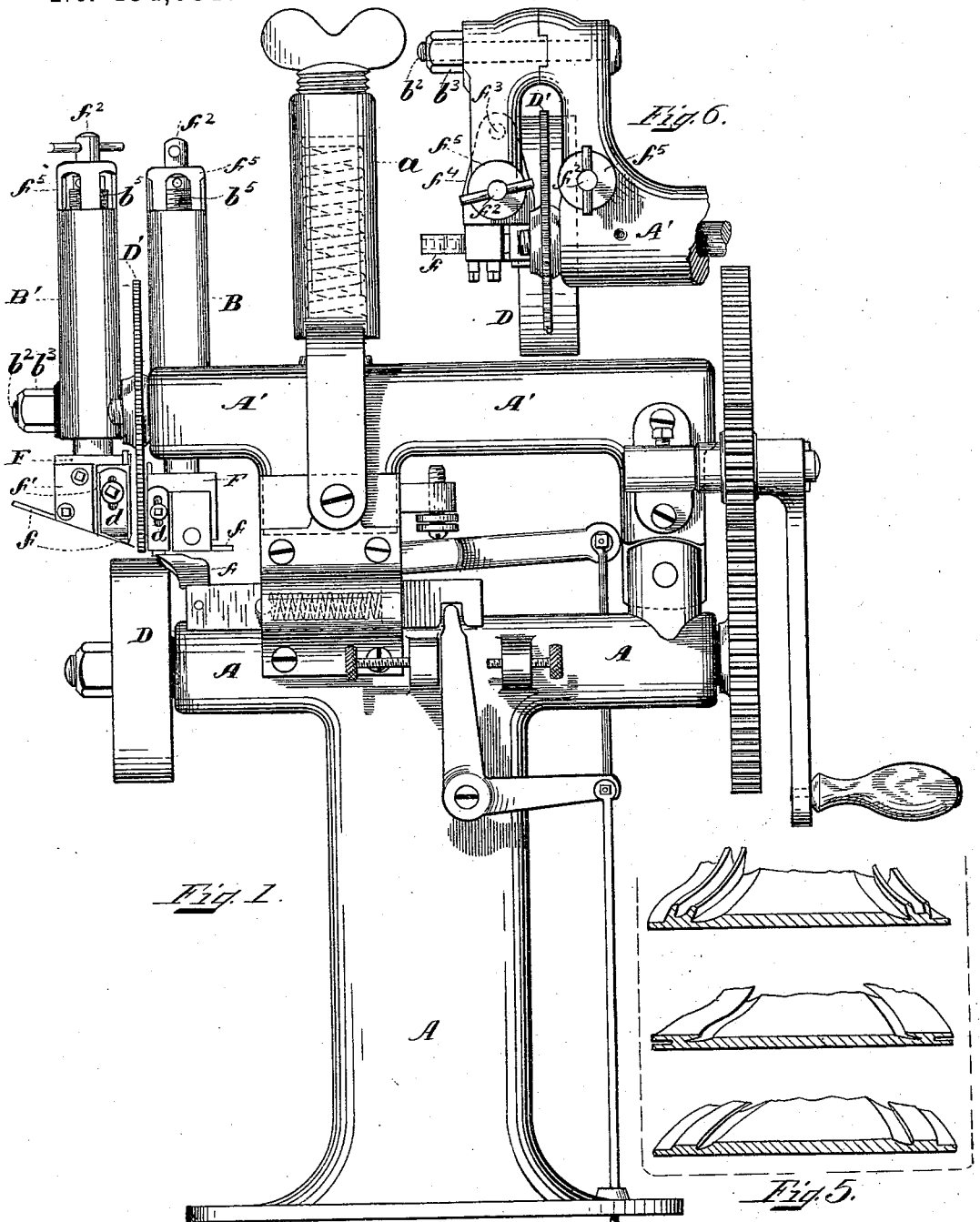
(No Model.) 2 Sheets—Sheet 1.

