Dec. 16, 1930. K. WOLLNY 1,785,570

TACK FEEDING DEVICE

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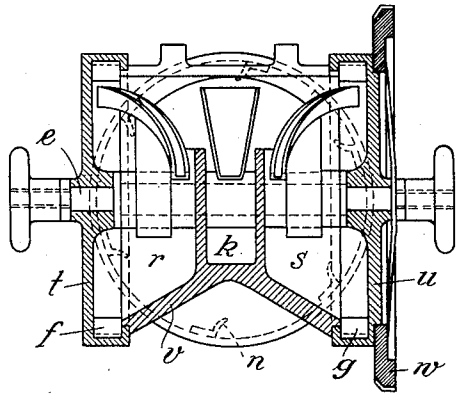


Fig. 1

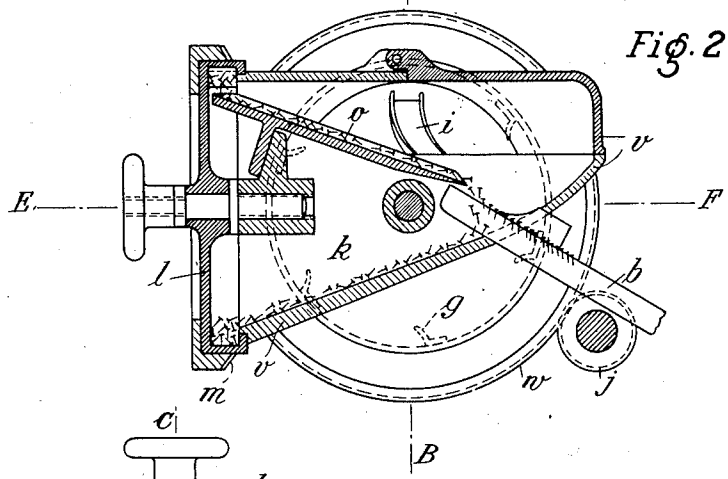


Fig. 2

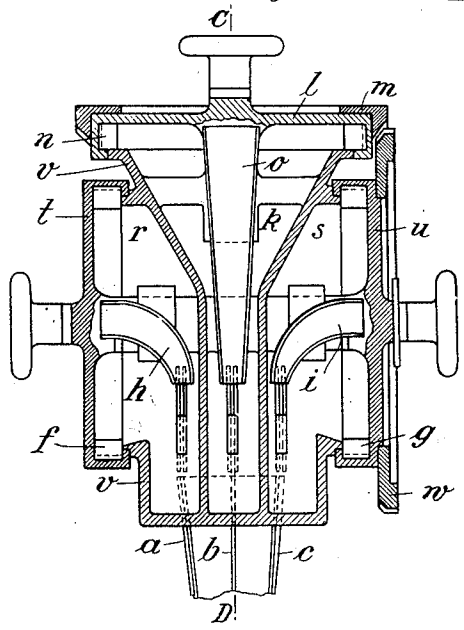


Fig. 3

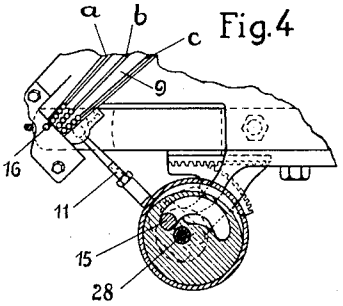


Fig. 4

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Fig. 5

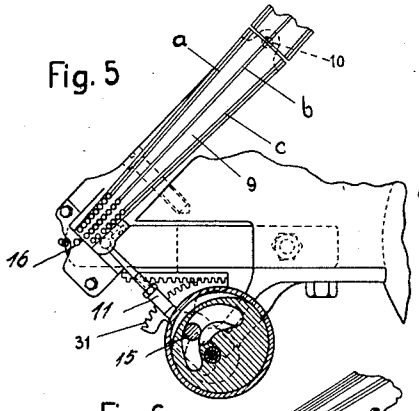


Fig. 6

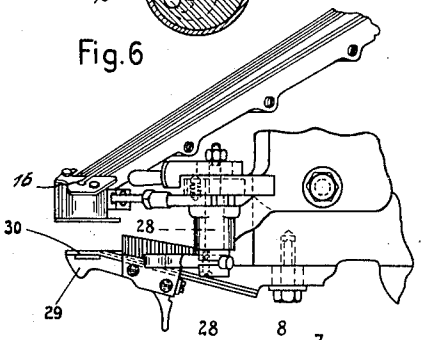


Fig. 7

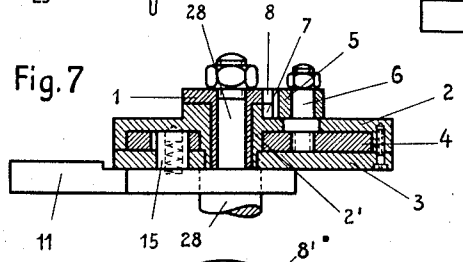


Fig. 8

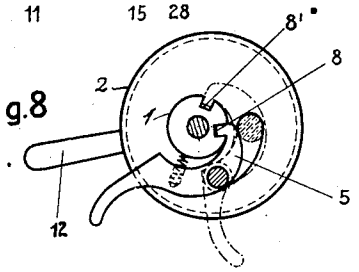


Fig. 9

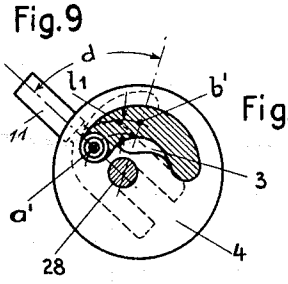


Fig. 10

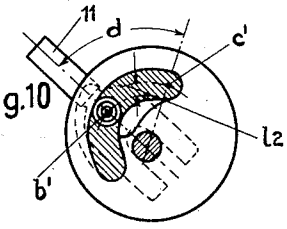


Fig. 11

