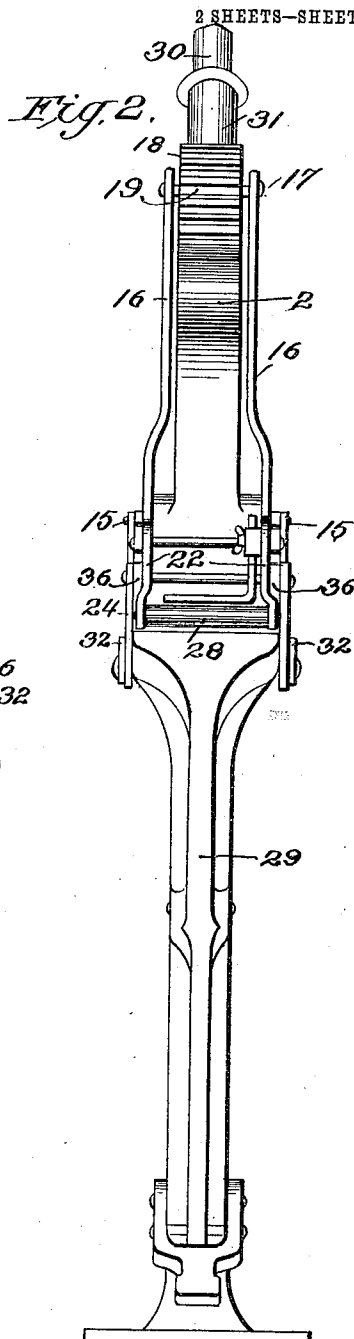
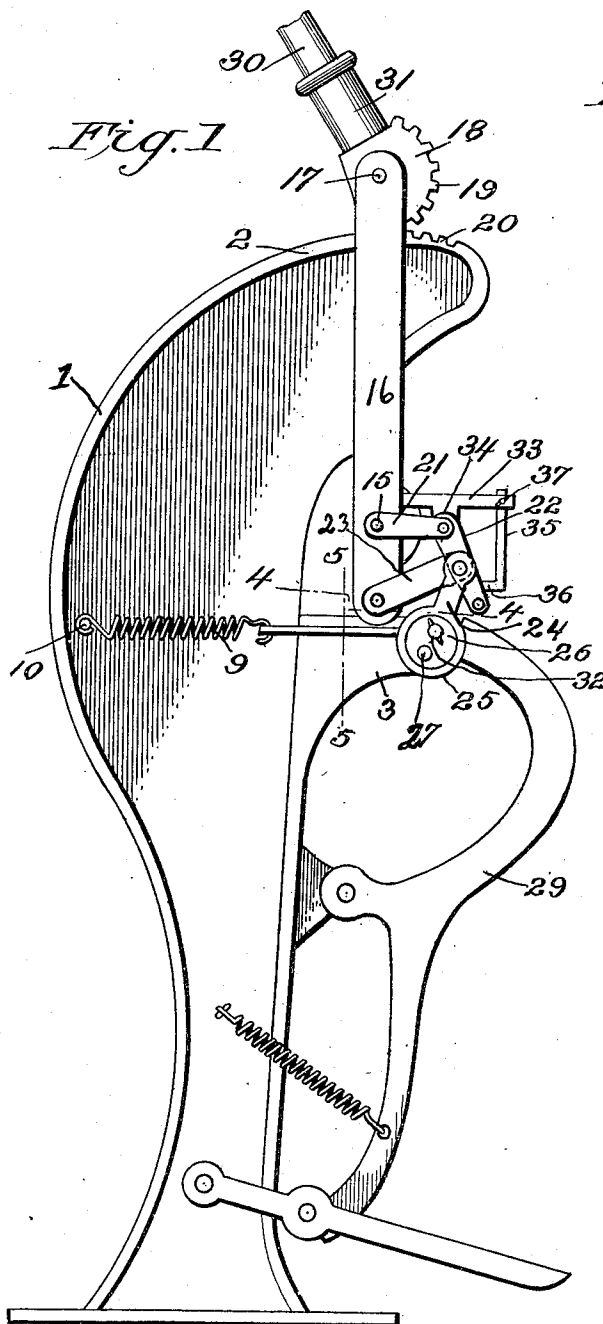


