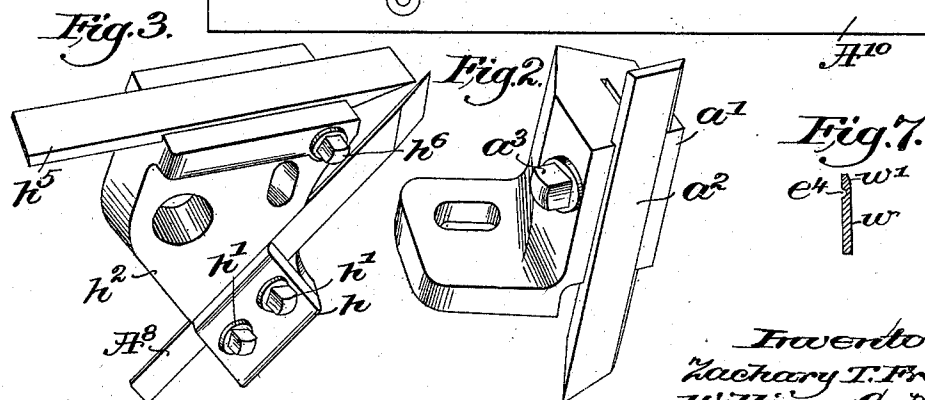
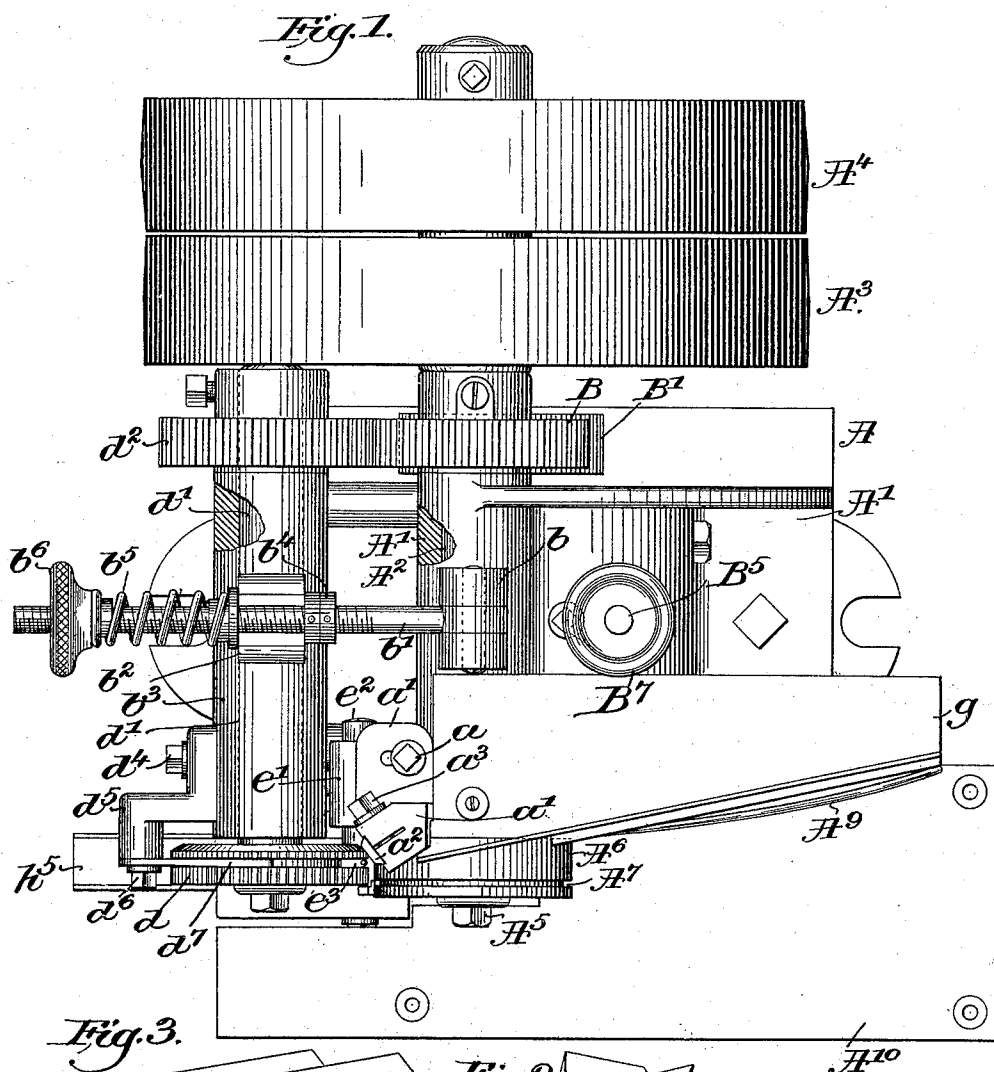


