T. P. CHISHOLM.

BEARING FOR TRAVELING BRUSHES.

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999,748. **Patented Aug. 8, 1911.**

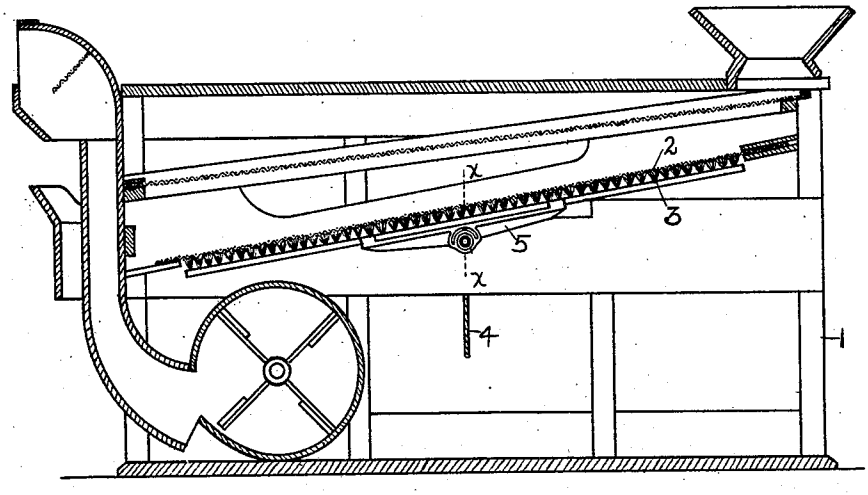

Fig. 1.

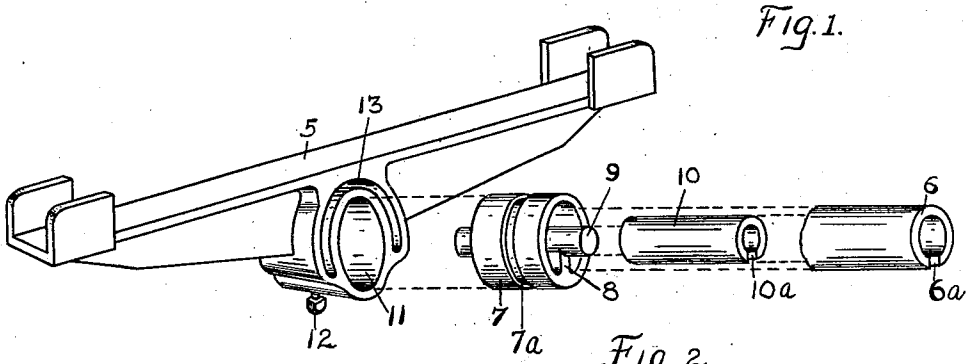

Fig. 2.

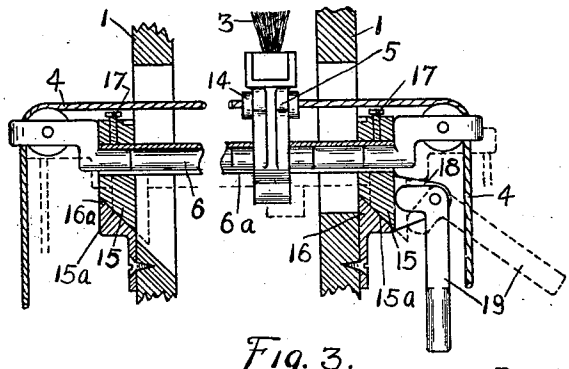

Fig. 3.

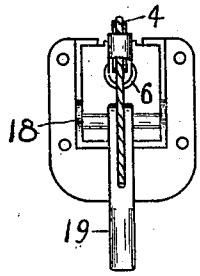

Fig. 4.

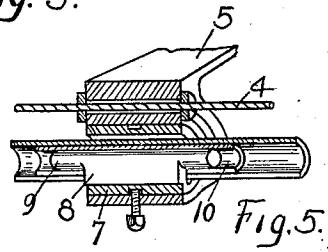

Fig. 5.

