(No Model.)

A. K. WASHBURN.

SOLE LEVELING MACHINE.

No. 435,883. Patented Sept. 2, 1890.

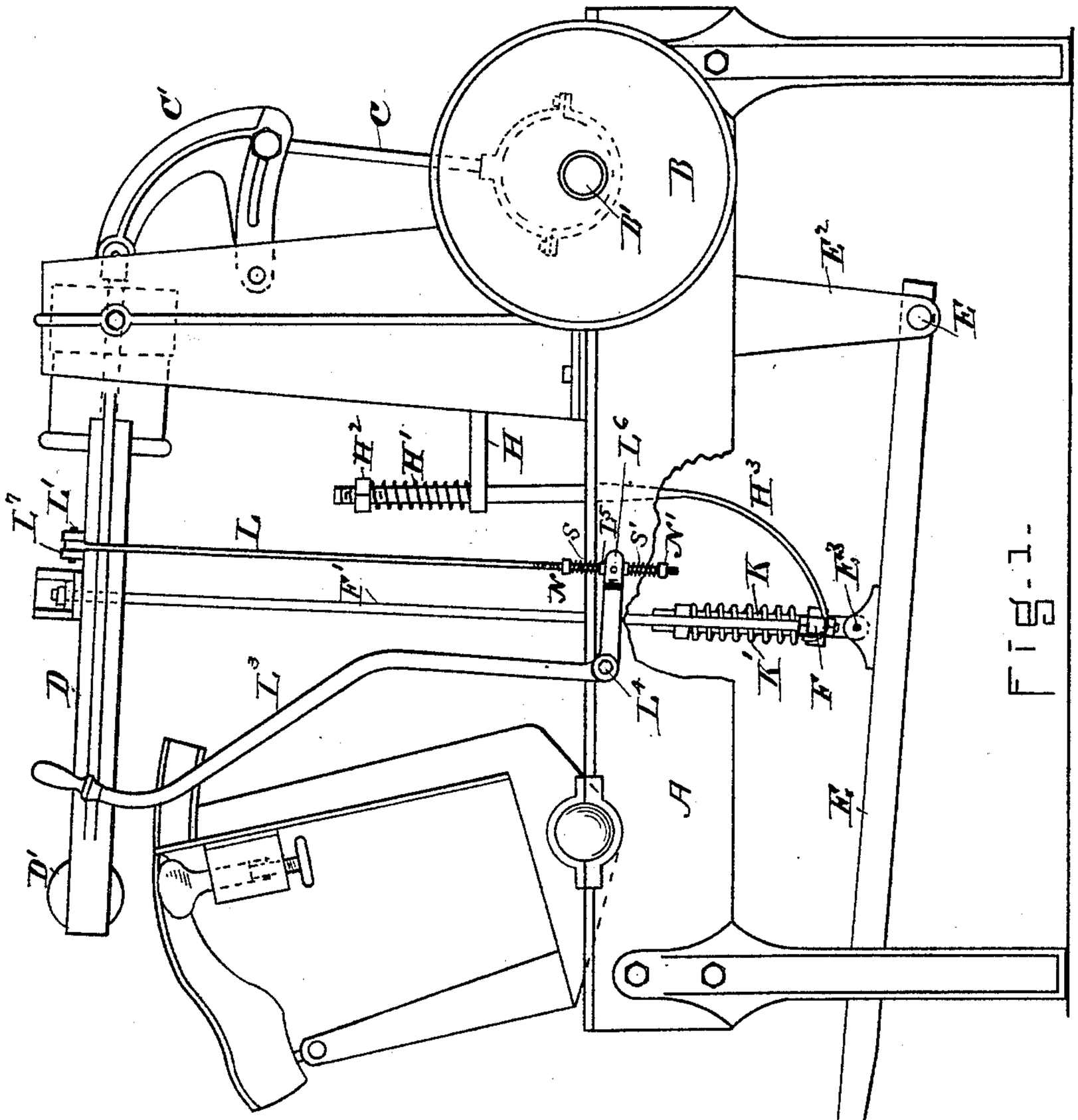

Fig. 1.

