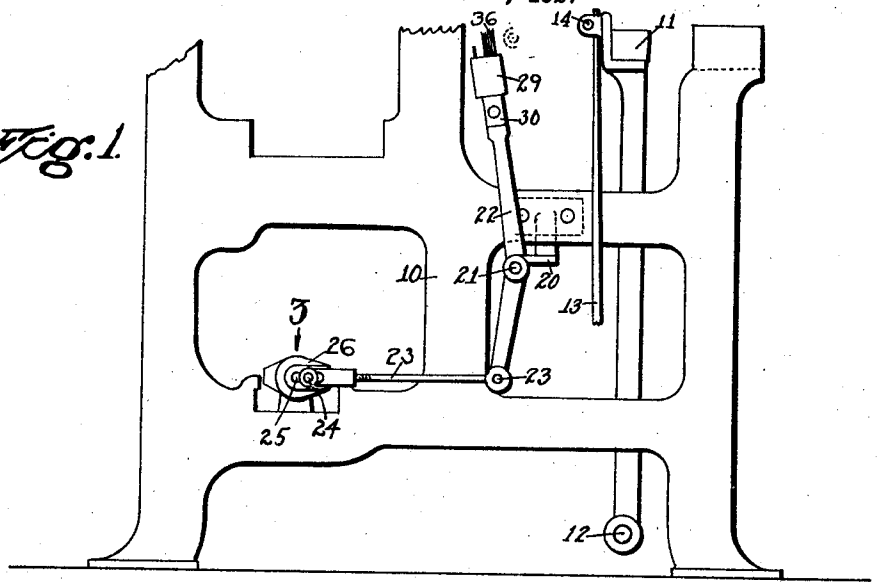
Dec. 18, 1928. 1,695,386

O. V. PAYNE

PICKER ROD LUBRICATOR FOR LOOMS

Filed Dec. 6, 1927

Fig. 1.



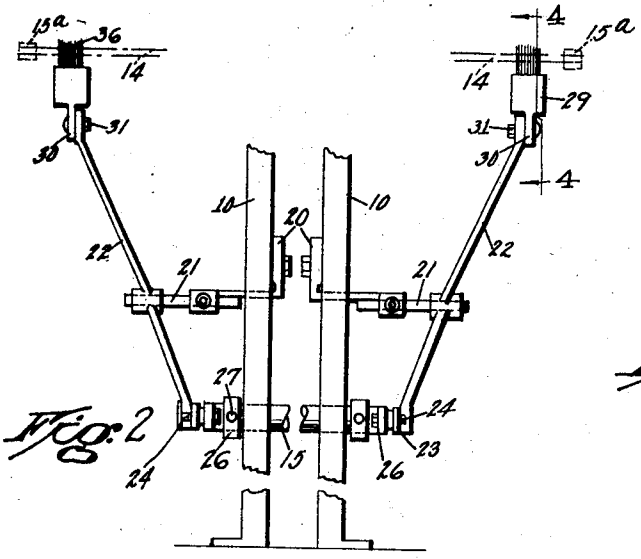


Fig. 2.

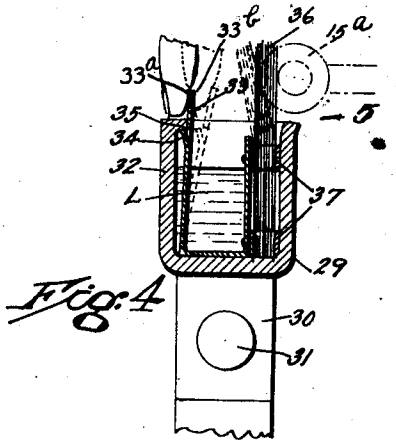


Fig. 4.

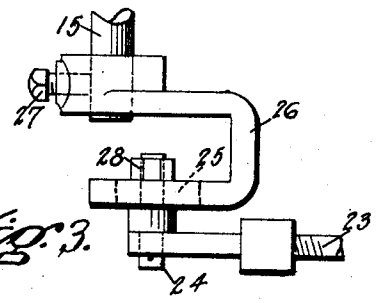


Fig. 3.

