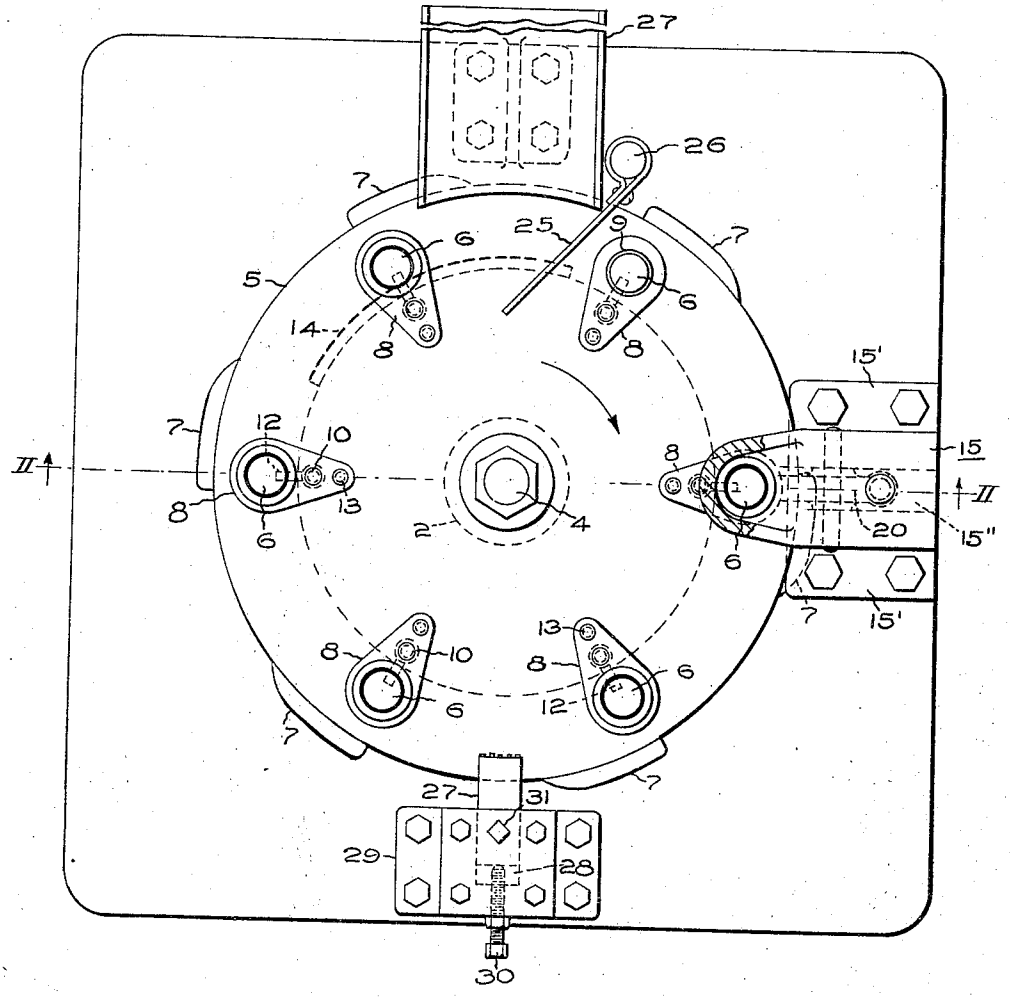
Dec. 27, 1932. J. J. WARD 1,892,545

MARKING MACHINE FOR SLEEVE BEARINGS

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Fig. 1



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MARKING MACHINE FOR SLEEVE BEARINGS

