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PATENTED MAR. 6, 1906.

E. MOONEY.
WOVEN FABRIC FOR LUBRICATING PADS.
APPLICATION FILED MAY 22, 1905.

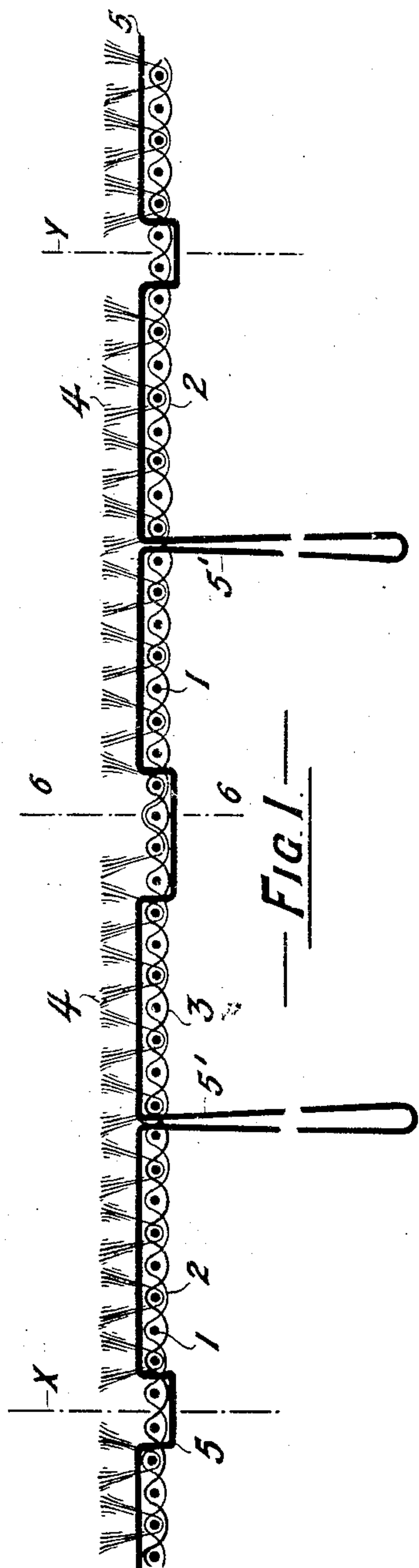


FIG. 1.

Witnesses
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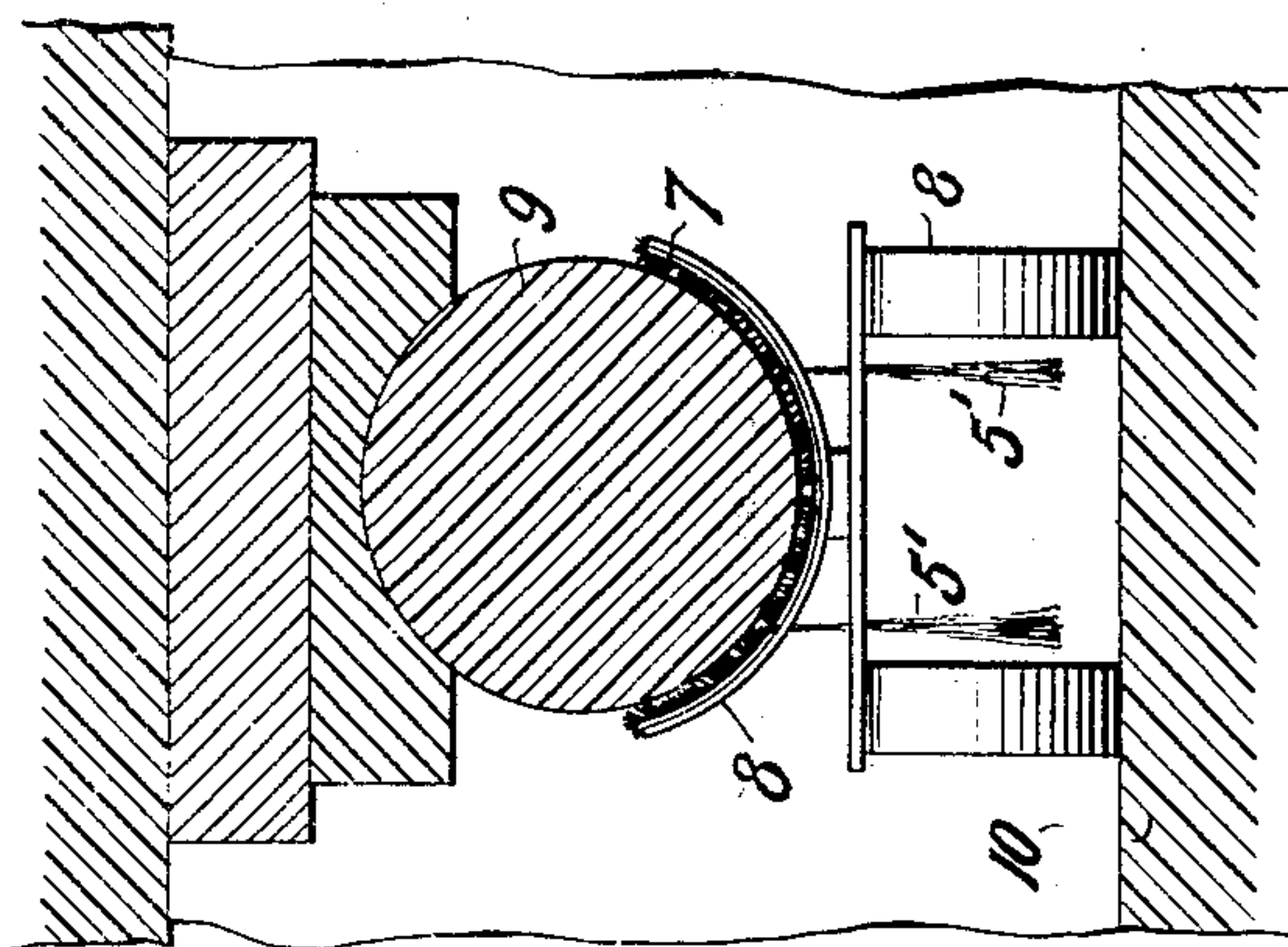