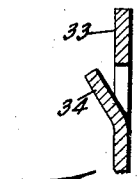


Fig. 6.

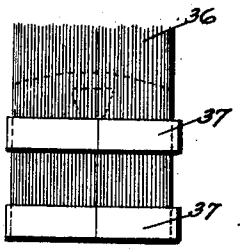


Fig. 5.

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UNITED STATES PATENT OFFICE.

OSCAR V. PAYNE, OF WORCESTER, MASSACHUSETTS, ASSIGNOR TO CROMPTON & KNOWLES LOOM WORKS, OF WORCESTER, MASSACHUSETTS, A CORPORATION OF MASSACHUSETTS.

PICKER-ROD LUBRICATOR FOR LOOMS.

Application filed December 6, 1927. Serial No. 233,144.

This invention relates to improvements in lubricator mechanism for the picker spindles for so-called spindle, pick looms and it is the general object of the invention to provide a device of this kind having a flexible element to engage the picker spindle to leave a small deposit of oil or other lubricant thereon.

Spindle pick looms usually employ a rod parallel to the path of the lay located behind the shuttle to guide the picker which is made of raw hide and has a bearing portion to slide along this rod and also has a shuttle tip engaging portion. The picker stick engages the picker between the picker bearing portion and the shuttle engaging portion to move said picker inwardly when the lay is moving rearwardly and is substantially midway between its extreme forward and rearward positions. It is found that the picker spindle is not always properly lubricated and it is a common experience to find these rods hot from the friction of unoiled pickers. It is an important object of my present invention to provide a lubricating device mounted independently of the lay and having a flexible element to engage the picker spindle preferably at a time when the lay is in its rearmost position, the flexible element yielding when in contact with the spindle so that fine adjustments are not necessary.

It frequently happens that the weaver will desire to pick the shuttle by hand and this operation is usually carried out with the lay substantially in its rearmost position. This operation is permissible because of the flexible character of the lubricating element.

The invention is particularly useful in looms wherein the picker sticks work in alternation. In such a loom the picker is active on one pick and idle on the rest, and it is a further object of the invention to move the lubricator for each spindle into oiling position when the corresponding picker is idle.

With these and other objects in view which will appear as the description proceeds, my invention resides in the combination and arrangement of parts hereinafter described and set forth in the claims.

In the accompanying drawings, wherein I have shown a convenient embodiment of my invention,

Fig. 1 is an end elevation of a loom having my improved device mounted thereon,

Fig. 2 is a front elevation of the lubricating device showing the same applied to both ends of the loom, the intermediate portion of the loom being omitted.

Fig. 3 is an enlarged top plan view taken in the direction of arrow 3, Fig. 1,

Fig. 4 is an enlarged vertical section on line 4—4 of Fig. 2,

Fig. 5 is a front elevation of the flexible spindle engaging element taken in the direction of arrow 5, Fig. 4, and

Fig. 6 is an enlarged detail vertical section of the upper end of one of the flexible lubricator element carriers.

Referring to the drawings I have shown a loom frame 10 having a lay 11 which swings about a rocker shaft 12. The lay moves back and forth toward and from the front of the loom and carries a picker stick 13 which by mechanism not shown is moved inwardly toward the center of the loom. The lay has mounted thereon adjacent each end a picker spindle 14 shown in Figs. 1 and 2 and there is mounted on each of said spindles a picker 15^a indicated in Fig. 4 in dot and dash lines.

The bottom shaft 15 is caused to rotate in well-known manner and as shown herein receives a complete revolution every alternate beat-up of the lay. The device is shown in connection with a lay having a single box at one end so that the picker sticks will be alternately operative. The matter thus far described is of the usual construction and forms no part of my present invention.

