

(No Model.)

3 Sheets—Sheet 1.

A. K. WASHBURN.

HEEL FILING MACHINE.

No. 389,994.

Patented Sept. 25, 1888.

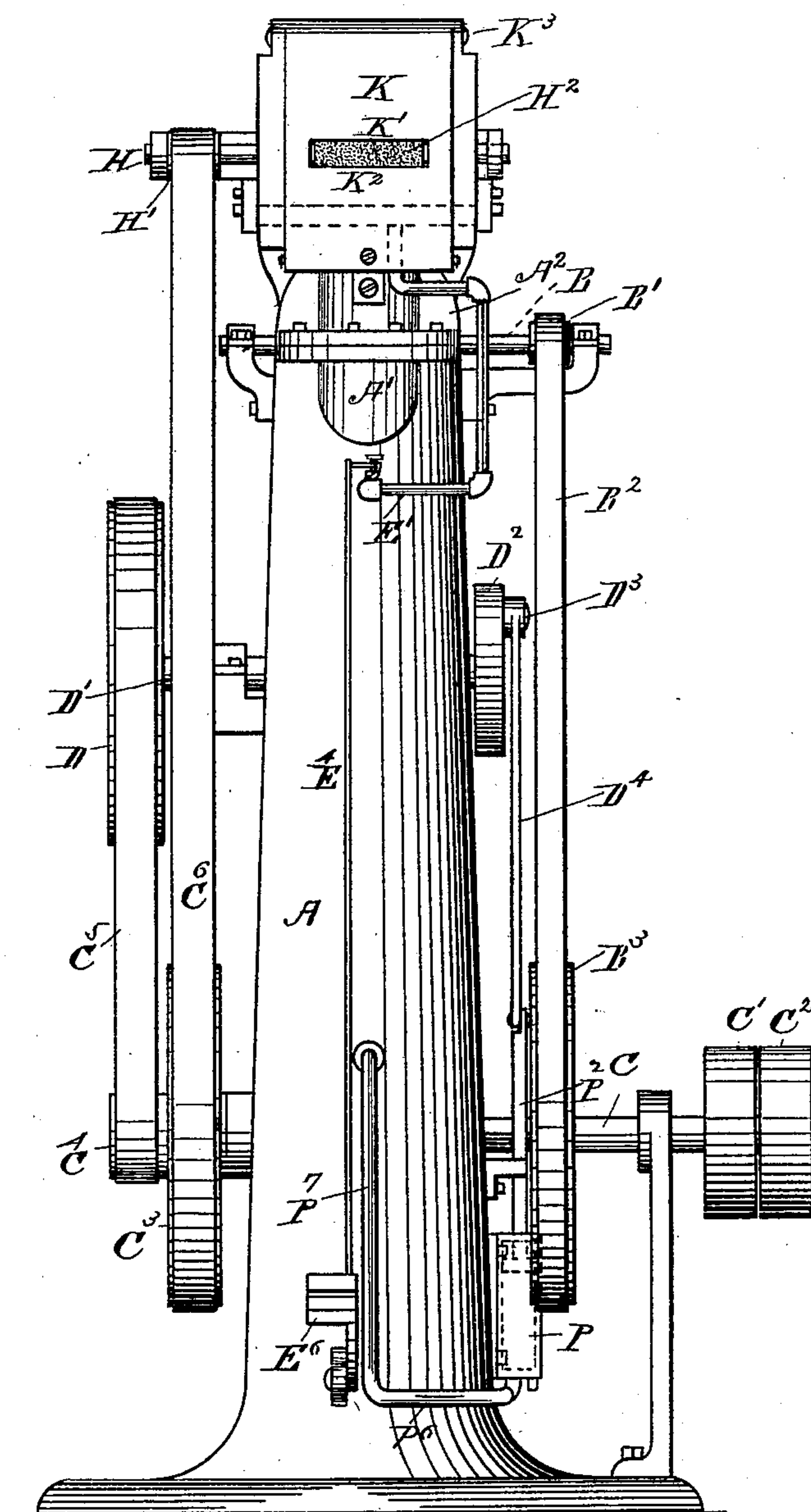


FIG. 1.

WITNESSES.

Frank G. Parker
A. Fern Perry

INVENTOR.

Alton S. Washburn

(No Model.)

3 Sheets—Sheet 2.

A. K. WASHBURN.
HEEL FILING MACHINE.

No. 389,994.

