No. 676,362. Patented June 11, 1901.

L. GODDU.

CHANNEL OPENING MACHINE.

(Application filed Aug. 31, 1900.)

(No Model.)

Fig. 2.

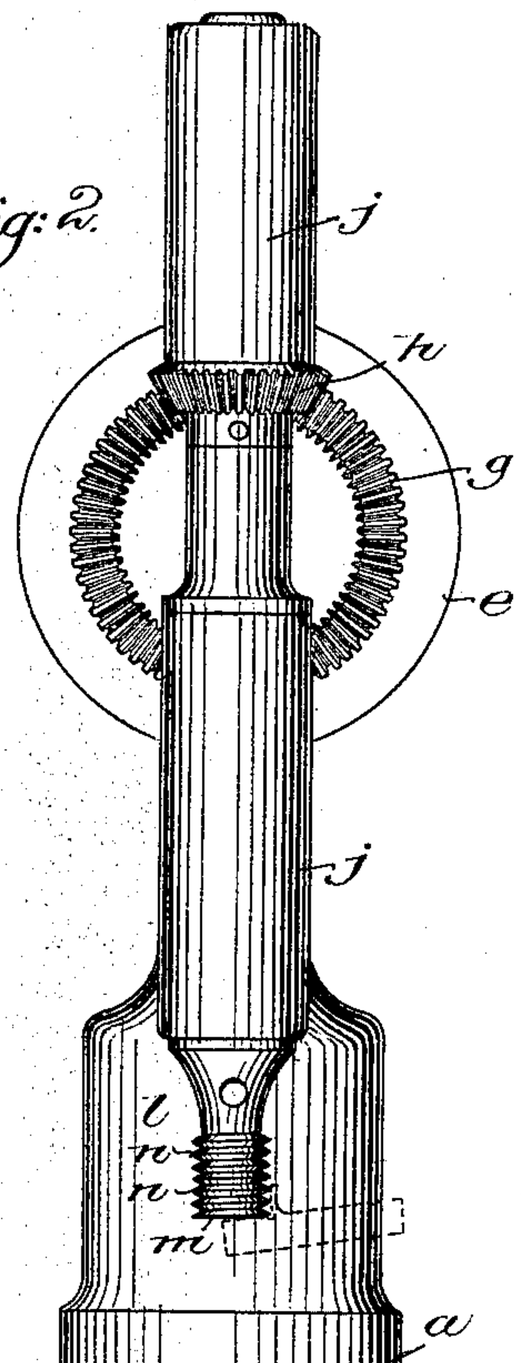
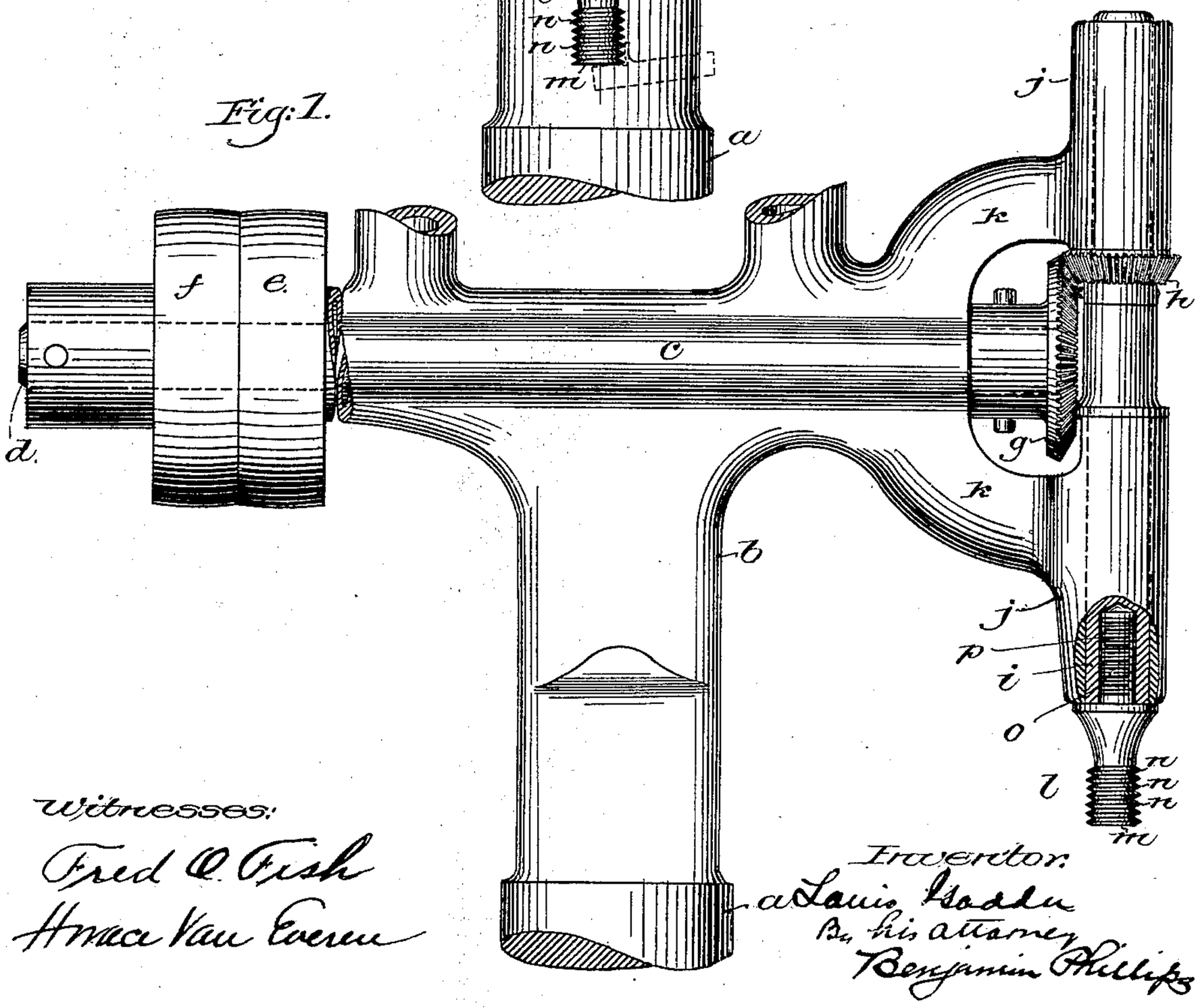


