No. 751,063. PATENTED FEB. 2, 1904.

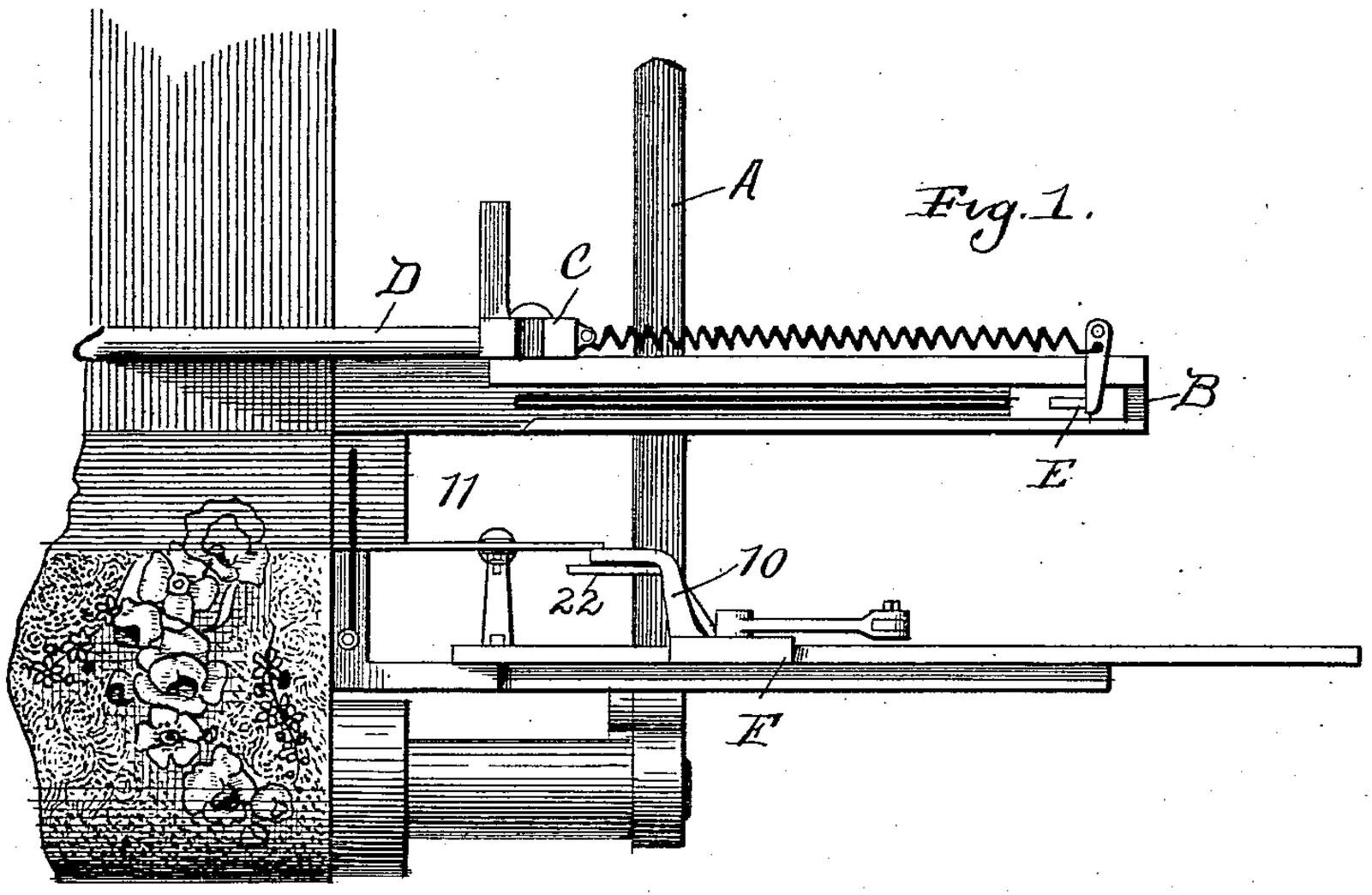
F. FARMER.

OILING DEVICE FOR LOOMS.

APPLICATION FILED MAY 13, 1899. RENEWED JULY 7, 1903.

NO MODEL.