FIG. 2.

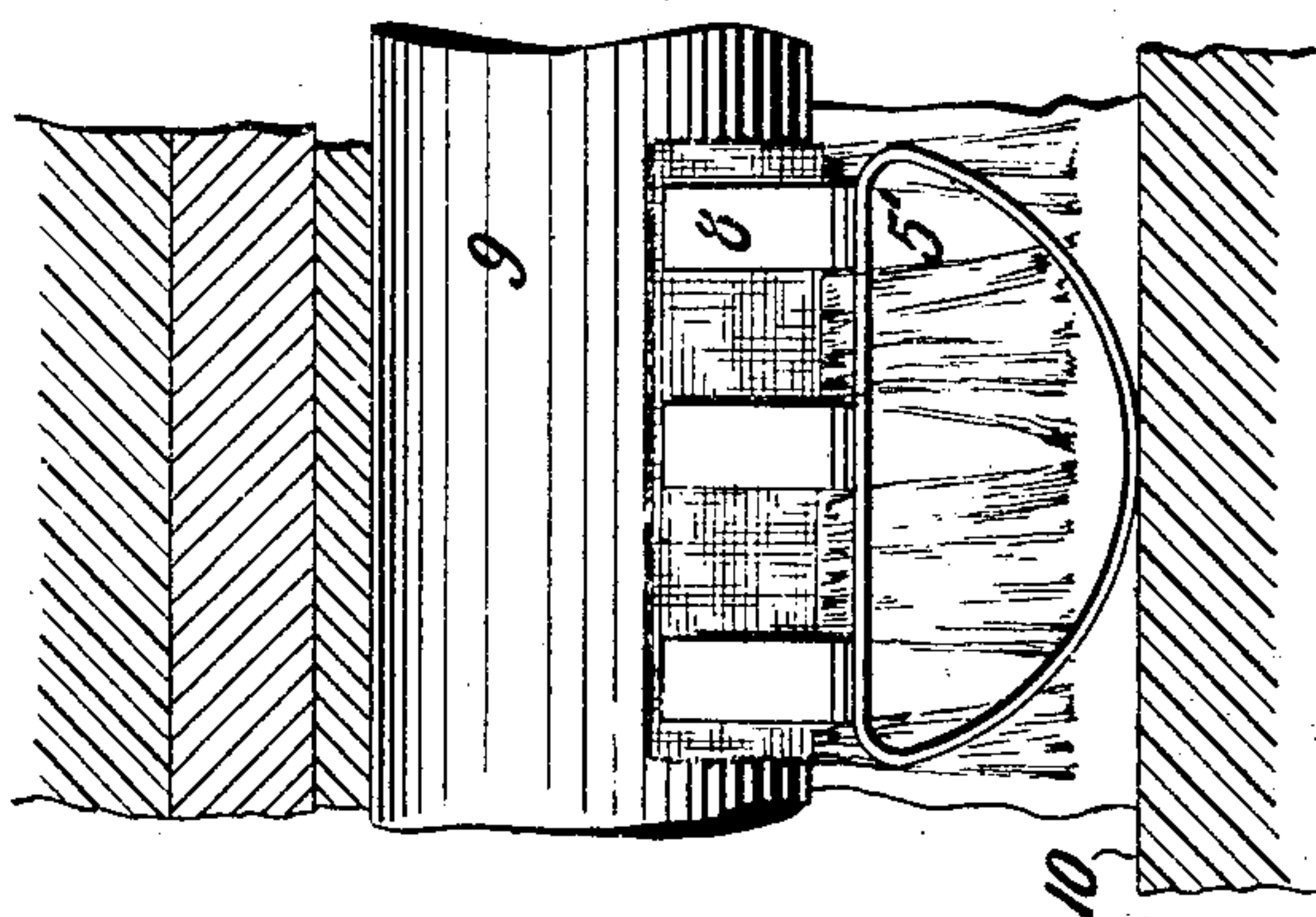


FIG. 3.

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WOVEN FABRIC FOR LUBRICATING-PADS.

No. 814,152.

Specification of Letters Patent.

Patented March 6, 1906.

Application filed May 22, 1905. Serial No. 261,653.

To all whom it may concern:

Be it known that I, ERNEST MOONEY, a citizen of the United States, residing at York, England, have invented a certain new and useful Improvement in Woven Fabrics for Lubricating-Pads, of which the following is a specification.

A known means for lubricating axles of railway-vehicles, shafts, and the like consists in placing an absorbent pad within the axle-box, which pad is held up in contact with the revoluble journal by means of some suitable frame, and from this absorbent pad, which is constructed of textile material, threads or wicks depend and extend downward into the oil in the axle-box, so that the oil ascends these feeding wicks or threads by capillary attraction, enters the body and pile of the pad, and such pad supplies the shaft with the necessary lubricant. Now in such known lubricating devices the pad itself has consisted of a pile fabric, the pile being in contact with the shaft to be lubricated, and the wicks or the like to carry the oil by capillary attraction from the axle-box have been in some cases sewed or attached to the substance of the fabric, and in other cases the body of the fabric has been formed of weft and warp threads and pile-threads while the depending threads have been formed by allowing either the warp or the weft threads which form the groundwork of the fabric to extend or to depend downward to form the feeders for the oil. Incidentally it might be mentioned that in such pads the pile has been prevented becoming hardened by pressure against a revolving shaft by means of metallic or wooden studs fixed in among the pile. Now the disadvantage incident to the construction of the pad above described is that when the depending feeding threads are composed of either the weft or the warp