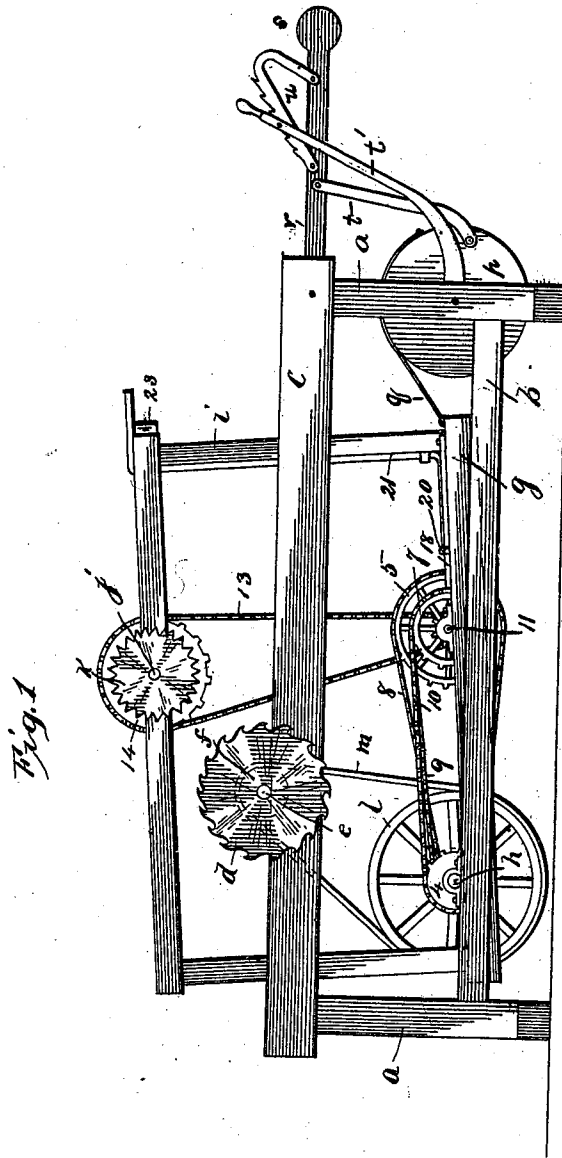
(No Model.)

2 Sheets—Sheet 1.

F. M. TEEGUARDEN.
SAWING MACHINE.

No. 502,838.

Patented Aug. 8, 1893.



WITNESSES:

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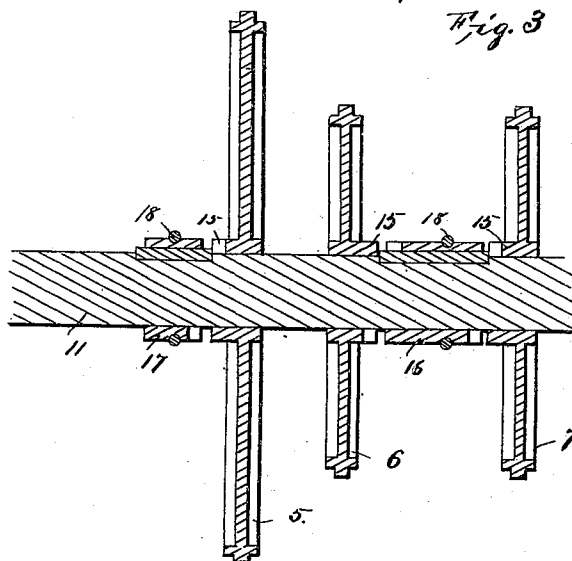
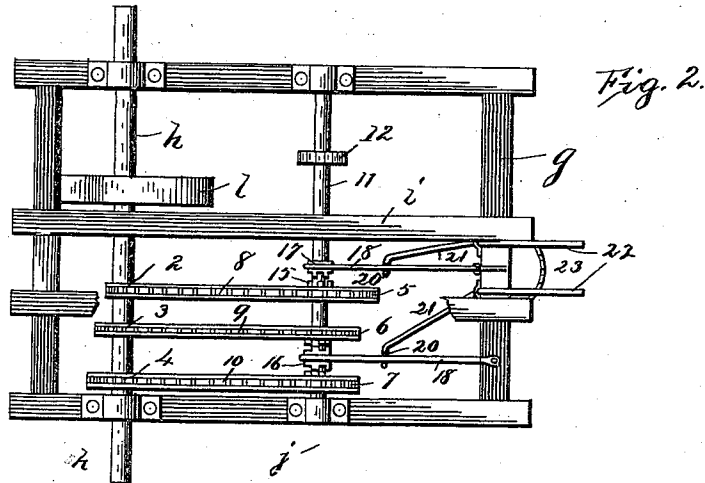
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F. M. TEEGUARDEN.
SAWING MACHINE.

2 Sheets—Sheet 2.

No. 502,838.

Patented Aug. 8, 1893.



WITNESSES:

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UNITED STATES PATENT OFFICE.

FREEMAN M. TEEGUARDEN, OF COLFAX, INDIANA, ASSIGNOR TO THE CHIEF MANUFACTURING COMPANY, OF SAME PLACE.

SAWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 502,838, dated August 8, 1893.

Application filed June 6, 1892. Serial No. 435,634. (No model.)

To all whom it may concern:

Be it known that I, FREEMAN M. TEEGUARDEN, of Colfax, in the county of Clinton and State of Indiana, have invented certain new and useful Improvements in Sawing-Machines; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form part of this specification.

This invention relates to certain improvements in sawing machines.

The object of the invention is to provide an improved sawing machine exceedingly simple, sure and reliable in construction and which is provided with improved means for varying the speed of the feed wheel which carries the timber to the saw.

A further object of the invention is to provide a sawing machine having a vertically-movable frame carrying the feed wheel with improved means whereby said frame can be rigidly held, or can be released so as to yield vertically.

The invention consists in certain novel features of construction and in combinations of parts more fully described hereinafter and particularly pointed out in the claims.

Referring to the accompanying drawings, Figure 1 is a side elevation of the machine with parts broken away. Fig. 2 is a detail view showing the inner swinging feed frame detached. Fig. 3 is a sectional view illustrating the clutches for throwing the different gears into gear.

In the drawings the reference letter, *a*, indicates the stationary rectangular frame of the machine provided with the longitudinal side beams *b*, below the upper longitudinal beams.

d, indicates the saw mounted on the mandrel *e* which is journaled in suitable boxes on the beams *c*. This mandrel is driven by suitable gearing or belting and is provided with the pulley *f*.

g, indicates a rectangular frame mounted by means of the drive shaft *h*, extending transversely across said frame *g* and at its

ends mounted in boxes rigid with the side beams *b*, of the main frame. This shaft *h*, is preferably located near one end of the frame *g* and the opposite end of the frame *g* can swing vertically on said shaft boxing *h* as a pivot, and independently of the main frame. This frame *g*, is provided with the upright frame *i*, extending upwardly above the main frame. The feed shaft *j*, is mounted in a suitable box or boxes secured to the upper beams of the frame *i*, and extends laterally from said beams, and at its outer end is provided with a feed wheel or saw *k*, located in a plane above and in advance of the rotary saw *d*. The shaft *h*, is provided with a large pulley *l*, and the shaft *h*, is rotated by means of the belt *m* on said wheel *k*, and on the pulley *f* on the saw mandrel.

2 and 4, indicate a small sprocket wheel and a large sprocket wheel, respectively, rigid on the shaft *h*.

3, indicates another sprocket wheel rigid on the shaft *h*, and of a size intermediate between the sizes of the sprocket wheels 2 and 4.

5, 6, 7, respectively indicate three sprocket wheels mounted on a counter shaft 11, mounted in the frame *g*. The sprocket wheel 5, is of a large size and is connected by chain 8 with a small sprocket wheel 2. The sprocket wheels 6 and 7, are preferably of the same size, but less in size than the large sprocket wheel 5. The sprocket wheels 6 and 7 are, respectively, connected by sprocket chains 9 and 10, with the medium sized and large sized sprocket wheels 3 and 4, respectively, rigid on shaft *h*. The counter shaft 11 is provided with a sprocket pinion 12, connected by sprocket chain 13, with a sprocket wheel 14 on the feed wheel shaft.

The sprocket wheels, 5, 6, and 7, are loosely mounted on the shaft 11, and each sprocket wheel 5, 6, and 7, is provided with a clutch hub 15. A double clutch sleeve 16 is mounted on the shaft 11, between the wheels 6 and 7 and is provided with clutch teeth at both ends to alternately intermesh with the clutch teeth of hubs of the wheels 6, and 7, as the clutch is moved longitudinally on the shaft 11. A key seat is cut in the shaft 11, between the hubs of the wheels 6, and 7, and a key is located in said seat and in a seat in the clutch

so that the key holds said wheels separated and the clutch sleeve slides on the same. A sliding clutch sleeve 17, is also provided for the large gear wheel 5. Each clutch sleeve is provided with a circumferential groove as usual, and each clutch is provided with a controlling lever 18, fulcrumed at its outer end to the upright of the movable feed frame and its opposite end bent into said groove of the clutch. Between its ends each clutch lever is provided with an opening to receive a hooked end 20, of a rod 21, journaled to the upright of the movable frame and extending above the same and provided with forwardly extending handle 22. At their lower ends said two rods 21, are provided with lateral ends having the hooked extremities mentioned extending into said openings of the clutch levers. Hence when a handle 22, is swung laterally the clutch 17, is thrown into or out of gear with the wheel 5 and when the handle 22 of the other rod is thrown laterally the clutch 16 throws one of these gears 6 or 7, into gear with the shaft 11. A metal band 23, is secured to the upper end of the frame $\bar{z}$, and is provided with notches which yieldingly hold the handles 22 in their normal positions. By means of this arrangement the feed wheel can have imparted thereto several degrees of speed, very fast, slow, or at a moderate speed. When the wheel 5 is in gear with the shaft 11, a slow speed is imparted to the feed shaft and wheel. When the wheel 6 is rigid with the shaft 11, a moderate or intermediate speed is imparted to the feed wheel, and when the wheel 7 is rigid with the shaft 11, the fast speed is imparted to the feed wheel. The feed wheel can thus be rotated at various speeds to feed fast or slow according to the time and size of the timber being operated upon. The construction is simple and yet durable and very accurate and sure.