Fig. 1.



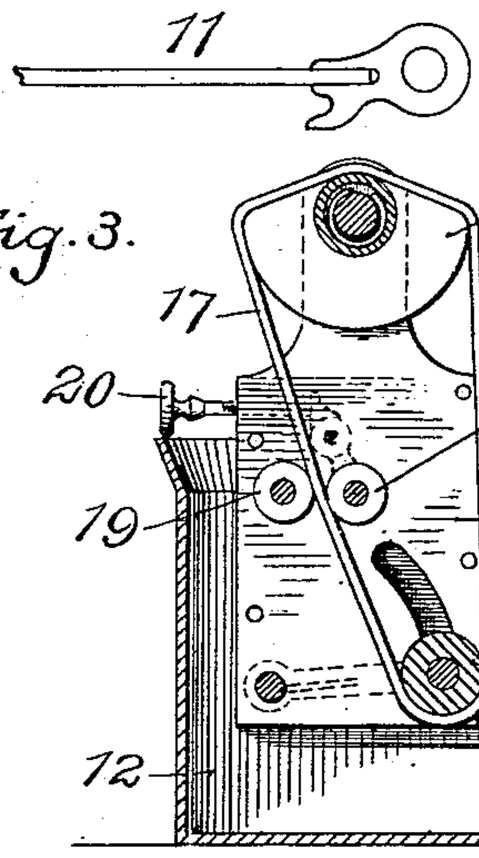


Fig. 3.

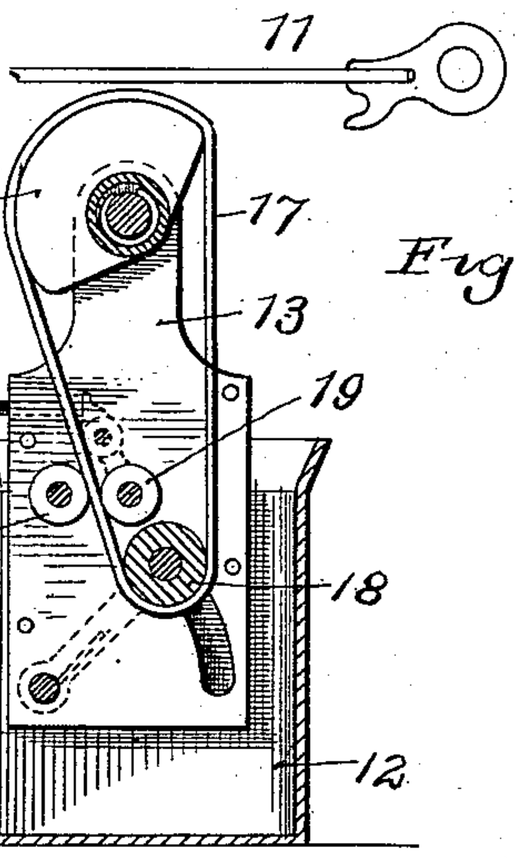
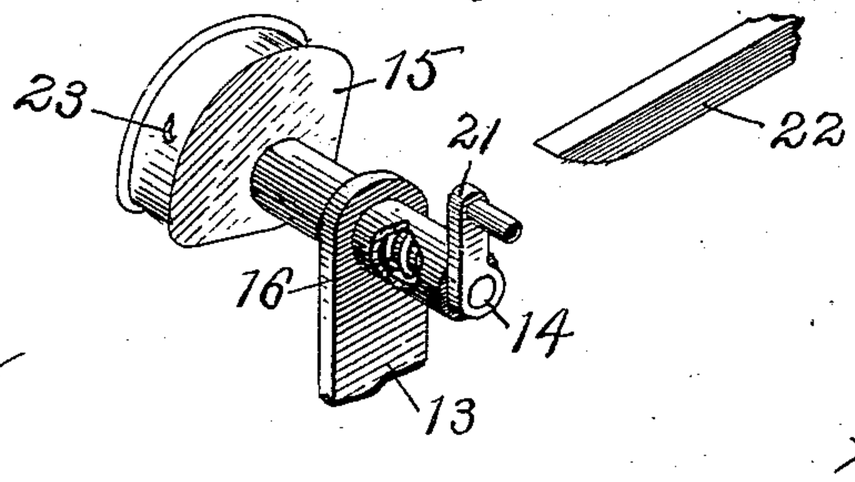


Fig. 2.

