No. 630,118. Patented Aug. 1, 1899.

G. E. SCHLEGELMILCH & F. A. MANN.

SAWING MACHINE.

(Application filed Apr. 6, 1899.)

(No Model.)

Fig. 1.

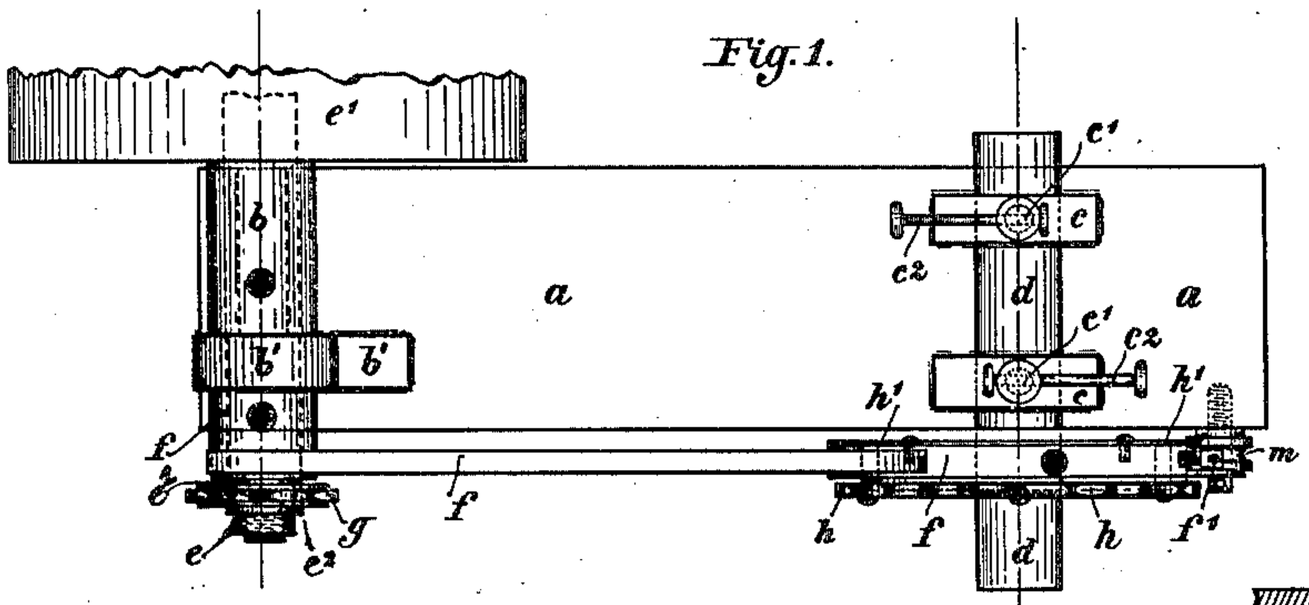

Fig. 2.

