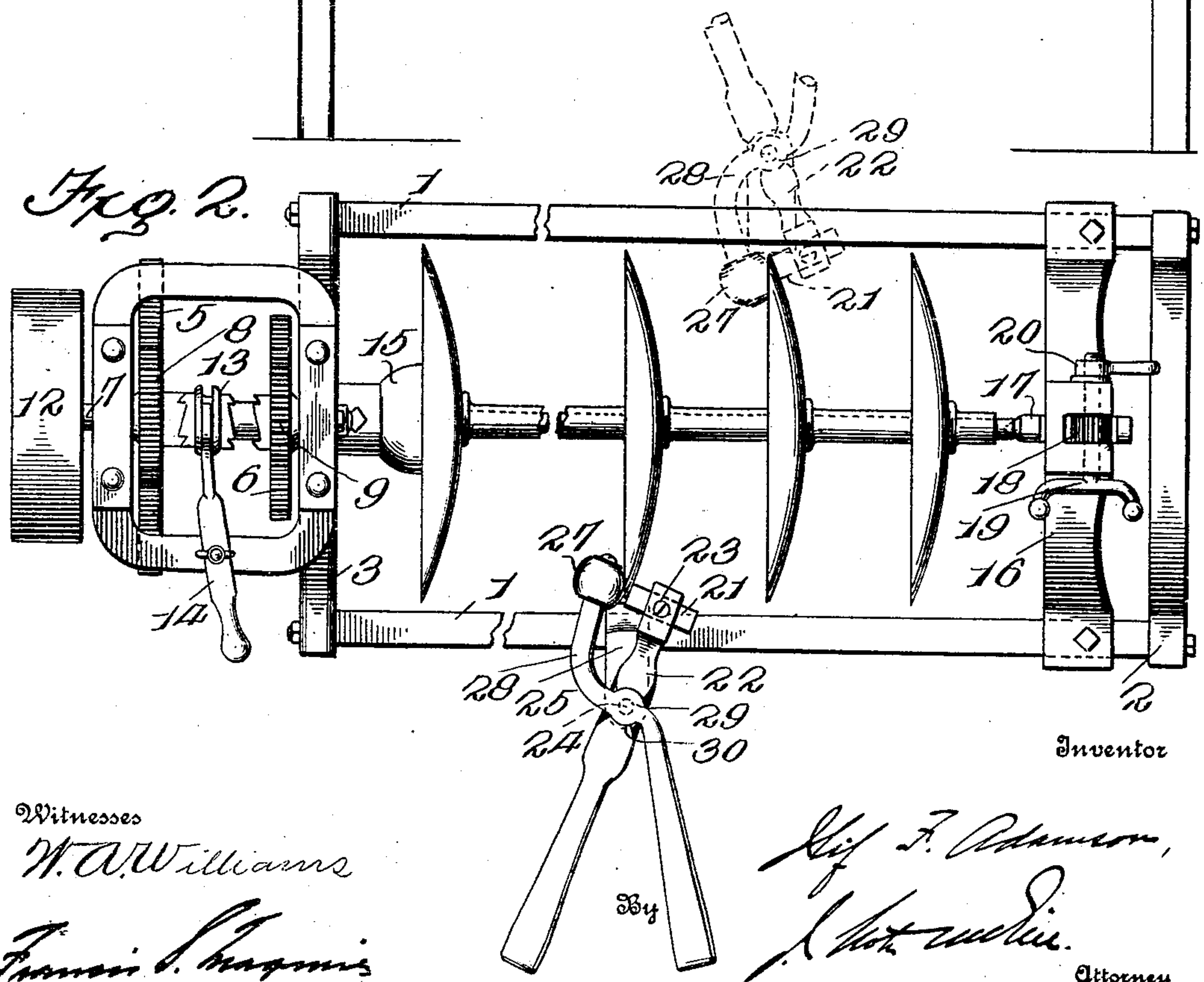
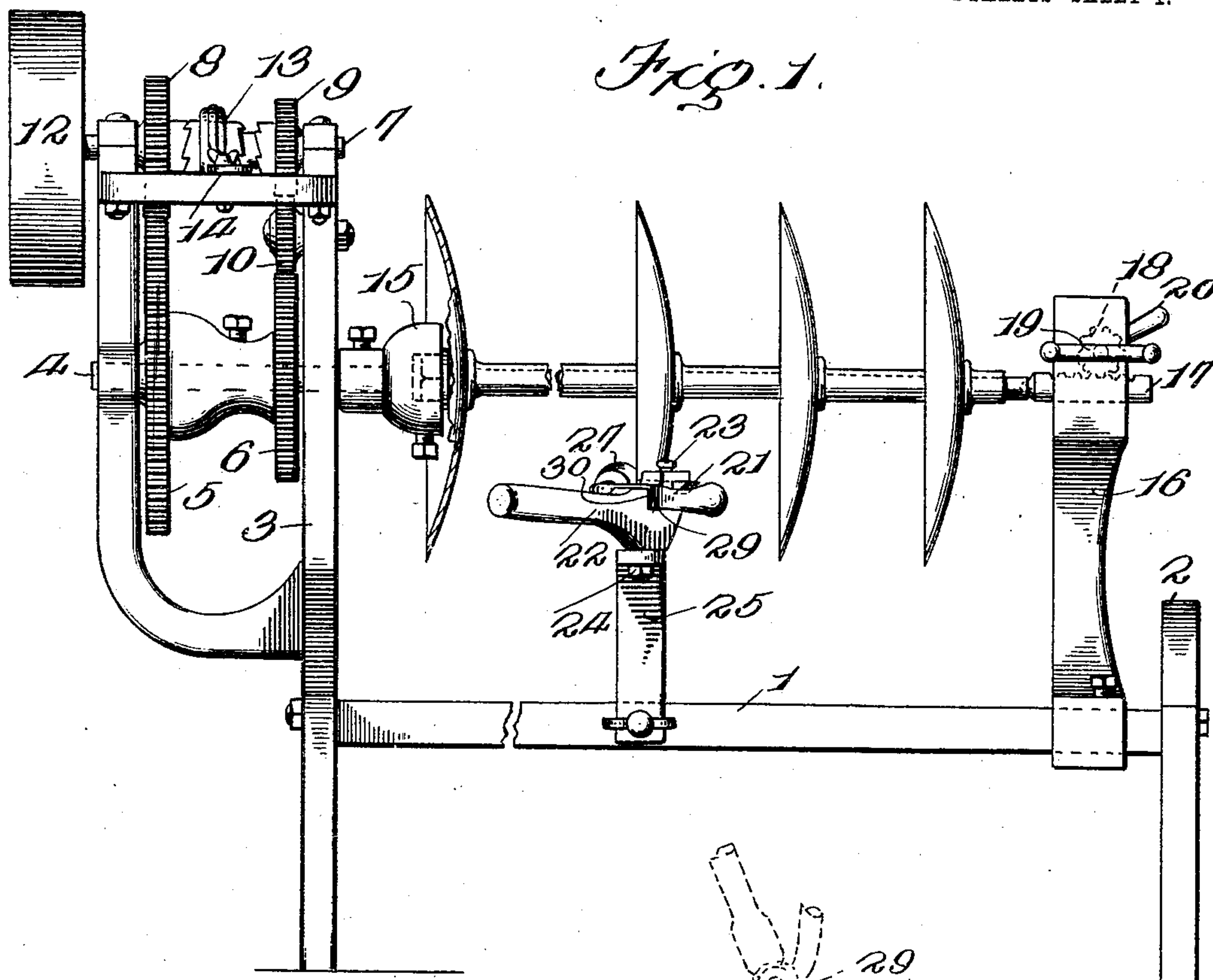