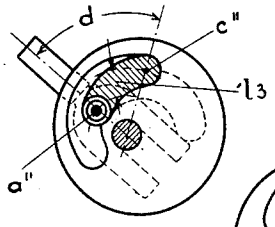


Fig. 12

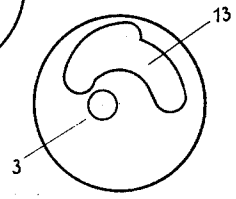


Fig. 13

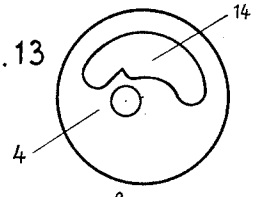


Fig. 14

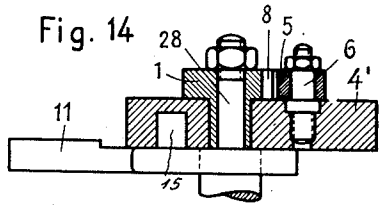


Fig. 15

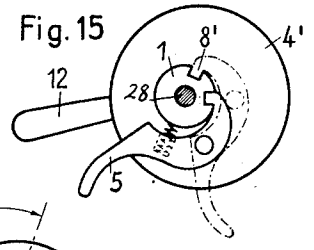


Fig. 16

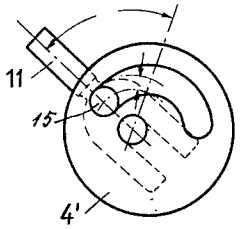
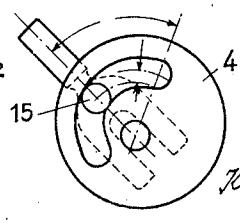


Fig. 17



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Patented Dec. 16, 1930 1,785,570

UNITED STATES PATENT OFFICE

KARL WOLLNY, OF WEISSENFELS, O. S., GERMANY, ASSIGNOR TO THE FIRM NOLLESCHE WERKE KOMM.-GES., OF WEISSENFELS, O. S., GERMANY

TACK-FEEDING DEVICE

Application filed June 10, 1929, Serial No. 369,650, and in Germany January 1, 1929.

