

F. M. MOODY.  
MACHINE FOR RANDING AND CUTTING IN THE SHANKS OF SHOES.  
APPLICATION FILED NOV. 18, 1907.

1,048,196.

Patented Dec. 24, 1912.

2 SHEETS—SHEET 1.

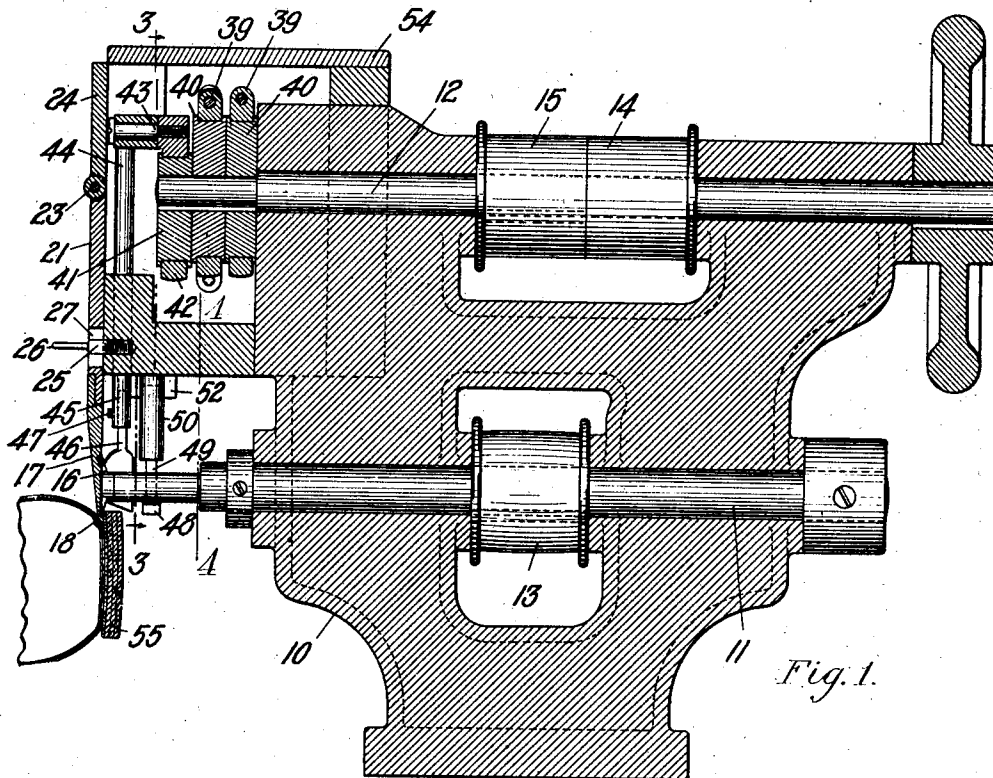


Fig. 1.

