April 14, 1925.

H. R. SCHODROWSKY

1,533,768

AUTO POWER FOLDING TOOL GRINDER

Filed Sept. 26, 1923

2 Sheets-Sheet 1

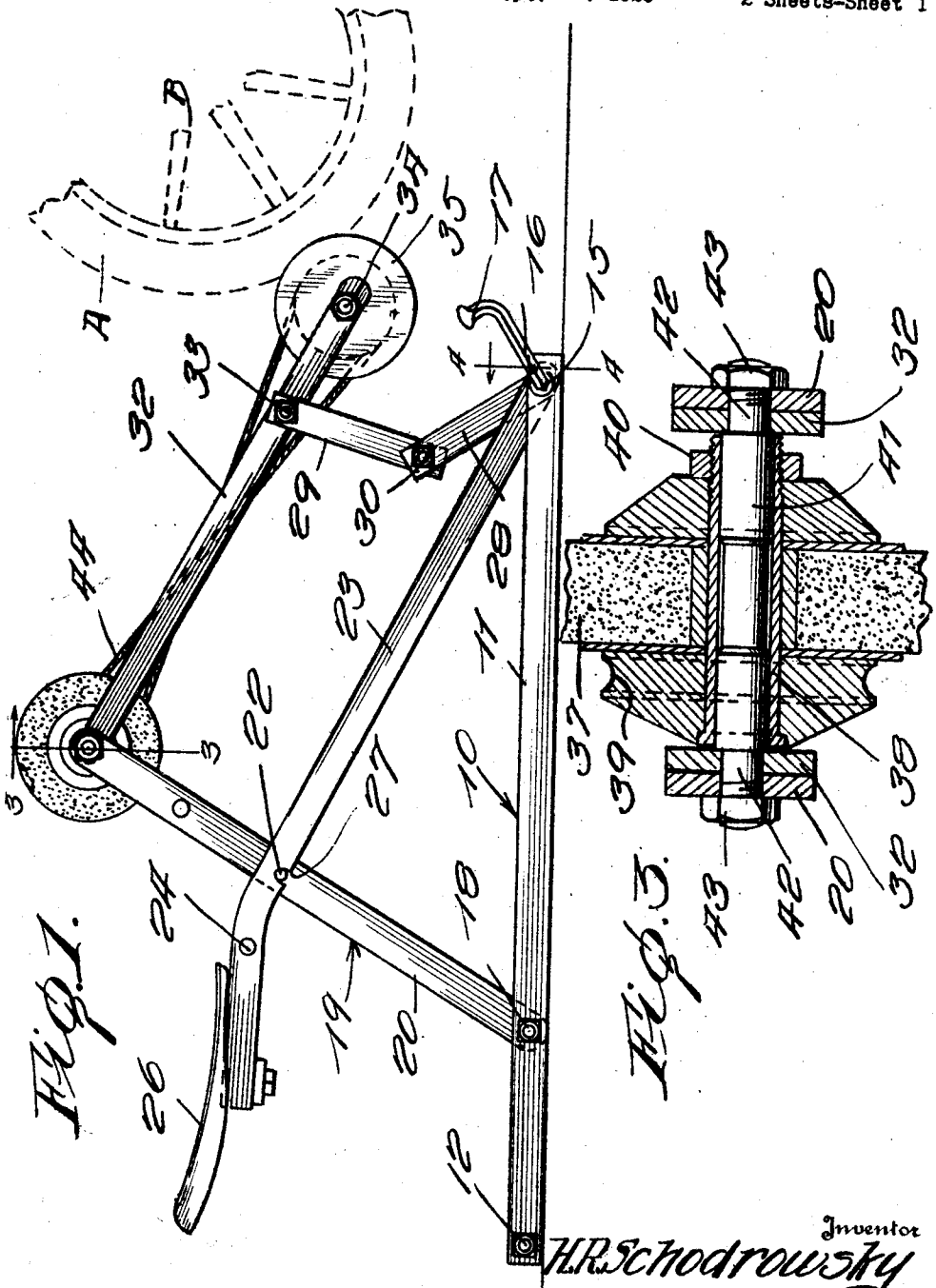


Fig. 1.

Fig. 3.

