O. C. LITTLE.

BALANCING DEVICE FOR WHEELS.

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1,138,592. Patented May 4, 1915.

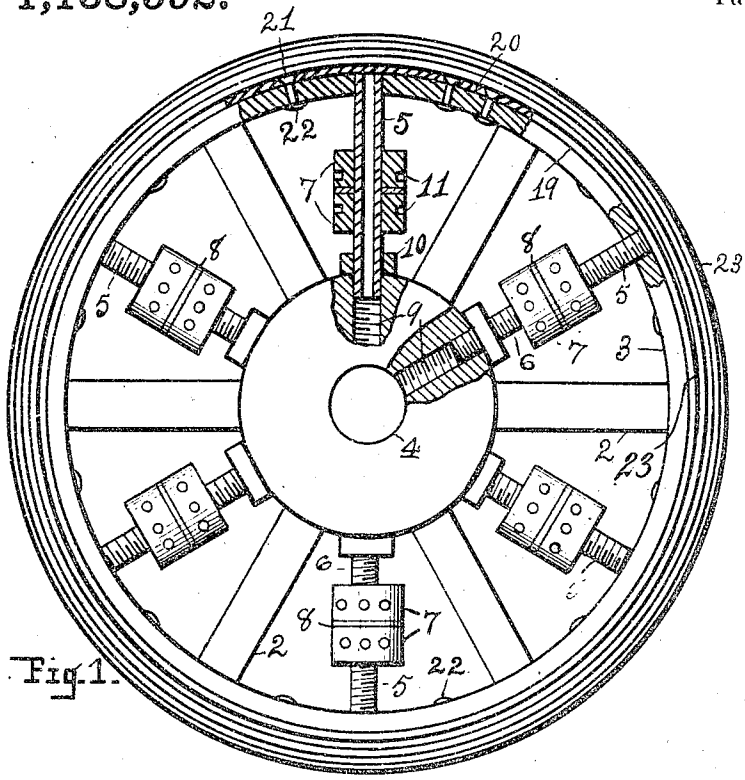


Fig. 1.

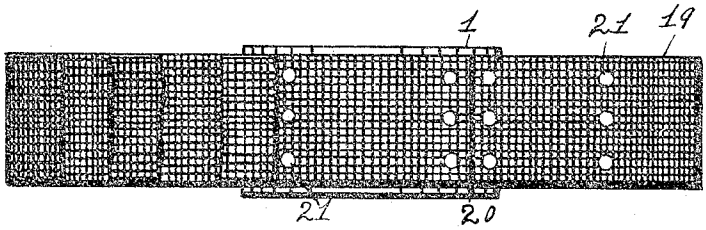


Fig. 2.

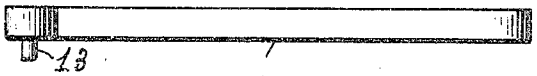


Fig. 3.

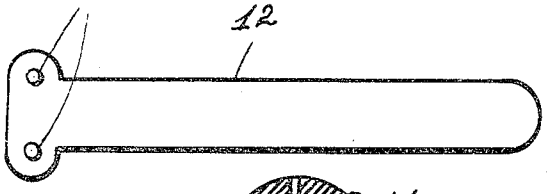


Fig. 4.

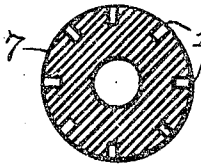


Fig. 5.

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BALANCING DEVICE FOR WHEELS.

1,138,592. Specification of Letters Patent. Patented May 4, 1915.

Application filed October 21, 1912. Serial No. 727,009.

To all whom it may concern:

Be it known that I, ORTON C. LITTLE, a citizen of the United States, residing at Menasha, in the county of Winnebago and State of Wisconsin, have invented a new and useful Balancing Device for Wheels, of which the following is a specification.

My invention relates to the manner of making a polishing wheel and to the manner of applying the balancing device thereto for adapting the wheel to be revolved at a high rate of speed, as it is well known that in order to perform satisfactory work in polishing any article, it is essential that the wheel be run at a high rate of speed and that said wheel be in perfect balance.