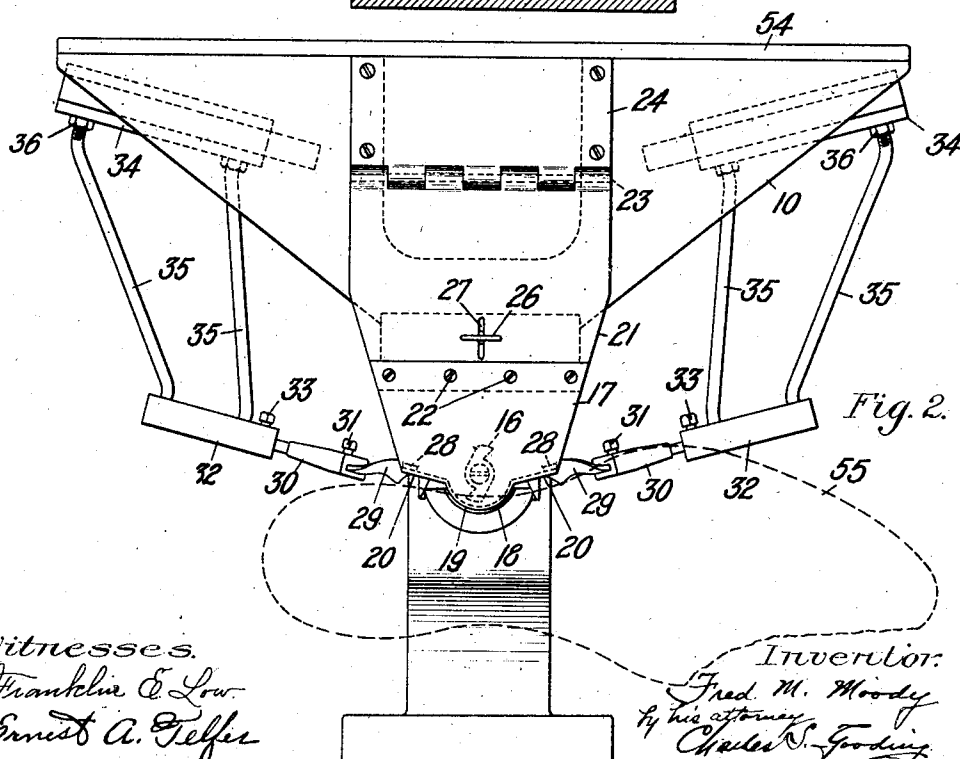


Fig. 2.

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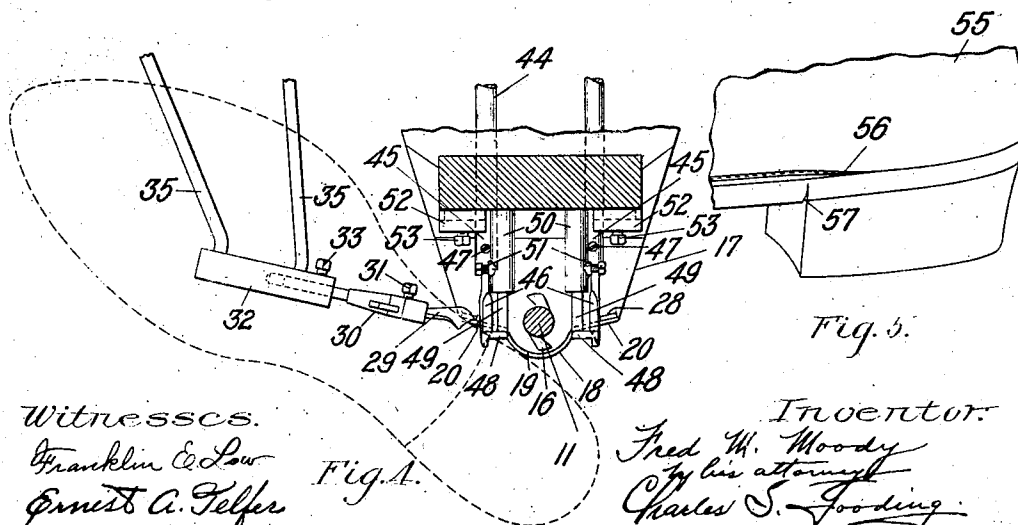
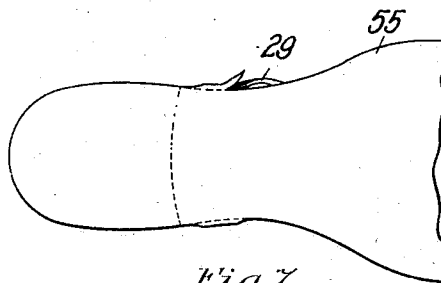
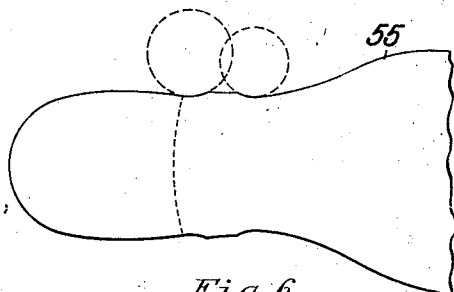
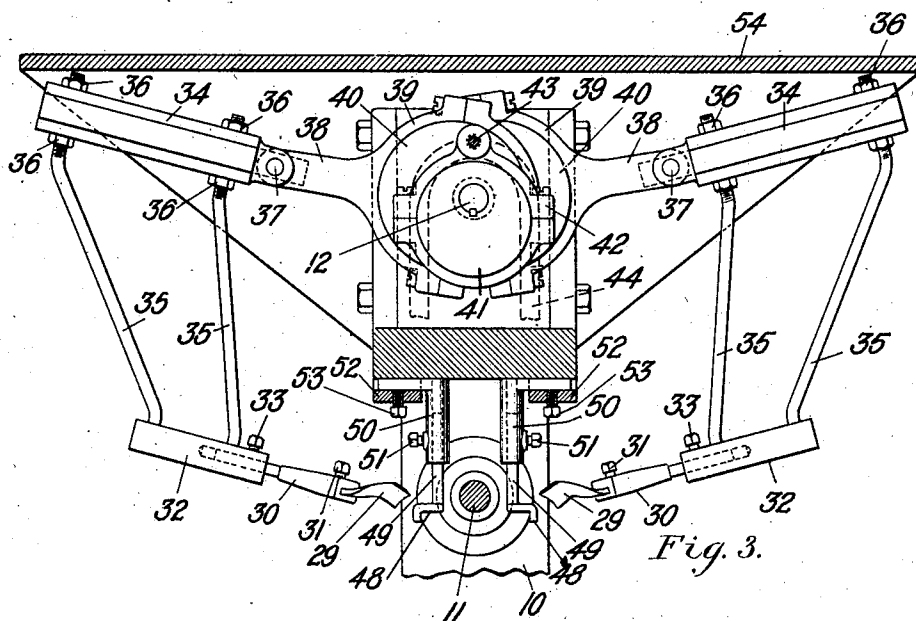
Inventor:  
Fred M. Moody  
by his attorney  
Charles S. Gooding

