

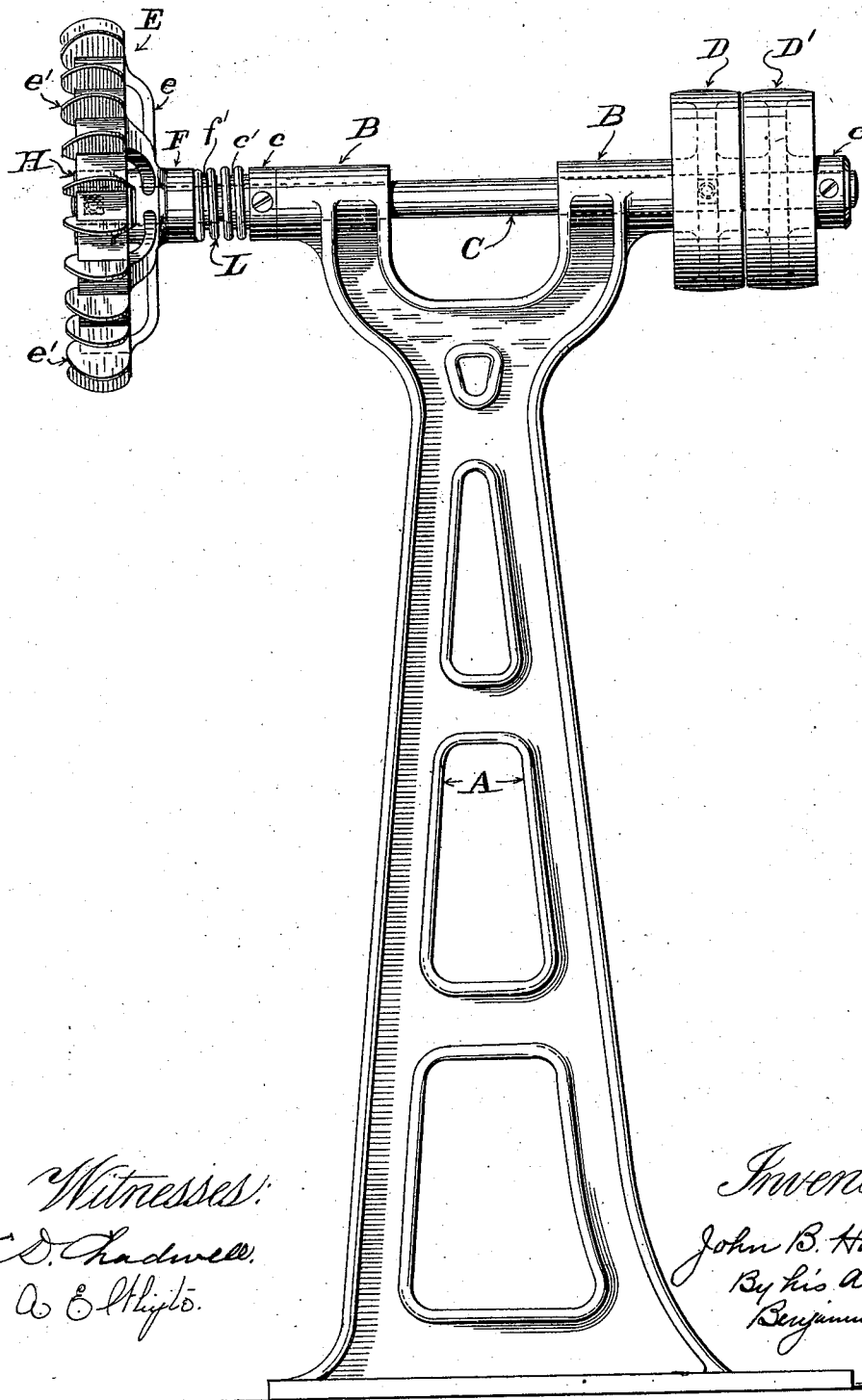
(No Model.)

2 Sheets—Sheet 1.

J. B. HADAWAY.
CHANNEL FLAP LAYING MACHINE.

No. 576,114.

