(No Model.)

G. WENZELMANN.

DISK SHARPENER.

No. 540,847. Patented June 11, 1895.

Fig. 1.

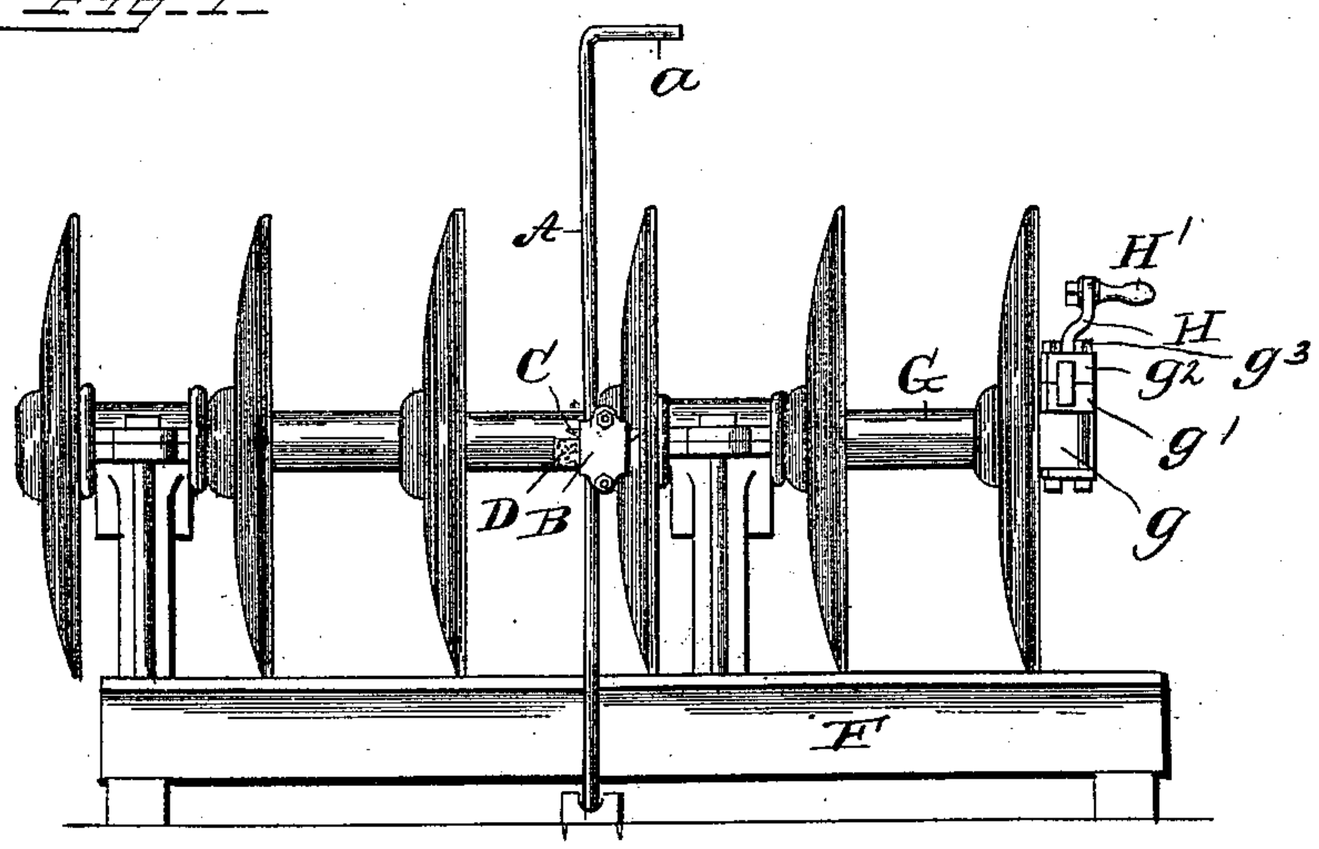
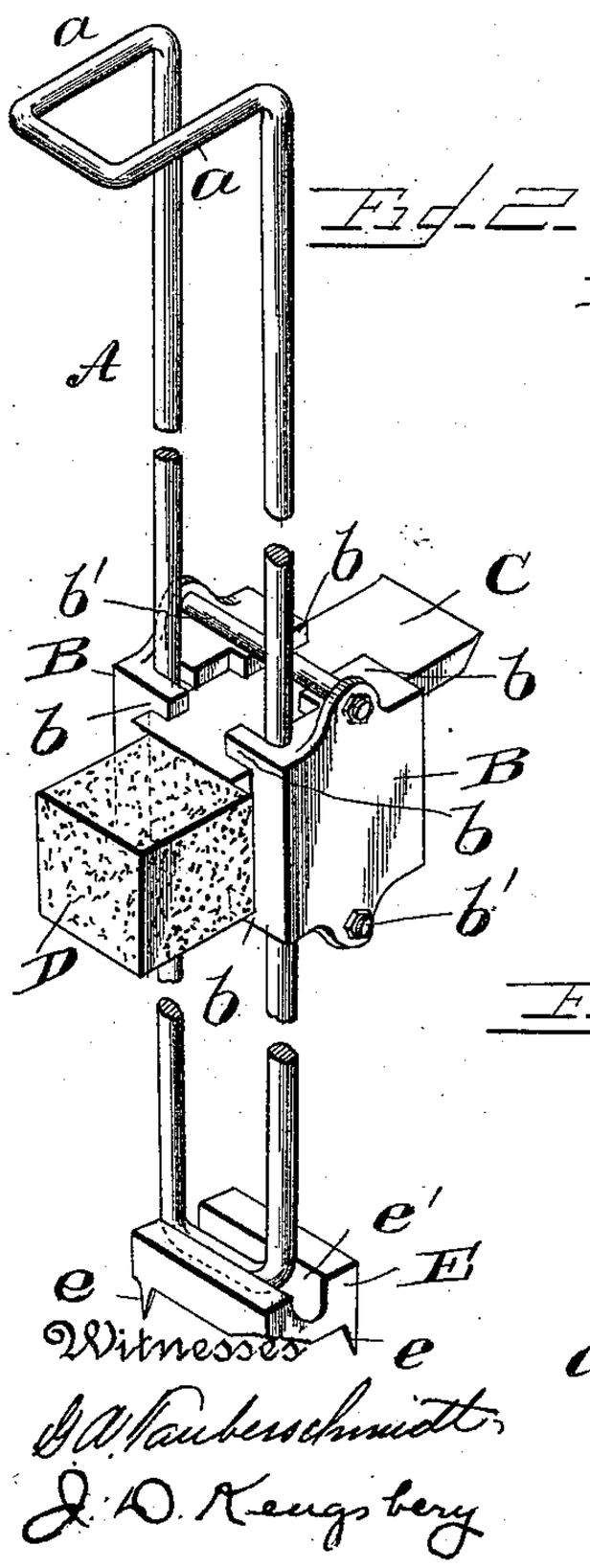