threads, or are incorporated with the weft and warp threads which go to form the groundwork of the fabric, the flow of the oil up such threads is greatly checked when it reaches the groundwork of the fabric, because the threads by which the oil is conducted become interlaced with the opposite threads, say, because the warp-threads carrying the oil become interlaced with the weft-threads of the groundwork of the fabric, and thereby pressed by the interweaving of the threads, and so the free flow of the oil is checked. On the other hand, if the oil is conducted to the pad by

wicks or the like stitched to the groundwork of the fabric, a break in the flow is caused where the wicks join the fabric and also the wicks so attached are likely to become disengaged.

Now according to this invention we form the groundwork of the fabric of weft and warp threads holding the pile, as usual; but beyond this we provide feeding-threads, which are inserted during the manufacture of the fabric, passing in the direction of the warp of the said fabric, extending from near the edge of the fabric loosely over the top of both the weft and warp threads for a distance, and then passing down between two weft-threads to below the surface of the fabric and formed into a depending loop of the requisite length, and then passing upward again between the adjacent weft-threads, extending loosely over the top of the fabric again for a distance, and then passing down between the weft-threads to form another series of feeder-loops, if required, and so on, so that the feeder-threads lie free and unconfined over the top of the body of the fabric in between and near the base of the pile. The feeder-loops are then divided at their loop ends, which operation may be effected in any well-known or convenient manner.

In the accompanying sheet of drawings, Figure 1 is a diagrammatic longitudinal section of the fabric. Fig. 2 is a sectional elevation, and Fig. 3 is a transverse section, illustrating the application of a lubricating-pad to a running journal.