Patented Feb. 2, 1897.



Witnesses:
C. D. Hadwell.
W. C. Hight.

Inventor:
John B. Hadaway
By his Attorney
Benjamin Phillips

Fig. 1.

(No Model.)

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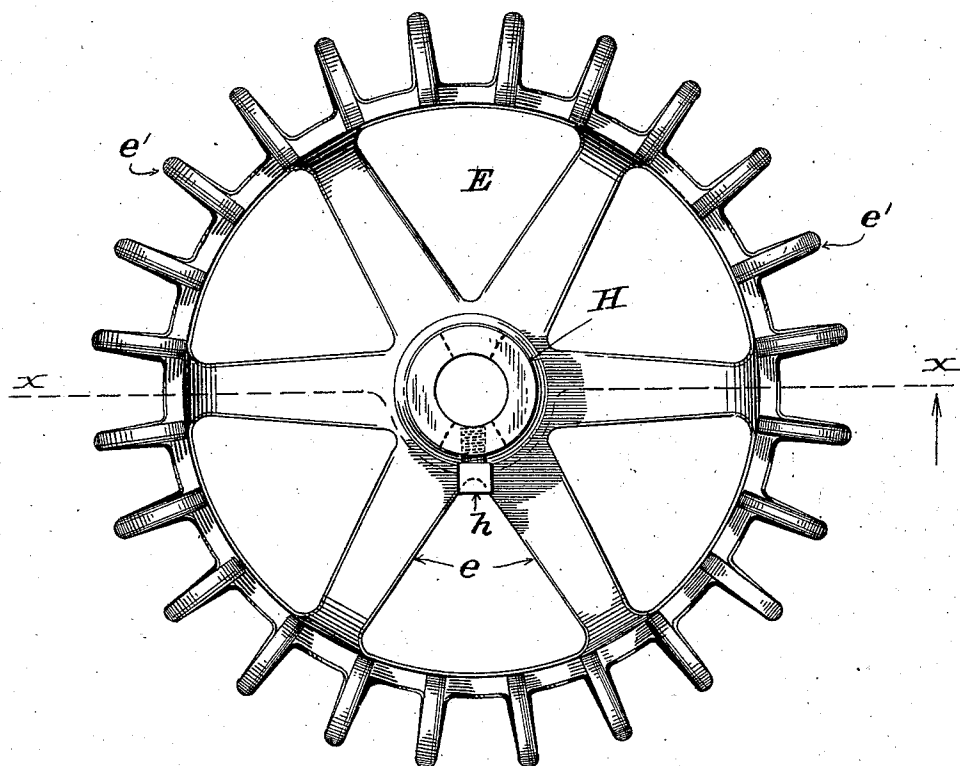


Fig. 2.

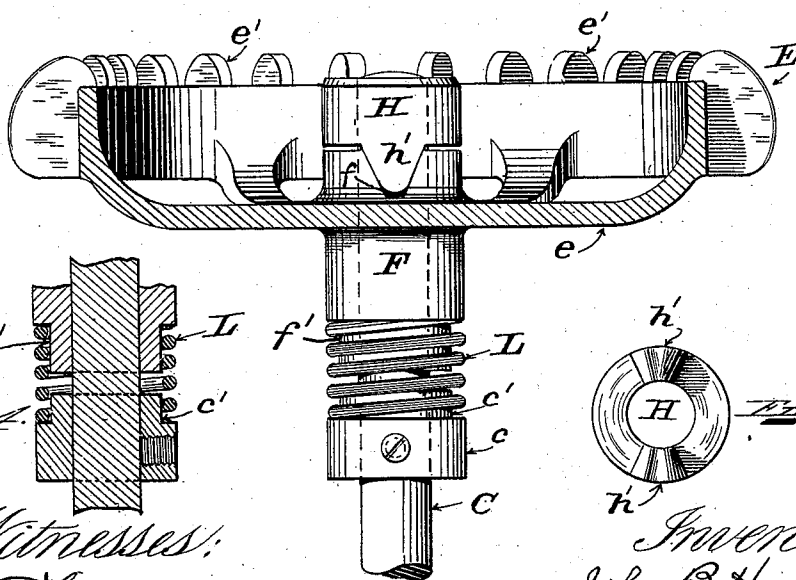


Fig. 3.