F. O. WELLINGTON.

CHANNELING MACHINE.

No. 454,631. Patented June 23, 1891.



Witnesses.
Geo. H. Chandlee
John R. Snow.

Inventor.
Frank Oliver Wellington
by his attorneys,
Maynadier & Bond.

(No Model.) 2 Sheets—Sheet 2.

F. O. WELLINGTON.

CHANNELING MACHINE.

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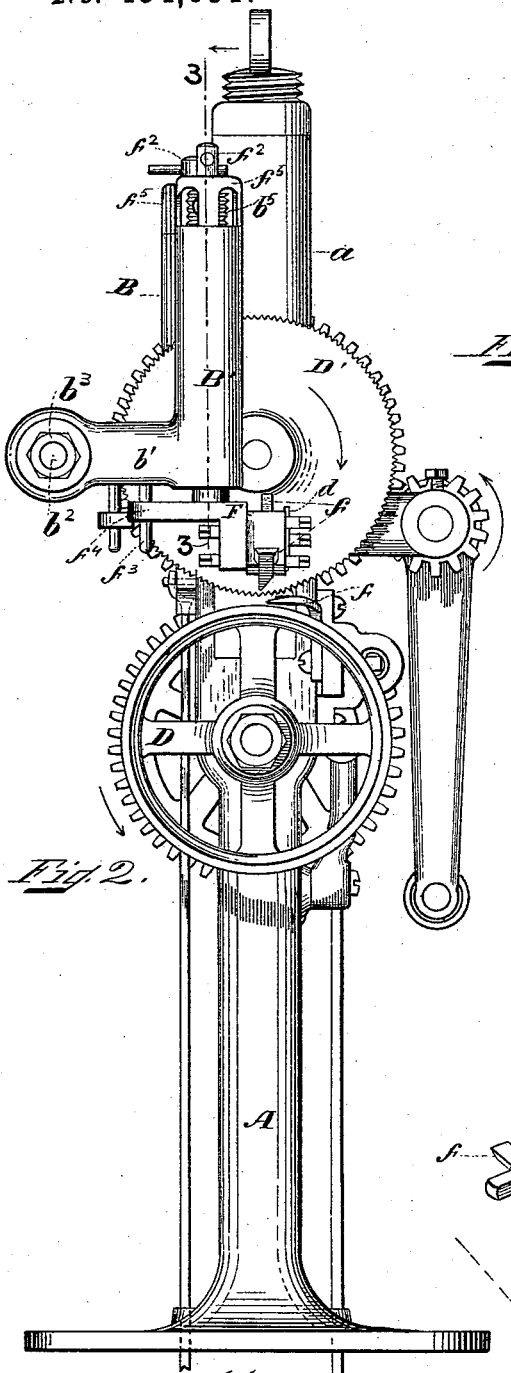

Fig. 2.

