

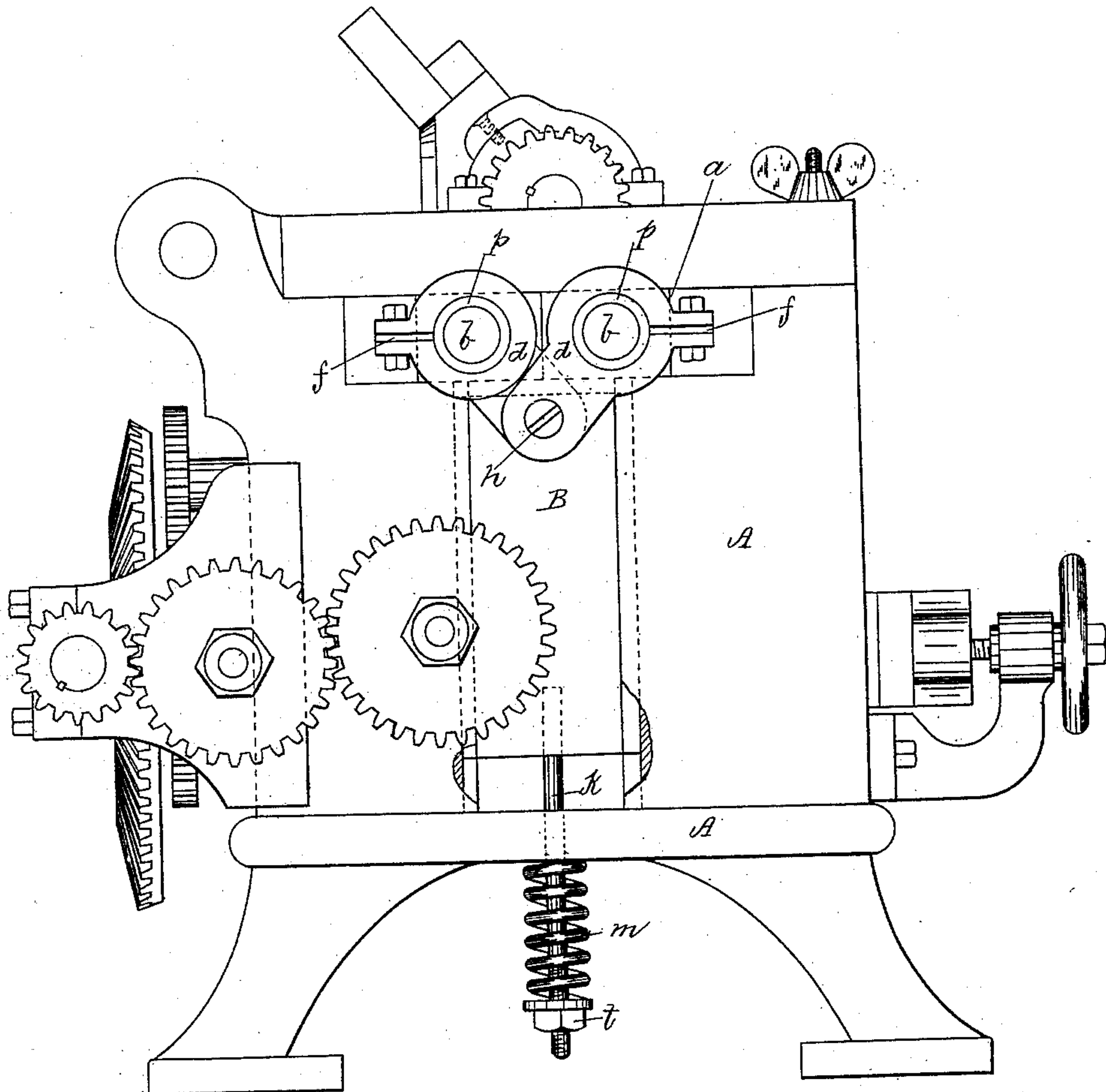
(No Model.)

T. SMITH.

LEATHER SPLITTING MACHINE.

No. 358,081.

Patented Feb. 22, 1887.



Witnesses.

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UNITED STATES PATENT OFFICE.

THEODORE SMITH, OF CINCINNATI, OHIO.

LEATHER-SPLITTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 358,081, dated February 22, 1887.

Application filed December 10, 1886. Serial No. 221,165. (No model.)

To all whom it may concern:

Be it known that I, THEODORE SMITH, of Cincinnati, county of Hamilton, State of Ohio, have made certain new and useful Improvements in Leather-Splitting Machines, of which the following is a specification, reference being had to the drawing accompanying and forming a part hereof, which shows an end view of a leather-splitting machine with my improvement attached.