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Fig. 4.

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# UNITED STATES PATENT OFFICE

FRED M. MOODY, OF WHITMAN, MASSACHUSETTS, ASSIGNOR, BY MESNE ASSIGNMENTS,  
TO UNITED SHOE MACHINERY COMPANY OF PATERSON, NEW JERSEY, A COR-  
PORATION OF NEW JERSEY.

MACHINE FOR RANDING AND CUTTING IN THE SHANKS OF SHOES.

1,048,196.

Specification of Letters Patent.

Patented Dec. 24, 1912.

Application filed November 18, 1907. Serial No. 402,593.

*To all whom it may concern:*

Be it known that I, FRED M. MOODY, a citizen of the United States, residing at Whitman, in the county of Plymouth and State of Massachusetts, have invented new and useful Improvements in Machines for Randing and Cutting in the Shanks of Shoes, of which the following is a specification.

This invention relates to improvements in machines for randing and "cutting in" the shanks of shoes.

In the manufacture of shoes, after the sole and heel are applied, the sole edge is trimmed by means of a rotary cutter from a point forward of one corner of the breast of the heel around the sole to a point forward of the other corner of the breast of the heel. The heel is then trimmed by means of a rotary cutter from one corner of the breast thereof around to the other corner of the breast. The shoe then goes to a workman who by means of a hand knife trims the shank along its edges toward the corners of the breast and makes on each side of the shank at the breast an inward cut which leaves neatly finished corners. This operation is commonly known as "cutting in." The randing or trimming off of the feather edge of the welt and its ends adjacent to the heel takes place on a machine having a rotary cutter.

The objects of the invention are: first, to provide a machine capable of performing with speed, accuracy and uniformity the operation of cutting in, second, to provide a machine combining these functions with a rotary cutter in such a manner that the randing and cutting in may be done in one continuous operation, and third, to provide adjustable stops against which the shoe may be located in proper relation with the knives and rotary cutter and to provide adjustments of the knives, whereby shoes of various shapes and sizes may be accommodated.

Other objects and advantages will appear hereinafter.

The invention consists in the combination and arrangement of parts set forth in the following specification and particularly pointed out in the appended claims.