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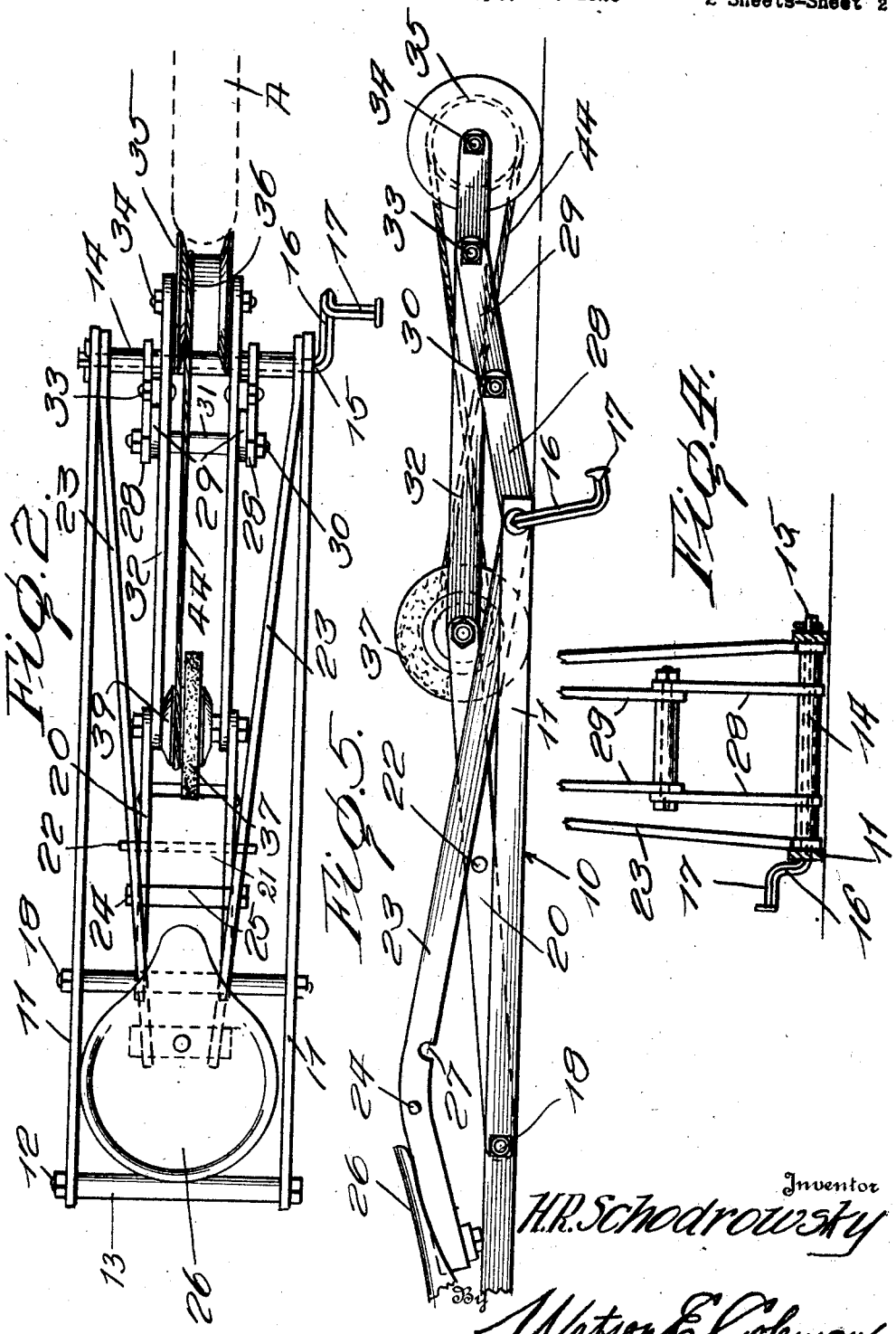


Fig. 2.

Fig. 3.

Fig. 4.

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Patented Apr. 14, 1925.

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UNITED STATES PATENT OFFICE.

HERMAN R. SCHODROWSKY, OF MARION TOWNSHIP, SAGINAW COUNTY, MICHIGAN.

AUTO POWER FOLDING TOOL GRINDER.

Application filed September 26, 1923. Serial No. 664,953.

To all whom it may concern:

Be it known that I, HERMAN R. SCHODROWSKY, a citizen of the United States, residing at Marion Township, in the county of Saginaw and State of Michigan, have invented certain new and useful Improvements in Auto Power Folding Tool Grinders, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to grinding apparatus and has for its object the provision of a novel portable device designed to be set up and used wherever desired and so constructed and arranged as to be driven from a jacked up rear wheel of an automobile.

An important object is the provision of a device of this character which may be folded into compact form for convenience in transportation or storage or to facilitate its being hung up on the wall of a garage or the like.

Another object is the provision of a grinder equipped with foot operated means for holding the drive element thereof in firm engagement with an automobile wheel regardless of the height to which the same may be jacked.

An additional object is the provision of a grinder which will be simple and inexpensive to manufacture, easy to set up or collapse, efficient and durable in service and a general improvement in the art.