Fig. 2.



Witnesses
G. A. Taubenschmidt.
L. O. Kengsbery

Fig. 2a.

Fig. 2b.

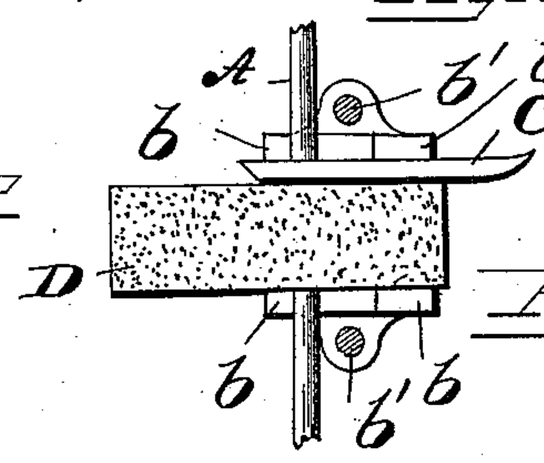


Fig. 3.

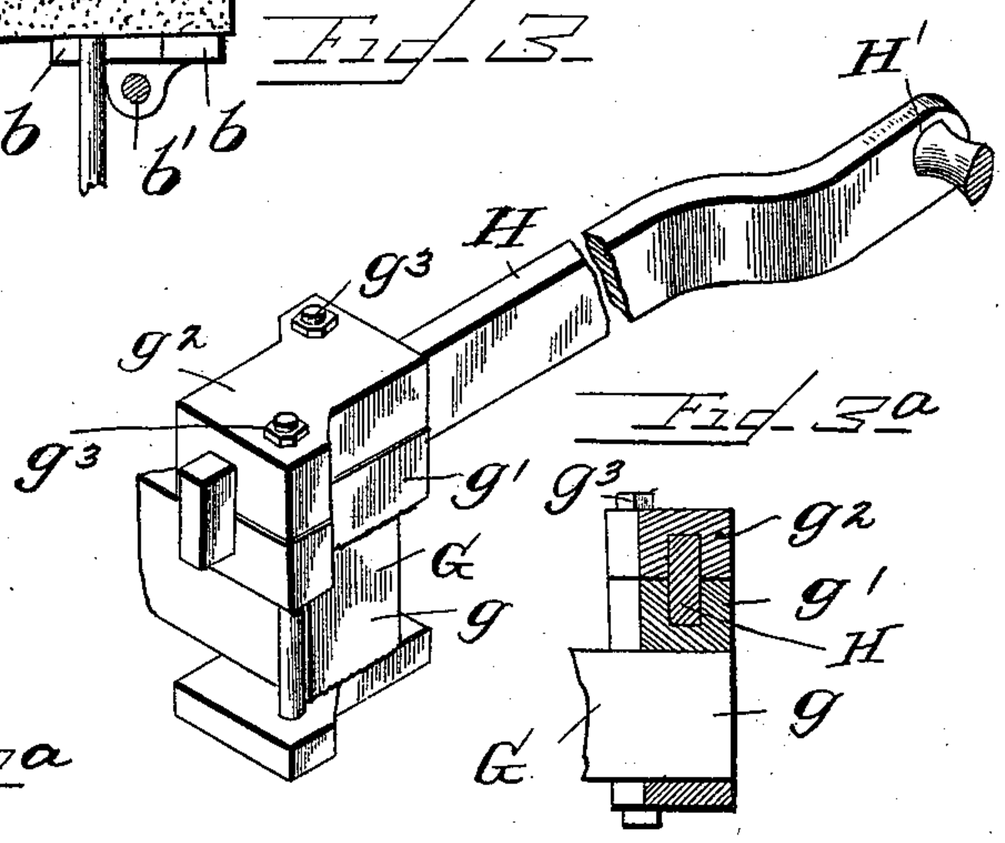


Fig. 3a.

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UNITED STATES PATENT OFFICE.

GUSTAVE WENZELMANN, OF MISSAL, ILLINOIS.

DISK-SHARPENER.

SPECIFICATION forming part of Letters Patent No. 540,847, dated June 11, 1895.

Application filed February 25, 1895. Serial No. 539,652. (No model.)

To all whom it may concern:

Be it known that I, GUSTAVE WENZELMANN, a citizen of the United States, residing at Missal, in the county of Livingston and State of Illinois, have invented certain new and useful Improvements in Disk-Sharpeners; 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.

My invention is an improvement in sharpening devices for cultivator disks and consists in the novel features hereinafter fully described reference being had to the accompanying drawings which illustrate one form in which I have contemplated embodying my invention and my said invention is fully disclosed in the following description and claims.

Referring to the accompanying drawings, Figure 1 represents a series of cultivator-disks and my improved sharpening device in operative relation therewith. Fig. 2 is a perspective view of the sharpening device proper. Fig. 2^a is a detail view of the lower part of the same, showing a slightly-modified construction. Fig. 2^b is a sectional view of the clip and knife and emery-block. Fig. 3 is a detail perspective view of my improved adjustable crank for rotating the disks while they are being sharpened. Fig. 3^a is a sectional view of the crank disk-shaft and crank-securing clip.

In the drawings A represents the vertically disposed standard of my knife and emery holding grinder. This standard consists in this instance of two parallel bars of iron united at their lower ends and at their upper ends provided with offset portions *a a* which are also united and form a handle. I might form this standard of a single piece but I prefer to form it in the manner shown and described.