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MACHINE FOR SHARPENING DISKS.
APPLICATION FILED NOV. 13, 1908.

930,263.

Patented Aug. 3, 1909.

2 SHEETS—SHEET 1.



Inventor

Witnesses

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Fig. 3.

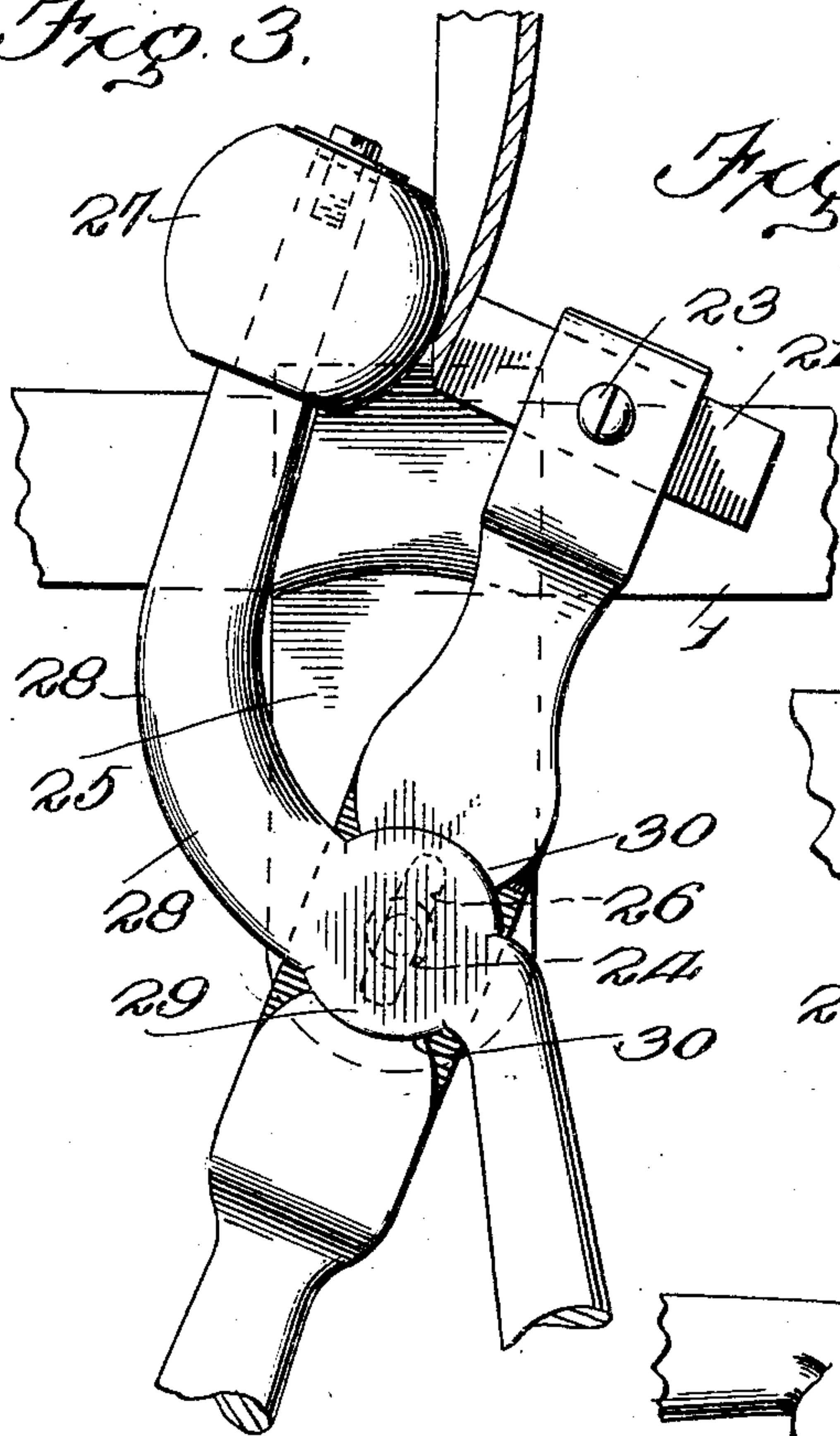


Fig. 4.