W. H. LEE, V. T. SNOVER & M. H. PALMER.
MACHINE FOR FORMING CALKS ON HORSESHOES AND FOR SHARPENING SUCH CALKS.
APPLICATION FILED FEB. 23, 1909.

933,995.

Patented Sept. 14, 1909.

2 SHEETS—SHEET 1.



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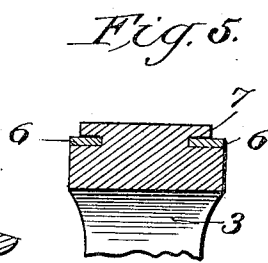
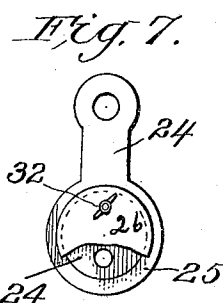
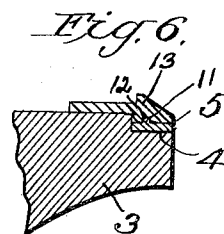
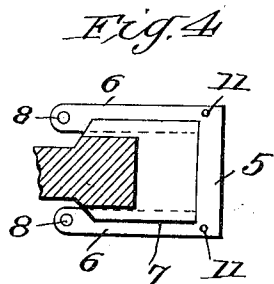
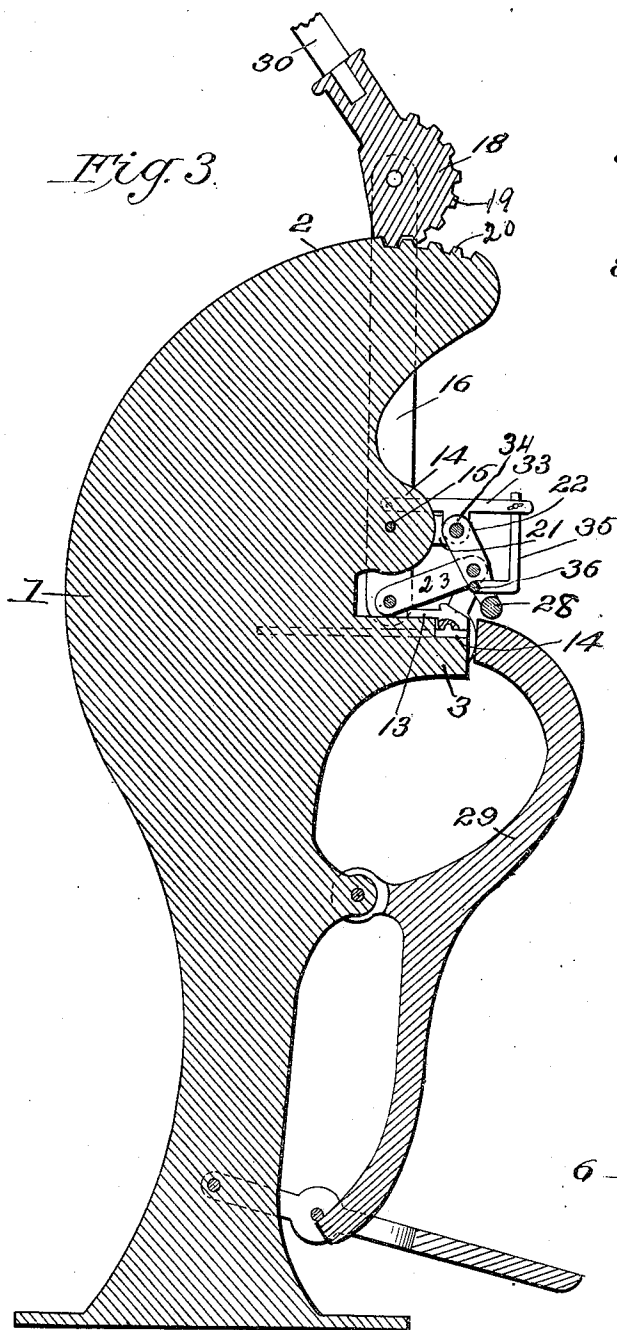
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UNITED STATES PATENT OFFICE.