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Fig. 2

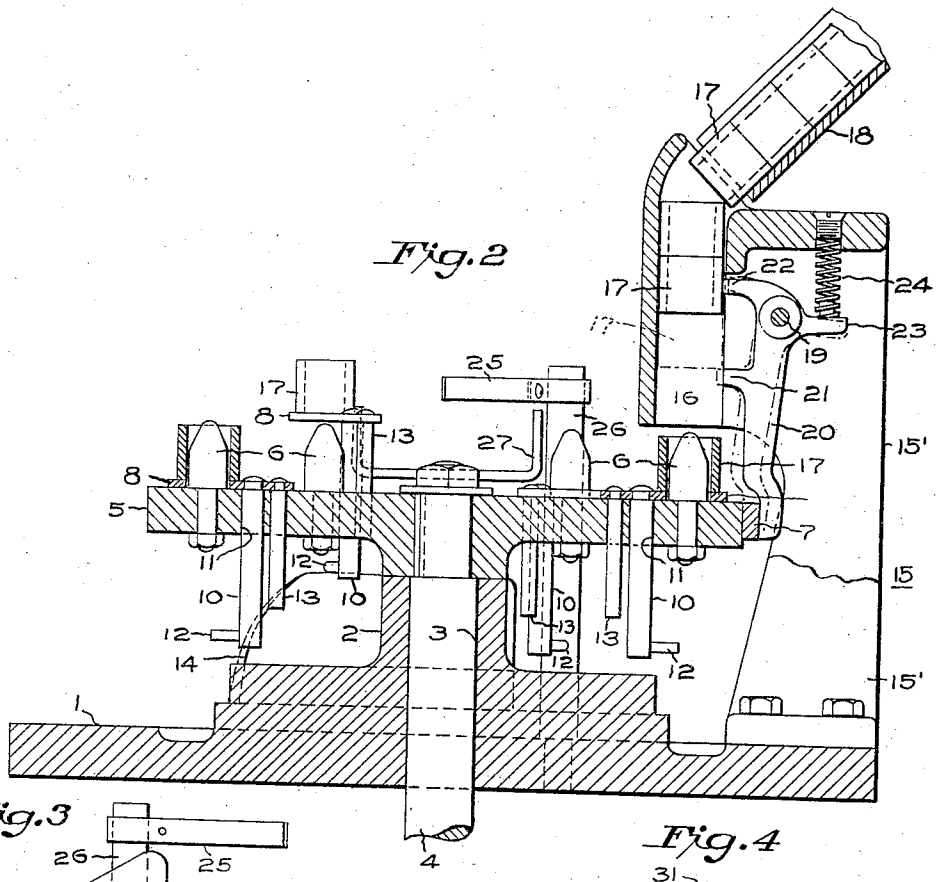


Fig. 3

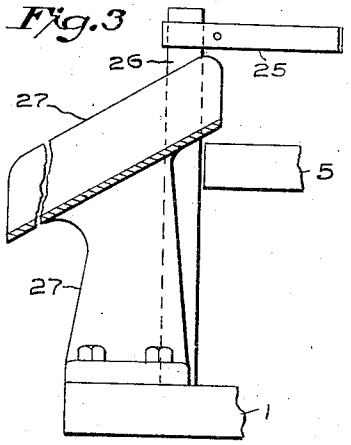
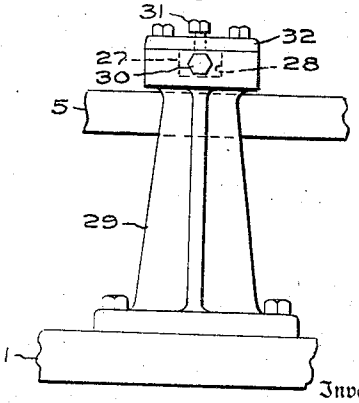


Fig. 4



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UNITED STATES PATENT OFFICE

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MARKING MACHINE FOR SLEEVE BEARINGS

Application filed October 10, 1931. Serial No. 568,062.

My invention relates to marking machines for placing a name, symbol, number or other identifying mark upon sleeve bearings or like articles of cylindrical form, relating in particular to means to supply the sleeves or articles automatically to the machine.

The invention has for its objects to provide a simple, practical and comparatively inexpensive device that will be automatic in its operation and therefore will not require an attendant.

In the accompanying drawings, forming a part of this specification, I have illustrated a preferred embodyment of such machine having my improvements thereon, wherein,

Figure 1 is a plan view thereof.

Figure 2 is a side elevation of the same, partly in section, approximately on the line II—II of Fig. 1.

Figure 3 is a side elevation of the discharge assembly, and

Figure 4 is a similar view of the marking device assembly.

The structure illustrated comprises a suitable support or member 1 provided with a centrally disposed boss 2 and further provided with an opening 3 within which operates a suitable power driven shaft 4 adapted for continuous rotation, by any suitable means, not shown.

The upper end of the shaft carries an annular rotor or cam member 5 fixed thereto and is provided with a plurality of equidistantly-spaced vertically disposed sleeve conveyor pins 6 tapering at their upper end portion to a somewhat conical form to readily receive a sleeve thereon, each being fixed to the rotor. To the rotor I have applied, as part of my invention, a plurality of equidistantly spaced cam projections 7 on the periphery thereof, corresponding in number to the conveyor pins, thus also utilizing the rotor as a cam member.

The rotor 5 also carries a plurality of vertically adjustable pin associating stripper plates 8. One for each of said sleeve conveyor pins, each plate having an opening 9 formed therethrough to permit same to loosely surround the pin and support the sleeve thereon. Each stripper plate is fixed upon an operating pin 10 loosely extending through an opening 11 within the member 5 and is provided near its lower end with an outstanding projection or fixed pin 12. Each of the plates is further provided with a guide pin 13 also loosely fitted through an opening in the rotor.

The support 1 has an arcuate partly inclined cam 14 attached thereto for engaging the pin 12 of the stripper plate operating pin to elevate the sleeve, supported by the plate, prior to discharge as a finished article.