The standard A is provided with a two part clip B B between the parts of which a cutting or grinding knife C and a block D of emery or other suitable grinding material are held. The clip B B is formed as shown in Fig. 2, each part B being provided with a vertical recess or groove to engage the standard A and horizontal webs, projections or flanges *b* at top and bottom to engage the knife and emery. The parts of the clip are clamped upon the knife C and block D and upon the vertical bars of the standard between which the knife and block are placed by a pair of bolts *b'* provided with suitable nuts. By loosening the nuts the clip can be placed and secured at any desired height on the standard A and the knife and block can also be adjusted to different positions or the knife removed for sharpening or for other purposes. When in position for use the block of emery and the knife will preferably be so arranged that the one will extend outwardly on one side of the clip and the other will extend outwardly on the other side so that by reversing the position of the standard the knife or the emery may be brought into engagement with the disk to be ground.

E represents what I term the fulcrum block which may be formed of wood or iron or other suitable material and is preferably provided with a series of penetrating points *e* on its bottom so that it will remain where it is placed on the ground or floor. The upper face of this block is provided with a socket or recess *e'* which is formed to receive the lower end of the standard A. Instead of using the fulcrum block E, I may if preferred provide the lower end of the standard A with studs or spikes $a^\times$ $a^\times$ as shown in detail, Fig. 2^a.

In using my improved disk sharpener the cultivator or harrow will be simply turned over so that the disks are uppermost and my improved adjustable crank or handle will be secured to the end of the disk supporting shaft so that the shaft and disks can be rotated. The standard A will be placed in position in the fulcrum block so that the knife C can be brought to bear upon the periphery of the disk at the proper angle. The disk shaft is then rotated and when the disk has been cut or ground sufficiently by the knife C the standard A will be reversed and the emery block will be brought to bear upon the disk to finish the work of sharpening it. Each disk will be treated in the same manner, but it is obvious that by having several of the standards A provided each with a knife and emery block several or all of the disks may be sharpened simultaneously.

In Fig. 1 I have represented a cultivator frame F turned upside down so as to hold its

disks in proper position to be sharpened, the standard A in operative position and my adjustable crank or handle applied to the shaft. This crank is formed as shown best in Fig. 3 in which G represents the disk shaft provided with a squared end.

g is the bottom plate of the handle securing clip, which has a roughened or serrated surface as shown to engage the lower face of the shaft.

g' represents what I term the intermediate plate which has a similar surface engaging the top face of the shaft and has its upper face provided with a vertically disposed recess to receive the handle bar H.

g^2 represents the top plate of the clip which has its lower side provided with a recess to engage the handle bar H.

The plates of the clip are securely clamped upon the crank bar H and the shaft G by means of bolts g^3 g^3 which pass through said plates and are provided with suitable nuts.

It will be seen that by loosening the nuts the crank bar H may be slid through the clip longitudinally and the distance from the shaft to the handle H' can be varied as desired to give a greater or less amount of leverage.

While I intend and prefer to use the grinding device as indicated, it will be obvious that one end of the standard A may be secured movably to some part of the cultivator frame without inverting the cultivator and the operator by taking hold of the handle may walk behind the cultivator as it is driven along, and hold the knife and emery against the disks so as to grind the same if desired.

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

1. A disk sharpening apparatus including among its members, a grinding standard having a device for engaging the ground at its lower end and a handle at its upper end a transversely supported knife intermediate said ends, extending on one side of the standard and a block of abrading material extending on the other side of said standard, substantially as described.

2. A disk sharpening apparatus including among its members, a grinding standard, a transversely supported knife, a block of abrading material, a clip having parts for engaging the said standard, knife and block and bolts for clamping said clip, adjustably, upon the standard, knife and block, substantially as described.

3. A disk sharpening apparatus including among its members, a grinding standard, a knife, a block of abrading material, a clip having recesses for engaging said standard and recesses extending transversely of said standard for receiving said knife and block and clamping bolts and nuts for clamping said clip adjustably upon the standard, knife and block, whereby said knife and block may be adjusted transversely of said standard and said clip may be adjusted with said knife and block longitudinally of said standard, substantially as described.

4. Disk sharpening apparatus including among its members, a grinding standard, a knife and a block of grinding material adjustably secured to said standard, and a fulcrum provided with penetrating points and a socket for receiving one end of said standard, substantially as described.

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

GUSTAVE WENZELMANN.

Witnesses:
A. E. DUNLAP,
W. C. BRARTON.