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M. BROCK ET AL

TACK HANDLING MECHANISM

Original Filed Aug. 22, 1917

Fig. 2.

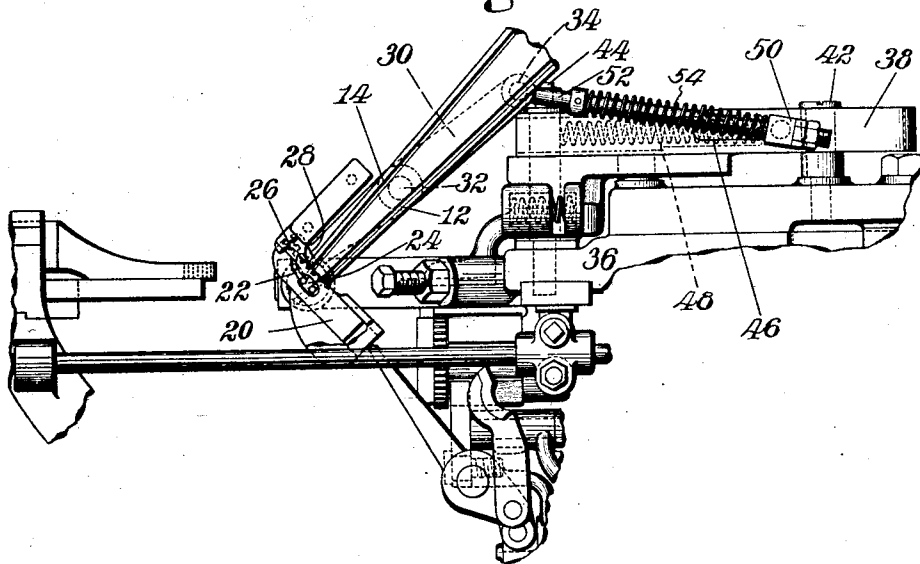


Fig. 1.

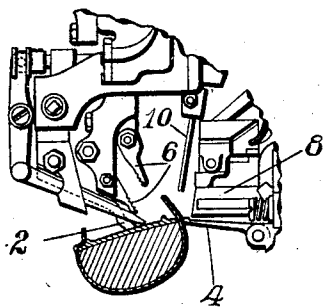
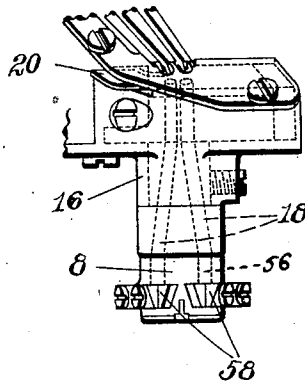


Fig. 3.



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TACK-HANDLING MECHANISM.

Original application filed August 22, 1917, Serial No. 187,594, which has matured into Patent No. 1,530,349, granted March 17, 1925. Divided and this application filed February 14, 1925. Serial No. 9,324.

This invention relates to tack handling mechanism and particularly to tack separating mechanism, this application being a division of our application Serial No. 187,594, filed August 22, 1917, which has matured into United States Letters Patent No. 1,530,349, granted March 17, 1925. The invention is herein shown for the purpose of exemplification as embodied in a tack separating mechanism for a lasting machine such as that disclosed in United States Letters Patent No. 1,007,051, granted October 31, 1911, on application of Arthur Bates, as well as in our said prior application, such machines being equipped to separate and insert two tacks in each cycle of the machine.

An object of this invention is to provide an improved and simplified tack separating mechanism adapted for such machines; although the invention is not limited to such application.

A feature of the invention consists in an organization having a plurality of tack raceways, a plurality of conduits to which tacks are to be delivered, and a tack separator having a single tack separating portion constructed and arranged to separate a tack from each raceway successively and to deliver the separated tacks to the tack conduits. As shown herein, the separator comprises a reciprocating blade having a tack separating finger and a curved slot by which the tack, after being separated by the finger, is moved outwardly of the raceway and transferred into position over the tack conduit, the slot being enlarged at its inner end to permit the head of the tack to drop through the separator blade. After separation of the tack from the first raceway, the movement of the tack finger continues and a tack is separated from another raceway and transferred by the same into position over another conduit. The enlargement of the slot is preferably extended in the direction of movement of the separator blade and as herein shown leaves the mouths of both conduits uncovered when the separator is at the end of its separating movement. By this extension of the slot rapid movement of the separator is per-

mitted without danger of the end of the slot interfering with the passage of the tacks to their respective conduits.

In the drawings,

Fig. 1 is a side view of a portion of the head of a hand method lasting machine embodying the present invention;

Fig. 2 is a plan view showing the tack separating mechanism; and

Fig. 3 is a front elevation of a tack separating mechanism.

The machine in which the present invention is shown as embodied for the purpose of explanation is provided with a shoe rest 2 against which the bottom of a shoe is held by the operator, an edge gage 4 to determine the lateral position of the shoe, a gripper 6 for working the upper into lasted position, a combined tack block and wiper 8 which is reciprocated to wipe the lasted upper over the shoe bottom, and drivers 10 by which the tacks presented under it by the tack block are driven into the shoe.