My improvement was made more particularly with reference to leather-splitting machines of the class adapted to split a piece of scrap-leather to a hinge at one edge, so that the halves of the split piece may be spread or opened on that hinge into the same plane, and pressed and set in this position, thereby forming a single piece of leather having twice the area of the original unsplit piece. It will be obvious, however, that my invention may also be applied to machines of any kind or for any purpose which employ two feed-rolls which spread or separate as the material to be fed passes them and which it is desirable or necessary should move at exactly the same time and to the same extent.

I have shown my invention as applied to the machine invented by William E. Adams, an application for Letters Patent for which is now pending in the United States Patent Office, Serial No. 198,102; and I have only shown said machine in the accompanying drawing so far as I deemed necessary to show the application of my improvement.

In machines such as the Adams machine the piece of leather is fed between feed-rolls which force it onto the splitting-knife. The edge of the splitting-knife projects close to the nip of the rolls, and in order that the knife-edge should pass through the leather centrally the rolls should separate uniformly as the leather enters them—that is, each roll must move the same distance from the edge of the knife. Hitherto this has usually been accomplished by placing behind the sliding journal-boxes of each roll-shaft spiral springs, so that the rolls are separated or moved from the knife against the tension of the springs. This arrangement I have found deficient, since it is very difficult or wholly impossible to obtain

spiral springs of perfectly uniform temper and which will exert the same resistance to the separation of the rolls, and therefore the mechanism has worked imperfectly and the leather has been split irregularly.

My invention has for its object, among other things, to overcome these difficulties; and it consists in changing the shape and position of the equalizer-arms, which are pivoted to the shafts of the feed-rolls, and governing the action thereof by a single spring for each pair of said arms—that is, at each end of the roll-shaft.

The accompanying drawing is an elevation of a leather-splitting machine embodying my invention.

A represents the frame of the machine, in the upper part of which is set, in sliding journal-boxes *a*, the shafts *b* of the feed-rolls. On bosses *p*, projecting from the journal-boxes and surrounding the ends of shafts *b*, are set the equalizer arms or levers *d*, the ends of said levers being split and clamped together by screws, as shown at *f*, for the purpose of taking up the wear. The lower ends of the equalizer-levers *d* are pivoted to a vertically-sliding block, *B*, arranged to slide in dovetails in the end of the frame of the machine, as shown. The equalizer-levers are preferably as short as may be, in order that their action may be more direct, and consequently they are pivoted to the upper end of the block *B*, as shown at *h*. The lower end of the block is provided with a rod, *k*, set therein, and which projects downwardly through a hole made in the lower part of the frame. The lower end of this rod is provided with a cap or nut, *t*, screwed thereon, and between this cap *t* and the under side of the frame *A*, and encircling the rod *k*, is placed a spiral spring, *m*. When the shafts *b b* are separated by the introduction of leather between the feed-rolls, the sliding block *B* is raised against the tension of spring *m*, and the tension of the spring is communicated equally to each of said feed-rolls. By shortening the equalizer-levers *d* the movement of the block *B* is largely increased, and its increased movement is directly transmitted through the short levers *d* to the rolls. By this arrangement the movement of the rolls is uniform, or nearly so, and lost motion does not exist, since the ten-

sion of spring *m* is always exerted to hold the sliding block B down. The tension of spring *m* may be increased or diminished by moving cap *t*.

5 In the Adams machines, as heretofore constructed, with a spiral spring on the outside of each of the journal-boxes *a*, and with the equalizer-levers *d* longer and pivoted lower down on the block B, the separation of the
10 feed-rolls ought, theoretically, to be uniform, and that such was not the case in practice was due to the fact, in my opinion, that the required spread of the rolls was at most very slight, being for each roll only one-half the
15 thickness of the piece of leather, and that there was necessarily a certain amount of lost motion in the bearings of the equalizer-levers, which, relatively to the whole amount of separation of the rolls, was very considerable.

I do not desire to limit my invention to any particular class of machines or to leather-splitting machines only.

What I claim is—

1. The combination, with the feed-roll shafts, of the equalizer-levers and the sliding block B and its actuating-spring, for the purposes
25 and substantially as shown and described.

2. The combination, with the feed-roll shafts *b*, journaled in sliding boxes, of the equalizer-levers *d*, pivoted to said boxes and to the sliding block B, the block B, the rod *k*, secured thereto, and the spiral spring *m* and cap *t*,
30 substantially as set forth.

THEODORE SMITH.

Witnesses:

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ROBERT WALLACE.