Fig. 1.



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UNITED STATES PATENT OFFICE.

LOUIS GODDU, OF WINCHESTER, MASSACHUSETTS, ASSIGNOR TO GODDU SEWING MACHINE COMPANY, OF PORTLAND, MAINE.

CHANNEL-OPENING MACHINE.

SPECIFICATION forming part of Letters Patent No. 676,362, dated June 11, 1901.

Application filed August 31, 1900. Serial No. 28,626. (No model.)

To all whom it may concern:

Be it known that I, LOUIS GODDU, a citizen of the United States, residing at Winchester, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Channel-Opening Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The present invention relates to machines employed in the manufacture of boots and shoes, and more particularly to an improved machine for opening up the channels in boot and shoe soles.

In preparing soles for attachment to the uppers of boots and shoes it is the practice to form a channel in one face of the sole by cutting thereinto at an angle to the surface and raising the flap thus formed, so that the stitches or other attaching-fastenings may be placed in the channel and covered by the channel-flap. The raising of the channel-flap is known in the art as "channel-opening," and a number of machines have been heretofore produced for performing this work, which have been more or less successful in operation. Many of the machines, however, are objectionable, because they are too complicated and costly, and, furthermore, in their operation they subject the channel-flap to too harsh treatment and great strain in the effort to make the channel-flap assume the position desired.

It is the object of the present invention to produce a channel-opening machine of simple construction in which the channel-flap will be raised and set by imparting thereto a rubbing action proceeding from the base to the top of the flap without subjecting the flap to the strain and other injurious treatment incident to the operation of prior machines.

To the above end the present invention consists of a channel-opening machine provided with a rotary tool having a spiral rubbing-rib and means to actuate said tool to cause the point of contact to travel from the base to the top of the channel-flap.

The present invention is shown in the accompanying drawings, in which—

Figure 1 shows in front elevation the head of the machine. Fig. 2 shows the machine in side elevation and partial section.

Similar reference-letters will be employed throughout the specification and drawings.

In the drawings, *a* represents the upper part of a standard or base, which may be of any usual or preferred form, and *b* the head or frame, which supports the working parts. The head *b* is provided with a horizontal bearing *c*, in which is supported to rotate the main shaft *d*, which at one end is provided with suitable fast and loose pulleys *e* and *f*, by means of which said shaft may be driven by a belt from any suitable source of power.

At its forward end the shaft *d* carries a bevel-gear *g*, which meshes with a bevel-gear *h*, secured to a vertical shaft *i*, arranged to rotate in suitable bearings *j j*, supported by arms *k k*, projecting from the front of the head *b*, and this shaft *i* at its lower end carries the channel-opening tool *l*. The channel-opening tool is, as shown, preferably cylindrical in form and provided with a flat end *m*, whereby to form a stop or gage, against which the work may be held, as shown in dotted lines, Fig. 1, and also forming a sharp angle to fit closely into the angle at the base of the channel-flap. Above the end *m* the tool is provided with a series of spirally-arranged rubbing-ribs *n*, which, as shown, may be in the nature of a continuous spiral rib or which may be formed as several independent ribs spirally arranged.

The tool *l* may be formed integrally with the shaft *i*, or, as shown in the drawings, separate therefrom, and provided with a threaded shank *o*, received in a bearing *p* in the lower end of the shaft *i*, provided with mating threads.

In the operation of the machine of the drawings, after the channel has been cut in the sole in the usual manner, the sole will be presented to the rotating tool, as shown in dotted lines, Fig. 1, with the tool engaging closely the angle formed by the flap and sole and moved along by the operator to subject all

parts of the channel-flap to the action of the tool, which will impart a rubbing and stretching action to the channel-flap at several points simultaneously, causing said flap to maintain the position shown in dotted lines, Fig. 1. The points of contact of the rubbing-rib with the inner surface of the channel-flap travel from the base to the top of the flap, which is thus stretched and set without being subjected to strain or other injurious treatment.

Having described the construction and mode of operation of my invention, I claim as new and desire to protect by Letters Patent of the United States—

1. A channel-opening machine, having, in combination, a channel-opening tool provided with a spiral rubbing-rib arranged to contact with the inner surface of the channel-flap, and means to rotate said tool to cause the point of contact to travel from the base to the top of the channel-flap, substantially as described.

2. A channel-opening machine, having in combination a channel-opening tool provided with a spiral rubbing-rib arranged to contact with the inner surface of the channel-flap at several points, and means to rotate said tool to cause the points of contact to travel from the base to the top of the channel-flap, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

LOUIS GODDU.

Witnesses:
HORACE VAN EVEREN,
ALFRED H. HILDRETH.