Referring to the drawings: Figure 1 is a longitudinal vertical sectional elevation of a machine embodying my invention, a por-

tion of a shoe being shown in section being operated upon by said machine. Fig. 2 is a front elevation of the same, the shoe being indicated in dotted lines. Fig. 3 is a sectional elevation taken on line 3-3 of Fig. 1 and partly broken away to save space. Fig. 4 is a detail section elevation taken on line 4-4 of Fig. 1, looking toward the left, a shoe being indicated in dotted lines. Fig. 5 is a detail perspective view of the heel portion of a shoe. Fig. 6 is a diagrammatic view illustrating the sole and heel of a shoe after the same has been operated upon by the rotary cutters which trim the sole edge, and heel edge showing in dotted lines the position of each of the cutters at the point at which it completes its work. Fig. 7 is a diagrammatic view showing the sole and heel, the shank being operated upon by the knife which trims it toward the breast of the heel.

Like numerals refer to like parts throughout the several views of the drawings.

In the drawings, 10 is the frame of the machine in which two shafts 11 and 12 are journaled, the shaft 11 having a pulley 13 fast thereto and the shaft 12 having a loose pulley 14 journaled thereon and a tight pulley 15 fast thereto. The shaft 11 will in practice be driven at a very high rate of speed, while the shaft 12 will be rotated at a low rate of speed by a separate belt. Fast to the shaft 11 is a rotary cutter 16 commonly known as a randing cutter, one face of which is located against a guide or rest 17 having a guiding edge 18 formed substantially concentric with said cutter. The guide 17 is provided adjacent to the edge 18 with a flange 19 and also with two flanges 20, 20 forming continuations of the flange 19. The space above the flange 19 constitutes a sort of recess for the reception of the cutter 16. The guide 17 is detachably attached to a guide support 21 by means of screws 22, said guide support being pivoted at 23 to a plate 24 fast to the frame 10. A screw 25 is provided with a flat head 26 which is adapted to pass through a slot 27 formed in the guide support 21. By rotating the screw 25 90° as from the position shown in Fig. 2, that is, with the head 26 in alignment with the slot 27, the guide support 21 may be rocked on its pivot 23 upwardly to expose the cutter 16 and other

parts covered by the guide 17. The guide 17 is provided with two rearwardly extending stops or lugs 28, 28, the purpose of which will be hereinafter described. Two knives 29, 29 which are arranged to be guided by the flanges 20, 20, respectively, are adjustably mounted in holders 30, 30, respectively, by means of set screws 31, 31, said holders in turn being adjustably secured in blocks 32, 32, respectively, by means of set screws 33, 33. The blocks 32, 32 are secured to two slides 34, 34, respectively, by means of rods 35 passing through said slides, while nuts 36 having screw-threaded engagement with said rods serve to adjustably secure said rods to said slides in such a manner that the blocks 32 may be adjusted toward and away from the slide 34, respectively. The slides 34, 34 which are mounted in suitable ways formed in the frame 10 are pivotally connected at 37, 37 to eccentric rods 38, 38 forming portions of eccentric straps 39, 39.

The eccentric straps 39, 39 surround eccentrics 40, 40 said eccentrics being fast to the shaft 12. A third eccentric 41 also fast to the shaft 12 is surrounded by an eccentric strap 42 pivoted at 43 to a U-shaped slide 44 to the arms 45, 45 of which are fast knives 46, 46 by means of set screws 47, 47. Two stops 48, 48 which are adapted to engage the corners of the heel of a shoe are provided, respectively, with shanks 49, 49 inserted in L-shaped brackets 50, 50 and held therein by means of set screws 51, 51. The horizontal portions of the brackets 50, 50 extend into holes formed in lugs 52, 52 and are secured therein by means of set screws 53, 53. Thus it will be seen that the stops 48 may be adjusted vertically by loosening the set screws 51 and may be adjusted horizontally by loosening the set screws 53 and moving the brackets 50 horizontally. A movable cover plate 54 extending across the top of the machine strengthens the frame 10 at that point and protects the mechanism located therebeneath from dust and dirt.

Having thus specifically described the machine, I will now proceed to describe its general operation.