In carrying my improvements into effect I provide each end of the loom with a lubricating mechanism and as these are both the same except for the setting of the driving mechanism with respect to the bottom shaft 15 I will describe but one of them. A bracket 20 is secured to the loomside and is provided with a stud 21 on which rocks a lever 22. The lower end of said lever is connected by a link 23 to a stud 24 adjustably mounted in a slot 25 in crank arm 26. Said crank arm is secured to the bottom shaft 15 by set screw 27 so that its angular position with respect to the bottom shaft may be varied in order that the oscillation of the lever 22 may be altered relatively to

the cycle of the pick. The stud 24 is held in position by a nut 28 which together with the slot 25 permits a variation in the throw or extent of oscillation of said lever 22.

The upper end of the lever is provided with an oil container 29 having a depending foot 30 secured by bolt 31 to the upper end of the rocking lever 22. The container is formed as shown in Fig. 4 with a cup or oil reservoir 32 closed on four sides and the bottom but open on the top to receive a carrier 33. Said carrier as shown in Fig. 4 is substantially U-shaped in form and the left hand vertical portion 33^a thereof has struck therefrom a slight boss 34 which fits under a bead 35 formed on the left wall of the reservoir 32 as viewed in Fig. 4. The carrier is preferably made of resilient material so that the left portion 33^a may be sprung away from the adjacent wall of the oil reservoir as indicated in dotted lines in Fig. 4.

That part of the device which had direct contact with the picker spindle 14 comprises a large number of bristles 36 which are held to the carrier 33 by means of a pair of clips 37 which as indicated in Fig. 4 may be riveted to the right hand vertical portion 33^b of the carrier. The bristles may be similar to those commonly employed in making brushes and extend to the bottom of the oil so as to be permanently in contact with the lubricant indicated at L in Fig. 4.

In the operation of the loom the bottom shaft 15 will rotate as previously described and on each alternate pick of the loom the rod 23 will be moved rearwardly and will be in its rearmost position at the time the lay is also in its rearmost position. The oil container is located below that portion of the lay which supports the picker spindle so as to be out of the path of the latter and its supporting structure. The bristles may engage the spindle at any point thereof which is passed by the picker and it will be evident because of the flexible nature of the element 36 that it is not necessary to have the throw of the lever very accurately timed inasmuch as said bristles will flex or bend to the left as viewed in Fig. 4 if the lever is given a slightly greater motion than is necessary to bring said bristles in contact with the spindle. As the picker moves along the spindle the small amount of oil deposited on the latter by the bristles is picked up and moved along said spindle with the picker so that the spindle is kept supplied with oil.

As previously stated it sometimes happens that the weaver desires to pick the shuttle by hand and this will ordinarily happen when the lay is in its rearmost position in order that the shed may be wide open. In this position, however, the bristles may be in contact with the spindle but because of the flexibility of the bristles they will bend to one side to permit the passage of the picker. In actual operation the extent of movement of the lever 22 is rather limited so that the oil reservoir has a slow back and forth motion and the oil has no tendency to splash out of its container. When it is desired to remove the bristles to renew the same the carrier may be manipulated as indicated in Fig. 4, the upwardly projecting portion 33^a of the carrier affording means by which the operator can grasp and remove the carrier.

During the running of the loom the picker sticks will be alternately operative and the oiling device will be so timed by the setting of the cranks 26 that each lubricating device will be located behind the range of movement of its corresponding picker spindle when the picker for the latter is to be active, that is, the bristles of each device are in lubricating position with respect to the spindle only on alternate beats of the loom. This result is achieved by having the cranks 26 at the two ends of bottom shaft 15 set in opposite directions. The purpose of this is to permit the picker to move along the spindle without interference and to permit the lubricating device to engage the spindle at such times as the picker will not engage the bristles.