Patented Sept. 25, 1888.

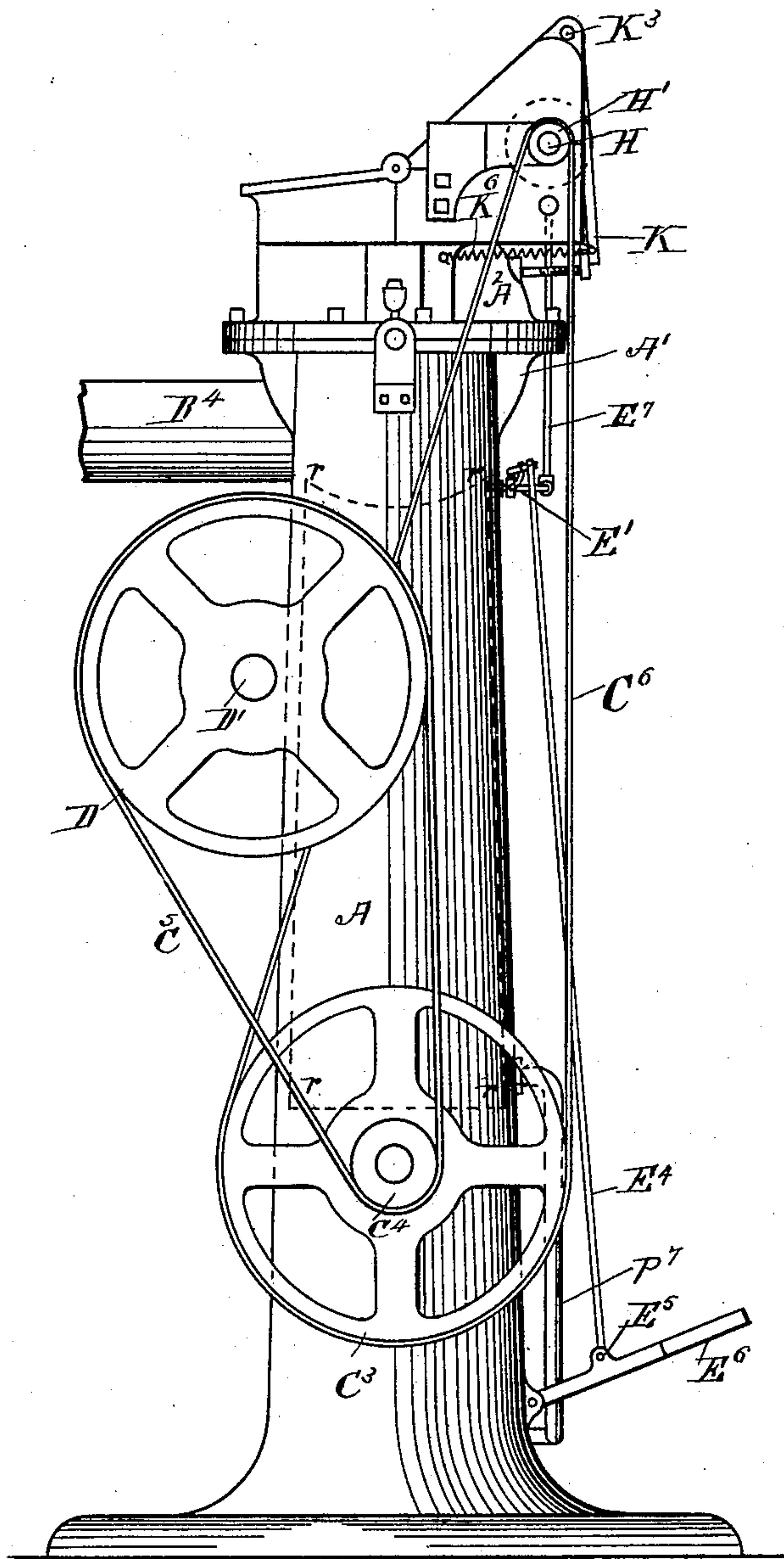


FIG. 2.

WITNESSES.

Frank G. Parker
A. J. Bump

INVENTOR.

Albion E. Washburn

(No Model.)

3 Sheets—Sheet 3.

A. K. WASHBURN.
HEEL FILING MACHINE.

No. 389,994.

Patented Sept. 25, 1888.