Referring first to Figs. 1 and 2, the operator places a shoe 55 in the position shown with the guiding edge 18 and flange 19 forced between the welt and upper of the shoe and moves said shoe toward the right, Fig. 2, until the uppermost corner of the breast of the heel strikes the right hand stop 48 which limits the movement of the heel toward the right and also limits its movement upwardly. During the movement of the shoe just described, the rotary cutter 16 trims off a very slight amount of the welt of the shoe at the rear end thereof, that is, at the feather edge 56 shown in

Fig. 5. The corner of the heel being now located against the right hand stop 48, the operator swings the toe of the shoe upwardly until the upper edge of the shank of said shoe strikes the stop 28. The right hand knife 29 which is being reciprocated advances toward the breast of the heel as illustrated in Fig. 7, and trims the edge of the shank as far as the breast. As the knife 29 recedes, the right hand vertical knife 46 moves downwardly and makes an inward cut as at 57 thus completing the operation. The operator then removes the shoe, reverses the same and operates upon the opposite side of the shank in a similar manner, using the left hand set of stops and knives.

Having thus described my invention, what I claim and desire by Letters Patent to secure is:

1. In a machine for cutting in shoe shanks, a knife adapted to be moved along the edge of the shank of a shoe toward and away from the heel, a second knife movable transversely of the path of said first knife, and a stop against which said heel may be located, said stop being adjustable vertically.

2. In a machine for cutting in shoe shanks, a knife adapted to be moved along the edge of the shank of a shoe toward and away from the heel, a second knife movable transversely of the path of said first knife, and a stop against which said heel may be located, said stop being adjustable horizontally.

3. In a machine for cutting in shoe shanks, a knife adapted to be moved along the edge of the shank of a shoe toward and away from the heel, a second knife movable transversely of the path of said first knife, and a stop adapted to limit the movement of said heel vertically and horizontally, said stop being adjustable vertically and horizontally.

4. In a machine for cutting in shoe shanks, a knife adapted to be moved along the edge of the shank of a shoe toward and away from the heel, a stop against which said heel may be located, and a stop against which said edge may be located, said first stop being adjustable vertically and horizontally.

5. In a machine for cutting in shoe shanks, a knife for trimming along the edge of a shoe sole adjacent to the heel breast, a second knife for cutting off the trimmed material substantially in line with the heel breast, means for operating said knives, and a stop positioned to engage the breast of the heel to limit the movement of the shoe relatively to said knives, said stop being adjustable relatively to said knives.

6. In a machine for cutting in shoe shanks, a knife adapted to be moved along the edge of the shank of a shoe toward and away from the heel, a second knife movable transversely of the path of said first knife, a slide to which said first knife is connected, a second slide to which said second knife is con-

nected, a rotary shaft, two eccentrics fast to said shaft, and two eccentric straps surrounding said eccentrics and connected to said slides, respectively.

5 7. In a machine for randing and cutting in shoe shanks, a knife for trimming the edge of the shoe sole adjacent to the heel, a second knife for cutting off the trimmed material substantially in line with the breast of  
10 the heel, means for positioning the shoe for the operation of said knives, and a rotary cutter adapted to trim the welt of said shoe while the shoe is positioned by said means.

15 8. In a machine for randing and cutting in shoe shanks, a knife for trimming the edge of the shoe sole adjacent to the heel, a second knife for cutting off the trimmed material substantially in line with the breast of the heel, means for protecting the upper of  
20 the shoe from contact with said knives, and a rotary cutter operating to trim the welt of the shoe, said protecting means also serving to protect the upper from contact with said cutter.

25 9. In a machine for randing and cutting in shoe shanks, a knife for trimming the edge of the shoe sole adjacent to the heel, a second knife for cutting off the trimmed material substantially in line with the breast of  
30 the heel, a rotary cutter for trimming the welt of said shoe, a guide against which said welt is supported during the operation of said knives and said cutter, and a stop to position the heel for the operation of said  
35 knives.