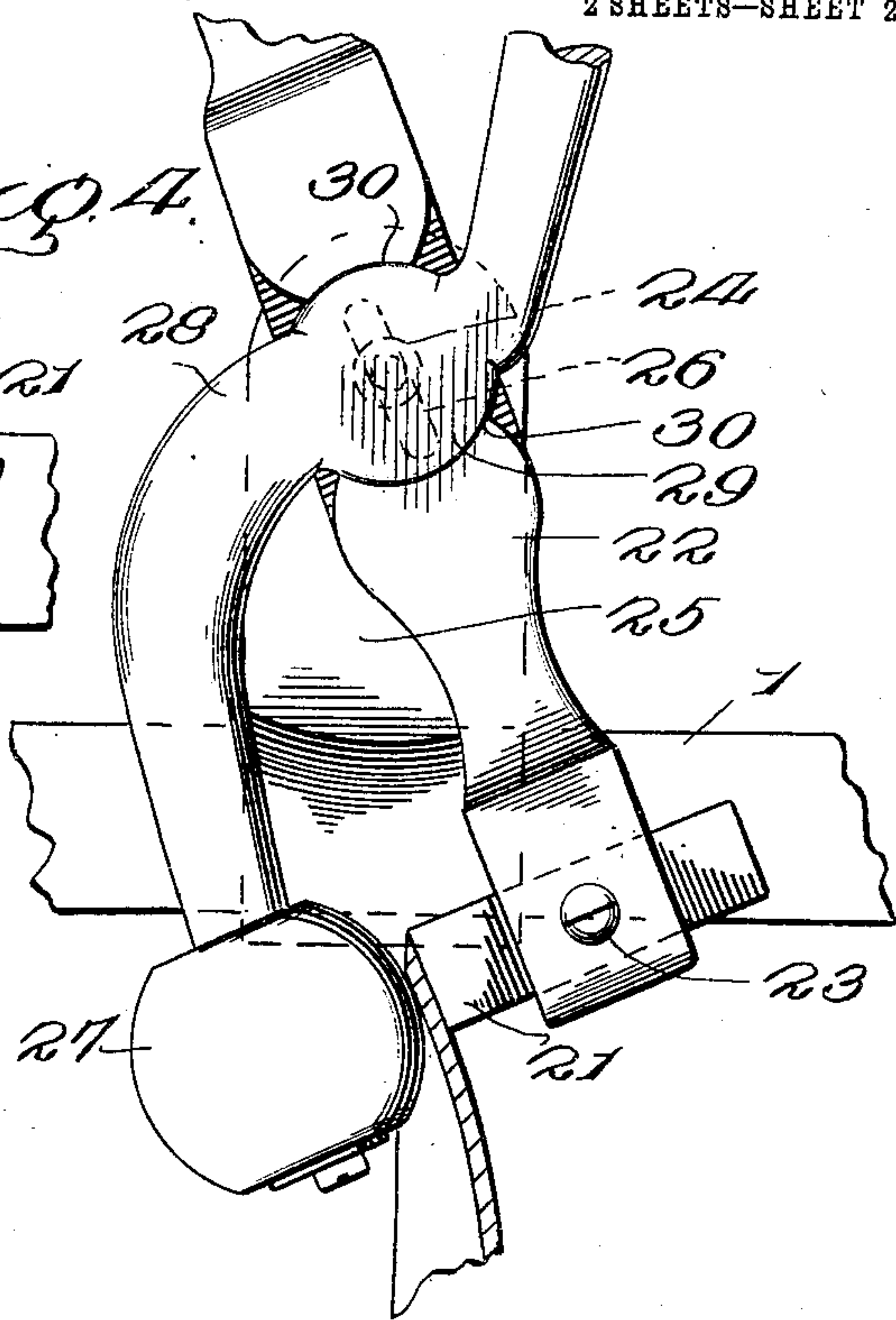


Fig. 5.