Fig. 4.



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No. 751,063. Patented February 2, 1904.

UNITED STATES PATENT OFFICE.

FREDERICK FARMER, OF WORCESTER, MASSACHUSETTS, ASSIGNOR TO MATTHEW J. WHITTALL, OF WORCESTER, MASSACHUSETTS.

OILING DEVICE FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 751,063, dated February 2, 1904.

Application filed May 13, 1899. Renewed July 7, 1903. Serial No. 164,603. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK FARMER, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented a new and useful Oiling Device for Looms, of which the following is a specification.

The object of my present invention is to provide a simple and efficient oiling device for looms which is constructed to insure a uniform lubrication of the pile-wires and which can be adjusted to deliver different quantities of oil to the wires as desired.

To these ends my invention consists of the parts and combinations of parts, as hereinafter described, and more particularly pointed out in the claims at the end of this specification.

In the accompanying drawings, Figure 1 is a plan view of sufficient parts of a loom to illustrate the application of my invention thereto. Fig. 2 is an enlarged sectional view of an oiling device constructed according to my invention. Fig. 3 is a similar view showing the parts in a different relative position, and Fig. 4 is a detail view illustrating the parts employed for moving the wicking out of the path of the hook which catches and withdraws the pile-wires.

In weaving pile fabrics the wires on which the piles are formed have to be successively withdrawn from the fabric, and when the fabric is of a close texture or is beaten up comparatively hard a heavy pull is required to withdraw each successive wire. To facilitate this operation, it is now customary to provide an oiling device for oiling or lubricating each wire as it is withdrawn, so that when said wire is again automatically woven into the fabric it may have sufficient oil thereon so that it can be readily pulled or drawn out. While these oiling devices are essential to the successful weaving of pile fabrics, care has to be exercised in using the same. This is especially true in weaving light and delicately colored carpets. If an oiling device is arranged to deliver too great a quantity of oil to the wires, the surface of the carpet is liable to show grease spots or stains, and, on the other hand, if the wires are not sufficiently lubricated they will heat or become stuck in the fabric, so as to be broken or cause the loom to be otherwise deranged.

In United States Letters Patent to Joseph S. Giles, No. 481,558, granted August 30, 1892, an oiling device for looms is shown which consists of wicking mounted so as to be moved out of the way of the hook which is employed for catching and withdrawing the wires. My invention relates to an oiling device of this class; and the objects of my invention are to employ an endless oiling surface or conveyer for engaging the wires, to provide means for imparting motion in a constant direction to the conveyer or apron, so that fresh surfaces will be presented to successive wires, to mount the endless conveyer so that the same will be moved out of the path of the hook which catches and withdraws the wires, to provide simple and efficient means, preferably consisting of a pair of adjustably-mounted pressure-rollers, for regulating the amount of oil delivered by the conveyer to the wires, and to improve the specific details of oiling devices of this class.

Referring to the drawings and in detail, A designates the loom side; B, the vibrating lathe; C, the sword; D, the reed, and E the picker-stick. The arrangement and operation of these parts is so well understood that it is not thought necessary to describe the same at length in this specification.

F designates a carriage which may be reciprocated by any of the ordinary connections, and extending from the carriage F is the hook 10 for successively withdrawing the wires 11.

An oiling device constructed according to my invention as herein illustrated may be supported by a bracket from the loom side in the ordinary manner, and consists of a reservoir or oil-can 12, having side frames 13 secured therein.

Journaled in a sleeve supported at the upper end of the side frames 13 is a transverse shaft 14, carrying a partial lubricating wheel or cam 15. Mounted on or trained over the partial wheel 15 is an endless conveyer or

ribbon 17, which is preferably formed of wicking or other capillary material. A spring 16 is coiled on the shaft 14 inside of the sleeve in which the same is journaled and normally tends to hold the lubricating cam or wheel up in the position illustrated in Fig. 2 to engage the wires 11. A spring-pressed tension-roller 18 is supported in the lower bite of the conveyer and is preferably spring-pressed, so as to keep the ribbon or conveyer straightened out. The oiling-ribbon 17 passes up between pressure-rollers 19, one of said pressure-rollers preferably being adjustable by means of a screw 20 to regulate the bite or pressure of said rolls on the oiling-ribbon.

