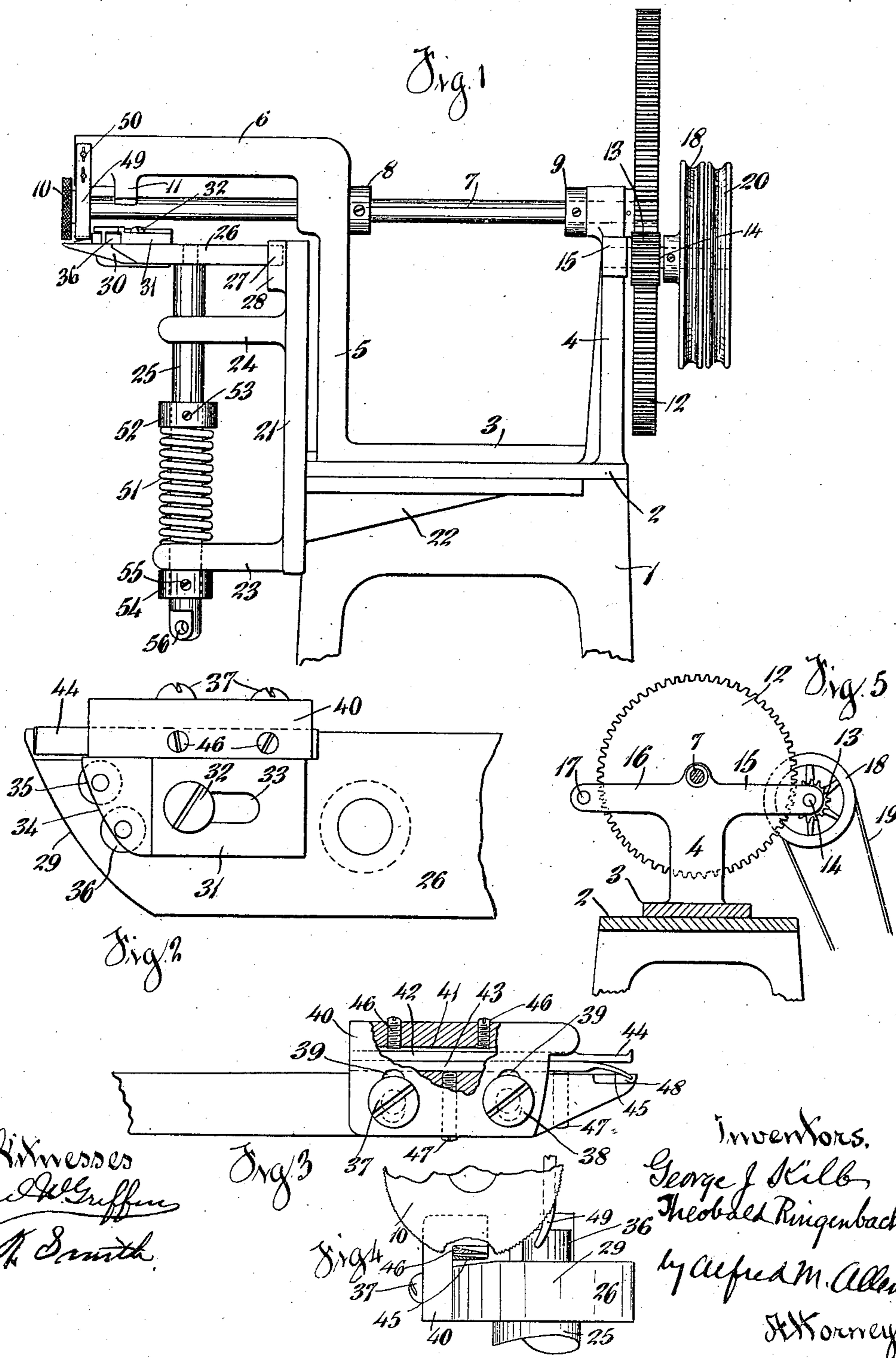


## FEATHERING MACHINE.

APPLICATION FILED MAY 13, 1910.

**966,561.**

Patented Aug. 9, 1910.