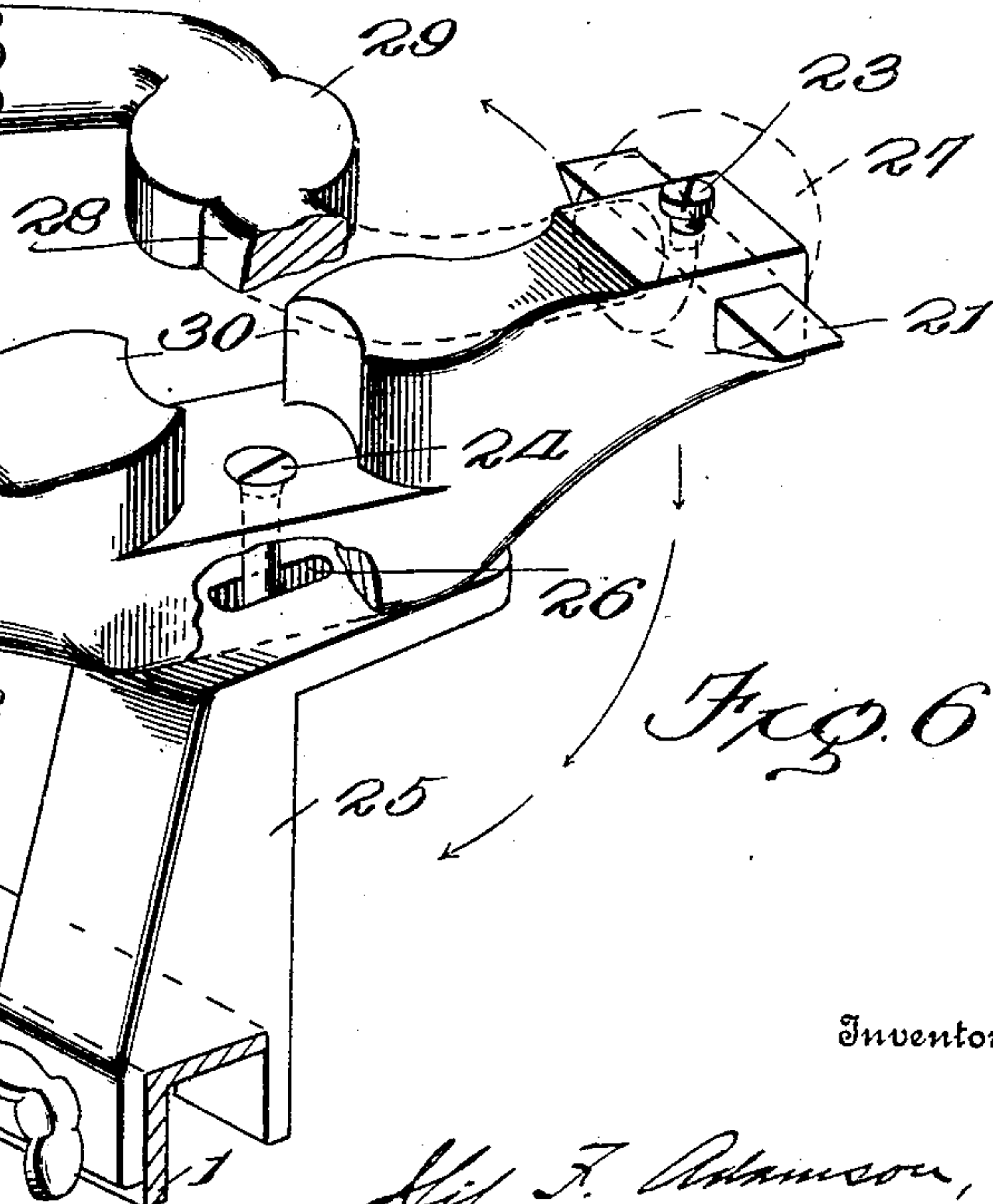
