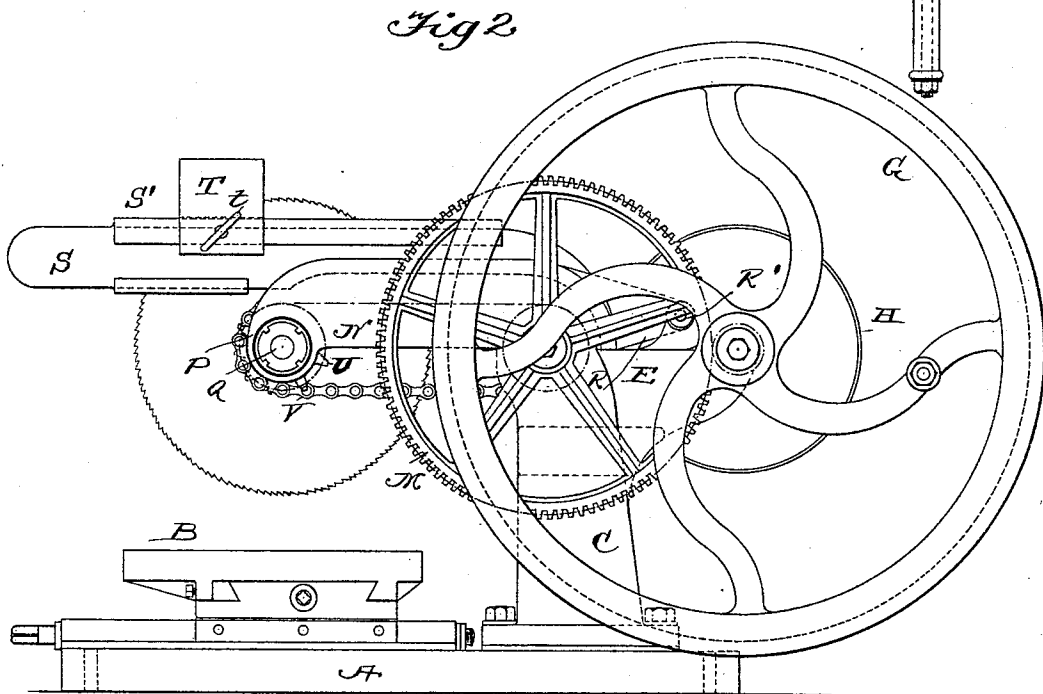
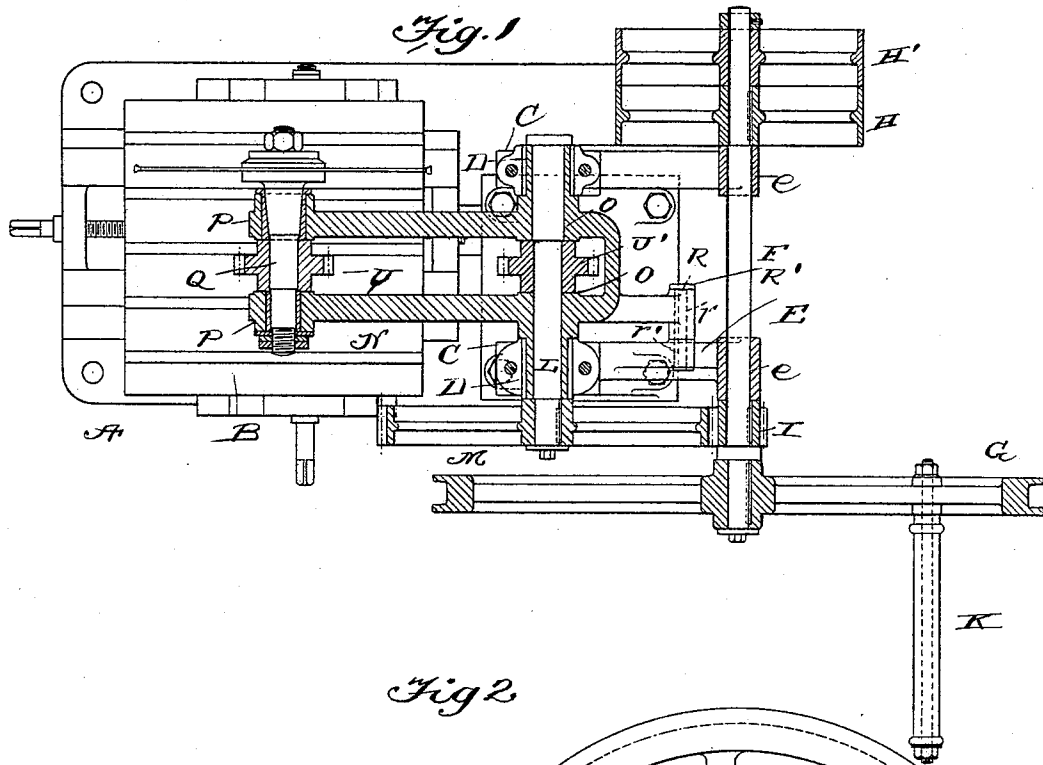


(No Model.)

