R. F. McFEELY.

TACKING MECHANISM FOR PULLING-OVER MACHINES.

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1,135,957.

Patented Apr. 13, 1915.

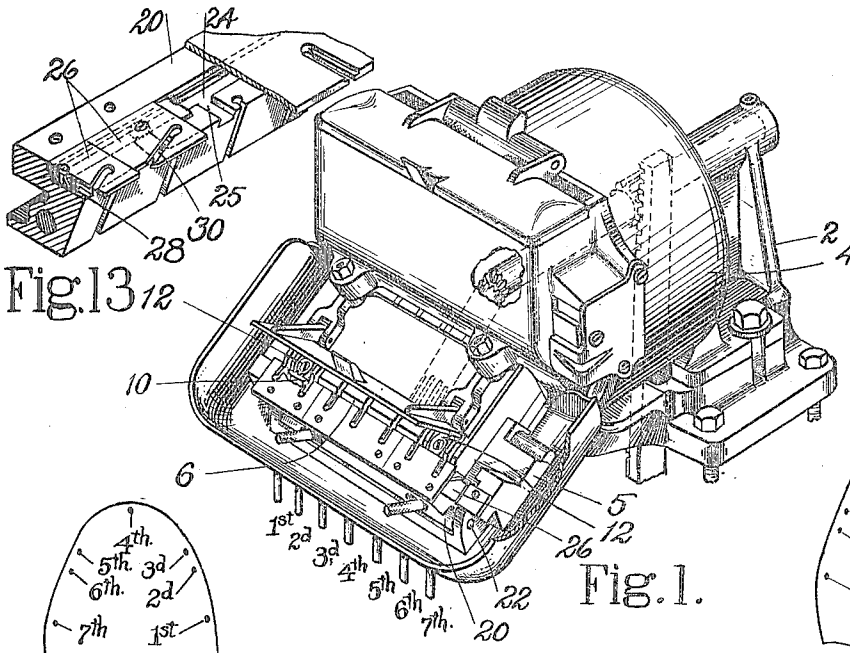


Fig. 13

Fig. 1.

Fig. 4.

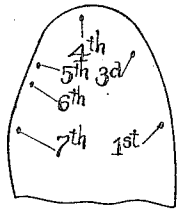


Fig. 12

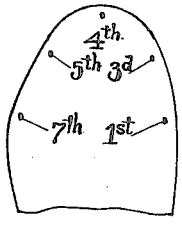


Fig. 5.

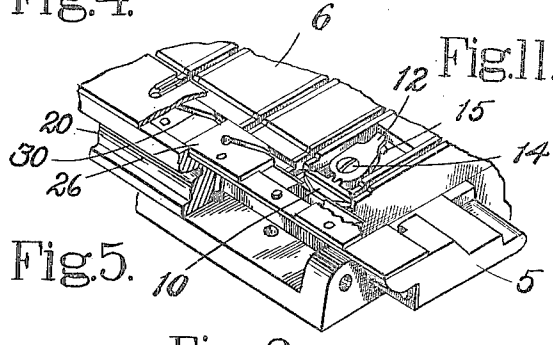


Fig. 2.

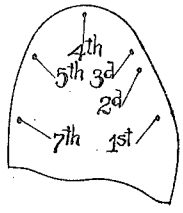


Fig. 11.

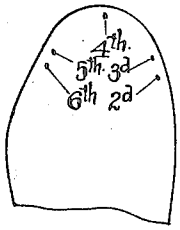


Fig. 6.

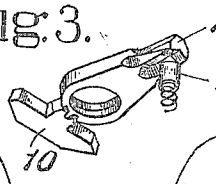


Fig. 3.

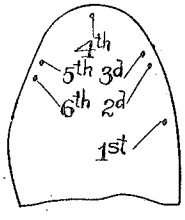


Fig. 10.

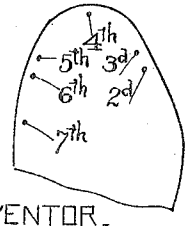


Fig. 9.

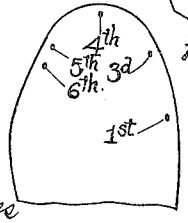


Fig. 7.

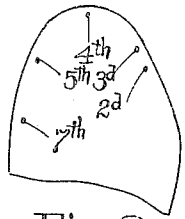


Fig. 8.