40 10. A machine of the character set forth having, in combination, means for trimming the edge of the sole longitudinally thereof to the breast of the heel, means for cutting transversely of said sole to cut off the material thus trimmed in line with the breast of  
45 the heel, means for randing the upper edge of the sole, a crease gage arranged to bear against the upper face of said sole whereby said sole is positioned laterally thereof relatively to said trimming, cutting and randing  
50 instrumentalities, and a gage adapted to bear against the breast of said heel, whereby said shoe is positioned longitudinally thereof relatively to said longitudinally trimming and transversely cutting instrumentalities.

11. A machine of the character set forth having, in combination, means for trimming  
55 the edge of the sole longitudinally thereof to the breast of the heel, means for cutting transversely of said sole to cut off the material thus trimmed in line with the breast of the heel, means for randing the upper  
60 edge of the sole, a crease gage arranged to bear against the upper face of said sole, whereby said sole is positioned laterally thereof relatively to said trimming, cutting and randing instrumentalities, and a gage  
65 adapted to bear against the side of said

heel, whereby said shoe is positioned relatively to said longitudinally trimming and transversely cutting instrumentalities.

12. A machine of the character set forth having, in combination, means for trimming  
70 the edge of the sole longitudinally thereof to the breast of the heel, means for cutting transversely of said sole to cut off the material thus trimmed in line with the breast of the heel, means for randing the upper  
75 edge of the sole, a crease gage arranged to bear against the upper face of said sole, whereby said sole is positioned laterally thereof relatively to said trimming, cutting and randing instrumentalities, and a gage  
80 adapted to bear against the outer edge of said sole, whereby said shoe is positioned relatively to said longitudinally trimming instrumentalities.

13. A machine of the character set forth  
85 having, in combination, means for trimming the edge of the sole longitudinally thereof to the breast of the heel, means for cutting transversely of said sole to cut off the material thus trimmed in line with the breast  
90 of the heel, means for randing the upper edge of the sole, a crease gage arranged to bear against the upper face of said sole, a gage adapted to bear against the breast of said heel, a gage adapted to bear against the  
95 side of said heel, and a gage adapted to bear against the edge of said sole, whereby said sole is properly positioned relatively to said trimming, cutting and randing instrumentalities.  
100

14. A machine of the character set forth having, in combination, means for trimming  
the edge of the sole longitudinally thereof to the breast of the heel, means for cutting transversely of said sole to cut off the material thus trimmed in line with the breast  
105 of the heel, means for randing the upper edge of the sole, a crease gage arranged to bear against the upper face of said sole, whereby said sole is positioned laterally thereof relatively to said trimming, cutting and randing instrumentalities, and a projection extending laterally from said crease  
110 gage and constituting a gage adapted to bear against the outer edge of said sole, whereby said sole is positioned relatively to said longitudinally trimming instrumentalities.  
115

15. A machine of the character set forth having, in combination, means for trimming  
120 the edge of the sole to the breast of the heel, means for cutting off the material thus trimmed in line with the breast of the heel, means for randing the upper edge of the sole, a crease gage arranged to bear against  
125 the upper edge of the sole, whereby said sole is positioned laterally thereof relatively to said trimming and randing instrumentalities, and a gage adapted to bear against the breast of the heel.  
130

16. A machine of the character set forth  
having, in combination, means for trimming  
the edge of the sole to the breast of the heel,  
means for cutting off the material thus  
5 trimmed in line with the breast of the heel,  
means for randing the upper edge of the  
sole, a crease gage arranged to bear against  
the upper edge of the sole, whereby said  
sole is positioned laterally thereof relatively  
10 to said trimming and randing instrumen-  
talities, and a gage adapted to bear against  
the edge of the heel.

17. A machine of the character set forth  
having, in combination, means for trimming  
15 the edge of a shoe sole adjacent to the heel  
breast, right and left knives for cutting into

the edge of the sole substantially in line  
with the heel breast to sever the trimmed  
material from the sole, right and left stops  
arranged to engage the heel breast and posi- 20  
tion the shoe for the operation of said  
knives, randing means positioned between  
said cutting off knives, and means to protect  
the upper of the shoe from contact with  
said randing, cutting and trimming means. 25

In testimony whereof I have hereunto set  
my hand in presence of two subscribing  
witnesses.

FRED M. MOODY.

Witnesses:

LOUIS A. JONES,  
SADIE V. MCCARTHY.