To the support 1 is rigidly attached to remaining part of my improved feed mechanism comprising the upstanding member or bracket 15, including an upper body portion with depending integral legs 15″. The upper portion of the bracket has a vertically disposed magazine 16 formed therein communicating with the space 15″ between the legs and is adapted to receive the sleeves 17 to be fed to the carrier pins, said magazine receiving the sleeves from an inclined runway or chute 18 located thereabove.

Within the space 15″ of the bracket is pivotally supported, upon a pin 19, an escapement lever 20 provided with alternate sleeve engagement projections or spaced prongs 21 and 22, respectively, and with a further projection 23 engaged by a spring 24 disposed between the same and bracket for operating the lever in one direction, said lever being operated in the opposite direction by engagement with the cams 7 of the rotor or cam member.

The machine is further provided with a sweep arm 25 adjustably fitted to a post 26 fixed to the support 1 and is adapted to sweep the finished sleeve from the elevated stripper plate into an inclined discharge chute 27 also fixed to said support.

The marking device comprises a tool 27, having markings on its end and fitted within an opening 28 formed in the upper end of a standard 29 attached to the support 1, said tool being adjustable inwardly, within the path of the rotor, by means of a screw 30 and is retained in position by a set screw

31 carried by the attached cap plate 32 of the standard.

Operation

Assuming that, during movement of the rotor, in the direction indicated by the arrow in Fig. 1, the conveyor pin 6 immediately below the magazine 16 has just received a sleeve from the magazine, by the action of gravity, and that the cam 7 of the rotor is in engagement with the lever 20, the upper or prong portion 22 of the lever being then in engagement with the lowermost sleeve retaining the same within the magazine, as shown in Fig. 2. Such being the case, as the rotor continues to move and the cam fully passes from the lever, the spring 24 actuates said lever in the opposite direction causing the projection 22 thereof to move away from and release the sleeve, and at the same time the lever projection or prong 21 moves inwardly so that the end thereof will extend into the magazine sufficient distance to catch beneath and support said released sleeve, as shown by dot and dash lines, the next sleeve thereabove dropping into the place vacated thereby. The above operation, comprising one cycle, continues as long as the rotor moves and sleeves be supplied.

As the rotor continues to operate, each sleeve as carried thereby comes into engagement with the marking end of the tool 27, causing the sleeve to rotate upon its conveyor pin for a distance equal to that of the width of the marking of the tool, thereby marking the said sleeve upon its periphery with the desired name, symbol, number, or other mark.

As the rotor continues, the marked sleeve is carried therewith, the projection 12 of the stripper plate operating pin 10 then comes into engagement with the fixed cam 14, causing the stripper plate to ascend and elevate the sleeve, as shown in Fig. 2, and as said sleeve comes into contact with the arm 25 it is swept from the stripper plate and drops into the discharge chute 27. When the pin 12 has traversed the length of the cam the stripper plate drops by gravity to its previous position so that the conveyor pin is again ready to receive another sleeve upon reaching a position beneath the magazine 16.

Having shown and described a specific embodiment of my improved marking machine, I desire that the same be regarded as illustrative only, and that the appended claims be accorded the broadest construction consistent with the prior art.

What I claim and desire to procure by Letters Patent is—

1. In a sleeve bearing marking machine, the combination of a rotary member provided with a plurality of spaced cams and upstanding sleeve conveyor pins, elevatable stripper plate carried by the rotary member one in association with each pin, a magazine member for sleeves, an escapement lever within the magazine member for retaining sleeves therein adapted to be actuated by the rotor cams to deliver a sleeve to each pin passing the magazine, a marking tool rigidly held within the path of the rotary member and adapted to mark each sleeve in passing engagement therewith, means for elevating each stripper plate and sleeve thereon after being marked, and means for removing the sleeve from the plate in passing same.

2. In a sleeve bearing marking machine, the combination of a rotary member provided with a plurality of spaced cams and with upstanding sleeve conveyor pins, elevatable stripper plates associated with said pin each provided with a lifting attachment extending through the rotary member, a sleeve magazine member, means for retaining sleeves therein and adapted to be actuated to release a bearing in successive order onto said pins by engagement with the cams of the rotary member, a marking tool rigidly disposed within the path of the rotary member and adapted to mark each sleeve in passing engagement therewith, means engaged by each elevating stripper plate lifter in passing thereover to elevate the bushing thereon, means disposed in the path of the bushing to remove the same, and means for conveying sleeves to said magazine.

3. In a machine for marking sleeve bearings, the combination with a horizontally disposed rotary carrying member having a plurality of spaced pointed sleeve conveyor pins thereon and a like number of spaced cams disposed about its periphery, of a stationary vertically disposed magazine member, a dual pronged escapement lever pivoted within said member, a spring therefor, said spring adapted to actuate said lever in one direction to retain the lowermost sleeve within the magazine upon one of its prongs and said cams adapted to actuate the lever in an opposite direction to release said lowermost sleeve and engage the sleeve thereabove by the other prong of the lever, and a chute for conveying sleeves to the magazine.

In testimony whereof I affix my signature.

JOHN J. WARD.