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BEARING FOR TRAVELING BRUSHES.

999,748. Specification of Letters Patent. Patented Aug. 8, 1911.

Application filed December 15, 1910. Serial No. 597,580.

To all whom it may concern:

Be it known that I, THOMAS P. CHISHOLM, a citizen of the United States, residing at Saginaw, in the county of Saginaw and State of Michigan, have invented certain new and useful Improvements in Bearings for Traveling Brushes; and I do hereby declare the following to be a full, clear and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to machines for cleaning grain seeds and beans or the like, and pertains more particularly to the construction and mounting of the traveling brush commonly used to clean the underside of the screens used in machines of this character.

The object of this invention is to provide a bearing for a traveling brush that will be simple in construction, efficient in operation, and so constructed as to prevent dust and grit from gaining access to the rubbing parts of the bearing.

A further object is to provide means by which the brush may be readily dropped out of contact with the screens and returned to contact therewith.

With these and certain other objects in view which will appear later in the specifications, the invention consists in the parts shown and claimed.

In the accompanying drawings, Figure 1 is a part vertical section of a grain cleaner with my improvement attached; Fig. 2 is a perspective detail of the brush bracket and the parts of the bearing, disassembled; Fig. 3 is a detail partly in vertical section, taken on the line *x*—*x* of Fig. 1; Fig. 4 is a side view of the bracket that supports the tube on which the brush travels; and Fig. 5 is a vertical section through the bearing, showing the parts assembled.

In the drawings, 1 represents the frame of the machine, 2 is the screen, and 3 the traveling brush adapted to be moved transversely from side to side of the screen. The brush may be traversed back and forth by any suitable means as a cord 4. The cord may be operated by any suitable form of mechanism, the drive mechanism being omitted from the drawings as it forms no part of my invention. The brush 3 is seated in a bracket 5 adapted to travel back and forth along a hollow bar or tube 6, being actuated by the cord 4 as above described. The tube 6 may be mounted in suitable supporting brackets carried by the frame 1. The details of the bracket will be described later.

The construction of my improved dirt-proof bearing is shown in Figs. 2, 3 and 5. The underside of tube 6 is slotted as at 6^a. Surrounding the tube 6 but preferably out of contact with it is a sleeve 7 preferably made of cast metal. Formed integral with the sleeve 7 is a web 8 that projects radially inward, as shown in Figs. 2 and 5, the inner end of the web 8 terminating in a cylindrical hub 9, the axis of which coincides with the axis of the sleeve 7; the hub 9, sleeve 7 and web 8 being formed in one piece and presenting somewhat the appearance of a wheel having a hub and only one spoke. The sleeve is assembled on the tube 6 by sliding on from the end, the web 8 being received in the slot 6^a.

It is desirable to minimize the wear on the hub 9 and I therefore prefer to surround it by a bushing 10, the lower periphery of which is formed with a slot 10^a to slip over the web 8. The bushing 10 is preferably made of a tube of brass or other anti-friction metal, and is of such diameter as to slide easily within the tube 6.

When the sleeve 7, bushing 10 and tube 6 are assembled, the sleeve will slide easily back and forth over the tube 6, but the inner surface of the sleeve 7 will be out of contact with the outer surface of the tube 6, there being a clearance between them to prevent the wear on the outer surface of the tube and the inner surface of the sleeve which would occur if the weight of the brush and bracket were carried directly on the tube, on account of the grinding action of the grit that falls through from the screen.

The bearing contact is between the inner surface of the tube and the outer surface of the bushing 10, and is on the bottom and inside of the tube 6 instead of being on the top and outside as would be the case if an ordinary bearing were used.

I prefer to mount the brush 3 on the sleeve 7 so that the brush may be tilted at various angles. For this purpose a number of construction details may be employed, but I prefer the construction which will now be described.

