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HARROW DISK SHARPENER

Filed Aug. 8, 1923

Fig.1.

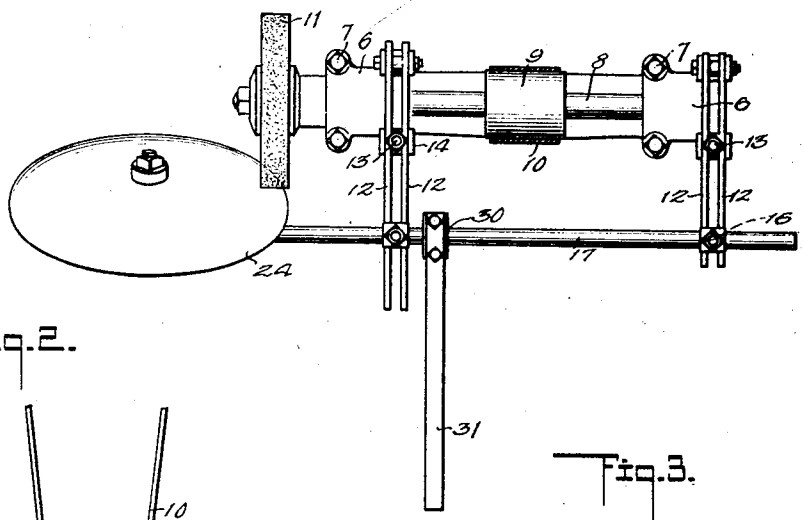


Fig.2.

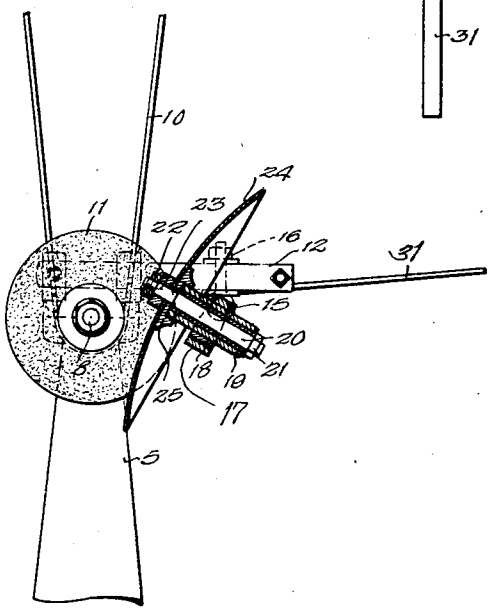
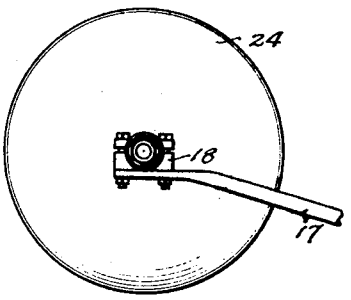


Fig.3.



WITNESSES

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UNITED STATES PATENT OFFICE.

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HARROW-DISK SHARPENER.

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The present invention relates to new and useful improvements in grinding machines, and it pertains more particularly to a machine for sharpening the disks of disk harrows.

It is one of the primary objects of the invention to provide new and improved means for supporting a harrow disk in frictional contact with a grinding element in order that the peripheral edge of the disk may be sharpened.

It is a further object of the invention to construct a support of this character in such a manner that it is capable of use in connection with grinding machines of the conventional type.

It is a further object of the invention to construct a support of this character in such a manner that the disk is capable of adjustment transversely radially and circumferentially of the grinding element.

With the above and other objects in view, reference is had to the accompanying drawings, in which—

Figure 1 is a plan view of a conventional type of grinding machine with a harrow disk support constructed in accordance with the present invention secured thereto;

Fig. 2 is a view in end elevation of the grinding machine showing the harrow disk and its support in section;

Fig. 3 is a rear view of the harrow disk showing the manner in which it is attached to its support.

Referring more particularly to the drawings, the reference character 5 designates a vertical standard of a grinding machine, and such vertical standard carries a pair of spaced bearings, the upper half 6 of each of which is removable being secured in position by means of bolts 7. Mounted in the bearings is a shaft 8, and such shaft carries intermediate of its ends, a pulley 9, around which a belt 10 passes to drive the shaft. Mounted on the end of the shaft 8 is a grinding wheel 11.

The foregoing is a conventional type of grinder and forms no particular part of the present invention, except in combination with the attachment shown for supporting harrow disks in the grinding position relative to the grinding wheel of the grinding machine.

In carrying out the invention two arms are used in spaced relation, and each of such arms preferably comprises two spaced parallel members 12. These arms are adapted to be secured to the grinding machine in spaced relation as shown in Fig. 1, and to secure these arms to the grinding machine, two of the bolts 7 of each bearing are removed and inserted in their place are bolts 13. These bolts 13 are carried by U-shaped members 14, which embrace the arms 12, and said bolts pass through the openings occupied by the bolts 7, and when the nuts carried by the bolts 13 are screwed down they serve to position the arms, and, at the same time, secure the upper halves 6 of the bearings in proper position.

Mounted between the spaced members 12 of each arm is an eyebolt 15, more clearly shown in Fig. 2, and said eyebolt has a nut 16 carried by its upper end, by means of which the eyebolts are secured to their respective arms 12. Mounted in the eyebolts 15 is a rod 17, which rod extends parallel to the shaft 8, and said rod is provided at one end with a bearing 18. This bearing 18 is adapted to receive a sleeve 19, and mounted in the sleeve 19 is a shaft 20. This shaft is secured in the sleeve by means of a nut 21 and a nut 22. This shaft 20 has a squared portion 23 which is adapted to receive the squared opening in a harrow disk designated by the numeral 24. A block 25 is employed, which block is adapted to surround the sleeve 19 and form a bearing for the disk 24 when the nuts 21 and 22 are tightened. The bearing 18 is adapted to permit of adjustment of the sleeve 19 relative to the rod 17. This gives an adjustment of the harrow disk radially of the grinding wheel 11.

The rod 17 is adapted for adjustment in a longitudinal direction and this provides adjustment of the harrow disk transversely of the face of the grinding wheel 11, and the rod 17 being rockable in the eyebolts 15, gives an adjustment of the harrow disk 24 circumferentially of the grinding wheel 11. Secured to the rod 17, by means of a clamp or the like, 30, is a lever 31, and said lever is adapted to rock the rod 17 in the eyebolts 15 in order to move the harrow disk to and from the grinder 11 in a radial direction.

The device functions in the following manner:

The rod 17 is mounted in the spaced arms after they have been secured to the grinder. The harrow disk is then secured to the rod

17 and by means of the arm 31 is moved to grinding position. As the grinding wheel 11 is rotated, due to frictional contact of the grinding wheel with the harrow disk the peripheral edge of the disk will be ground, and, at the same time, rotated, so that the entire peripheral edge will be subjected to the grinding action.

What is claimed is:

A harrow disk support for grinding machines, comprising in combination, a pair of spaced arms, means for rigidly attaching said arms to the frame of the grinding machine and in spaced relation to each other, an eye-bolt bearing supported from each arm, means for adjustably connecting each bearing to its respective arm, a shaft mounted in said bearings and parallel to the grinder shaft and capable of rocking and longitudinal movement therein, a bearing carried by one end of said shaft, stub shaft carried by said last mentioned bearing for supporting a harrow disk therein, and means carried by said first-mentioned shaft and rigidly secured thereto for rocking and sliding the shaft in its bearings to move the harrow disk relative to the grinding wheel of the grinding machine.

TOM FOX.