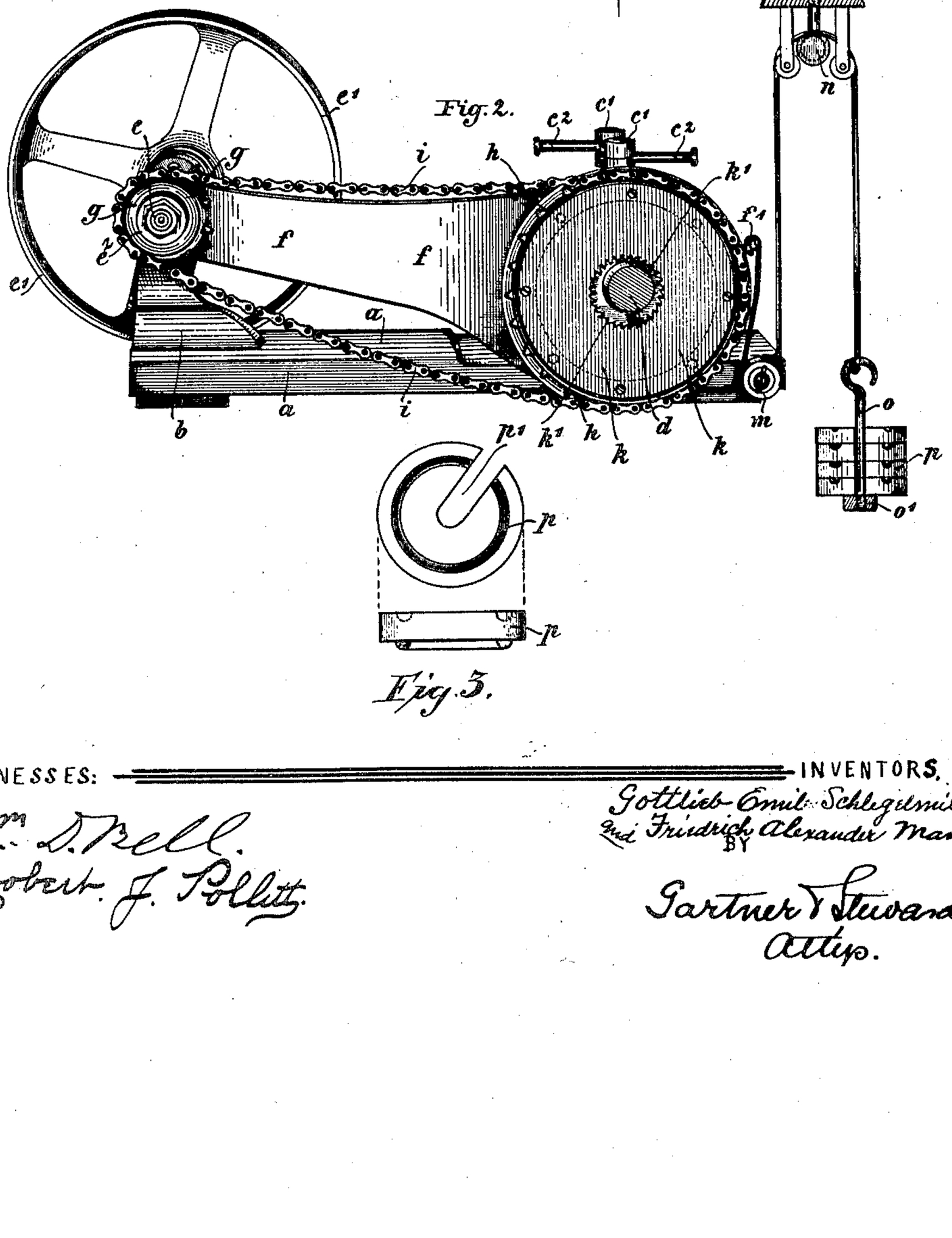

Fig. 3.

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GOTTLIEB EMIL SCHLEGELMILCH AND FRIEDRICH ALEXANDER MANN, OF SUHL, GERMANY.

SAWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 630,118, dated August 1, 1899.

Application filed April 6, 1899. Serial No. 711,939. (No model.)

To all whom it may concern:

Be it known that we, GOTTLIEB EMIL SCHLEGELMILCH and FRIEDRICH ALEXANDER MANN, mechanical engineers, subjects of the Emperor of Germany, residing at Suhl, in the Empire of Germany, have invented certain new and useful Improvements in Sawing-Machines, of which the following is a clear description.

This invention relates to sawing-machines, and especially to sawing-machines designed to work upon metal; and it consists in the improved sawing-machine substantially as will be hereinafter pointed out and finally embodied in the clauses of the claim.