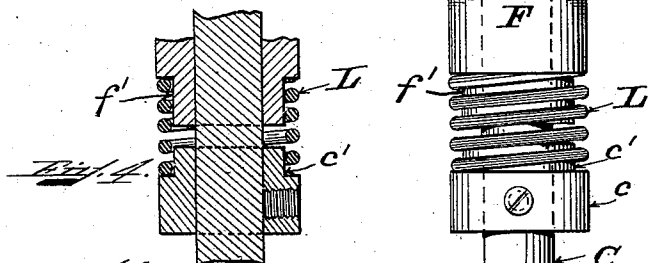


Fig. 4.

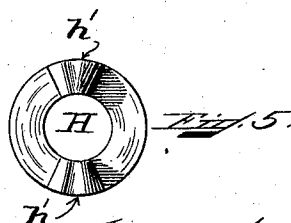


Fig. 5.

Witnesses:
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UNITED STATES PATENT OFFICE.

JOHN B. HADAWAY, OF BROCKTON, MASSACHUSETTS.

CHANNEL-FLAP-LAYING MACHINE.

SPECIFICATION forming part of Letters Patent No. 576,114, dated February 2, 1897.

Application filed June 16, 1896. Serial No. 595,786; (No model.)

To all whom it may concern:

Be it known that I, JOHN B. HADAWAY, a citizen of the United States, residing at Brockton, in the county of Plymouth and Commonwealth of Massachusetts, have invented a certain new and useful Improvement in Channel-Flap-Laying Machines, of which the following, taken in connection with the accompanying drawings, is a specification.

It has heretofore been proposed to construct a channel-flap-laying machine embodying a rotary channel-flap-laying tool mounted upon and actuated by a driving-shaft and to provide for a spring-controlled longitudinal movement of said shaft, the arrangement being such that the tool has a yieldingly-controlled longitudinal movement and a rigidly-controlled motion of rotation, the tool being commonly rigidly mounted upon its shaft to rotate therewith.

The above-suggested arrangement has been found to be objectionable in that unless great care is exercised in applying the shoe to the tool the shoe receives the unyielding impact of the tool as it is rotated, which is apt to tear off a portion of the channel-flap or otherwise mar or injure the shoe.

The object of the present invention is to remedy the objections above noted and generally to improve the construction and mode of operation of the machine.

To the above end the present invention consists in so arranging the channel-flap-laying tool that it is yieldingly controlled in its motion of rotation and also preferably has a yieldingly-controlled longitudinal movement. The present invention further consists of certain improvements in the form and arrangement of component parts of the machine hereinafter more specifically set forth and claimed.

A preferred form of the present invention is illustrated in the accompanying drawings, in which—

Figure 1 is a side view of a channel-flap-laying machine embodying the same. Fig. 2 is a front view of channel-flap-laying tool, showing portion of mechanism whereby said tool is connected with its driving-shaft. Fig. 3 is a sectional view taken on line *xx*, Fig. 2, looking in the direction of the arrow-head.

Fig. 4 is a detail sectional view of portion of mechanism for securing a yieldingly-controlled longitudinal and rotary movement of the tool; and Fig. 5 is a detail view, in end elevation, of a portion of said mechanism.

Similar letters of reference refer to similar parts throughout the several views.

In the drawings, A represents a frame or standard suitable to support the working parts of the machine. In the frame A, in suitable bearings B B, is mounted the driving-shaft C.

The shaft C is free to rotate in its bearings B B, but in the form of my invention shown in the drawings is held from longitudinal movement therein by means of suitably-placed collars *c c*. The shaft C may be conveniently actuated by means of the fast-and-loose pulleys D D' mounted thereon.

E represents the channel-flap-laying tool, which in itself forms no part of the present invention and which may be of any suitable construction.

