

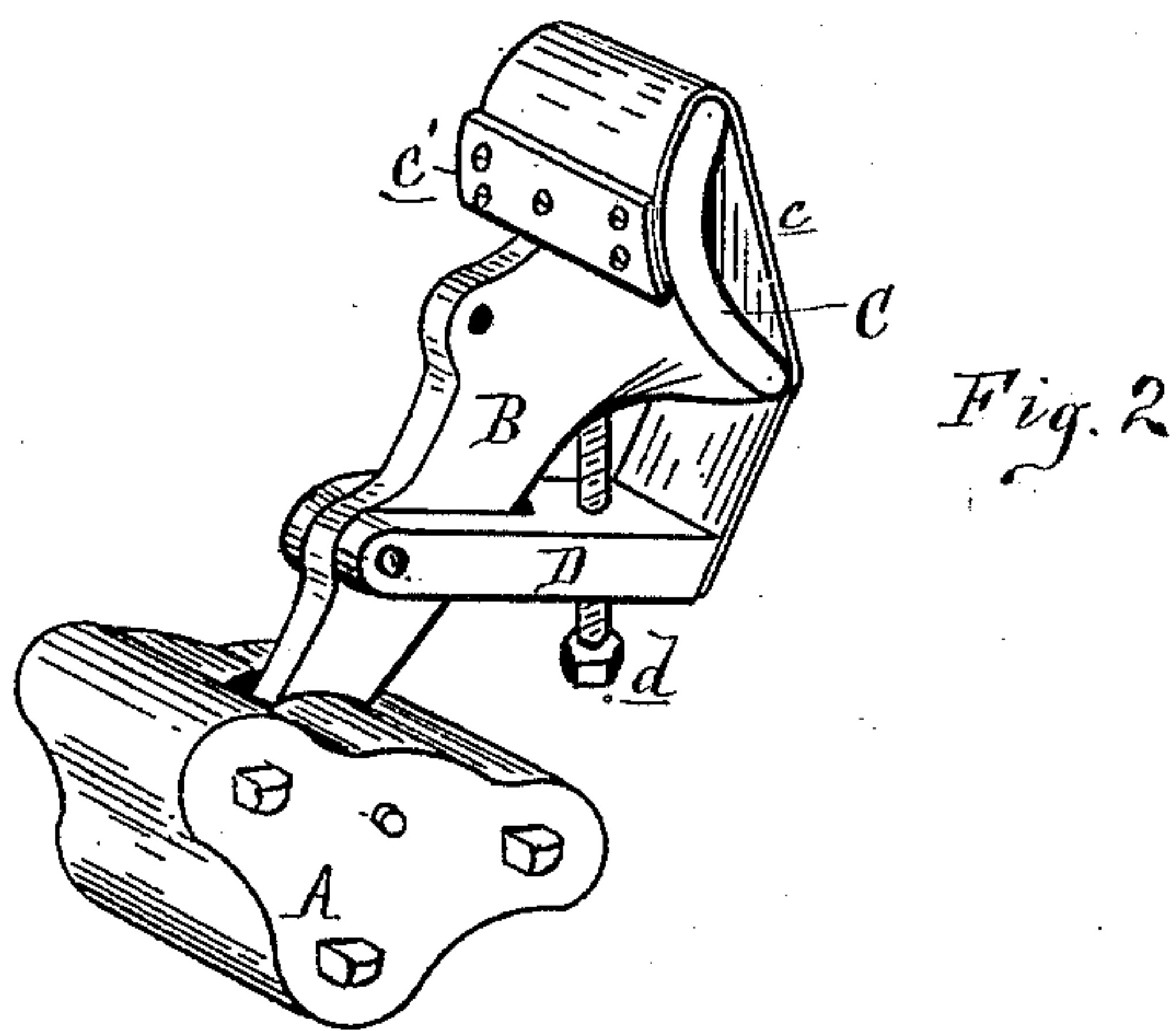