It is a leading object of the invention to provide a revoluble disk saw-blade having a circular central opening, in the edge of which the cutting-teeth shall be formed, and to journal this saw-blade in the end of a lever, which shall be automatically actuated to advance the saw through the material being operated upon. By disposing the cutting-teeth about a central opening in the blade it is not only possible to readily remove the parts when necessary, but without weakening the blade and thereby causing it to either tremble or buckle while being used, or even fracture, it may be constructed considerably thinner than a blade having its cutting-teeth upon its perimeter. Furthermore, owing to this disposition of the cutting-teeth of the blade it is possible to cut very thin and comparatively weak metal tubes without the liability of bending or otherwise damaging them through the action of the saw.

Our invention is fully illustrated in the accompanying drawings, wherein—

Figure 1 is a top plan view of the sawing-machine. Fig. 2 is a view in side elevation of said sawing-machine, and Fig. 3 shows a certain weight employed in connection with our machine.

The frame of the machine consists of a bed-plate *a*, at one end of which projects upwardly a pedestal *b*. The upper end of said pedestal is provided with a bearing *b'* for a shaft e^2, which carries at one of its ends a drive-wheel *e'* and at the other of its ends a sprocket-wheel *g* and a securing-nut *e* for holding the parts in position.

c designates a pair of blocks having openings in which the material to be cut is adapted to be placed, being securely held in position by screws *c'*, working in said blocks and provided with handles c^2 of well-known construction.

Upon the shaft e^2 is fulcrumed a lever *f*. In the outer end of this lever is journaled with its axis of rotation parallel to the shaft e^2 the rim of a sprocket-wheel *h*, a plate *h'* being secured by screws upon the face of said rim opposite to that adjoining the sprocket-wheel to hold the rim in its bearings in the lever.

k is a circular saw-blade having a central opening, the edge of which is provided with cutting-teeth *k'*.

Power is transmitted from the one to the other of the sprocket-wheels by a chain *i*.

In order to effect an automatic feeding of the saw-blade through the material to be cut, a flexible connection, which is secured to the free end of the lever at *f'* and is controlled by weights *p*, carried upon a hooked bolt *o*, having a nut *o'*, upon which latter the weights rest, is provided, said flexible connection passing over a suitable roller *m*, journaled in the bed-plate, and over a pair of rollers *n*, suitably journaled in some other stationary part. By varying the number of weights the action of the lever *f*, and consequently of the saw, in working its way through the material being operated upon can be readily adjusted.

It may be remarked that in order to render the saw-blades interchangeable they may be removably secured upon that face of the sprocket-wheel rim which adjoins the teeth of the latter by means of screws.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a sawing-machine, the combination of a suitable frame, a lever fulcrumed in said frame, a circular saw journaled in said lever, means for rotating said saw and means for effecting movement of said lever about its fulcrum synchronously with the sawing operation, substantially as described.

2. In a sawing-machine, the combination of a suitable frame, a shaft journaled in said frame, a lever fulcrumed on said shaft, a cir-

cular saw journaled in said lever, a chain and sprocket connection between said saw and the shaft, and means for effecting movement of said lever about its fulcrum synchronously with the sawing operation, substantially as described.

3. In a sawing-machine, the combination of a suitable frame, a shaft journaled in said frame, a lever fulcrumed on said shaft, a circular saw journaled in said lever and having a central opening, the teeth of said saw being formed in the edge of the opening, a chain and sprocket connection between said saw and the shaft, and means for effecting movement of said lever about its fulcrum synchronously with the sawing operation, substantially as described.

4. In a sawing-machine, the combination of a suitable frame, a shaft journaled on said frame, a lever fulcrumed on said shaft, a circular saw journaled in said lever and having a central opening, the teeth of said saw being formed in the edge of the opening, a chain and sprocket connection between said saw and the shaft, suitably-disposed rollers, a flexible connection passing over said rollers and secured at one of its ends to the lever, and a weight or weights secured to the other end thereof, substantially as described.

In testimony that we claim the foregoing we have hereto set our hands this 18th day of March, 1899.

GOTTLIEB EMIL SCHLEGELMILCH.
FRIEDRICH ALEXANDER MANN.

Witnesses:
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