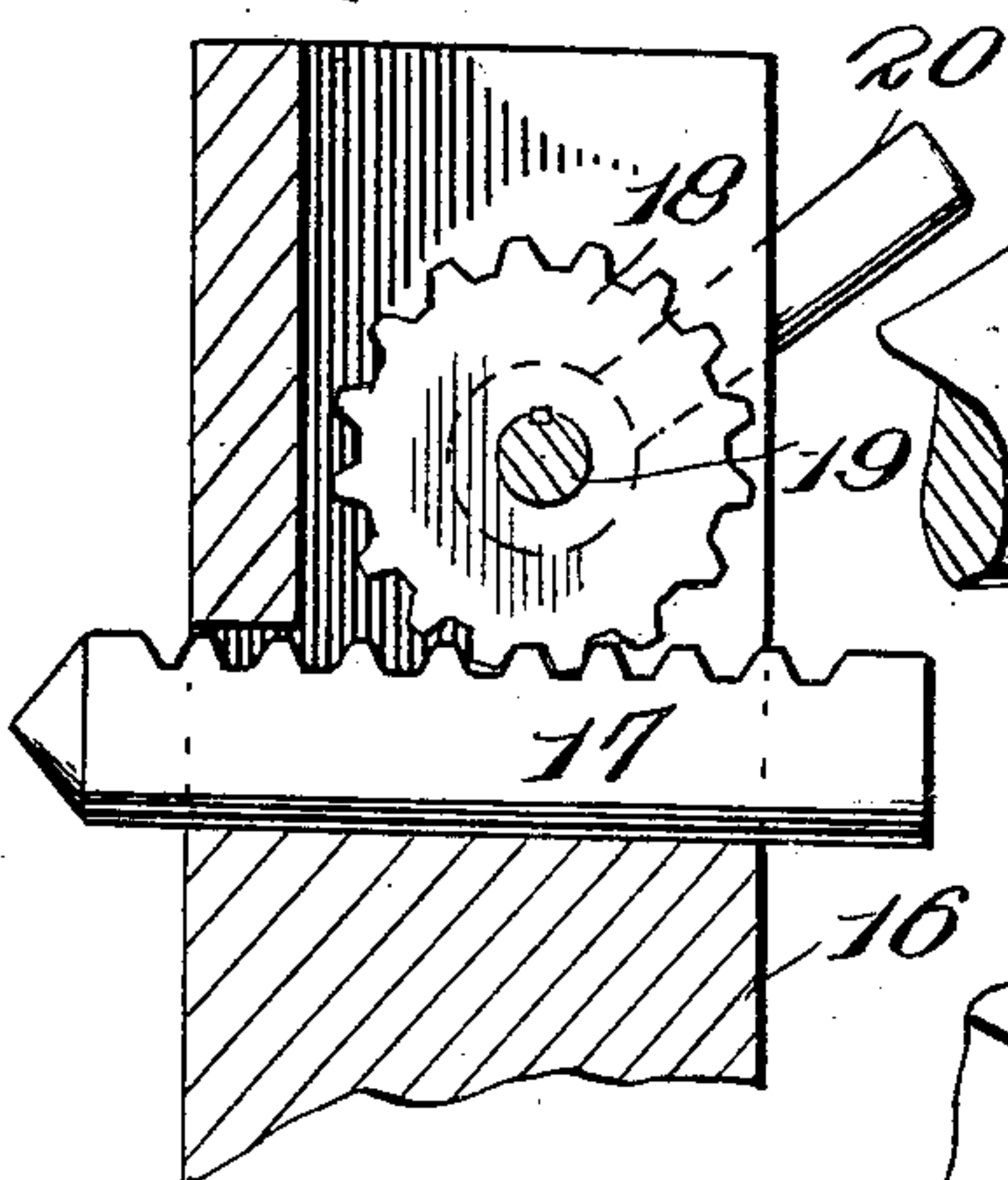