WILLIAM H. LEE, VICTOR T. SNOVER, AND MILTON H. PALMER, OF WYALUSING,
PENNSYLVANIA.

MACHINE FOR FORMING CALKS ON HORSESHOES AND FOR SHARPENING SUCH CALKS.

933,995.

Specification of Letters Patent. Patented Sept. 14, 1909.

Application filed February 23, 1909. Serial No. 479,354.

To all whom it may concern:

Be it known that we, WILLIAM H. LEE, VICTOR T. SNOVER, and MILTON H. PALMER, citizens of the United States of America, residing at Wyalusing, in the county of Bradford and State of Pennsylvania, have invented certain new and useful Improvements in Machines for Forming Calks on Horseshoes and for Sharpening such Calks, of which the following is a specification.

This invention relates to new and useful improvements in machines for forming calks on horseshoes and for sharpening such calks and it relates more particularly to a device of this character wherein the object is accomplished by a rolling process.

It is also an object of the invention to provide a novel device of this character including an adjustable gage for assuring the proper length of heel calks, said gage being so arranged as to move out of the path of travel of the roller during the operation of the machine.

A further object of the invention is to so connect the adjustable gage with the carriage of the roller whereby the movement of the carriage will shift the gage.

An object of the invention is also to so mount the roller that it is adjustable with relation to the die to permit of different thicknesses of calks, to compensate for any possible wear of the roller or die, or to assure a proper alinement of the roller.

Furthermore, it is an object of the invention to provide a novel device of this character wherein interchangeable dies are employed to permit the forming of different sizes of calks, said dies being held by a slidable plate to permit a ready application of a die into position. It is also an object of the slidable plate to permit a movement of the die when contacted with by the roller on its return movement so that injury from such contact to the die or roller is reduced to a minimum.

Still further, it is an object of the invention to provide a novel device of this character which will be simple in construction, efficient and advantageous in practice, and comparatively inexpensive to manufacture.

With the above and other objects in view, the invention consists of the details of construction and in the novel arrangement and combination of parts to be hereinafter more particularly referred to.

In describing the invention in detail reference will be had to the accompanying drawings forming part of this specification wherein like characters of reference denote corresponding parts in the several views and in which—

Figure 1, is a view in side elevation of the device; Fig. 2, a view in front elevation thereof; Fig. 3, a central vertical section of the device; Fig. 4, is a sectional view of the line 4—4, of Fig. 1; Fig. 5, is a sectional view on the line 5—5 of Fig. 1; Fig. 6, is a detail sectional view illustrating the engagement between the die and die plate; and Fig. 7, is a detail view partly in section and partly in elevation showing the manner of adjusting the roller.