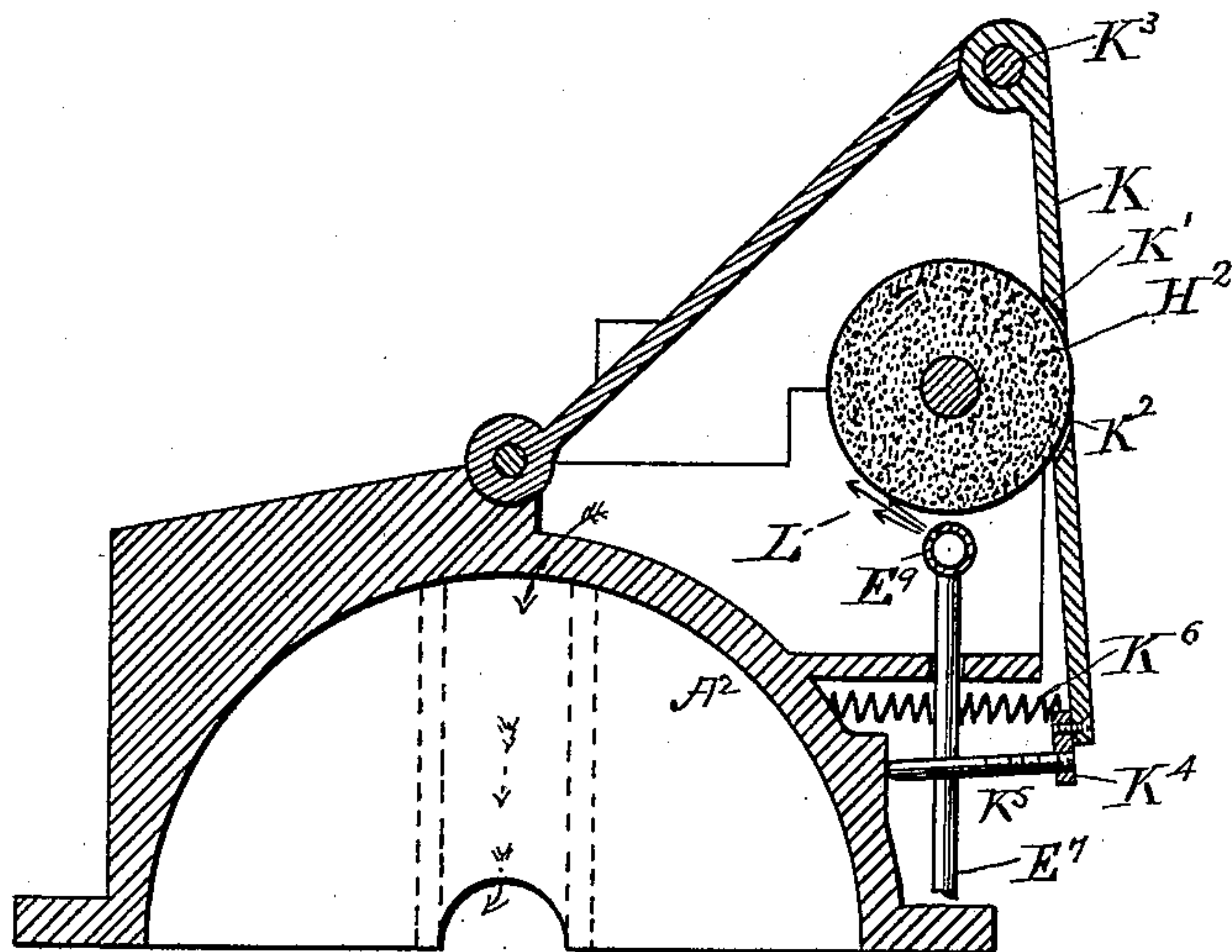


FIG. 3.