Fig. 6.

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UNITED STATES PATENT OFFICE

ILIF F. ADAMSON, OF APPLETON CITY, MISSOURI.

MACHINE FOR SHARPENING DISKS.

No. 930,263.

Specification of Letters Patent.

Patented Aug. 3, 1909.

Application filed November 13, 1908. Serial No. 462,482.

To all whom it may concern:

Be it known that I, ILIF F. ADAMSON, of Appleton City, in the county of St. Clair and State of Missouri, have invented certain new and useful Improvements in Machines for Sharpening Disks; 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.

In machines for sharpening harrow disks in gangs, that is, without removing the disks from their shafts, considerable difficulty has been experienced in according to gangs having left-hand threads for the disk-retaining nuts the same treatment as those having right-hand threads.

The primary object of my invention is to provide a disk sharpening machine applicable to all gangs irrespective of the threading of the shaft thereof, the sharpening tools, as well as the gang revolving means, being capable of being readily reversed.

The invention will be hereinafter fully set forth and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a side elevation. Fig. 2 is a plan view. Fig. 3 is an enlarged view of the sharpening tool detached. Fig. 4 is a similar view of the same tool, with the parts reversed. Fig. 5 is a detached view of the centering or tail pin. Fig. 6 is a perspective showing the sharpening tool partly unassembled.

Referring to the drawings, 1 designates the main frame having two parallel longitudinal bars, an end bracket 2, and an end bracket 3 supporting such bars at their opposite ends. The bracket 3 has a superstructure wherein is mounted a shaft 4 having two gear wheels 5 and 6. Above this shaft is the driving shaft 7, upon which are loosely mounted gear pinions 8 and 9, the former being in mesh with gear wheel 5 while pinion 9 is in mesh with a gear pinion 10 which in turn engages the gear 6. The belt pulley 12 is fast on shaft 7. Slidably mounted on this shaft is a clutch 13 which may be shifted by a lever 14 into engagement with teeth on the hubs of either of the gear pinions 8 or 9, according to the direction in which it is desired to revolve shaft 4. This shaft carries a chuck 15 having at its center a square opening to accommodate the locking nut on the threaded end of the retaining rod of a gang of disks. The direction in which shaft 4 is rotated is con-

trolled by the thread on this rod, since it is essential that the gang be revolved in the direction to insure the tightening of the nut rather than the loosening thereof.