In the drawings 1, denotes a pedestal of a predetermined height and of any desired configuration, it being only required that the upper portion 2, be segmental and that it be provided intermediate its forward edge at a desired position with the shelf or table 3. The forward portion of the upper surface or face of the table 3, is stepped as at 4, and resting on this stepped portion is the die plate 5. This die plate 5, extends beyond each side of the table 3, and said projecting portions are provided with the rearwardly extending arms 6, which travel within the guides or runways 7, formed in the sides of the table 3, and the pedestal. The free end portions of the arms 6, are provided with the perforations 8, which permit the attachment to each arm an end of a contraction spring 9, the opposite end of said spring being anchored to the pedestal through the medium of the pin 10. These springs 9, hold the plate 5, in its normal position, or in abutment with the rear or vertical wall of the step 4. The forward edge of the plate 5, is flush with the front face of the table 3. Adjacent each side, the plate 5, is provided with a stud or lug 11. These lugs or studs are intended to project upwardly into pockets or recesses 12, formed in the under surface of the die 13, said die 13, resting on the plate 5, and having its under face so formed as to extend inwardly of the table 3, over the step thereof. This die 13, is employed to give the proper formation to the inner face of the calk being formed by the machine.

At a required distance above the shelf 3, the forward edge of the pedestal is provided with the protuberance 14, through which

passes the bolt 15, said bolt projecting beyond either side of the pedestal. Mounted on each projected portion of the bolt 15, is a link 16, which extends upwardly and pivotally engages a pin 17, positioned axially of a segmental wheel 18, which rests on the segmental portion of the pedestal 1. The contacting edge of this wheel 18, is provided with the teeth 19, which intermesh with the teeth 20, on the opposed surface of the pedestal 1. The function of these teeth are thought to be obvious without a recitation thereof. The links 16, are mounted on the bolt 15 as a pivot and the connection between the bolt 15, and the links 16 is at a point above the lower ends of the latter. Also pivotally engaging each projected portion of the bolt 15, is a forwardly extending arm 21, which has its outer end pivotally engaging the upper portion of the roller carriage 22. Centrally of each side of the carriage frame 22, is pivoted a second arm 23, which extends downwardly on a slight incline and has its opposite end pivoted to a link 16, adjacent the lower end thereof. Also pivoted to each side of the carriage frame 22, approximately centrally thereof by a pivot common to the arm 23, is a third arm 24, which depends inwardly on a slight incline and terminates in an eye or strap 25 which embraces a disk 26, eccentrically pivoted, as at 27, to a side of the table or shelf 3, for a purpose to be hereinafter set forth. It is to be observed that the frame 22, extends downwardly from the arm 21, and that in the sides of the frame 22, adjacent the lower end thereof, is suitably mounted the roller 28.

In operation, when a calk is to be formed on the heel portion of a shoe, that portion is properly heated to the required temperature and then placed against the forward face of the shelf or table 3 and is held in such position during the operation of the machine by the retaining means 29. As any means that will perform its object with success may be employed, a detailed description of the means disclosed in the drawings is deemed unnecessary. By means of a suitable handle 30, inserted within the socket 31, formed with the wheel 18, said wheel 18, causes the links 16, to oscillate on the bolt 15, and such movement through the medium of the arms 21, and 23, will cause the roller 28, to contact with the heated portion of the shoe and bend the same to form the calk, the under surface of the calk being properly formed by the die 13, hereinbefore referred to. By this single movement of the roller the calk is not only rolled on the shoe but through the medium of the die 13, the calk is sharpened. The handle 30, is then moved in opposite direction which causes the roller 28, to return to its initial position. Should there be any contact with the die injury will be obviated

by the fact that the springs 9, will permit the plate 5, to move forward sufficiently to allow uninterrupted travel of the roller. When the roller has passed over the die the springs 9 will return the plate 5, to its normal position, as is believed to be apparent.

It is also essential to note that the die 13, is readily applied or removed. This is permitted to employ interchangeable dies of different sizes to compensate for the varying sizes of calks that may be formed.

It often occurs that the shoes are of various thicknesses. To overcome any disadvantage accruing therefrom, the roller 28, is adjustable with relation to the shelf or table 3, or more particularly the die 13, thereon by the eccentric disks 26, which are embraced by the straps or eyes 25, of the arms 24. As is thought to be obvious it is only necessary to give a proper rotation to the disks 26, to obtain the required adjustment of the roller 28. In order that a desired adjustment may be made permanent for an operation, the set screw 32, is threaded through and binds against a side face of the shelf or table 3, this contact of the screw 32, holding the eccentric disk against rotation. These disks 26, also permit a proper alignment of the roller 28, or an adjustment to compensate for any wear which may be suffered by either the roller or the die or both.