# UNITED STATES PATENT OFFICE.

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KENTUCKY.

## FEATHERING-MACHINE.

966,561.

Specification of Letters Patent.

Patented Aug. 9, 1910.

Application filed May 13, 1910. Serial No. 561,179.

*To all whom it may concern:*

Be it known that we, GEORGE J. KILB, a citizen of the United States, and a resident of the city of Covington, in the county of Kenton and State of Kentucky, and THEOBALD RINGENBACH, a citizen of the United States, and a resident of Springlake, in the county of Kenton and State of Kentucky, have invented certain new and useful Improvements in Feathering-Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing; forming a part of this specification.

The object of our invention is to provide a construction of feather edging and beveling machines for beveling off the edges of any kind of leather for soles, harness, saddlery and the like, but more particularly designed in our preferred form for feathering the soles of shoes.

Our machine is particularly designed for feathering soles after the upper is secured to the sole, although obviously the machine may also be used for feathering soles and like material before the uppers are attached.

Our invention consists of that certain novel construction and arrangement of parts to be hereinafter particularly pointed out and claimed whereby the above results are accomplished.

In the drawings, Figure 1 is a side elevation of our improved machine. Fig. 2 is a detail plan view of the knife block. Fig. 3 is a side elevation of the knife block with part of the knife holding plate broken away. Fig. 4 is a front elevation of the knife block and a portion of the feed wheel. Fig. 5 is a vertical section through the table looking toward the driving gear.

1 is the upper portion of a suitable frame, upon which is mounted the table 2 for holding the operating parts. Suitably bolted upon this table is a plate 3 carrying the vertical standards 4, 5, the standard 5 being provided with the forward extension 6.

Suitably journaled in the upper end of these standards is a feed wheel shaft 7 which is held in position by the collars 8, 9, secured by set screws and abutting against the side faces of the standards. The forward end of this shaft 7 is provided with the feed

wheel 10 which is secured on the end of the shaft so as to rotate therewith by a set screw.

Feed wheels of various thicknesses may be employed for different kinds of work, and the peripheral surfaces may either be of knurled metal or rubber, or any other suitable material.

The extension 6 from the standard 5 is provided with a depending lug 11 grooved out to fit around the outer end of the feed wheel shaft so as to steady it in its rotation.

Mounted on the opposite end of the feed shaft 7 is the driving gear 12, which is engaged by the pinion 13 journaled on a stud 14 in one of the arms 15 extending laterally from the standard 4. A corresponding arm 16 is provided for the standard 5, provided at its outer end with a bearing 17, so that the driving pinion 13 can be mounted on either side of the machine to enable the stud shaft 14 to be rotated by the driving pulley 18 and belt 19 from either side of the machine, as may be most convenient.

20 is the usual loose pulley mounted on the shaft to receive the belt when the machine is not running.

21 is a bracket plate secured in vertical position alongside of the standard 5 by means of the horizontal extension plate 22 extending rearwardly from the bracket and securely bolted to the under surface of the table. This bracket plate 21 is provided with two forwardly extending arms 23, 24, suitably apertured at the outer ends to receive and hold loosely a rod or shaft 25, upon the upper end of which rod is mounted a knife block table plate 26, and in order to guide and hold the knife block plate in position, its rear end 27, as shown in dotted lines in Fig. 1, is guided in a suitable guide-way between projecting sides 28 of the bracket. The forward edge of this knife block plate 26, as viewed from the top, is provided with an inclined edge 29, as shown in Fig. 2, and the thickness of the plate 26 at its forward end is beveled off as shown at 30 in Fig. 1. Mounted on the knife block plate is a guide plate 31 secured to the block by a screw 32 provided with an enlarged head and with the shank passing through the head 33 in the guide plate and screw-

threaded in the top face of the knife block. The front edge of this guide plate is provided with an inclined edge 34 to correspond with the edge 29 of the knife block plate, and the guide plate carries inserted in lateral grooves in the plate the two guide rolls 35 and 36.