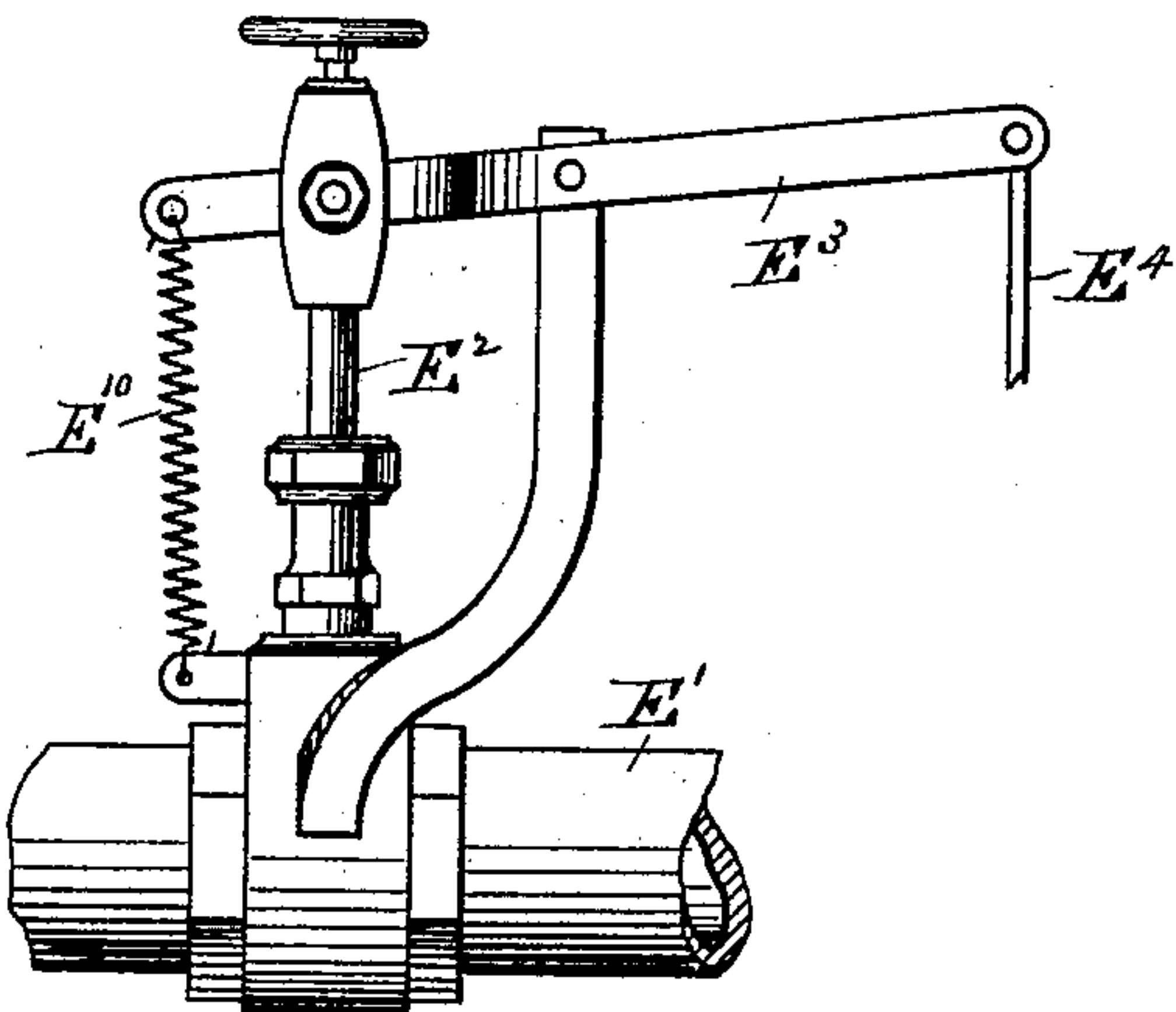


FIG. 4.