This invention relates to tack feeding devices for lasting machines having a single pair of pincers to which the boot or shoe is presented progressively and comprises means for distributing different-sized tacks along different raceways into a single receptacle where they may be driven into the shoe, said machines further comprising means for shifting said raceways, whereby one or another is placed in position for delivering tacks to the said receptacle according to the size of tack desired.

In the present instance the invention is represented and described in connection with the machine of the United States Letters Patent No. 584,744, whereto reference is made for matters not herein fully set forth and described. The known machines of the kind referred to are equipped with a tack hopper comprising two compartments and two raceways leading therefrom so that two sizes of tacks can be used, the short tacks being driven in at the shoe sides and the longer tacks being driven in at the toe and at the heel of the shoe.

The object of the present invention is to provide a lasting machine which will be adapted to work upon heavy, medium or light shoes without the necessity of emptying the hopper and of filling with tacks of the size appropriate to the work just handled. This object is attained by arranging within the hopper more than two compartments and a corresponding number of raceways. Generally three compartments and three raceways will suffice. Of the three raceways marked *a*, *b*, *c*, either the raceways *ab* or *bc* or *ac* may be used.

Another feature of the invention comprises a new shifting device for the raceways allowing two raceways to be chosen out of three to be used for the shoes handled.

Other features of the invention, including certain details of construction and combinations of parts, will be hereinafter described and pointed out in the claims.

Fig. 1 is a vertical cross section of the tack hopper on line A—B of Fig. 2.

Fig. 2 is a vertical longitudinal section of the tack hopper on line C—D of Fig. 3.

Fig. 3 is a horizontal section on line E—F of Fig. 2.

Figs. 4 to 13 show one construction and Figs. 14 to 17 a second construction of the shifting device.

Figs. 4 and 5 show the position of the parts when the raceways *ab* or *bc* are used.

Fig. 6 shows the arrangement in elevation.

Fig. 7 is a vertical section and Fig. 8 a plan of the shifting device.

Figs. 9 to 11 show different positions of the parts of the shifting device.

Figs. 12 and 13 are plans of the grooved discs 3, 4.

Figs. 14 to 17 show a simplified construction according to the invention.

The one-piece stationary tack drum *v* is provided with chambers *r*, *s* which are divided from each other and closed by end covers *t*, *u*. These end covers are mounted on spindle *e* which is maintained in rotation in a suitable manner by gear wheels *j*, *w* from the machine drive. To the end covers *t*, *u* are secured blades *f*, *g* which lift the tacks and drop them into shoots *h*, *i*. Between the chambers *r*, *s* is arranged a third chamber *k* which is closed at the back by the cover *l*. This cover *l* is rotated by the cover *u* through the bevel wheel gear *m*, *w*. Blades *n* secured to the cover *l* are shown in Fig. 1. These blades raise the tacks from the bottom of the chamber *k* and drop them into the tack shoot *o*. The three drum chambers *r*, *s* and *k* contain tacks of different lengths.

The tacks slide from tack shoots *h*, *o*, *i* into raceways *a*, *b*, *c*.

Casing 9 which receives the tack raceways *a*, *b*, *c* may be turned about a pin 10 relatively to a fixed driving in conduit 16 and is connected at the lower end by a ball joint to the rod 11, the free end of which is bifurcated and surrounds spindle 28.

To the spindle 28 is secured a sleeve 1 round which is rotatable a cap 2 with a disc 3. Within the cap 2, on the hub 2′ of the same, is loosely rotatable a disc 4. To the cap 2 is secured a laterally projecting handle 12. Into the disc 4 is screwed a bolt 6 on which is rotatably mounted a pawl 5. The latter engages with one of the two notches 7 on the

top of the cap 2 and thus fixes the position of the disc 4 within the cap 2 and relatively to the disc 3. Moreover, there are provided two notches 8, 8′ on the sleeve 1, so that the pawl 5 can engage at the same time also with one of the notches 8, 8′. In that way the position of the two discs 3, 4 is jointly fixed.

The discs 3, 4 are provided with grooves 13, 14 which, according to the setting or adjustment of the discs, overlap each other in a different manner and may produce two differently combined cam grooves according to Figs. 9 and 11. They are shown cross hatched in the drawing and form a guide and push cam groove for the pin 15 which is secured to the rod 11.