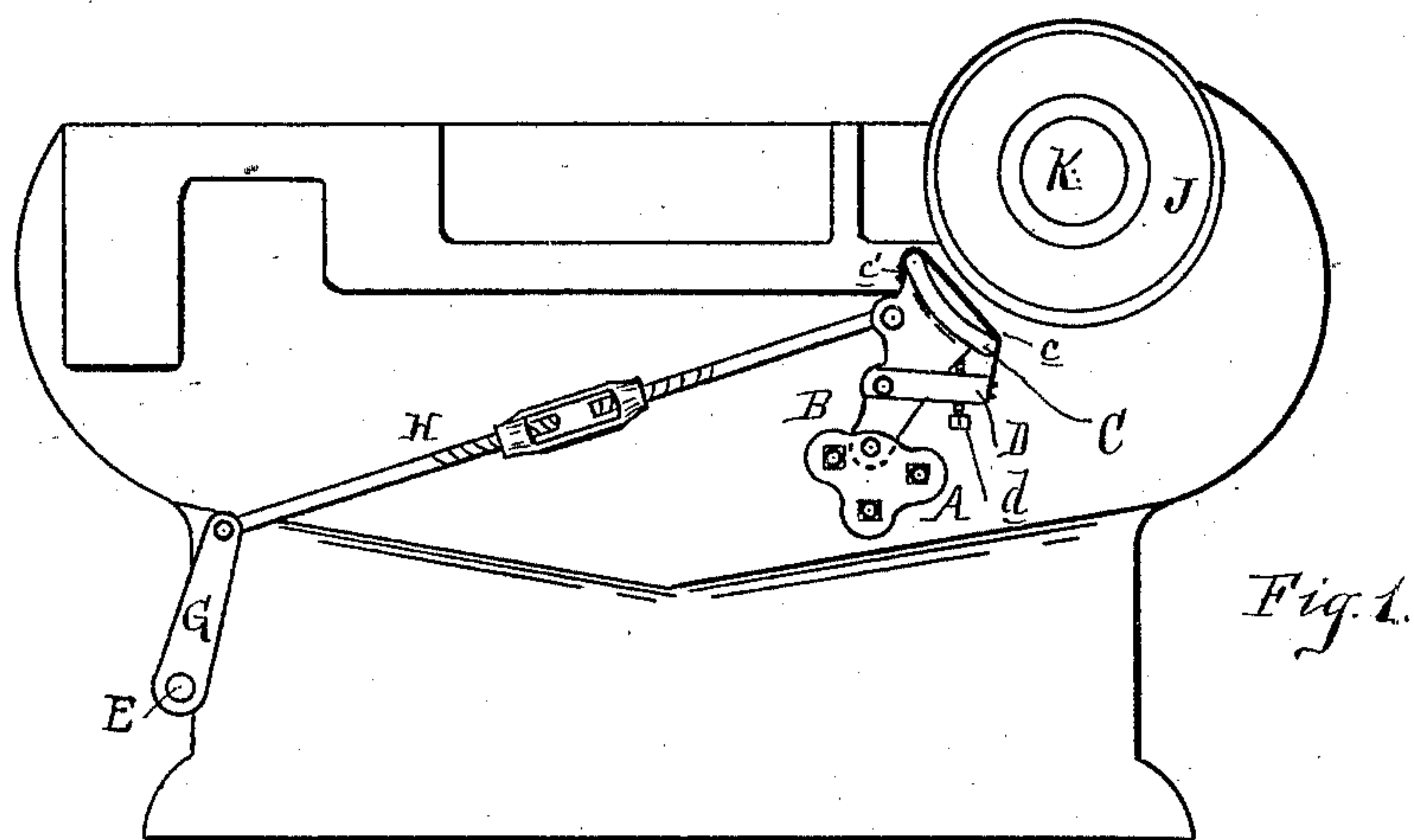
(No Model.)