Z. T. FRENCH & W. C. MEYER.
WELT MAKING MACHINE.

No. 505,598.

Patented Sept. 26, 1893.



Witnesses.
Louis N. Druell
John F. L. Prindle

Inventors.
Zachary T. French
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(No Model.)

2 Sheets—Sheet 2.

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Fig. 4.

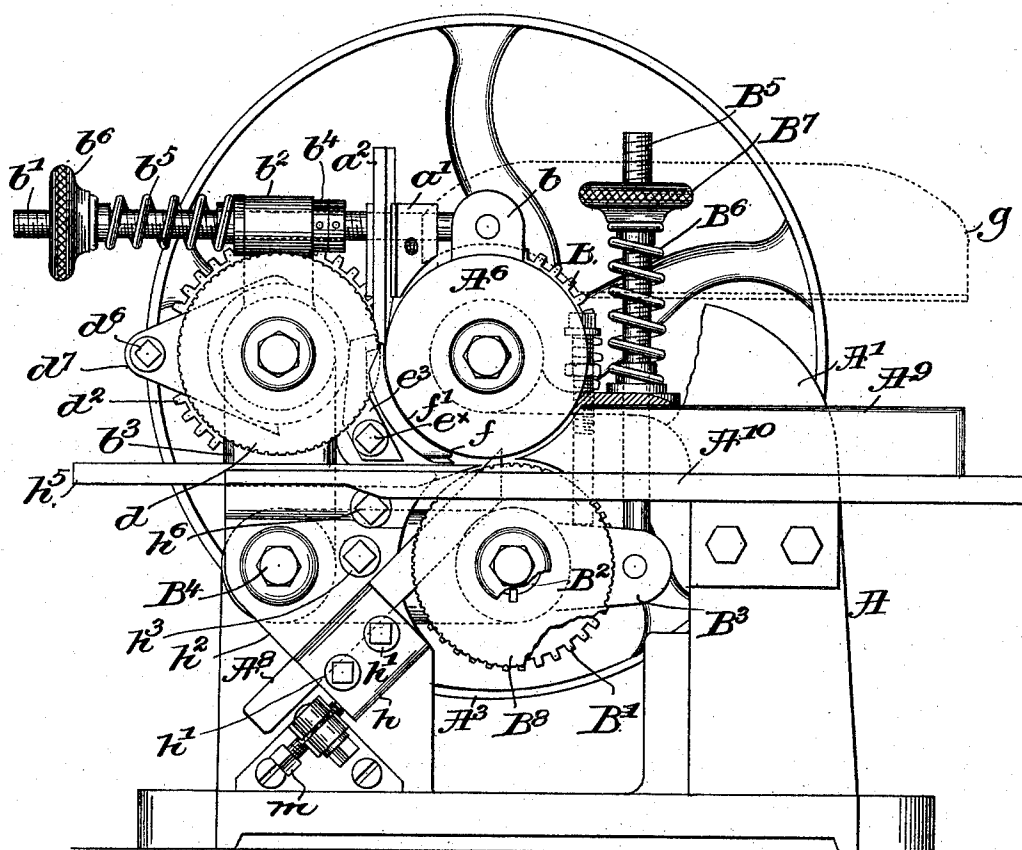


Fig. 5.

