FEEDING DEVICE FOR THE WORKPIECE ON PLANING MACHINES

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FIG. 1

FIG. 2

ELECTROMAGNET

FIG. 3

FIG. 4

FIG. 5

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It is known in connection with planing machines to fit in front of the cutter spindle a device by which the workpiece is held between rollers provided with chamfers. This device can certainly prevent thin workpieces from being pulled over the cutter spindle at the commencement of the feed, but however, not for preventing the minor resting concave on the horizontal planing table from altering its position relatively thereto during the feed, and it cannot influence the direction of the workpiece running through.

The invention relates to a feeding device for workpieces on planing machines. This feeding device has at least one straight guiding surface for resting on a table plate of the planing machine and in the case of a planing machine working on two sides, a straight guide surface on each side for resting one against an upright side and the other against a flat side of the table plate and which is provided with teeth, known per se, for engaging in the rear end of the workpiece. Thus reliable guiding of the workpiece during the feed is obtained in a simple manner with the aid of the device, preventing twisting and rocking movements and, as soon as it comes near the cutter spindle, the feeding device can be easily detached from the workpiece by withdrawal.

Another feature of the invention in the construction of the feeding device for planing machines working on two sides in combination with a magnetic adhesion, known per se, consists in that the feeding device acts by magnetic adhesion simultaneously on two of its guiding surfaces, namely on the guiding surface facing the flat side and that facing the upright side of the table plate.

Finally the feeding device has a handle which is constructed as a buffer cooperating with an abutment provided for limiting the feed of the device.

A preferred embodiment of the invention is illustrated by way of example in the accompanying drawing, in which:

Fig. 1 is a side elevation, and Fig. 2 a top plan view of a feeding device on the top of a planing machine;
Fig. 3 shows the feeding device alone in side elevation;
Fig. 4 is a top plan view, and Fig. 5 an end view thereof.

The feeding device 1 consists substantially of a body slidably arranged on a table plate 8 of a feed table of a planing machine: On the side facing the flat side of the table plate 8 the feeding device 1 has a straight guiding surface 13 bearing against the table plate and on its side facing the upright side 9 of the table plate 8 another straight guiding surface 14 bearing against this upright side 9. At its front end the feeding device 1 is provided with sharp teeth 2, points, pins or the like, which as the feeding device is moved forward against a wooden workpiece 10 to be fed for the purpose of working, force their way into the rear end face of the workpiece after which the position of the workpiece is dependent upon the guiding of the feeding device. During the feed movement, during which the feeding device is moved by the hand holding a handle 15 or can be moved by known mechanical arrangements, and is steadily pressed with its guiding surfaces 13, 14 against the flat side and the upright side of the table plate respectively, the workpiece 10 is simultaneously worked on two sides by a horizontal cutter spindle 11 and a vertical cutter spindle 12. The feed of the workpiece 10 by the feeding device 1 is carried out to within a short distance in front of the horizontal cutter spindle 11 where a buffer 3 provided on the handle 15 of the feeding device and which may be made of rubber, comes into contact with a stop or abutment 5 provided for limiting the feed. By withdrawal the feeding device 1 can easily be detached from the workpiece 10 at this point, after which the workpiece covers the short remainder of its travel alone being guided by hand or by a mechanical drive. The reliable bearing of the guiding surfaces 13, 14 of the feeding device 1 is ensured by the provision of electromagnets 6 and 7, of which the magnet 6 facing the flat side and the magnet 7 facing the upright side 9 of the table plate 8 are simultaneously effective. Known permanent magnets might also be provided instead of electromagnets.

From the above detailed description of the invention it is believed that the construction will at once be apparent, and while there is herein shown and described a preferred embodiment of the invention, it is nevertheless to be understood that minor changes may be made there in without departing from the spirit and scope of the invention as claimed.

1. A feeding device for workpieces on planing machines comprising in combination with a table provided with a planar surface located in one plane and another planar surface located in a second plane substantially transverse to said first mentioned plane, a first guiding surface bearing against the first mentioned surface of said table and a second guiding surface bearing against the second mentioned surface of said table, teeth means provided on the front face of said device for engaging the rear portion of the workpiece, stop means on said table and a handle on said device provided with buffer means for engaging said stop means so as to limit the feeding stroke of said device.

2. The combination as set forth in claim 1 including electromagnetic means on said device for maintaining continuous contact between said flat surfaces and said device during the feeding of a workpiece along said table surfaces.

3. The combination as set forth in claim 2, wherein said electromagnetic means comprises two magnets disposed at an angle to each other and cooperating respectively with the two vertically disposed surfaces on said table.

4. In combination with a table for planing machines comprised of two angularly disposed guiding surface extending in the same direction, a feeding device, said feeding device including two angularly disposed guiding surfaces in alignment with and cooperation with the respective guiding surfaces on said table, and electromagnetic means on said feeding device for insuring continuous contact between said table surfaces and said feeding device during the feeding of a workpiece along said table surfaces.

5. The combination as set forth in claim 4, wherei
id electromagnetic means comprises two electromagnets disposed at an angle to each other and respectively operating with the two angularly disposed surfaces on id table.

References Cited in the file of this patent

UNITED STATES PATENTS

<table>
<thead>
<tr>
<th>Patent Number</th>
<th>Inventor</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,676,624</td>
<td>Geemen</td>
<td>Apr. 27, 1954</td>
</tr>
<tr>
<td>2,700,993</td>
<td>Pence</td>
<td>Feb. 1, 1955</td>
</tr>
<tr>
<td>2,702,569</td>
<td>Yelle</td>
<td>Feb. 22, 1955</td>
</tr>
<tr>
<td>686,339</td>
<td>Ritchie</td>
<td>Nov. 12, 1901</td>
</tr>
</tbody>
</table>

FOREIGN PATENTS

<table>
<thead>
<tr>
<th>Patent Number</th>
<th>Country</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>364,794</td>
<td>France</td>
<td>June 9, 1906</td>
</tr>
</tbody>
</table>

References Cited in the file of this patent