16 designates a bracket adjustably mounted on side bars 1 and carrying a centering or tail pin 17, which latter I have shown as having teeth with which engages a pinion 18 on a handled shaft 19 by which such tail pin may be adjusted. It may be locked by a handled nut 20.

21 designates the sharpening tool or cutter which is of corresponding formation on its two ends. It is adjustably and removably held in the socket of a lever 22 by a screw 23. This lever is fulcrumed by a bolt 24 to an overhanging bracket 25 which is movably supported on either of the bars 1. The overhanging portion of this bracket has a longitudinal slot 26 to accommodate bolt 24 and permit the lever to be readily adjusted. As is well-known, the sharpening tool usually acts against the convexed face of a disk, and it is customary to support the latter on its concaved side at a point immediately opposite the cutting tool. For this purpose a roller 27 is mounted on the end of a lever 28, which lever is preferably fulcrumed on the lever of the sharpening tool so that both levers may be manipulated by one hand.

In order to adapt the sharpening tool in its entirety for use on either side of the machine the supporting bracket 16 is made removable so that it may be readily transferred from one side bar to the other. It is also essential that, when the sharpening tool is so transferred, the supporting roller and cutter should occupy the same relative positions to the opposite faces of each disk. With this object in view the two arms of lever 28 are extended on different vertical planes, and intermediate these arms I form a rounded portion or knuckle 29 which fits in a recess or cut-out in the upper face of lever 22 directly above the fulcrum bolt 24 thereof. This cut-out has opposite concaved faces which correspond to segments of the knuckle. Angular shoulders 30 act as stops to limit the opening movement of lever 28 in either of its positions.

The advantages of my invention will be readily appreciated by those skilled in the art to which it relates.

It will be seen that I have provided an extremely simple machine, capable of being readily reversed and of sharpening with

equal facility the disks of all gangs regardless of whether the retaining shafts thereof are formed with right or left-hand threads. It will also be observed that in either position the cutter and supporting roller occupy the same relation to each other, and that the change from one position to another may be readily effected without the use of special tools.

10 I claim as my invention:—

1. In a machine for sharpening harrow disks, in combination, a chuck for engaging one end of the shaft of a gang of harrow disks, a constantly operated shaft, means for communicating motion from said shaft to said chuck for operating the latter in either direction, a sharpening tool or cutter designed to be located on either side of the machine, a roller in juxtaposition to said sharpening tool, and means for supporting such tool and roller on either side of the machine.

2. In a machine for sharpening harrow disks, in combination, a chuck for engaging one end of the shaft of a gang of harrow disks, a constantly operated shaft, means for communicating motion from said shaft to said chuck for operating the latter in either direction, means for sharpening the disks, and means for supporting such sharpening means on either side of the machine.

3. In a machine for sharpening harrow disks, in combination, a frame having corresponding side supports, a chuck for engaging one end of the shaft of a gang of harrow disks, means for rotating said chuck in either direction, a sharpening tool for engaging one

face of each disk, a supporting roller for engaging the opposite face of each disk in line with such sharpening tool, means for reversing the position of said roller relative to the sharpening tool, and a bracket carrying said sharpening tool and capable of being mounted on either of said supports.

4. In a machine for sharpening harrow disks, the combination with a bracket, of a lever fulcrumed thereon, a sharpening tool removably supported in one end of said lever, a supporting roller opposite to said sharpening tool, and a lever for said supporting roller having its two arms on different vertical planes with a knuckle or rounded portion intermediate said arms, the first mentioned lever having a recess to accommodate said knuckle.

5. In a machine for sharpening harrow disks, the combination with a bracket, of a lever fulcrumed thereon having a socket in one end, a reversible or double-ended sharpening tool mounted in said bracket, said lever having in its upper face a recess or cut-out with opposite concaved faces, a second lever having its two arms on different vertical planes with a knuckle or rounded portion intermediate said arms and fitted in said recess between said concaved faces, and a roller on the end of said second lever.

In testimony whereof, I have signed this specification in the presence of two subscribing witnesses.

ILIF F. ADAMSON.

Witnesses:

SUE LAWRENCE,
E. S. HIRNI.