On the sleeve 7 is received a bored hub 11 of the bracket 5. In order to provide means by which the bracket 5 and its brush 2 may be tilted at various angles to suit

various inclinations of the screens 2, I prefer to loosely mount the bored hub 11 on the sleeve 7 so that it may be turned on the sleeve. Longitudinal movement of the hub 11 with reference to sleeve 7 is prevented by means of a set screw 12 or similar device, the end of which is received in a peripheral groove 7^a formed on the sleeve 7. By this means the angle of inclination of the brush 3 may be readily varied and it may be clamped in any desired position.

It is essential that the cord 4 remain straight while moving the brush from one extremity of its travel to the other, and to permit of the cord remaining straight while the angle of inclination of the brush is varied, I provide around the bored hub 11 a semi-circular slot 13 through which the cord 4 passes, as shown in Figs. 2 and 5. The cord 4 is provided with buttons 14 by which the bracket 5 is moved.

By the means above described it will be seen that I have produced a simple and inexpensive bearing that is practically dust-proof and self-cleaning, and is so arranged that the rubbing surfaces can easily be renewed if they become worn.

In changing brushes or in changing screens and sometimes also during the operation of the machine it is desirable to quickly lower the brush to take it out of contact with the screen. For this purpose I have produced the device illustrated in Figs. 3 and 4, in which 15, 15 are blocks having their lower ends beveled upwardly as at 15^a and resting on suitable beveled seats 16, 16^a. The blocks are secured to the opposite ends of tube 6 by means of set screws 17 or otherwise. The beveled seat 16 is formed with a pair of laterally projecting lugs 18 between which is pivoted an L-shaped lever 19, as shown in Fig. 3. Moving the lever 19 out to the position shown in dotted lines, releases the block 15 and also the corresponding block at the opposite end of the tube 6, allowing the tube to drop down and outwardly as indicated by dotted lines in Fig. 3, thereby releasing the brush 3 from contact with the screen 2. Similarly, the brush can be quickly returned to contact with the screen by lowering the handle.

By the means above described I have produced a simple, inexpensive bearing for traveling brushes, and means for actuating the bearing to bring the brush quickly into contact or out of contact with the screen.

Having described my invention, what I claim and desire to secure by Letters Patent, is:—

1. A bearing for traveling brushes comprising a tube formed with a longitudinal slot in its underside, a sleeve surrounding said tube but out of contact therewith, a radial inwardly projecting web on said sleeve, a hub on said web, and means adapted to adjustably secure a brush to said sleeve.

2. A bearing for traveling brushes comprising a tube formed with a longitudinal slot in its underside, a sleeve surrounding said tube but out of contact therewith, a radial inwardly projecting web on said sleeve, a hub on said web, a slotted bushing on said hub, and means adapted to adjustably secure a brush to said sleeve.

3. A bearing for traveling brushes comprising a tube formed with a longitudinal slot in its underside, a sleeve surrounding said tube but out of contact therewith, a radial inwardly projecting web formed integral with said sleeve, a central cylindrical hub formed integral with said web, a slotted bushing on said hub, and means adapted to adjustably secure a brush to said sleeve.

4. A bearing for traveling brushes comprising a tube formed with a longitudinal slot in its underside, a sleeve surrounding said tube but out of contact therewith, a radial inwardly projecting web on said sleeve, a hub on said web, an apertured hub surrounding said sleeve, a bracket carried by said apertured hub, and means for adjustably securing said apertured hub to said sleeve.

5. A bearing for traveling brushes comprising a tube formed with a longitudinal slot in its underside, a sleeve surrounding said tube but out of contact therewith, a radial inwardly projecting web on said sleeve, a hub on said web, an apertured hub, a set screw in said hub, and a bracket carried by said hub and adapted to receive a traveling brush.

6. In a bearing for traveling brushes, the combination with a tube formed with a longitudinal slot on its under side, means for adjustably supporting the ends of said tube, a sleeve surrounding said tube but out of contact therewith, a radial inwardly projecting web on said sleeve, a hub on said web, and means adapted to adjustably secure a brush to said sleeve.

In testimony whereof, I affix my signature in presence of two witnesses.

THOMAS P. CHISHOLM.

Witnesses:
CHRISTINE A. BRAIDEL,
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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents. Washington, D. C."