To assure the forming of the heel calks of a proper length, it has been found advantageous to employ a gage. This gage comprises an arm 33, pivoted at one end to the pedestal 1, or more particularly the protuberance 14, thereof, said arm projecting forwardly across the carriage 22. This arm 33, is provided with a depending lug 34, positioned intermediate the length of the arm 33, and this lug pivotally engages the common pivot of the arms 21, with the carriage. Passing through a suitable opening in the outer or free end of the arm 33, is the stem 35, of the gage 36 and this stem is held to the arm 33, by the binding screw 37. By this means an adjustment of the gage 36, with relation to the die 13, is permitted to provide for the forming of the desired length of calks. The pivotal connections of the arm 33, are such as to cause the gage 36, to be moved by the movement of the carriage 22, out of the line of travel of the roller 28.

While the invention has been described with reference to the forming and sharpening of heel calks, it is to be stated that it can be employed with equal facility to sharpen a toe calk. In this reference, the material to form the toe calk is properly welded to the shoe and this material, while properly heated is acted upon in identically the same manner as has been specified with regard to the heel calks.

We claim:

1. In a device of the character described, 130

the combination with a table having runways in its sides and a clamping means for a shoe acting in conjunction with the table, of a slidable plate carried by the table, a roller reciprocable across the plate, a die carried by the plate, arms projecting from the plate extending within the runways of the table, and suitably anchored springs engaging the arms to impart movement to the plate in one direction.

2. In a device of the character described, the combination with a table having runways in its sides and a clamping means for a shoe acting in conjunction with the table, of a slidable plate carried by the table, studs projecting upward from the plate, a die having recesses resting on the plate, the studs of the plate extending within the recesses of the die, a roller reciprocable across the plate, arms projecting from the plate extending within the runways of the table, and suitably anchored springs engaging the arms to impart movement to the plate in one direction.

3. In a device of the character described, the combination with a table and a clamping means for a shoe acting in conjunction therewith, of a carriage reciprocable across the table, a roller carried by the carriage, an operating link for the carriage, means for imparting movement to the link, an arm pivoted to the link and to the carriage, and an arm pivoted to the carriage and to the table to cause the roller of the carriage to travel in a straight line across the table.

4. In a device of the character described, the combination with a table and a clamping means for a shoe acting in conjunction therewith, of a carriage reciprocable across the

table, a roller carried by the carriage, an operating link for the carriage, means for imparting movement to the link, an arm pivoted to the link and to the carriage, a disk eccentrically mounted on the table, an arm pivoted to the carriage having an eye to embrace the disk, said link and arms causing the roller of the carriage to travel in a straight line across the table and said disk providing means for adjusting the roller with relation to the table.

5. In a device of the character described, the combination with a table and a clamping means for a shoe acting in conjunction therewith, of a carriage reciprocable across the table, a roller carried by the carriage, an operating link for the carriage, means for imparting movement to the link, an arm pivoted to the carriage and to the link, an arm pivoted to the carriage and to the table to cause the roller of the carriage to travel in a straight line, an arm pivoted to the table and projecting across the carriage and in pivotal connection therewith, and a stem depending from the arm, said stem acting as a gage for the shoe when applied within the clamping means, the connection of the arm with the carriage causing the stem to move out of the line of travel of the roller when movement is imparted to the carriage of the roller.

In testimony whereof we affix our signatures in the presence of two witnesses.

WILLIAM H. LEE.
VICTOR T. SNOVER.
MILTON H. PALMER.

Witnesses:

ARTHUR S. HIBBARD,
IRVING M. ALLIS.