p , indicates a wheel mounted on horizontal pivots in the front portion of the stationary frame. A chain or flexible connection q , is secured to the free end of the movable feed frame and to the periphery of this wheel. A lever r , at its inner end is fulcrumed to the stationary frame above said wheel and extends outwardly therefrom, and is provided with a weight s , at its outer end. Links t , are pivoted to this lever between its ends and at their lower ends are pivoted to said wheel at a point between its center and its periphery, so that the downward force of the weight and lever will tend to rotate said wheel through the medium of said links in a direction to wind the flexible connection thereon and raise the movable feed frame. Thus the movable feed frame is counterweighted and can rise or fall readily and easily to accommodate the feed wheel to uneven surfaces of the timber being operated upon.

If desired the movable frame can be locked rigidly to hold the feed wheel in any desired vertical point by means of a lever t' pivoted

at its lower end to the stationary frame and extending upwardly and embracing the counterweighted lever and provided with a handle at its upper end so that said counterweighted lever can be swung to rest upon the upper portion of the stationary frame, or can be swung forwardly and down to engage a notch or tooth of the inclined rack u , secured to the counterweighted lever, said lever t' having a tooth or edge to engage a notch of said rack and thereby hold the counterweighted lever rigid and the movable frame rigid also. Said rack u , having a series of notches so that the movable frame can be held at any desired point.

It is evident that various slight changes might be made in the form, arrangement and constructions of the parts described without departing from the spirit and scope of my invention. Hence I do not wish to limit myself to the precise construction herein set forth but consider myself entitled to all such changes as fall within the spirit and scope of my invention.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. In a sawing machine, the stationary frame, in combination with the vertically swinging feed frame, a wheel mounted in the stationary frame having its periphery connected to the free end of the movable frame so that said wheel will rotate as the feed frame swings, a weighted lever above said wheel at its inner end fulcrumed to the stationary frame, and a link pivoted to said lever between its ends and to said wheel between its center and periphery.

2. In a sawing machine, the combination of the main frame provided with the saw, the vertically movable feed frame carrying the feed wheel and having the counterweighting mechanism for its free end comprising the wheel, a flexible connection with the movable frame, an independently fulcrumed counterweighted lever, and a link from said lever to said wheel, substantially as described.

3. In a sawing machine, the combination of the main frame, the vertically movable feed frame, the wheel mounted in the main frame and connected with the movable frame, the counterweighted lever connected by a link with said wheel to control the movement of said wheel and counterweight the free end of the frame and provided with the rack, and the locking lever pivoted to the stationary frame and adapted to engage said rack and lock said lever.

4. In a sawing machine, the combination of a saw, a main frame, a freely swinging frame mounted on the main frame and provided with feeding mechanism, a counterweight mechanism connected with the free end of said swinging frame to normally permit the same to freely rise and fall comprising a vertically swinging lever, and a pivoted latch arranged to swing into engagement with said

lever and prevent upward swing thereof and thereby limit or prevent the free swing of said swinging frame, substantially as described.

5 In a sawing machine, the combination of
a saw a main frame, a freely swinging frame
mounted therein, provided with a feeding
mechanism a counterweight mechanism for
said frame to normally permit free rise and
fall thereof comprising a counterweighted
10 lever fulcrumed to the main frame and pro-
vided with a series of notches, and a latch
pivoted to the main frame so that it can be
swung to rest above the lever in one of said
notches, as and for the purposes substantially
15 as described.

6. In a sawing machine, the combination of
a main frame, a saw mounted therein, a
swinging frame mounted in the main frame,
a feed wheel carried by the swinging frame,
20 a drive shaft in the main frame connected
with the saw and on which said swinging
frame swings, a counter shaft mounted in
said swinging frame and connected with the
feed wheel, a series of gears rigid on said
25 drive shaft, a corresponding series of gears
loose on the counter shaft, opposite gears
being connected, clutches on said counter

shaft to alternately lock the loose gears to
the countershaft, and levers fulcrumed in the
front portion of the swinging frame and con- 30
nected to said clutches to operate the same
as described.

7. In a sawing machine, the combination of
an upright frame, a feed wheel carried there-
by, variable gearing arranged to drive said 35
feed wheel and comprising a shaft having a
series of gears loose thereon, clutches to al-
ternately lock said gears to the shaft, hori-
zontal levers at their front ends pivoted to
the frame and at their opposite ends loosely 40
connected to their respective clutches, each
lever having an eye between its ends and the
vertical shafts mounted in the frame and hav-
ing handles at their upper ends, and lateral
arms at their lower ends loosely extending 45
into the eyes of their respective levers, sub-
stantially as described.

In testimony that I claim the foregoing as
my own I affix my signature in presence of
two witnesses.

FREEMAN M. TEEGUARDEN.

Witnesses:

RACK SHIRLEY,
DAVID LANNUR.