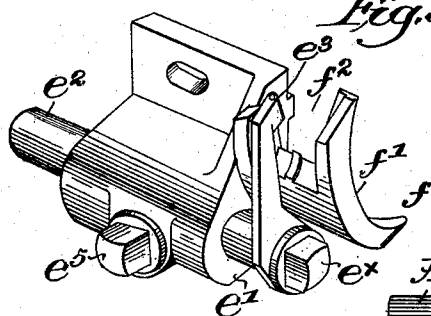
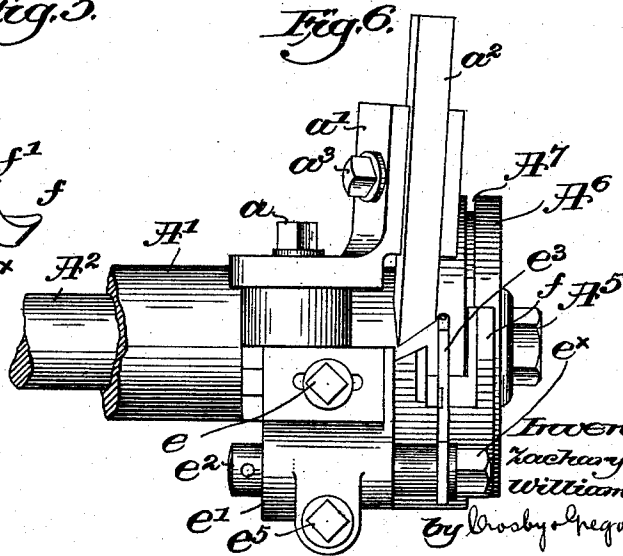


Fig. 6.



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UNITED STATES PATENT OFFICE.

ZACHARY T. FRENCH AND WILLIAM C. MEYER, OF BOSTON, MASSACHUSETTS.

WELT-MAKING MACHINE.

SPECIFICATION forming part of Letters Patent No. 505,598, dated September 26, 1893.

Application filed May 2, 1893. Serial No. 472,690. (No model.)

To all whom it may concern:

Be it known that we, ZACHARY T. FRENCH and WILLIAM C. MEYER, of Boston, county of Suffolk, State of Massachusetts, have invented an Improvement in Welt-Making Machines, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

15 This invention has for its object the production of a novel machine for making a welt to be used in the manufacture of boots and shoes.

Our improved machine contains a pair of feeding rolls between which may be passed one edge of a side of leather to have cut from it a welt strip, the knife used for such purpose being held below the work support. Immediately after this a splitting knife acts on the strip and splits it to uniform thickness, the leather removed being taken from the under side of the strip. The end of the strip is lifted or directed upwardly by a shoe or lifter and is led through a guide between the upper feed roll and a holding roll where what was the under side of the strip is grooved by a grooving knife and one edge is skived or chamfered by a skiving knife, the grooving and skiving knives being held operatively above the work-support by means entirely independent of the means or devices holding the slitting or splitting knives.

Figure 1 is a top or plan view of a machine containing our improvements; Fig. 2, an enlarged detail of the skiving knife and its holder detached; Fig. 3, a detail showing the frame for holding the slitting and splitting knives; Fig. 4, a front end elevation of the machine shown in Fig. 1. Fig. 5 is an enlarged detail of the frame carrying the groover and the welt lifter. Fig. 6 is a detail showing the parts shown separately in Figs. 2 and 5 in connection with the upper feed roll, and Fig. 7 shows a section of the completed welt.

25 The frame-work A has a suitable bearing A', shown partially broken out in Fig. 1, for the reception of the main shaft A², provided with suitable fast and loose pulleys A³, A⁴, the forward end of said shaft having fixed to it by suitable nut A⁵ the feed wheel A⁶, having an annular groove A⁷ in which enters the end of the slitting knife A⁸, or the knife that

cuts the welt from the side of leather, the edge of the side from which the welt is cut running against a suitable edge gage A⁹ located above the supporting surface A¹⁰ or bed on which the side rests. The shaft A² has a gear B which engages a gear B' on a shaft B² mounted in a yoke or lever B³ pivoted on a stud B⁴ and normally held up by a spring B⁵ surrounding a rod B⁵, said spring being adjustable as to its strength by a nut B⁷, the said shaft having suitably secured to it at its front end a roll B⁸, it having an annular groove in which lies the knife A⁸.

The bearing or upper part A' of the frame-work has secured to it by set screws a, a stand a' suitably grooved to receive the skiving knife a² held clamped in adjusted position by a suitable bolt a³, the knife being held or presented at a suitable angle to the edge of the welt to bevel or skive one edge thereof, as at w', see Fig. 7.