2 Sheets—Sheet 1.

M. D. LUEHRS.
BOLT HEADER.

No. 460,058.

Patented Sept. 22, 1891.



Witnesses
T. S. Sprague
Edwin A. Croft

Inventor
Michel D. Luehrs
By His Attorney
Osborne Red

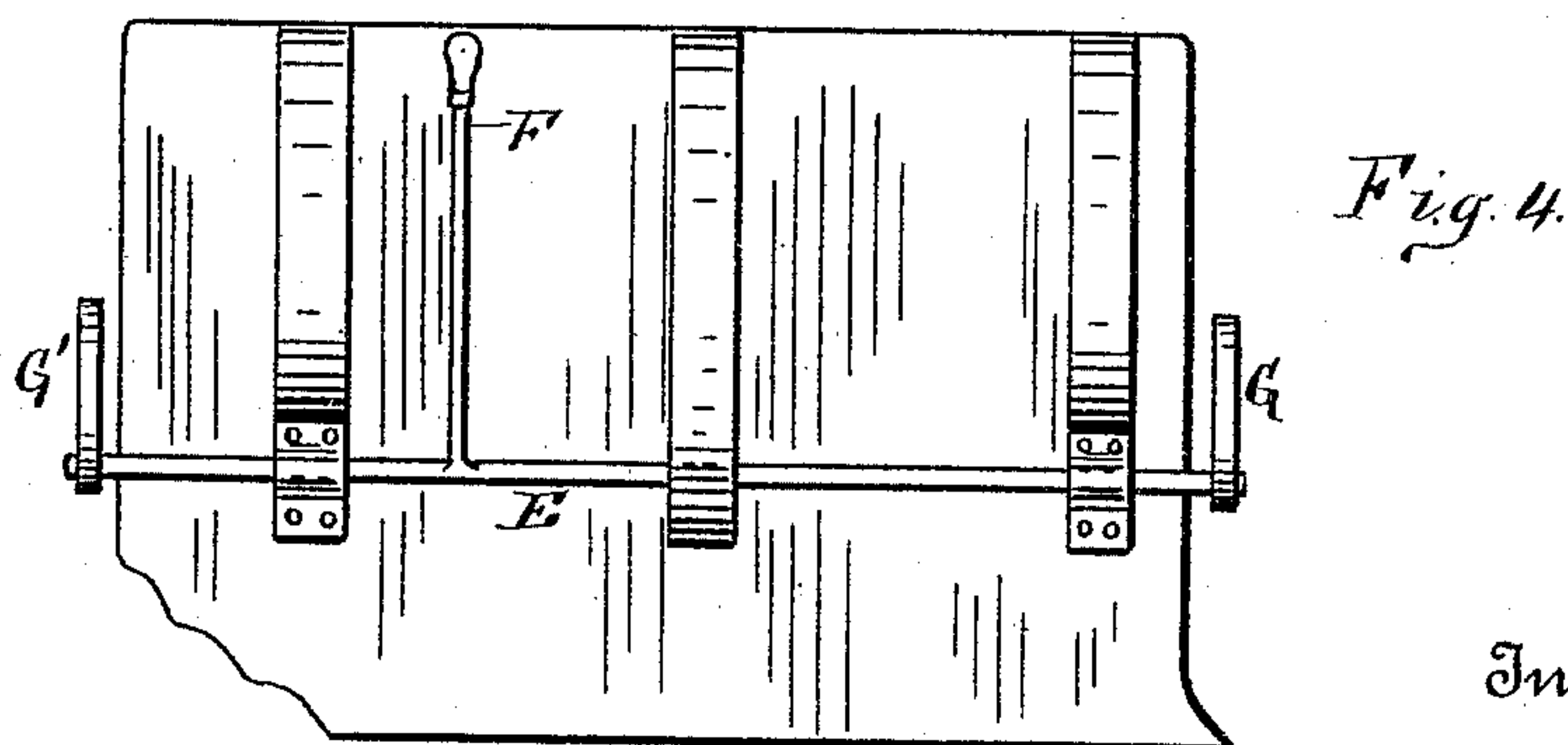
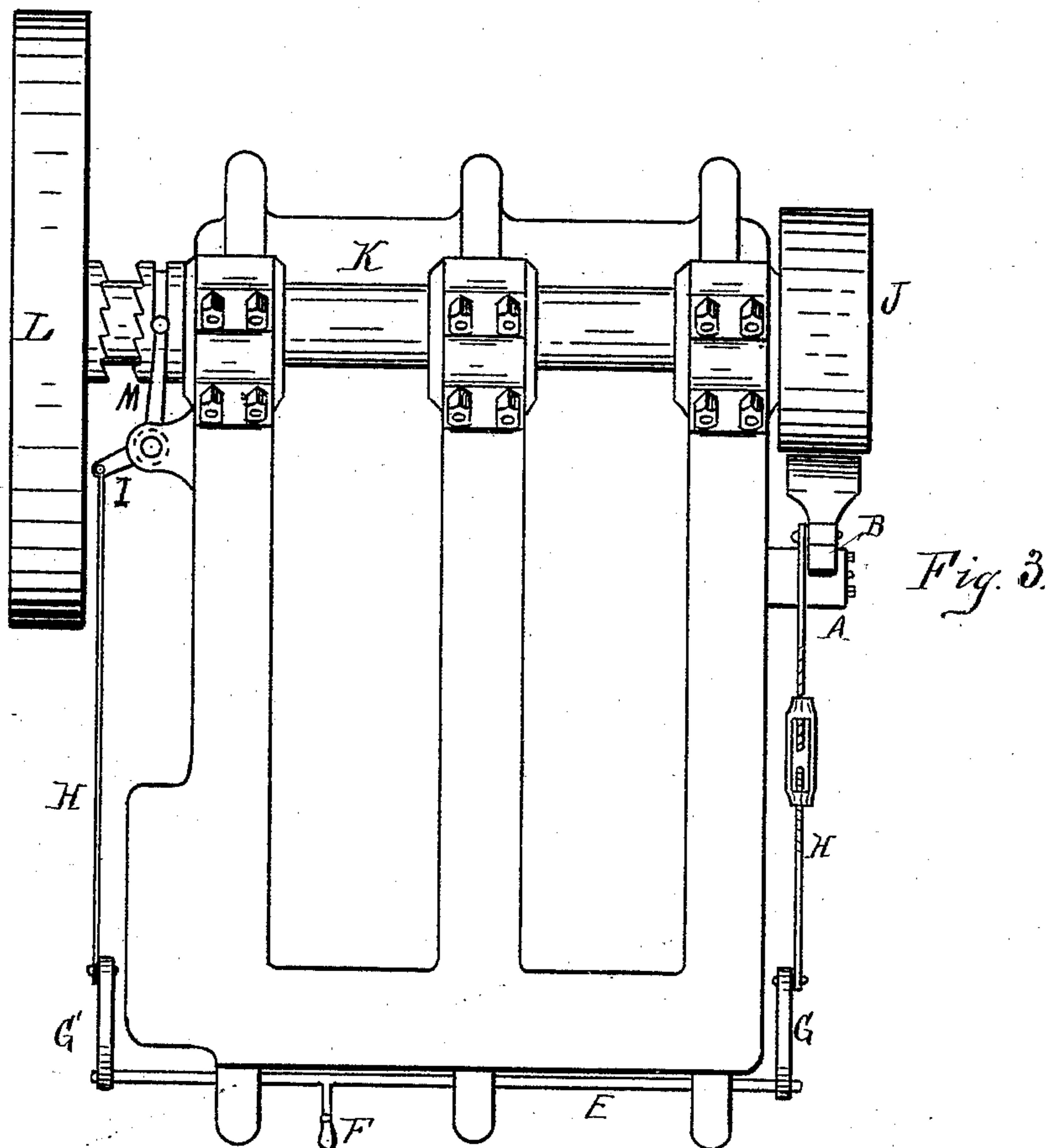
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UNITED STATES PATENT OFFICE.