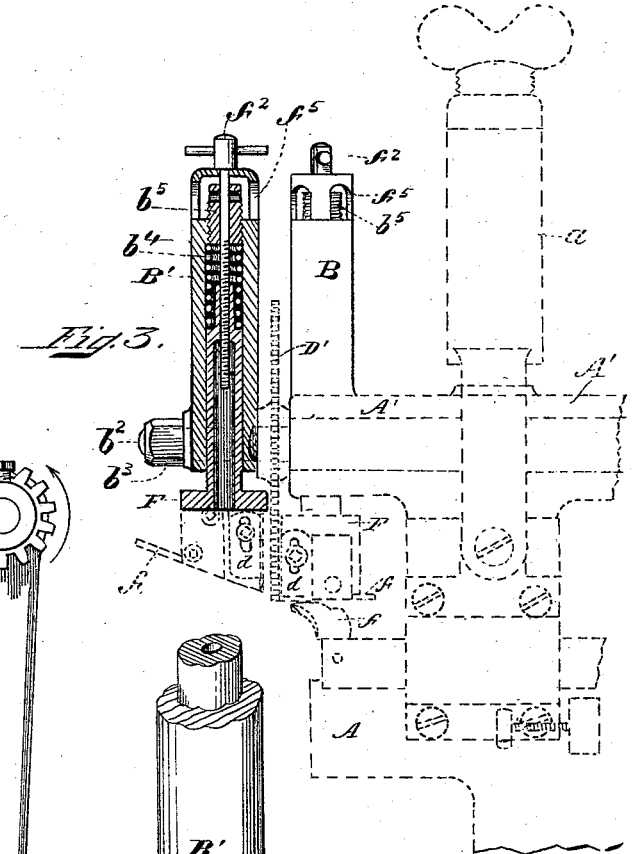

Fig. 3.

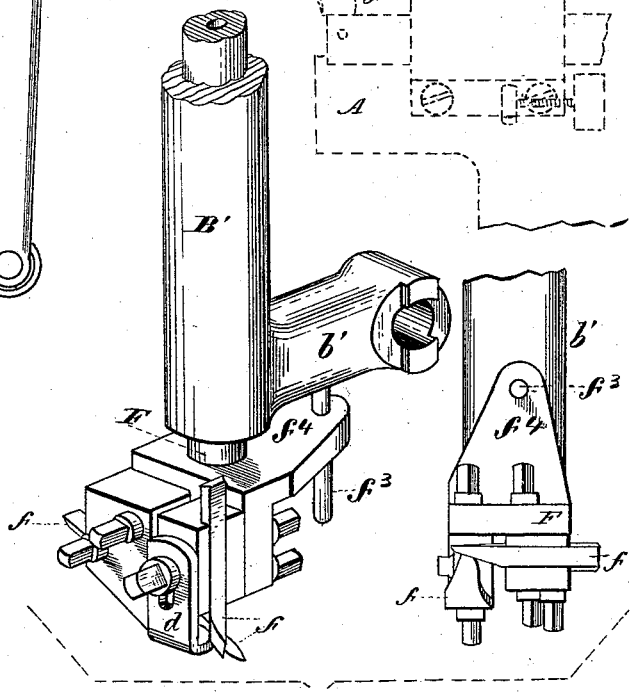

Fig. 4.

Witnesses.
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UNITED STATES PATENT OFFICE.

FRANK OLIVER WELLINGTON, OF BRAINTREE, ASSIGNOR TO JOHN W. HART, OF WEYMOUTH, MASSACHUSETTS.

CHANNELING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 454,631, dated June 23, 1891.

Application filed March 2, 1891. Serial No. 383,460. (No model.)

To all whom it may concern:

Be it known that I, FRANK OLIVER WELLINGTON, of Braintree, in the county of Norfolk and State of Massachusetts, have invented an Improved Channeling-Machine, of which the following is a specification.

Figure 1 is a side elevation of one of my improved machines, with the outer knife-holder out of adjustment to show it more clearly; Fig. 2, a front elevation, and Fig. 3 a partial section on line 3 3 of Fig. 2. Fig. 4 shows details on a large scale illustrating the knife-block and knives. Fig. 5 shows sectional details illustrating soles channeled on my improved machine. Fig. 6 shows a partial plan for illustration.

In channeling soles it is highly desirable to always keep the knife at a certain distance from the surface upon which the sole is supported. This has heretofore been done simply by a presser-foot pressing upon the upper surface of the sole; but when the leather is harder in some places the tendency is to cause the knife to cut too deep in spite of the presser-foot.

One feature of my invention is a remedy for this evil; and it consists in a knife-holder with a tang controlled by a screw and backed up by a spring, so that while the knife-holder can yield upward against the spring the screw will prevent it from moving too far down—that is, toward the surface of the lower feed-wheel or other supporting-surface for the sole or other stock to be channeled.