The wheel consists of a metallic pulley having a hub and rim, upon the latter of which a fabric covering is secured, upon which the polishing material is made to adhere, and a plurality of balancing weights are mounted inside of the rim and are arranged for a radial movement therein, and the object of the invention is, to form a polishing wheel quickly, cheaply, and that the facilities of quickly putting it in perfect balance after the polishing material has been applied to the wheel, are simple and can be quickly applied upon that portion of its circumferential area that is required for balancing the wheel.

Polishing wheels are usually made with a surface upon which sand, emery, or other polishing material is made to adhere with glue, shellac, &c., and as they are quickly deprived of their grinding and polishing qualities when in use, it becomes necessary to re-cover them with said material, and as it is impossible to put the glue, sand, emery, &c., upon the surface perfectly even, it is always necessary to balance them after recovering their surface, and the quicker this can be done, the greater amount of time will the wheel be available for use. It should be understood that the same wheel may be recovered and require balancing several dozens of times before it becomes unfit for use, consequently, the necessity for an easy and correct manner in which the wheel can be balanced.

My invention is shown in the accompanying drawing in which,—

Figure 1 is an end elevation of a wheel embodying my improvements, parts being in section. Fig. 2 is a plan of the upper surface of Fig. 1. Fig. 3 is an edge view of a wrench which is used in the balancing of the wheel. Fig. 4 is a plan of the lower side or working side of said wrench. Fig. 5 is a section through one of the balancing weights shown in Fig. 1.

Similar numerals indicate like parts in the several views.

Referring to Fig. 1, 1, indicates the hub of the pulley; 2, spokes of the pulley; 3, its rim; 4 its bore; 5, a plurality of rods, which may be any number desired, six being usually the best number, each being provided with threads 6, each rod being tapped into the rim and hub, and with two balancing weights 7, threaded for movement along the rods. A washer 8, is placed between each two weights of a pair upon each rod for an easy and accurate adjustment of the weights. The hub is bored radially and provided with threads 9, for receiving the inner ends of the rods, and with jam nuts 10, for holding the rods within the bores. The several weights are cylindrical nuts and will be so termed. It will be evident that four or six sided nuts could be used in place of the cylindrical ones, but for an accurate and quick adjustment of the weights, the cylindrical ones are preferable. Each cylindrical weight is provided with a series of holes 11, arranged circumferentially around them in a plane parallel with the adjoining ends of the weights, and a wrench 12, having two prongs 13, spaced apart for entering holes in the two nuts at the same time, is provided. By inserting the two prongs into holes 11 of any pair of nuts, and swinging the wrench handle sidewise, they can be tightened or loosened. When loosened, either of the two nuts can be turned a limited amount. in either direction, without disengaging the prongs 13, they being loosely fitted to the holes 11.

The pulley having been fitted with the balancing devices, its covering may be applied. This consists of a foundation strip of fabric 19, of the width of the pulley face, placed around the pulley rim and its ends abutting each other at 20, it being secured thereto with rivets 21 which are secured by hammering the ends 22, in a well known manner. Outside of this foundation the polishing wheel may be built up with the same or a different material by gluing the same to the foundation, and between each

layer. The foundation should also be made to adhere to the pulley face with some sticky material as varnish, pitch, &c., and the ends of the outer covering may be tapered to a point, as is shown at 23. Glue and emery or other grinding and polishing material are now to be applied to the built up face, the wheel dried and the balancing thereof next attended to as has been described.

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

A balancing device for rotary members comprising a hub and a rim provided with a series of screw threaded holes bored through the rim and into the hub and spaced at substantially equal distances apart in radial lines, a rod for each hub hole provided with threads for its entire length and adapted for insertion into a rim and its corresponding hub hole, a jam nut upon each rod adapted to be screwed against said hub, two cylindrical nuts threaded upon each rod intermediate its jam nut and pulley rim, and a washer interposed between each of said two nuts, each nut having a series of holes bored around it adapted to be engaged simultaneously with like holes in its companion nut by a suitable wrench for adjusting their position longitudinally of the rod upon which they are mounted.

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