As shown in the drawings, the tool E comprises a wheel *e*, from the rim of which are projected a series of radial blades *e'*, suitably shaped for application to the shoe-sole and by means of which the channel-flap is laid.

The tool E is mounted upon a sleeve or hub F, which is loosely mounted upon the shaft C, so as to be movable along the shaft C and capable of rotation independently thereof.

H is a collar or sleeve fixedly secured to the shaft C, conveniently by means of a set-screw *h*. Upon the sleeve H are formed the inclined or wedge-shaped projections *h' h'*, which are fitted to correspondingly-shaped recesses *ff* in the hub F.

The reference-letter L represents a suitably-placed spring, conveniently a coiled spring, wound about the shaft C and bearing against the collar *c* and the hub F. The action of spring L tends to advance the hub F toward the collar H and to keep the projections *h'* in engagement with the recesses *ff*. Upon the hub F is conveniently formed a preferably tubular projection *f'*, which is projected along the shaft C inside of the spring L. Upon the collar *c* is conveniently formed a similar projection *c'*, which also extends along the shaft C inside the spring L. (See Fig. 4.) The

projections f' and c' act as stops to limit the movement of the hub F along the shaft C against the action of spring L.

In operating the machine of the drawings the shoe is presented to and pressed against the tool E in the usual manner, in such position that the blades e' come in contact with the sole at the proper inclination to turn over and lay the channel-flap. When the pressure of the shoe is applied at or near the periphery of the tool E, the rotation of the rim of the wheel e is retarded, which causes the hub F to ride up on the projections h' and to move longitudinally along the shaft C against the action of the spring L. The extent of the movement of the hub F depends upon the amount of pressure applied to the tool E, the stops f' and c' acting to prevent the hub F from riding over the projections h' in case too great pressure is applied.

It will be noted that the above-described arrangement is such that the longitudinal and rotary movements of the tool E are both controlled by the spring L, so that whether the shoe is applied to the periphery or on the face of the tool E the blades e' always strike the shoe with a yielding impact, which removes any liability of injuring or marring the sole.

Having thus described my invention and its mode of operation, I desire to say that I do not consider the same as limited to the specific construction herein shown and described, as it is evident that many variations and alterations may be made therein without any departure from the essential nature of my invention.

I therefore claim as broadly novel, and desire to secure by Letters Patent of the United States—

1. In a channel-flap-laying machine the combination of a rotary tool, and means for actuating said tool having provision for a yieldingly-controlled rotary and longitudinal movement of said tool, substantially as described.

2. In a channel-flap-laying machine the

combination of a rotary tool, and means for actuating said tool having provision for a yieldingly-controlled rotary movement of said tool, substantially as described.

3. In a channel-flap-laying machine the combination of a rotary shaft, a tool mounted thereon, and a longitudinally-yielding connection between said shaft and tool, substantially as described.

4. In a channel-flap-laying machine the combination of a rotary tool, and a fixed inclined projection and elastic means cooperating therewith to control the rotary movement of the tool, substantially as described.

5. In a channel-flap-laying machine the combination of a rotary tool, mechanism for actuating said tool, and connections between said tool and its actuating mechanism having provision for allowing a yielding movement of said tool in a direction opposite to that of its rotation, substantially as described.

6. In a channel-flap-laying machine the combination of a rotary shaft, a tool mounted thereon, opposed projections carried by said shaft and tool, and means for holding said projections in contact, substantially as described.

7. In a channel-flap-laying machine the combination of a rotary shaft, a tool loosely mounted thereon, an inclined projection carried by the shaft and yielding means for holding said tool in contact with said projection, substantially as described.

8. In a channel-flap-laying machine the combination of a rotary shaft, a tool loosely mounted thereon, an inclined projection carried by the shaft, an inclined recess upon the tool, and a spring acting to keep said projection in engagement with said recess, substantially as described.

In testimony whereof I have hereunto set my hand, in the presence of two attesting witnesses, this 15th day of June, 1896.

JOHN B. HADAWAY.

Witnesses:

BENJAMIN PHILLIPS,
A. E. WHYTE.