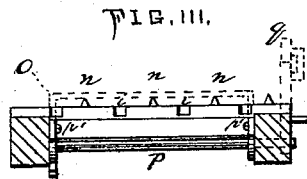
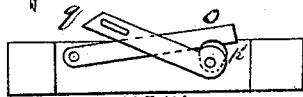
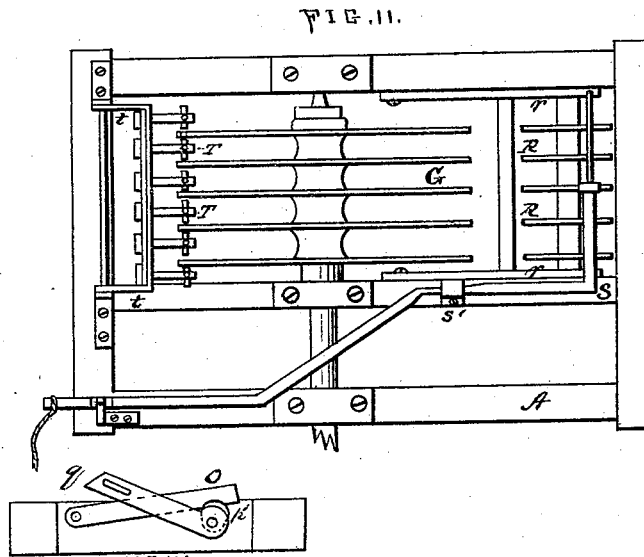
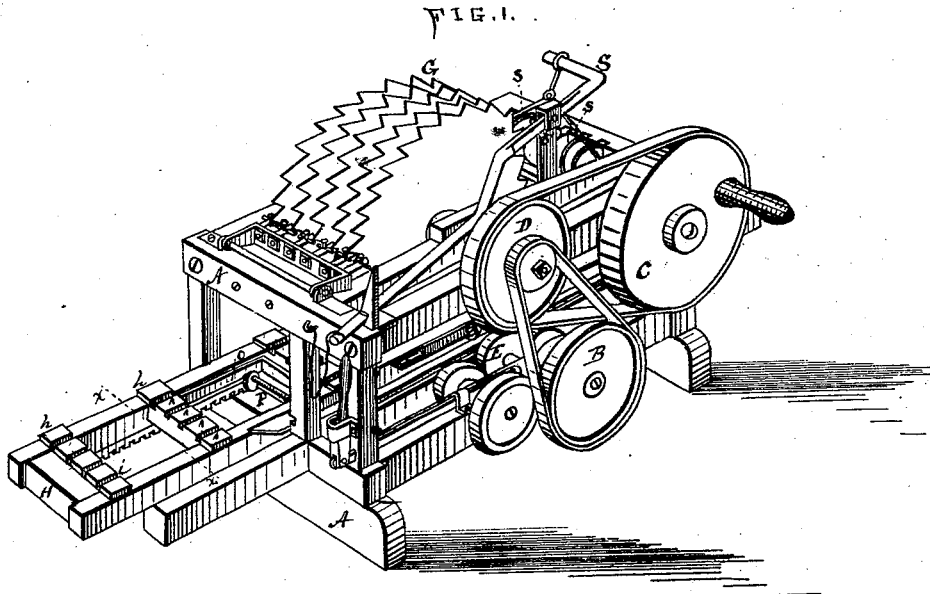


G. F. BELLOWS.  
Saw-Mill.

No. 159,999.

Patented Feb. 23, 1875.



WITNESSES.  
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# UNITED STATES PATENT OFFICE.

GEORGE F. BELLOWS, OF MENOMONEE, WISCONSIN.

## IMPROVEMENT IN SAW-MILLS.

Specification forming part of Letters Patent No. **159,999**, dated February 23, 1875; application filed January 7, 1875.

*To all whom it may concern:*

Be it known that I, GEORGE F. BELLOWS, of Menomonee, in the county of Dunn and State of Wisconsin, have invented certain Improvements in Saw-Mills; and I hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings making part of this specification, in which—

Figure 1 is a perspective view of my machine with the log-carriage projecting. Fig. 2 is a plan view with the carriage and gearing removed. Fig. 3 is a section on the line *xx* of Fig. 1.

The object of my invention is to provide a sawing mechanism which has a carriage upon which a log can be slid and subsequently lowered, so as to engage with holding-pins which will secure it. Secondly, my invention consists in a series of adjustable spreaders to prevent the boards from binding the saws. Thirdly, my invention consists in an arrangement of adjustable pins for preventing a gang of saws from dodging or vibrating.

My invention consists, first, in a carriage provided with transverse crank-bars operated by eccentric levers, and transverse supports supplied with pins in a line between each of the gangs of saws, to hold the "cant" or log; secondly, in a series of rotating plates, one in the rear of each saw, and swung upon a shaft having its bearings in a swinging frame, so that they may be operated for a cant of small or great diameter; thirdly, in a series of projecting studs from a swinging frame, and provided at their ends with transverse adjustable pins having their ends adjacent to each of a series of saws, in order to prevent them from dodging or vibrating.

In order that those skilled in the art may make and use my invention, I will proceed to describe the manner in which I have carried it out.

In the said drawings, *A A* is a frame-work, in which is swung, by proper gearing *B C D E*, a gang of circular saws, *G*. A carriage, *H*, provided with the usual means of feed, traverses the frame beneath the saws. The carriage has cross-beams *h h*, which are scored at *i i* in lines corresponding with the saws. Between each of the scores is a spur or pin, *n*, to hold the cant after it is placed upon the carriage, a row of pins falling beneath each plank.

With the spurs *n n* it would be very difficult to slide a log upon the carriage, as they would impede its progress. To overcome this difficulty I have pivoted to the inside of the longitudinal timbers of the carriage two or more swinging crank-bars, *o o*. Immediately below the bars is the shaft *p*, operated by the crank *q*, and carrying the cams *p' p'*, which, when the crank is thrown back, raise the bars *o o* above the level of the pins, and allow the cant to slide freely into place. These pins also hold the plank in position during the process of sawing, and in a great measure prevent the binding of the saws. In the rear of and immediately on the line of the saws I place the circular plates *R* on a shaft having bearings in the swinging side arms *r r*, and provided with a loose sleeve between each plate, and between the plates and the swinging arms. These plates enter the tracks of the saws between the planks, and serve to keep them from closing and binding the saws. To adjust these plates to a proper height to suit the different sizes of the cants I suspend them by means of the arms *s s* to the lever *S*, having its fulcrum at *s'*. The opposite end of the lever I control in any convenient way. The guides *T* are secured to the frame *t*, which is hinged on the forward part of the frame. These guides are designed to be adjustable, and serve to steady the saws where it is most needed, and keep them from dodging, thus overcoming one of the greatest difficulties heretofore experienced in running gangs of circular saws.

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

1. The crank-bars *o o*, shaft *p*, crank *q*, and cams *p' p'*, in combination with the carriage of a saw-mill, substantially as and for the purpose set forth.
2. The guides *T*, in combination with the swinging frame *t* and the saws *G*, substantially as and for the purpose set forth.
3. The plates *R*, in combination with the side arms *r r*, the arms *s s*, and lever *S*, substantially as and for the purpose set forth.

GEORGE FREDERICK BELLOWS.

Witnesses:

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