WITNESSES.

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UNITED STATES PATENT OFFICE.

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TACKING MECHANISM FOR PULLING-OVER MACHINES.

1,135,957. Specification of Letters Patent. Patented Apr. 13, 1915.

Application filed July 16, 1912. Serial No. 709,704.

To all whom it may concern:

Be it known that I, RONALD F. McFEELY, a citizen of the United States, residing at Beverly, in the county of Essex and State of Massachusetts, have invented certain Improvements in Tacking Mechanisms for Pulling-Over Machines, of which the following description, in connection with the accompanying drawings, is a specification, like reference characters on the drawings indicating like parts in the several figures.

This invention relates to machinery for inserting fastenings and particularly to tack supplying and distributing mechanism for gang tacking machines and is embodied in an improved construction of the similar mechanism of my prior application, Ser. No. 585,069, filed Oct. 3, 1910.

The objects of the invention are to provide greater range in the use of the tacking mechanism and perfection of construction. In the earlier machine symmetrical tacking only was provided for but I have found that with the development of markedly right and left lasts conditions arise requiring more tacks on one side of the shoe than on the other or, sometimes, a different arrangement of the tacks on the outer side from that which is best adapted for holding the upper in pulled over condition on the inner side of the shoe. In addition to making provision for these requirements the invention includes novel details of construction and combinations of parts which will appear in connection with the following description of the illustrated construction and will then be pointed out in the claims.

Figure 1 is a perspective view of the tack supplying and distributing mechanism of a pulling-over machine embodying this invention. Fig. 2 is an enlarged detail partly broken away to show features of the tack separator construction. Fig. 3 is a detail of one of the adjusters. Figs. 4 to 12 show different arrangements of tacking made possible by this invention. Fig. 13 is a perspective view showing the connection between the removable end block and the raceway structure which prevents the removal of the end block when the separator is in a position which would permit separated tacks to drop out.

The framework 2 forms bearings for the axle of a hopper 4 which is oscillated by mechanism which may be like that described in United States Letters Patent No. 1,107,337, granted August 18, 1914 on an application filed by me, and serves to actuate the multiple clearers in the casing 3 and to reciprocate the tack separator slide 5 across the end of the raceway structure 6 which has grooves for carrying seven lines of tacks. With normal adjustment the separator slide, by its fingers, picks seven tacks from the raceway and delivers them to the seven tack conductors which are numbered in Fig. 1 for insertion in the shoe as indicated in Fig. 4.

Associated with the 1st and 2d raceway groove is a tack controller 10 and a duplicate controller is associated with the 6th and 7th groove. The controller is shown enlarged in Fig. 2 and again in Fig. 3 and comprises an endwise movable block guided in the raceway structure and arranged to be projected through into the raceway at either end alternatively but short enough so that in its central position it allows uninterrupted movement of tacks down both grooves. The upper edge of the controller block 10 is toothed and is engaged by a lever 12 capable of turning on screw 14 and having its tail formed on the under side as shown in Fig. 3 with a central groove and beveled lateral edges. A spring pressed pin 15 will engage the groove to hold the lever central for the tacking shown in Fig. 4 or will retain the lever shifted toward the right or the left for the tacking shown in Figs. 5, 6, 7, 8, 10 or 11. The lever can be shifted by an operator's finger but is normally covered by a swinging lid.

The controller and adjusting means associated with the 1st and 2d raceways can be adjusted centrally for both the 1st and 2d tacks to be supplied and thereafter driven as in Figs. 4, 10 and 11 or for one or the other to be withheld as in Figs. 5, 6, 7, 8, 9 and 12. The two controllers provide independent adjustment for the tacks at the right and left sides of the machine and therefore for right and left shoes.

Referring to Fig. 13, the end block 20, which is removable from the raceway block by manipulation of the locking devices 22 as described in my earlier United States Letters Patent, 1,002,422, granted Sept. 5, 1911, to afford access to the slide 5 and the tack separating plate 26 and other devices associated therewith, is formed with a lon-

gitudinal groove 24 from which lead transverse ways 25. The reciprocating separator plate 26 has on its lower face lugs 28 which can move in the groove 24 and permit the end block 20 to be removed only at such time in the cycle of the separating devices as the lugs are in alinement with the ways 25. These lugs are so located that they prevent the removal of the end block while the mouths of the slots 30 in the separator plate are opposite the raceway grooves, in which position, in the earlier construction, excess tacks would slide into the slots 30 and require to be removed. The present improvement obviates this difficulty.