In many channeling-machines the knives are arranged at the sides of the upper feed-wheel, and the second feature of my invention is a channeling-machine with the outer knife-carrying head made separate and adapted to be readily removed and replaced. This outer head carries the knife or knives for making the inner channel on the inner soles of welted shoes, and as this inner channel varies according to the different kinds of shoes to be made I make this head detachable readily, so that instead of changing the knife-blocks when the style of inner channel is to be changed I remove the outer head and substitute a second outer head fitted with the desired knife-holder. In my improved machine this change can be made in a few minutes, while if the knives and their blocks had to be taken off from the knife-holder and other knife-blocks attached and adjusted it would take many minutes, and often the better part of an hour, before the knives were adjusted with the necessary accuracy.

In the drawings, A is the base, and A′ the overhanging arm, jointed together and kept in proper relation by the spring in the casing *a* and provided with feed-wheels D D′, all as usual. The head B, carrying the knife-holder for the outer channeling-knife, is made in one piece with or rigidly secured to the arm A′. A bracket *b* projects from head B, and is provided with a screw-bolt b^2, by means of which the head B′ and its bracket *b*′ can be rigidly secured to head B and arm A′. The bracket *b*′ interlocks with bracket *b*, so that when bracket *b*′ is placed over screw-bolt b^2 and nut b^3 tightened the two brackets *b b*′ and the two heads B B′ are rigidly connected together and with arm A′, and by removing nut b^3 head B′ can be readily removed and replaced by a second head, in which the knife holder and blocks and knives are properly adjusted.

Heretofore the presser-foot *d* determined the distance of its knife or knives from the surface of lower feed-wheel D, and the knife or knives were fastened either rigidly to the arm A′ or else to knife-blocks which were so fastened, and consequently when either knife struck a hard place in the stock the presser-foot would be forced more into the surface of the stock and the knife would cut deeper. In my improved machine the knife-blocks *f*′ are rigidly secured to the knife-holders F, the knife *f* being secured in the blocks *f*′. The tang of holder F enters the bore of head B, (or B′,) and a spring b^4 in head B allows that tang to yield endwise in one direction. This spring b^4 is adjusted by the screw b^5. The knife-holder F is adjusted with relation to the surface of the lower feed-wheel D by means of the screw f^2, as will be plain from Fig. 3.

In lieu of making the tang of knife-holder non-circular, I prefer to use a pin f^3, fast to head B (or B′) and passing through a hole in arm f^4, fast to holder F.

All the parts of the machine not fully described will be well understood, as they are common in machines of this class.

Instead of having the head of screw f^2 rest directly upon screw b^5, I prefer to use an open cap f^5, as thereby screw f^2 can be adjusted without changing the adjustment of screw b^5.

The main feature of my invention is my improved machine, in which the knife is carried by a block which is secured to a holder, the holder being mounted in a head so that it may yield as the presser-foot requires and yet be prevented from a too close approach to the lower feed-wheel.

In Fig. 5 I have shown in section an inner sole channeled for hand-sewed work (the lower figure) and also for the Goodyear welt-machine, the middle view showing the sole as it comes from the machine and the upper view the same sole with the flaps turned back ready for the Goodyear machine.

What I claim as my invention is—

1. In a channeling-machine, the combination of a head B and a knife-holder F with spring b^4, screw b^5, and screw f^2, spring b^4 being interposed between knife-holder F and screw b^5, mounted in holder B to regulate the tension of spring b^4, and screw f^2 being connected with the knife-holder and provided with a bearing, whereby when the screw is turned the distance between the head and knife-holder is adjusted, all substantially as and for the purpose set forth.

2. In a channeling-machine, two heads B B′, feed-wheels D D′, and two knife-holders F F, and means, substantially such as described—that is, brackets b b', bolt b^3, and nut b^3—for connecting heads B B′ together, all combined and operating substantially as described.

3. In a channeling-machine, the combination of feed-wheels D D′, arm A′, heads B B′, knife-holders F F, knives f, and presser-foot d, feed-wheel D′ being between the heads and the heads being clamped together, all substantially as and for the purpose set forth.

FRANK OLIVER WELLINGTON.

Witnesses:
ELLA C. RICHARDS,
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