From the foregoing it will be seen that I have provided a very simple means for lubricating the picker spindles for looms and that said device includes a set of bristles which by their flexibility not only render unnecessary delicate settings of the operating mechanism but also permit the manual operation of the picker and shuttle by the weaver when the lay is in its rearmost position.

Having thus described my invention it will be apparent that changes and modifications may be made therein by those skilled in the art without departing from the spirit and scope of the invention and I do not wish to be limited to the details herein disclosed, but what I claim is:

1. In a loom having a lay provided with a picker spindle to be moved with the lay forwardly and backwardly each pick of the loom, an oil reservoir, a movable mounting for said reservoir, flexible elements extending upwardly from the reservoir to have contact with the spindle, and means to move said reservoir out of range of movement of the spindle on alternate beats of the loom.

2. In a loom having a lay provided with a picker spindle to be moved with the lay forwardly and backwardly each pick of the loom, an oil reservoir, a movable mounting for the same, a flexible lubricating element extending upwardly from the reservoir, means to move the reservoir so that said element is in contact with the corresponding picker spindle on alternate beats of the

loom and is out of contact with said spindle on intermediate beats of the loom.

3. In a loom having a lay provided with a picker spindle to be moved with the lay forwardly and backwardly each pick of the loom, a lever having a period of oscillation which is complete in two picks of the loom, a reservoir for oil mounted on said lever, a set of bristles extending into the reservoir and projecting upwardly therefrom, said bristles to have engagement with the corresponding spindle on alternate beats of the loom.

4. In a loom having a lay provided with a picker spindle to be moved with the lay forwardly and backwardly each pick of the loom, a lever having a period of oscillation which is complete in two picks of the loom, a reservoir for oil mounted on said lever, a set of bristles extending into the reservoir and projecting upwardly therefrom, said bristles to have engagement with the corresponding spindle on alternate beats of the loom, and a carrier for said bristles detachably held to the reservoir.

5. In a picker spindle lubricating device for a loom having a lay and a picker spindle which moves rearwardly with the lay in the normal operation of the loom, a set of bristles to be engaged by the spindle when the lay reaches its rearmost position, an oil container having vertical walls, a carrier for the bristles formed of resilient material, and interengaging connections between the carrier and a portion of the reservoir to hold said carrier and bristles in said reservoir.

6. In a picker spindle lubricating device for a loom having a lay and a picker spindle which moves rearwardly with the lay in the normal operation of the loom, a flexible lubricating element to be engaged by the spindle when the lay reaches its rearmost position, an oil container having vertical walls, a carrier for the flexible lubricating element formed of resilient material, and interengaging connections between the carrier and a portion of the reservoir to hold said carrier and flexible lubricating element in said reservoir.

7. In a picker spindle lubricating device for a loom having a lay and a picker spindle which moves rearwardly with the lay in the normal operation of the loom, a flexible lubricating element to be engaged by the spindle when the lay reaches its rearmost position, an oil container having vertical walls, a carrier for the flexible lubricating element formed of resilient material, interengaging connections between the carrier and a portion of the reservoir to hold said carrier and flexible lubricating element in said reservoir, and clips secured to a portion of the carrier and surrounding the flexible element to hold the same to the carrier.

8. In a picker spindle lubricating device for a loom having a lay and a picker spindle thereon movable rearwardly in the normal operation of the loom, a flexible lubricating element to engage the spindle when the lay is in its rearmost position, an oil cup having substantially vertical walls, a U-shaped carrier formed of resilient material having vertical spaced portions, one of said portions affording support for the flexible lubricating element, and detachable interconnections between the other vertical portion and the vertical wall of the cup to hold said carrier in normal operative position.

9. In a picker spindle lubricating device for a loom having a lay and picker spindle thereon which moves back and forth with the lay each pick of the loom, a movable picker spindle lubricating element having a portion for direct engagement with the spindle, and means to present said portion to the spindle to cause engagement between said portion and the spindle on alternate beats of the loom.

In testimony whereof I have hereunto affixed my signature.

OSCAR V. PAYNE.