As is known, at each change of the tack conduit, which is effected simultaneously with the change of the shoe stops 29, 30, the spindle 28 is given by the toothed quadrant 31 an oscillation in one or in the other direction, to the extent of the angle *d*.

If the two discs 3, 4 are so adjusted relatively to each other that they give the combined groove shown in Figure 9, the pin 15 will be in the left hand end position *a′* of this groove when the tacks are being taken from the raceway *a*. On the spindle 28 being turned to the angle *d*, the pin 15 will be brought in the combined groove to the position *b′*, and will be moved to the distance 1^1 and the raceway *b* will be brought in front of the driver guide 16, so that the tacks will be taken from the raceway *b*. With this first adjustment, the pin 15 assumes therefore alternately the positions *a′*, *b′* according to Fig. 9, and the tacks will be taken alternately from the raceway *a* or *b*.

If with the same relative position to each other, the discs 3, 4 are turned relatively to the spindle 28 into the position according to Fig. 10 and locked by means of the notches 8′, then on the spindle 28 being turned to the angle *d*, the pin will be brought successively into the positions *b′ c′* at the ends of the path 12. The tacks will be then taken from the raceways *b*, *c*.

If the third possibility of the tack changing is to be utilized and if the tacks are to be taken from the conduits *a*, *c*, the two discs 3, 4 are turned relatively to each other so that the combined groove shown in Fig. 11 is produced. The discs 3, 4 thus set are fixed in the same way by the engagement of the pawl 5 with the notches 7, 8′. According to the position of the pin 15 at the beginning *a′* or end *c′* of the said groove, the tacks of the raceway *a* or *c* will be used. The pin 15 makes here a radial movement of the extent 1_3.

It will be seen from the description that the attendant is easily able to make the adjustment without having to remove or to insert any parts.

Figs. 11 to 14 show a simplified construction according to the invention which should be satisfactory in many cases. In this construction the casing 2 is done away with, and only one disc 4′ is provided which has a cam groove such as is shown crosshatched in Figure 9. The cam disc 4′ can be connected by means of the pawl 5 in two different positions (see Fig. 15) to the spindle 28. The pin 15 of the rod 11 swings from the position shown in Fig. 16, approximately to the centre of the cam groove or from the central position according to Fig. 17 into the right hand end of the groove.

The invention makes it possible to handle very light and very heavy shoes on one and the same lasting machine, without the necessity of emptying the tack drum and refilling with suitable tacks.

What I claim is:

1. In a tack-feeding device of a lasting machine, a tack-hopper, three separate compartments within the hopper, a fixed conduit for the tacks to be driven, three raceways leading from the compartments of the hopper, means for aligning any of the raceways relatively to the fixed conduit, and means for adjusting the aligning means to adapt them to successively align any selected two of the raceways with the fixed conduit.

2. In a tack-feeding device of a lasting machine, a tack-hopper, three separate compartments within the hopper, a fixed conduit for the tacks to be driven, three raceways leading from the compartments of the hopper, means for aligning any of the raceways relatively to the fixed conduit, a cam moving the aligning means, means for moving the cam, and means for adjusting the relative position between the cam and its moving means to adapt the aligning means, to successively align any selected two of the raceways with the fixed conduit.

3. In a tack-feeding device of a lasting machine, a tack-hopper, three separate compartments within the hopper, a fixed conduit for the tacks to be driven, three raceways leading from the compartments of the hopper, means for aligning any of the raceways relatively to the fixed conduit, a cam moving the aligning means and formed by two superposed cam-discs, means for moving the cam, and means for adjusting the relative position of the superposed cam-discs to adapt the aligning means to successively align any selected two of the raceways with the fixed conduit.

4. In a tack-feeding device of a lasting machine, a tack-hopper, three separate compartments within the hopper, three side covers for the said compartments provided with shovels for lifting and dropping the tacks within the compartments, means for rotating one of the covers, and means connected with this cover for rotating the other two covers.

In testimony whereof I affix my signature.

KARL WOLLNY.