Mounted in a convenient position on the head of the machine are two raceways 12, 14, which may be of usual construction, for feeding tacks toward the separator. Extending across the open end portions of the raceways 12, 14 is a separator block 16 (Fig. 3) having downwardly extending openings or conduits 18 for the passage of separated tacks toward the tack carrier, that is, the combined tack block and wiper 8. The downwardly extending passages or conduits 18 have open side portions in alinement with the open end portions of the raceways 12, 14. Such passages preferably diverge downwardly, as indicated in Fig. 3, so that as the tacks delivered to the passages pass downwardly to the tack carrier they will be separated as determined by the divergent arrangement of the passages.

Mounted for reciprocating movement in the separator block 16 is a tack separator slide 20 having a single tack separating passage or slot 22 and an opening 24 formed as an enlargement of the slot 22 extended in the direction of movement of the separator slide and adapted to receive and permit the

passage of the tacks, one to each of the conduits 18, the construction being such that as the separator slide 20 is reciprocated past the end portions of the raceways 12 the single separating slot 22 will detach the end-most tack from each raceway and can or move it outwardly as the slide moves to the left (Fig. 3) so that the tacks thus separated will drop into the passages 18 and pass downwardly into the tack carrier 8 when that element is in tack receiving position. The extension of the slot opening 24 allows the separator to be moved rapidly without danger of the end of the slot engaging the tack first separated and interfering with its passage into the proper conduit. The tack carrier slide 20 (Fig. 2) is provided with a series of rack teeth 26 (Fig. 2) which are engaged by the teeth of a segment 28 carried by one arm of a lever 30 pivoted at 32 and connected at 34 to lever actuating means. This actuating means may comprise connections to a wiper carrying slide 36 so that as the slide reciprocates motion will be imparted to the lever 30 and preferably this motion is imparted yieldingly in both directions so that, should the movement of the slide be obstructed by a bent tack or other cause, no parts of the machine will be broken or injured. To effect this yielding connection, as shown, the main slide 36 which carries the wiper 8 is mounted for to and fro reciprocating movement and carries a hollow bar 38 having a slot through which passes a supporting pin 42 extending from the frame of the machine. Through the other end portion of the bar 38 extends a stud or pin 44 which connects the bar for movement with the slide 36. The bar 38 is provided with a slot 46 extending through the top thereof, and in the bar is a spring 48 one end of which rests against the pin 44 and the other end of which rests against the lower end portion of a swivel bearing 50. Through the upper portion of the swivel bearing 50 extends an actuating rod 52. A spring 54 surrounds the actuating rod 52 one end portion of which bears against the upper portion of the bearing 50 and the other end portion of which bears against the end of the lever arm 30, the construction being such that should the tack separator be obstructed in its movement in either direction, one or the other of the springs 48 or 54 will yield, thereby preventing breakage of parts.

Between the upper and lower ends of the tack carrying openings 56 are arranged tack sustaining springs 58 to hold the tacks in the passages until they are carried by movement of the wiper to driving position and are forced through the passages by descent of the drivers 10 into the work beneath the wiper.

Having thus described the invention, what we claim as new and desire to secure by Letters Patent of the United States is:

1. In a machine of the character described, the combination of a plurality of fastening supplying raceways, and a separator having a single tack separating slot for separating a fastening from each of the raceways and delivering it by a single uni-directional movement.

2. In a machine of the class described, the combination of two raceways for supplying tacks, a tack separator having a single tack separating slot, and means for causing the tack separator to traverse across the ends of the raceways and take a tack from each raceway at each traverse.

3. In a machine of the character described, the combination of a plurality of fastening supplying means, a carrier for transporting a plurality of fastenings to inserting position, a separator having a single tack separating portion for separating a fastening from each of the supply means and delivering them to the transporting means, and drivers for simultaneously inserting the fastenings.

4. In a machine of the class described, the combination of a plurality of raceways for supplying tacks, a tack carrier for transferring the tacks to driving position, a separator having a single tack separating portion for taking a tack from each raceway and delivering the tacks to the tack carrier, and means for driving the tacks.

5. In a machine of the class described, the combination of two raceways for supplying tacks, a tack separator having a single tack separating slot, means for causing the tack separator to traverse across the ends of the raceways and take a tack from each raceway at each traverse, and tack driving means.

6. In a machine of the class described, the combination of two raceways for supplying tacks, a tack separator having a single tack separating slot, means for causing the tack separator to traverse across the ends of the raceways and take a tack from each raceway, means for spacing the tacks an increased distance apart as they move to driving position, and tack driving means.

7. In a machine of the class described, the combination of a plurality of raceways for supplying tacks, a plurality of tack conduits leading from the ends of the raceways, and a tack separator having a slot adapted to separate a tack from each raceway in turn at each traverse of the separator, the slot being laterally enlarged and extended in the direction of movement of the separator to permit free passage of the tacks into their respective conduits.

8. In a machine of the class described, the combination of a plurality of raceways for

supplying tacks, a plurality of tack conduits leading from the ends of the raceways, and a tack separator movable transversely of the raceways and having an open slot adapted 5 to separate a tack from each raceway at each traverse, the separating slot being enlarged at its inner end and extended in the direction of movement of the separator so that rapid operation of the separator in its tack-separating movement will not inter- 10 fere with free passage of the separated tacks from the slot to their respective conduits.

In testimony whereof we have signed our names to this specification.

EDWARD L. BROCK,

Administrator of the estate of Matthias Brock, Deceased.

THOMAS H SEELY.