In the use of the machine it is customary for the operator to pull over the right shoes of the case or lot and then the left shoes. He therefore examines his style and his instruction card and makes his adjustment of one or the other or both of the controllers 10 according to the requirements of his work which he is then able to fasten by tacks located at the particular points where they are needed to hold the upper in pulled over position and to leave it free where it does not require to be fastened or when it is advantageous that it be allowed to settle back, after being pulled, to obtain the proper drafting of the upper materials before lasting. This invention also effects an economy in shoe manufacturing because the driving of unnecessary tacks, heretofore sometimes unavoidable in order to get the necessary ones, is obviated.

Having fully described my invention, I claim as new and desire to secure by Letters Patent of the United States:

1. A machine of the class described having, in combination, gang mechanism for supplying and distributing tacks including a raceway structure having a plurality of tack grooves the walls of which support the heads of the tacks and are spaced apart to receive the stems of the tacks, a multiple tack separator, independently adjustable devices arranged to extend transversely across the tack grooves below the tack head supporting surfaces thereof for withholding the supply of tacks down a plurality of the grooves to the separator slide and means for sliding said devices across said grooves.

2. A machine of the class described having, in combination, means for supplying tacks for driving at the opposite sides and at the toe end of a shoe, and a tack controller associated with the supplying means for each side of the shoe and each adapted by independent adjusting movements to suspend the insertion of tacks from one or another of a plurality of tack raceways for the same side of the machine.

3. A machine of the class described having, in combination, gang mechanism for supplying and distributing tacks including a raceway structure having a plurality of tack grooves and a tack controller 10 located with clearance between two grooves and movable to stop progress of tacks down either groove.

4. A machine of the class described having, in combination, gang mechanism for supplying and distributing tacks including a raceway structure having a plurality of tack grooves and a tack controller 10 located with clearance between two grooves and movable to stop progress of tacks down either groove, and means for securing the controller in either of its three adjusted positions.

5. In a mechanism of the class described, the combination with a plurality of raceway grooves, and nail separating devices cooperating with each raceway groove, of an end block common to the several raceway grooves and constructed and arranged for ready removal whereby access may be had to all the separating devices, means arranged to prevent such removal when the separating devices are in a predetermined relation, and means for locking the end block in operative position.

6. In a mechanism of the class described, the combination with a plurality of raceway grooves, and nail separating devices cooperating with each raceway groove, of an end block common to the several raceway grooves and constructed and arranged for ready removal whereby access may be had to all the separating devices, means for actuating said separating devices, said separating devices and the end block having interlocking parts arranged to prevent the removal of the end block except when the separating devices are in position to bar the discharge of tacks from the raceway, and means for locking the end block in operative position.

7. A machine of the class described having, in combination, gang mechanism for supplying and distributing tacks including a raceway structure having a plurality of tack grooves to receive the stems of tacks and arranged to support the tacks by their heads, and a tack controller located below the head supporting surfaces of the raceway structure and between substantially parallel portions of two of the grooves, said controller being movable transversely of the said parallel portions of the tack grooves to have one end projected across one groove to stop progress of tacks down that groove when moved in one direction and to have its other end projected across the other groove to stop tacks in that groove when the controller is reversely moved.

8. A machine of the class described having, in combination, a raceway structure having a plurality of tack grooves to receive the stems of tacks and arranged to support

the tacks by their heads, and a tack controller located between two tack grooves below the tack head supporting surfaces of the groove walls and of no greater length than the space between the tacks in the two grooves, said controller being mounted to slide transversely of the tack grooves to open or to close a tack groove.

9. A machine of the class described having, in combination, a raceway structure having a plurality of tack grooves to receive the stems of tacks and arranged to support the tacks by their heads, and a tack controller located between substantially parallel portions of two tack grooves and extending below the tack supporting surfaces to engage the tacks by their stems, said controller being adjustable transversely of a groove to open one groove for the passage of tacks along it and then to close another groove by continued movement in the same direction.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

RONALD F. McFEELY.

Witnesses:
BARTHOLOMEW T. McDONOUGH,
CHARLES H. HOYT.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."