40 is a knife holding plate which is secured by screws 37, 38 to the side edge of the knife block 26, the screws being inserted through slots 39 in the knife holder to allow for adjustment. This knife holder is L-shaped in cross section, and the upper portion extends over the upper edge of the knife block so as to leave between the overhanging portion of the knife holder and the knife block a longitudinal recess 41, and in this recess the skiving knives 42, 43 are located and held in position with their cutting ends 44, 45 extending over the outer edge of the knife block. One knife for cutting a bevel or feather on one side alone, or two knives for cutting on both sides of a strip of leather may be used, and this knife, or these knives are held in position by the headless set screws 46, 46, for the overhanging portion of the knife holder, and by the headless set screws 47, 47, for the knife block, the two sets of set screws bearing in opposite directions and adapted to clamp the knife or knives rigidly in position. The outer end of the knife block underneath the knives is grooved out at 48.

In order to hold the leather to be trimmed in position when using two knives for beveling on each side of the leather simultaneously, we provide a presser foot 49 which is secured by screws 50 through slots in the upper end of the presser foot plate for adjustment.

The knife block plate is held in position by means of the coil spring 51 mounted on the rod 25 and bearing between the bracket arm 23 and the collar 52 held in adjustable position by the set screw 53. The upward movement of the knife block and its supporting rod is limited by the collar 54 secured by set screw 55 on the rod 25, which bears against the under surface of the bracket arm 23. The lower end of the rod 25 is provided with an eye 56, by means of which the rod can be secured by suitable connection with a foot treadle, not shown, so that by depressing the foot treadle the rod 25 and the table block 26 can be depressed to permit the ready insertion of the leather to be trimmed in position.

In operating the machine, any kind of a sole, whether with or without welt and whether sewed to the upper or before being sewed can be feathered and both edges trimmed simultaneously or only one edge can be trimmed. The edge of the sole is inserted under the feed roller upon the edge

of the knife plate table with the side edge of the sole against the guide rollers, and the leather is fed against the sharp edge of the knife or knives and the skiving removed readily and accurately. The knife table is beveled underneath and the space is entirely clear and unobstructed, so that the fact that the shoe is finished with the outsole and upper in place is not a detriment, and more satisfactory results can be attained as soles when trimmed before the uppers are secured are apt to get bent and out of shape.

The feed of the material is accomplished by a single feed roller acting from above upon the material resting upon a fixed table instead of by means of two feed rollers acting on opposite sides of the material. The cutting knives can be readily and easily secured and adjusted so as to make the exact bevel and amount of cut desired, and the knives are held firmly and rigidly throughout their length by the several set screws acting on both sides of the shank of the knife. It is not necessary to employ the presser foot when only a single knife is used, as the leather is readily held in place by the feed roller, but with both knives the presser foot is adjusted to bear on the leather as it is fed to the knives. To start the material under the feed roller, the knife table is depressed by the foot treadle so that the roller can press the material firmly on the table, and the distance between the table and the bearing surface of the feed roller can be readily adjusted for the material to be treated by adjusting the collars on the supporting knife table rod. The pressure of the feed roller is directly in line with the cutting edge of the knives so that the leather is held securely in position as it is fed against the cutter.

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

1. In a feathering machine, a relatively fixed table and a feed roller acting upon the material to hold and feed it on the table, with an adjustable guide plate secured to the table cooperating with the feed roller to hold the material in proper position, a knife holder comprising a slotted plate secured to the table, and a knife held under said plate with set screws bearing on the shank of the knife to hold the knife rigid and against which the material is fed.

2. In a feathering machine, a relatively fixed table, with its front portion cut away toward the rear and beveled underneath, and a feed roller acting from above upon the material to hold and feed it on the table, and a feathering knife rigidly secured to the table in line with and inside the feed roller against which the material is fed.

3. In a feathering machine, a relatively

fixed table, with its front portion cut away  
toward the rear and beveled underneath,  
and a feed roller acting from above upon the  
material to hold and feed it on the table,  
5 an adjustable guide plate, with guide rollers  
secured to the table in line with the front  
edge of the table, and a feathering knife  
rigidly secured to the table in line with and

inside the feed roller against which the  
material is fed.

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Attest:

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