MICHEL D. LUEHRS, OF CLEVELAND, OHIO.

BOLT-HEADER.

SPECIFICATION forming part of Letters Patent No. 460,058, dated September 22, 1891.

Application filed September 5, 1890. Renewed August 29, 1891. Serial No. 404,044. (No model.)

To all whom it may concern:

Be it known that I, MICHEL D. LUEHRS, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Bolt-Headers, of which the following, with the accompanying drawings, is a specification.

My improvements relate to machines for heading bolts and spikes, making rivets, and forging metal for various purposes.

The object of my invention is an improvement in brake mechanism, whereby the machine may be quickly stopped without sudden or severe shock.

The invention consists in the novel construction and combination of parts described herein, and defined in the claims.

Figure 1 is a side elevation of a machine provided with my improvements. Fig. 2 is an enlarged perspective of the brake and its bracket detached. Fig. 3 is a plan of the frame of a machine with my improvements attached. Fig. 4 is an end elevation of the same.

In the accompanying drawings, which form a part of this specification, A represents a suitable bracket which is attached to one side of the machine, and in which is pivoted the brake-arm B, carrying a brake-shoe C, having a concave face. To said brake-arm B is pivoted an arm D, provided with a tension-screw *d*. A very heavy and strong piece *c* of leather or other suitable material is secured to the brake-shoe C by means of a plate *c'* or other means. Said leather facing extends over the face of the shoe and has its lower end attached to the outer end of the pivoted arm D. The stretch of the leather facing *c* may be taken up and the facing tightened by turning up the screw *d*.

Fig. 2 clearly illustrates the construction of the brake and supporting-bracket.

Across the front end of the machine is journaled a rock-shaft E, to which is attached an operating-handle F and crank-arms G and G'. A rod H, with a turn-buckle or other means to adjust the length of said rod, connects the crank-arm G and the brake-arm B. The driving-pulley L is loosely mounted upon the crank-shaft K, and is adapted to make

and break contact therewith by any suitable means. That shown in Fig. 3 is a bell-crank I, with a swiveled clutch M, which are operated through the rod H' and crank-arm G' from the rock-shaft E.

On the brake side of the machine a pulley or disk J is mounted upon the end of the crank-shaft K. While this pulley or disk may be a true circle, I prefer to make it a cam or eccentric on its face. As shown in the drawings, and what I consider as practical as any, is to have the face of a fifteen-inch wheel made seven-eighths eccentric. The advantage of making the face of the wheel J eccentric will appear from what follows.

In the operation of my device, when it is desired to bring the machine to a stop during work the handle F is pulled back, which releases the clutch between the driving-pulley L and the crank-shaft K and at the same time applies the brake to the brake-wheel J. I arrange the eccentric of the brake-wheel J and the other parts of the device so that the machine will always come to a stop with the gripping-dies and heading-tool open. In so arranging the parts the wheel J will be so placed that when the brake is thrown against it the brake will come into contact with the shortest radius of the wheel, and then as the wheel turns toward the longest radius or the eccentric portion of the wheel the pressure will increase gradually till a point is reached when the wheel can turn no farther. Then, too, as the leather facing *c* is tightly stretched over the concave surface of the brake-shoe it forms a yielding cushion against the brake-wheel J, and as the radii of the wheel gradually increase there is no sudden stopping or jar to the machine or torsion of any of its parts.

I do not limit myself to the exact details of brake shown, and any suitable means may be employed for applying and releasing the same, and any suitable means may be employed for making and breaking connection between the driving-pulley and the crank-shaft.

What I claim as my invention is—

1. In a machine of the character described, the combination of a crank-shaft carrying a brake-disk, with a brake adapted to make and

break contact with said disk at will, substantially as and for the purposes described.

2. In a machine of the character described, in combination, a crank-shaft carrying an eccentric brake-pulley, and a brake adapted to make and break contact with said brake-pulley, substantially in the manner and for the purposes set forth.

3. In a machine of the character described, in combination, a crank-shaft carrying a brake-pulley, a brake adapted to make and break contact with said brake-pulley, a rock-shaft carrying a rock-arm, and a rod connecting said rock-arm with said brake, the parts being constructed, arranged, and operating substantially in the manner and for the purposes described.

4. In a machine of the character described, in combination, a crank-shaft carrying a brake-pulley and a loose drive-pulley, a clutch, a brake, and the means whereby said clutch is released from engagement with said drive-pulley simultaneous with the setting of

the brake, substantially as and for the purposes described.

5. In a machine of the character described, in combination, a crank-shaft carrying an eccentric brake-pulley, a brake consisting of an arm, a brake-shoe, and an adjustable elastic or flexible facing, with the means described for actuating said brake, the parts being constructed, arranged, and operating substantially in the manner and for the purposes described.

6. In a bolt-header, a brake consisting of an arm carrying a brake-shoe having a concave face, a yielding facing for said shoe, and means for tightening said yielding facing, substantially as described.

In testimony whereof I affix my signature, in presence of two witnesses, this 1st day of September, 1890.

MICHEL D. LUEHRS.

Witnesses:

J. A. OSBORNE,
H. S. SPRAGUE.