As illustrated most clearly in Fig. 4, the shaft 14 is provided with a crank-arm 21, having an outwardly-extending crank-pin. Carried by the carriage F is a spear or cam 22 for engaging the crank-pin, which extends from the crank-arm 21.

The partial wheel or cam is provided at its surface with an advancing catch or pin 23. This pin 23 is preferably bent at such an angle as to embed itself into the oiling-ribbon 17 and advance the oiling-ribbon when the wheel or cam 15 is turned in one direction and to be pulled out from the oiling-ribbon when the wheel or cam oscillates in the opposite direction.

The operation of an oiling device as thus constructed is as follows: When the carriage F is moved to cause the hook 10 to engage and withdraw one of the wires 11, the spear or cam 22 will turn the wheel or cam 15 to the position illustrated in Fig. 3, allowing the endless ribbon or conveyer 17 to move down out of the path of the hook and the end piece of the wire which is being withdrawn. As the carriage F moves back the spring 16 will turn the partial wheel or cam 15 so as to raise the lubricating-ribbon up into engagement with the wire 11. At the same time the advancing catch or pin 23 will embed itself in the ribbon 17 and will advance the same in a constant direction to present fresh surface for engagement with the wire. To regulate the amount of oil carried up by the conveyer or ribbon 17 from the can, it is simply necessary to adjust the screw 20 to regulate the pressure between the rolls 19.

I am aware that many changes may be made in the construction of my oiling device for looms by those who are skilled in the art. For example, I believe myself to be the first to provide an oiling device in which the lubricating-surface is advanced or moved forward in a constant direction to present fresh wearing-surfaces to the wires, and instead of employing an oiling surface or conveyer having the form of an endless ribbon I may employ oiling surfaces of different constructions—as, for example, such as would be presented by a wheel or the surface of other rotating forms. I do not wish, therefore, to be limited to the form of construction which I have herein shown and described; but

What I do claim, and desire to secure by Letters Patent of the United States, is—

1. In a loom, the combination of the wires, a hook for catching and withdrawing the same, an endless lubricating-surface, and means independent of the wire motion for advancing the lubricating-surface.

2. In a loom, the combination of the wires, the hook for catching and withdrawing the same, an endless lubricating surface or conveyer for oiling the wires, and connections for advancing the conveyer in a constant direction, while not in engagement with the wires.

3. In a loom, the combination of the wires, the hook for catching and withdrawing the same, a source of oil-supply, an endless ribbon, and means for advancing said ribbon to convey oil to the wires.

4. In a loom, the combination of the wires, the hook for catching and withdrawing the same, an endless ribbon, means for advancing said ribbon to convey oil to the wires, and means for limiting or regulating the amount of oil thus conveyed.

5. In a loom, the combination of the wires, the hook for catching and withdrawing the same, an endless ribbon for lubricating said wires, means for advancing the ribbon and means for moving said ribbon out of the path of the hook.

6. In a loom, the combination of the wires, the hook for catching and withdrawing the same, an endless ribbon, a partial wheel or cam, a spring for normally turning the partial wheel or cam in position to hold the ribbon up into engagement with the wires, and a spring-pressed tension-roller mounted in the lower bite of the ribbon.

7. In a loom, the combination of the wires, the hook for catching and withdrawing the same, an oil-can, an endless ribbon or conveyer, a partial wheel or cam having a spring for normally turning the same so as to hold the oiling-ribbon up into engagement with the wires, a spring-pressed tension-roller mounted in the lower bite of the ribbon, pressure-rollers having means of adjustment to regulate the supply of oil carried up by the ribbon, and a spear or cam for turning the partial wheel so as to clear the hook, said partial wheel being provided with a catch arranged to advance the ribbon in one direction, and leave the ribbon free when the wheel is oscillated in the opposite direction.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

FREDERICK FARMER.

Witnesses:
PHILIP W. SOUTHGATE,
LOUIS W. SOUTHGATE.