At Fig. 1, 1 represents the weft-threads, and 2 3 the warp-threads, of the groundwork of the fabric, of which latter threads one—say that marked 3—may be a packing or stuffer warp-thread—that is, a thread of thicker or perhaps softer material than the other warp-thread; but this is optional. The pile-threads are indicated at 4 and are securely held by the weft, as shown, as is common. One of the threads which is to form the depending feeders 5' is shown by the thick black line marked 5, and it will be seen that this feeder-thread 5 is caused to overlie the weft and warp threads, so that the feeder-threads 5 are on top of what may be said to be the "groundwork" of the fabric and lie free and unconfined at the roots of the pile. At the requisite interval the feeder-threads pass between the weft-threads 1, as shown, and are caused to depend for the required length in

loop form, extending upward and again passing over the top of the groundwork of the fabric, and again through the weft to below to form the next series of feeders, and up again
 5 over the groundwork of the fabric, and so on, extending, preferably, to the edge of the material, and, as before stated, the depending loops of the feeder-threads are divided either during the course of manufacture or subse-
 10 quently. In view of the fact that such a pad is to be bent partly around the shaft-journal, the pile-threads 4 are discontinued at one or more places in a line across the pad fabric—that is, parallel with the axis of the journal to
 15 which the pad is to be applied—and at such places the feeder-threads 5 are carried beneath the groundwork of the fabric, as shown at Fig. 1. Generally it is sufficient to leave such a space at the center line 6 of the fabric—that is, immediately below the axis of the
 20 shaft—as illustrated at Fig. 1, and by so doing when the pad is curved there is no compressive action upon its threads to obstruct the free flow of the liquid lubricant. Similar
 25 spaces are left along the lines where successive pads are severed, as at X and Y in Fig. 1.

The effect attained by the improved construction of pad fabric here described is that the depending feeder-threads of such a pad
 30 are perfectly free from any constriction due to the threads which form the groundwork of the fabric, and so their capillary action is not impeded, while at the same time the feeding-threads are still held with the requisite de-
 35 gree of security by the groundwork of the fabric and feed the lubricant as directly as possible to the pile-threads by which it is supplied to the shaft to be lubricated. Moreover, by this construction the pad is formed
 40 with the feeding-threads continuous in the manufacture of the pad, so that they extend from end to end of the pad fabric, and also the depending feeders can be provided at any point on the under surface of a pad and not
 45 only as has been common heretofore at the edges of a pad. The broad application of such a pad to the particular use for which it is especially designed and intended is shown by way of example at Figs. 2 and 3, where
 50 the pad 7 is carried by a suitable framework 8, and the pad is here made with two pendant series of feeders 5', which depend from the pad at a short distance on either side of the center line, and in practice such a construction has been found to be effective and
 55 satisfactory in action, and it is a construction which is recommended, although such framework does not form part of the present invention. At the aforesaid Figs. 2 and 3, 9 represents a journal in section, and 10 a bearing-
 60 box.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a woven fabric for lubricating-pads
 65 for the journals of railway and other axles

and shafts; the combination with a woven groundwork of weft and warp textile threads, and pile-threads upon the top surface to be placed in contact with the journal; of feeder-threads extending in the direction of the
 70 warp-threads, and passing loosely over the top of both the warp and weft threads, so as to lie unconstricted at the roots of the pile, and then extending downward through said groundwork between the weft-threads, and
 75 forming beneath the same pendant feeders of the requisite length, substantially as set forth.

2. In a woven fabric for lubricating-pads for the journals of railway and other axles
 80 and shafts; the combination with a woven groundwork of weft and warp textile threads and pile-threads upon the top surface to be placed in contact with the journal; of feeder-threads extending in the direction of the
 85 warp-threads and passing loosely over the top of both the warp and weft threads, so as to lie unconstricted at the roots of the pile, then extending downward through said groundwork between the weft-threads, and forming
 90 beneath the same pendant feeders of the requisite length, then passing upward between the weft-threads, extending loosely over the top of the groundwork of the fabric for a distance, then passing downward again to form
 95 other pendant feeders, and so on, substantially as set forth.

3. In a woven fabric for lubricating-pads for the journals of railway and other axles
 100 and shafts; the combination with a groundwork of weft and warp threads, and cut pile-threads upon the top surface which is to be placed in contact with the journal, the pile-threads being discontinued for a space across
 105 the fabric parallel with the axis of the journal to which the pad is to be applied, of feeder-threads extending in the direction of the warp-threads, said feeder-threads passing over the top of the fabric at the roots of the
 110 pile, then extending downward through the ground fabric, and forming beneath the same pendant feeders, then passing upward through said ground fabric, again extending over the top of the same at the roots of
 115 the pile, then downward again through the ground fabric at the point where the pile-threads are discontinued, passing beneath and in contact with the under surface of the fabric at this point, again upward through
 120 the same on the other side of said space where the pile-threads are discontinued, then over the top of the ground fabric and again downward through the same, to form other depending feeders, then upward again through
 125 the ground fabric, and so on, substantially as described.

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