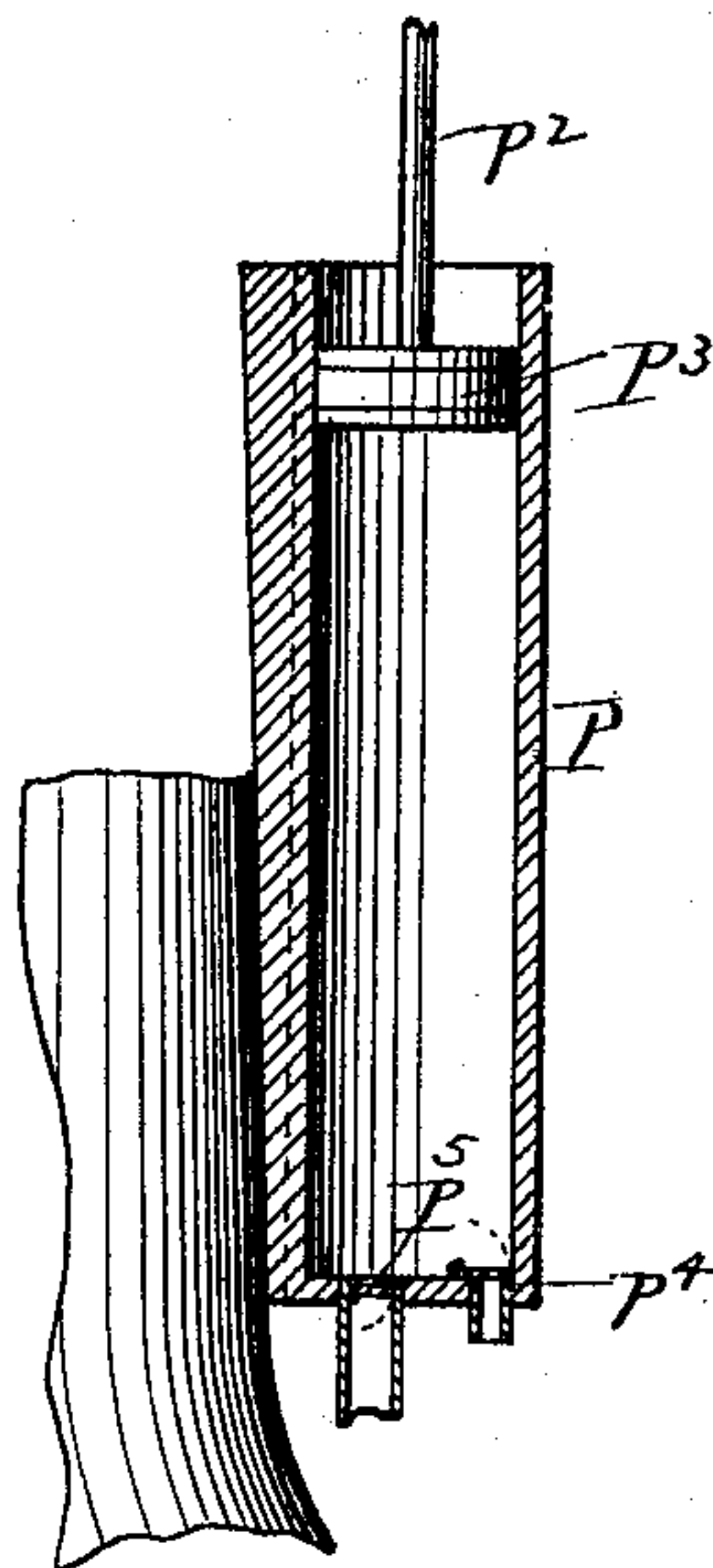


FIG. 5.

WITNESSES.

Frank G. Parker.
A. J. Berry

INVENTOR.

Albion C. Washburn

UNITED STATES PATENT OFFICE.

ALBION K. WASHBURN, OF BRIDGEWATER, MASSACHUSETTS.

HEEL-FILING MACHINE.

SPECIFICATION forming part of Letters Patent No. 389,994, dated September 25, 1888.

Application filed June 12, 1888. Serial No. 276,845. (No model.)

To all whom it may concern:

Be it known that I, ALBION K. WASHBURN, of Bridgewater, in the county of Plymouth and State of Massachusetts, have invented a new and useful Improvement in Heel-Filing Machines, of which the following, taken in connection with the accompanying drawings, is a specification.

My invention relates to machines for grinding off the irregular surfaces of heels by the use of abrading wheels or cylinders, the object being to combine with the abrading-cylinder a guard-plate so constructed that the operator can adjust it by simply turning a bolt by hand while the machine is in motion and with the utmost accuracy; also, to add to the machine a device for storing air under great pressure and combining with the same means for projecting at intervals powerful blasts of air onto the abrading-cylinder for the purpose of removing from it the entangled dust and debris that have become lodged in the indentations. These objects I attain by the mechanism shown in the accompanying drawings, in which—

Figure 1 is a front elevation of my machine. Fig. 2 is a side elevation of the same. Figs. 3, 4, and 5 are enlarged views of details.

In Figs. 1 and 2, A represents the main standard of my machine, to which the working parts are attached. This standard, being made hollow, has within it a reservoir for receiving air under pressure from the air-pump and retaining it until wanted.

The main shaft C, Figs. 1 and 2, of my machine is hung in suitable housings, and has upon one end fast and loose pulleys C' C², Fig. 1. The shaft C has also upon it a driving-pulley, C³, which, acting through the belt C⁴, Figs. 1 and 2, and the pulley H' and shaft H, gives motion to the grinding-cylinder H². The pulley C⁴, also on the shaft C, acting through the belt C⁵, pulley D, shaft D', crank-disk D², and crank-pin D³, gives motion to the link D⁴ and piston-rod P² of the pump P. (See Fig. 1.)

