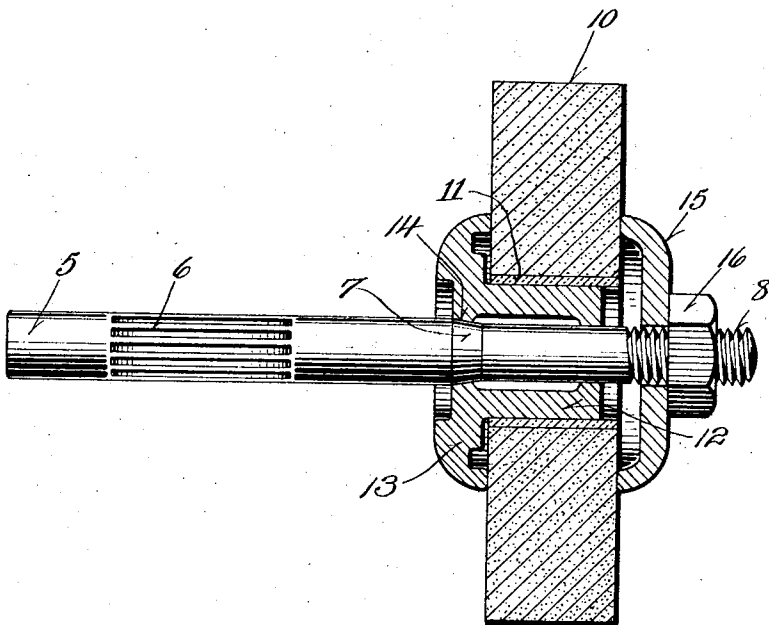


E. BOCKSHE.
GRINDER WHEEL MOUNTING.
APPLICATION FILED DEC. 13, 1918.

1,404,339.

Patented Jan. 24, 1922.



WITNESS

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GRINDER-WHEEL MOUNTING.

1,404,339.

Specification of Letters Patent. Patented Jan. 24, 1922.

Application filed December 13, 1918. Serial No. 266,576.

To all whom it may concern:

Be it known that I, ELY BOCKSHE, a citizen of the United States, and resident of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Grinder-Wheel Mountings; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates to new and useful improvements in means for securing and centering a member on a shaft, and it is more particularly directed to the provision of means for mounting a grinding wheel on its drive shaft.

It is the object of my invention to procure a rigid and permanent mounting of a grinding wheel or similar member on its drive shaft, in such manner that the member is accurately centered on the shaft, and it is more particularly my object to effect such a mounting in a manner involving a maximum simplicity and a minimum amount of machining of the shaft and wheel connecting parts, whereby to procure material economy in the manufacture of said parts.

With the above and other objects and advantages in view, which will be apparent as the description proceeds, my invention resides in the novel features of construction, combination and arrangement of parts as hereinafter more particularly described and defined by the appended claims.

In the accompanying drawing:

The figure shows a vertical sectional view through a grinding wheel mounted on a shaft in a manner embodying my invention.

Referring now more particularly to the accompanying drawings, 5 designates a grinder drive shaft, which has gear teeth 6 cut into one end portion thereof, or which is otherwise provided with driving means at said end portion. The other end portion of the shaft is reduced and the juncture of said shaft portions is effected by a frusto-conical section 7 which merges into the peripheries of the two sections. The reduced portion of the shaft is threaded at 8. In forming the shaft, it is cut in sections from stock having the diameter of the major portion of the shaft. The reduced end portion is then cut, the threads 8 are formed and the frusto-conical section 7 is accurately machined. A grinder wheel 10 of conventional nature is provided, having the usual thimble 11 of

soft metal therein adapted to fit on a core sleeve 12, which is provided at one end with the usual wheel flange 13. In forming the core sleeve, the end portions of its inner periphery are made of lesser diameter than the intermediate major portion thereof, which is of a diameter slightly greater than the diameter of the reduced portion of the shaft. The reduced end portion of the inner periphery of the sleeve adjacent the flange 13 is then machined to form a frustoconical surface 14 mating with the surface of the frustoconical section 7 of the shaft, while the other end portion of the inner periphery of the sleeve is machined to afford a snug bearing fit on the reduced portion of the shaft.

In assembling the structure, the wheel and core sleeve are mounted on the shaft, with the bevel sleeve portion 14 engaging the frustoconical shaft section 7, it being noted that the width of the wheel is greater than the length of the sleeve. A follower disc 15 is then placed on the shaft to engage the wheel, and a nut 16 is threaded on the shaft to bind the wheel between the follower disc and the flange 13 of the sleeve and at the same time to force the bevel portion 14 of the sleeve on the frustoconical shaft section to thus accurately center and rigidly secure the wheel on the shaft. The frustoconical shaft section 7 thus serves as a shoulder limiting movement of the wheel on the shaft to procure a rigid clamp engagement, and at the same time serves as a centering means, and in discharging its function as a shoulder, said frustoconical shaft section eliminates the necessity of machining the end of the core sleeve such as is found necessary in the heretofore commercially employed structures embodying a straight cylindrical sleeve bearing for the shaft and a positive shoulder abutting the end of the sleeve. Further, by my arrangement a more accurate centering and a more rigid securement is effected.

What is claimed is:

1. A mounting of the class described including a shaft having a frustoconical portion, a core member engageable on the shaft and having a portion at one end adapted for engagement with the frustoconical portion of the shaft and a portion at its other end for bearing engagement on the shaft, and means for clamping said member against the frustoconical shaft portion and simultane-

ously clamping a wheel on said core member.

2. The combination with a shaft having a main portion and a reduced cylindrical portion, the junction between the main and reduced portions being frustoconical, of a core sleeve, the bore thereof having a pair of spaced engaging sleeves, one being cylindrical and disposed in contact with the reduced cylindrical portion of the shaft and the other frustoconical and in contact with the frustoconical part of the shaft, said sleeve being adapted to receive a wheel, a circumferential flange at the end of the

sleeve adjacent the frustoconical engaging portion to form an abutment for one side of the wheel, a clamp member disposed on the reduced portion of the shaft and engaging the opposite side of the wheel, and means secured on said reduced end of the shaft to hold the clamp member and wheel thereon.

In testimony that I claim the foregoing I have hereunto set my hand at Milwaukee, in the county of Milwaukee and State of Wisconsin.

ELY BOCKSHE.