G. EHRHARDT.  
METAL SAWING MACHINE.

No. 500,194.

Patented June 27, 1893.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

GUSTAVE EHRHARDT, OF PITTSBURG, PENNSYLVANIA.

## METAL-SAWING MACHINE.

SPECIFICATION forming part of Letters Patent No. 500,194, dated June 27, 1893.

Application filed January 11, 1892. Serial No. 417,679. (No model.)

*To all whom it may concern:*

Be it known that I, GUSTAVE EHRHARDT, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Machines for Sawing Metal Plates, Rails, Bars, &c.; 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 which form a part of this specification.

The object of my invention is to simplify the gearing whereby the power which is imparted to the main-shaft is communicated to the saw-arbor, and at the same time permit the support upon which the saw is mounted to be elevated and depressed without interfering with the operation of the mechanism. The construction by which I attain this object is described in detail in connection with the drawings, wherein—

Figure 1 is a plan view of a machine embodying my invention. Fig. 2 is a side view of the same.

The bed-plate A, provided at its front end with the usual rest or support, B, and C C represent vertical standards which are bolted to the bed-plate at their lower ends and are provided at their upper ends with bearings, D. These standards are provided with rearwardly-extending supporting arms, E E, having bearings, *e e*, at their extremities, and the power-shaft, F, is mounted in said bearings and carries at one end the fly-wheel, G, and at the opposite end the tight and loose pulleys, H and H', a pinion, I, being arranged on said shaft near the fly-wheel. In the drawings, a handle, K, is shown in connection with the fly-wheel, to indicate that the machine may be operated by hand, if desired, the pulleys, at the other end of the shaft, being adapted for a belt.

The transverse main-shaft, L, is mounted in the bearings, D D, and carries at one end, a large gear, M, to mesh with the pinion, I, on the power-shaft, whereby the power is communicated from the latter to the main-shaft.

The saw-support, N, is fulcrumed on the main-shaft between its bearings, and consists

of a hollow box, open at its lower side and provided at its front end with registering bearings, P P, in which is mounted the saw-arbor, Q. This hollow saw-support is fulcrumed a short distance from its rear end upon the main-shaft, bearings, O O, being formed in the sides of the support for the reception of the shaft. The saw-support is provided, furthermore, at its rear end with a rearwardly-projecting lever, or finger, R, having a transverse perforation, *r*, in its extremity, which may be aligned with a similar perforation, *r'*, in the adjacent supporting-arm, E, a pin, R', being employed to engage said perforations to maintain the saw-support in a horizontal position when the machine is not in use. This pin is withdrawn when the machine is to be operated, the weight of the hollow support being utilized to feed the saw while cutting. The saw-support is also provided with a forwardly-extending arm, S, provided at its upper side with a guide, S', upon which is mounted an adjustable weight, T, having a set screw, *t*, to lock it in the desired position.

A sprocket-wheel, U, is mounted on the main-shaft, between the sides of the hollow saw-support, and is keyed to said shaft, so as to rotate therewith, and a similar sprocket-wheel, U', is secured to the saw-arbor between the sides of the saw-support, a chain, V, being employed to connect said sprocket-wheels and convey the motion of the main-shaft to the arbor.

The sprocket-wheels and the endless connecting chain are inclosed between the sides of the hollow support, the bearings of the shaft and arbor upon which the sprocket-wheels are severally mounted being upon both sides of the latter and thereby preventing undue straining of the parts during operation.

The forwardly extending arm, S, is employed as an operating arm, by means of which the saw-supporting frame is raised, and it will be noted, that by the arrangement of the power-transmitting, endless chain, which passes around and receives its power from a sprocket upon the main-shaft, the saw can be raised and lowered at will without interfering with its rotation, thereby enabling it to be employed to cut work of any size.

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

1. In a sawing machine, the combination, 5  
with a counter or power shaft journaled on the machine and carrying a fly-wheel and pinion; and means for imparting motion to said shaft; of a main or driving shaft journaled in stationary bearings and carrying a king- 10  
gear intermeshing with the pinion of the counter or power shaft; a saw frame swiveled on the main shaft and carrying at its forward end a saw-arbor provided with a sprocket-gear; a sprocket gear mounted on the main or 15  
driving shaft in alignment with the sprocket gear on the saw arbor; and a sprocket chain connecting the two sprockets, substantially as specified.

2. In a sawing machine, the combination, with the main shaft carrying a sprocket wheel; 20  
a saw frame swiveled on said shaft and provided at its free end with a forwardly extending arm carrying an adjustable weight, and further provided at such end with a saw arbor carrying a sprocket wheel; a rearwardly 25  
extending hand-lever projecting from the rear end of the saw frame; a pin to engage said hand-lever and connect it to the frame; and an endless chain connecting the two sprocket wheels, substantially as described. 30

In testimony whereof I affix my signature in presence of two witnesses.

GUSTAVE EHRHARDT.

Witnesses:

HENRY C. LYON,  
JOHN GRAEBING, Jr.