The frame-work has a lug or ear b to which is jointed a rod b' extended through an ear b² of a yoke or frame b³ pivoted also on the stud B⁴, said rod having a suitable adjustable collar b⁴ to limit the approach of the yoke or frame b³ toward the main shaft A², the spring b⁵ on said rod and adjustable by nut b⁶ determining the force by which the wheel d on the shaft d' mounted on yoke b³ is held toward the wheel A⁶. Shaft d' has at its inner end a gear d² engaged and rotated by gear B on the main shaft.

The yoke b³ has attached to it by set screw d⁴ a stand d⁵ to which is secured by set screw d⁶ a forked plate d⁷ of the shape outlined in Fig. 1 by dotted lines, said plate entering the annular groove in the wheel d³. The frame-work has also fixed to it by screw e, a block e', shown best in Fig. 6, said frame receiving a stud e², on which is confined as by set screw e^x the grooving knife or groover e³ to cut into the welt w, see Fig. 7, the groove e⁴. The stud e² is held in adjusted position in suitable manner, as by a set screw e⁵.

The block e has attached to it the lifter or shoe f, curved as at f' to substantially fit the periphery of the wheel A⁶, as shown in Fig. 4, the said lifter having a part of its inner or concave face cut away to constitute a guide-way or leave a guide space f² for the reception and guidance of the welt turned up by

the lifter, so that said welt may pass between the wheels d and A^6 , the groover e^3 contacting with and grooving the welt as stated, the grooving and skiving being at about the same time.

The grooved and skived welt will be delivered from above the wheels d and A^6 onto a suitable receiver shown as a shelf g , the shelf being represented by full lines Fig. 1 and by dotted lines Fig. 4.

The slitting knife is adjustably held by a block h and screws h' to the lower end of a knife carrier h^2 mounted on the stud B^4 and confined to the frame-work by a set screw h^3 . The upper end of the knife carrier is suitably grooved to thereby adapt it for the reception, in an adjustable manner, of the splitting knife h^5 which is held in adjusted position by a clamp screw h^6 , the knife h^5 splitting to uniform thickness the welt severed from the side of leather by the splitting knife A^8 . The knife carrier may be adjusted when clamp screw h^3 is loosened by rotating the adjusting screw m .

Having described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a welt making machine, the wheels A^6 , B^8 , between which the leather is passed, and a slitting knife, combined with wheel d and a lifter and guide to turn away the welt as cut from the side, and a skiving knife supported above the wheel B^8 and adapted to skive the edge of the welt, substantially as described.

2. In a welt making machine, the wheels A^6 , B^8 , between which the leather is passed, and a slitting knife, combined with wheel d and a lifter and guide to turn away the welt as cut from the side, and a skiving knife supported above the wheel B^8 and adapted to skive the edge of the welt, and a grooving knife to

groove the welt on its passage between the rolls d and A^6 , substantially as described.

3. In a welt making machine, the wheels A^6 , B^8 , and d , combined with the splitting knife h^5 , its carrier, and the edge skiving knife a^2 and its holder, substantially as described.

4. In a welt making machine, the wheels A^6 , B^8 and d and the splitting knife, combined with groover and the welt lifter, substantially as described.

5. In a welt making machine, the wheels A^6 , B^8 and d , combined with the splitting knife h^5 , its carrier and the edge skiving knife a^2 and its holder, and with the lifter to act as a guide, substantially as described.

6. In a welt making machine, the wheels A^6 , B^8 , between which the leather is passed, and a slitting knife, combined with wheel d , and a lifter and guide to turn away the welt as cut from the side, and a skiving knife supported above the wheel B^8 and adapted to skive the edge of the welt, and a receiver for the welt as it emerges from between the wheels d and A^6 , substantially as described.

7. The wheels A^6 , B^8 , their supports, a spring to keep them pressed toward each other, a work-support, a knife carrier h^2 , a slitting and a splitting knife attached thereto, and an adjusting device for said carrier, combined with a wheel d , a welt lifter and guide, and a skiving and a grooving knife, substantially as described.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

ZACHARY T. FRENCH.
WILLIAM C. MEYER.

Witnesses:

GEO. W. GREGORY,
LAURA MANIX.