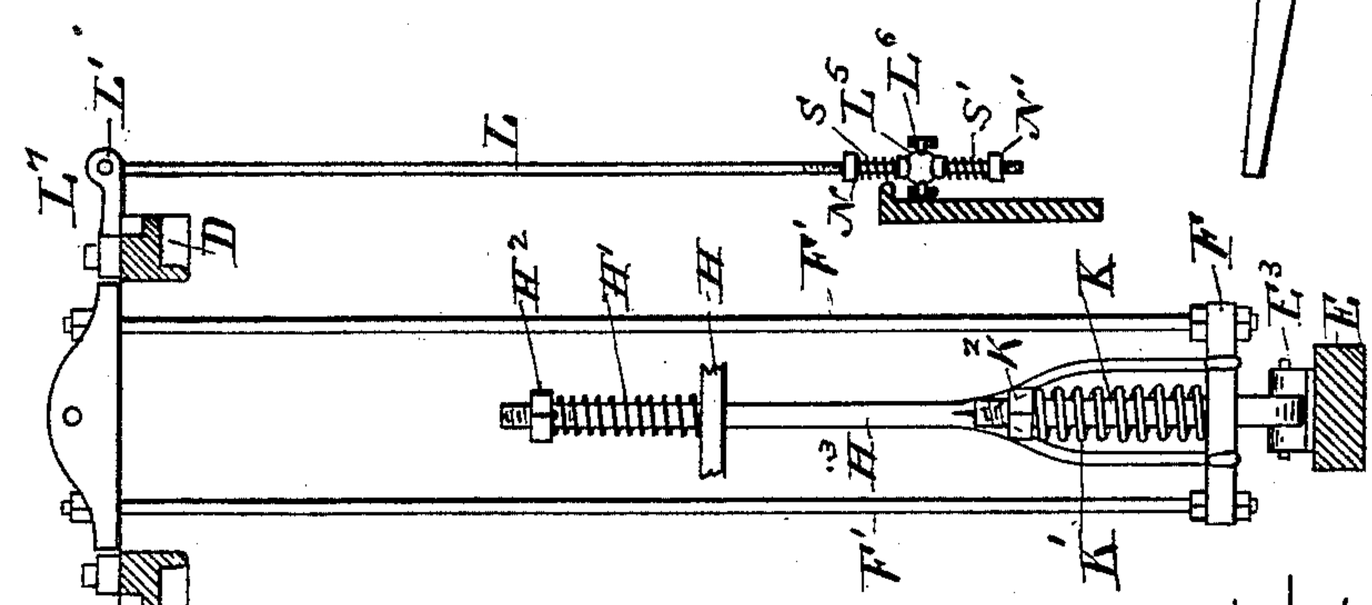

Fig. 2.

WITNESSES.

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ALBION K. WASHBURN, OF BRIDGEWATER, MASSACHUSETTS.

SOLE-LEVELING MACHINE.

SPECIFICATION forming part of Letters Patent No. 435,883, dated September 2, 1890.

Application filed June 2, 1890. Serial No. 354,044. (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 certain new and useful Improvements in Sole-Leveling Machines, of which the following, taken in connection with the accompanying drawings, is a specification.

The object of my invention is to apply certain attachments to the swiveling-lever that holds the sole-roller of a sole-leveling machine by means of which the work of the operator is made much easier and the injurious effect on the operator by the rapid vibration of the roller-lever is greatly lessened. This object I attain by the mechanism shown in the accompanying drawings, in which—

Figure 1 is a side elevation showing such parts of sole-leveling machine as are more intimately connected with my improvements. Fig. 2 is an end view, partly in section and partly in elevation, showing my improved devices as attached to the other parts.

In the drawings, A represents the general frame of the machine, B the driving-pulley, and B′ the main shaft.

C is an eccentric-rod operated by an eccentric (shown by dotted lines) on the shaft B. The eccentric-rod C, acting through the bent lever C′, gives a to-and-fro longitudinal motion to a slide which operates the roller D′. The lever D has the usual oscillatory motion about its longitudinal axis.

As the above-described parts are not new, a detailed description of them is not needed.

The lever E is hung on a pivot E′ in the arm E^2, and is connected to a sliding rod K by the pivot E^3. This sliding rod K passes loosely through the cross-bar F, up through a spiral spring K′, (see Fig. 2,) and has a nut K^2 at its upper end. This nut K^2 rests on the top of the compression spiral spring K′, and as the lower end of the said spiral spring rests on the cross-bar F it is evident that a depression of the lever E will, acting through the spring K′, cause the cross-bar F, the connected rods F′ F′, and the roller-lever D to bring down the roller D′. This heavy spring K′ is not brought into action until the lever D has been so far lowered as to cause the roller D′ to come into contact with the sole of the shoe. Then the resistance offered by the rods F′ F′, through the cross-bar F, will cause the pressure exerted on the foot-lever E to be transferred through the stiff spring K′ to the roller-lever D and the roller D′. In this manner the operator can bring any desired degree of yielding pressure onto the sole of the boot or shoe being leveled.

One of my improvements consists in adding to the device just described an auxiliary spring H, whose function is to lift the lever E, the cross-bar F, rods F′ F′, spring K′, and the roller-lever D, with the roller D′, upward, so that when the machine is not in use the roller D′ is held suspended above the sole of the shoe, as shown in Fig. 1. The spring H′ rests on the buttress-arm H and acts through the nut H^2, rod H^3, and cross-arm F to lift the connected parts, including the roller D′, as above stated.

As the auxiliary spring H′ has simply to be strong enough to lift the weight of the foot-lever E and the rods F′ F′ and their connection and the roller-lever D, it is made quite light—that is, just heavy enough to counterbalance the weight of the lever, &c. Hence the operator in depressing the foot-lever E has only to exert a very little strength to bring the roller D′ down to its work. After that the operator has to exert sufficient pressure to do the work required to level the sole of the shoe.

For causing the roller-lever D to turn on its longitudinal axis, I have the following device: L is a rod attached by a pin at L′ to an arm L^7, extending laterally from the roller-lever D. The hand-lever L^3 is attached to the frame A by a pivot-pin L^4, and its lower end L^6 is connected by a pivot to a sliding boss L^5 on the rod L. The sliding boss L^5 has both below and above it spiral springs S and S′, which are held in place on the rod L by the nuts N and N′, so that the operator in controlling the swinging motion of the roller-lever D by the aid of the hand-lever L^3 does not receive the disagreeable vibration caused by the rapid motion of the roller-slide in lever D, their effect being lost in the elasticity of the springs S S′.

I claim—

1. In a boot or shoe sole leveling machine, the combination of the roller-lever D, roller D′, rods F′ F′, cross-head F, rod K, spring K′,

and foot-lever E, with the rod H^3 and auxiliary spring H′, operating substantially as and for the purpose set forth.

2. In a boot or shoe leveling machine, the combination of the roller-lever D, roller D′, having an arm L^7, rod L′, and springs S S′, adapted to hold the end L^6 of the hand-lever L^3 elastically in place, with the hand-lever L^3, substantially as 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 28th day of May, A. D. 1890.

ALBION K. WASHBURN.

Witnesses:
FRANK G. PARKER,
FRANK W. ALDEN.