A revolving blower of any desired style is located at the head of the standard A. The upper end of the standard is enlarged, as indicated at A', Figs. 1 and 2, for the purpose, in connection with the hood A², of forming a chamber for the blower. This blower

(not shown) is mounted on a shaft, B, and is driven by a pulley, B', which in turn is driven by the shaft C, acting through the pulley B³ and belt B². The blower-chamber is connected to the inclosed space in which the grinding wheel or cylinder H² is placed, (see Fig. 3,) so that any loose dust or debris from the grinding-cylinder H² is drawn away and sent through the blower-outlet B⁴, Fig. 2.

To assist the operator in properly presenting the heel to the grinding-cylinder H², I have the following device: K, Figs. 1, 2, and 3, is a face-plate or gage made adjustable and provided with an opening at K' K², through which the periphery of the grinding-cylinder H² projects sufficiently to do its work—that is, to level and smooth the face of the heel, removing all irregularities of surface caused by nails, pegs, or defects in the leather. This gage-plate K is attached to the head of the machine by the pivot-rod K³, about which it can swing. Its lower edge is provided with an ear, K⁴, in which a screw bolt or brace, K⁵, is inserted. The screw-bolt K⁵ serves to adjust the plate K, as it has a screw-thread at the end that engages with the ear K⁴, so that by turning the bolt K⁵ the plate K may be swung in or out in relation to the grinding-cylinder H². K⁶, Figs. 2 and 3, is a spring attached to the inner side of the gage-plate K and to the head of the machine, and serves to hold the gage-plate back against the adjusting screw-bolt K⁵.

It is well known to users of grinding-wheels that they soon become clogged by the abraded matter from the article being worked upon. To obviate this I have the following device:

E⁹, Fig. 3, is a hollow cylinder located near the grinding-cylinder H², and provided with a long narrow opening, or a series of openings, that deliver a violent blast of air, so as to impinge on the periphery of the grinding-cylinder H², as indicated by the arrows L. This cylinder E⁹ is supplied with air at intervals under pressure, so that the blast onto the grinding-cylinder is violent and powerful enough to free the cylinder from its accumulated dust and abraded matter and thus restore its working qualities. Air under pressure is delivered to the cylinder E⁹ through the pipe E⁷, which connects with the reservoir in the standard A, (indicated by dotted lines r r r r, Fig. 2.)

The reservoir above referred to is filled with compressed air by an ordinary air-pump, P, Figs. 1 and 5. This pump has a piston, P³, Fig. 5, worked by a piston-rod, P², (driven by the device already described,) and is provided with inlet and outlet valves P⁴ P⁵, of ordinary description, and is connected to the reservoir in the standard A by the pipe P⁶ P⁷, Fig. 2.

For projecting a blast of air at will against the cylinder H², I have a valve (not shown) in the pipe E'. (See Figs. 1 and 4.) This valve has a stem, E², Fig. 4, and is operated by a lever, E³. E¹⁰ is a spring attached to the lever E³, and serves to keep the valve in E' closed when not opened by the operator. When the operator wishes to open the valve in E and thus allow a cleansing blast of air to strike the grinding-cylinder H², he has simply to depress the lever E⁶. This, acting through the rod E⁴, (pivoted to the lever E⁶ at E⁵,) will draw down the lever E³ (see Fig. 4) and open the air-valve and allow a blast of air to act on the grinding-cylinder H², as desired.

For safety, a safety-valve may be attached to some part of the air-reservoir.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a heel-filing machine, the combination of the grinding or abrading cylinder H² with the adjustable gage-plate K, said plate being pivoted at K³, and having a tension-spring, K⁶, and an adjusting-screw, K⁴, all operating together substantially as described, and for the purpose set forth.

2. The combination of the grinding or abrading cylinder H² with the compressed-air reservoir r r r r, air-pump P, perforated cylinder E⁹, valve E', and lever E³, all adapted for projecting at intervals cleansing blasts of air upon the abrading-cylinder, substantially as described, and for the purpose set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 11th day of June, A. D. 1888.

ALBION K. WASHBURN.

Witnesses:

FRANK G. PARKER,
A. HUN BERRY.