With the above and other objects and advantages in view, the invention consists in the details of construction to be hereinafter more fully described and claimed, and illustrated in the accompanying drawings in which:—

Figure 1 is a side elevation of the device set up and engaged with a jacked up automobile wheel;

Figure 2 is a plan view;

Figure 3 is a detail section on the line 3—3 of Figure 1;

Figure 4 is a cross section on the line 4—4 of Figure 1; and

Figure 5 is a side elevation showing the device folded.

Referring now more particularly to the drawings I have shown the device as comprising a base frame designated broadly by the numeral 10 and including elongated side bars 11 connected at one end by a bolt 12 which passes through a spacing sleeve 13. At the other end of this frame is a spacing sleeve 14 through which passes a rock shaft 15 which extends through the bars 11 and which has one end extended laterally to define a crank 16 terminating in a pedal 17. This shaft 15 is square in cross section for a purpose to be described.

Pivoted by a bolt 18 which passes through both bars 11 is a standard 19 including a pair of bars 20 secured upon opposite sides of a filled block 21. Projecting outwardly from the sides of the bars 20 intermediate the ends thereof are pins 22 for a purpose to be described.

Pivoted on the rock shaft 15 are two bars 23 which extend upwardly and rearwardly and which are curved intermediate their ends as illustrated. These bars are held in the proper spaced relation by a bolt 24 which passes through a spacing sleeve 25. At their rear ends the bars 23 carry a seat 26 for the operator. At their lower edges the bars 23 are formed with notches 27 which engage upon the pins 22 for holding the standard 19 in a certain fixed position while in use.

Rigidly secured on the rock shaft 15 are links 28 which in actual practice may simply be provided at their lower ends with square holes within which the shaft fits conformingly. Disposed inwardly of the upper ends of the links 28 are other links 29 pivoted thereto by a bolt 30 which passes through a spacing sleeve 31 which abuts against the confronting bases of the links 29.

Pivotally connected with the upper ends of the bars 20 are forwardly and downwardly extending bars 32 to which the upper ends of the links 29 are pivotally connected at 33. Journaled at 34 between the forward ends of the bars 32 is a grooved roller 35 shaped at its periphery for engagement with the tire A of an automobile wheel B. This roller 35 is formed with a groove 36 for a purpose to be described.

At the juncture of the bars 20 and 32 I provide the grinder wheel which is here shown as being a disk 37 of emery, carborundum or the like, which disk is mounted upon a sleeve 38 which projects from one side of a grooved pulley 39. The grinding wheel is secured on the sleeve by means of a clamping nut 40 screwed thereonto. Passing through the sleeve 38 is a stationary spindle 41 which has its ends 42 reduced and threaded and passing through the bars 20 and 32,

securing being effected by suitable nuts 43. I provide a belt 44 which is engaged about the roller 35 within the groove 36 therein and which is also engaged about the grooved pulley 39. This belt may be crossed or not, whichever is preferred.

The set up position of the device is shown in Figure 1 and it is to be noted that the automobile wheel to be used for driving the device must be jacked up or supported by some means in elevated position. The operator intending to use the device takes his place upon the seat 26 and engages one foot upon the pedal 17, the device being of course located rearwardly of the wheel B to be used for driving. By pressing upon the pedal 17 the shaft 15 is rocked which tends to straighten the toggle formed by the links 28 and 29 and this results in swinging the bars 32 upwardly so that the roller 35 will be brought firmly into engagement with the tire A. As the wheel is rotated it is quite apparent that the movement will be imparted to the roller 35 and consequently through the belt 44 to the grinding wheel which is of course used in the ordinary manner for sharpening tools and the like. When use of the device is not desired, it may be folded and this is readily accomplished by grasping the seat 26 and lifting the bars 23 sufficiently that the notches 27 therein will be disengaged from the pins 22, whereupon the standard 19 may be swung forwardly and downwardly toward the base 10. The pairs of toggle links 28 and 29 swing forwardly so that the parts will lie closely together. The bars 23 are then allowed to drop down and the whole apparatus will then be in very compact form which will be convenient in transportation or storage. As a matter of fact the device might be readily hung up on a nail or hook projecting from the wall of a garage, tool house or other building.

From the foregoing description and a study of the drawings it will be apparent that I have thus provided a simply constructed and consequently inexpensive grinding machine which is readily capable of being driven by the jacked up wheel of an automobile so that power will be very convenient and inexpensive. Owing to the movability of the rock shaft which operates the swingable bars carrying the roller it is apparent that the power roller may be firmly engaged with the tire regardless of whether the wheel be jacked up slightly or to a great extent. Another advantage of this feature is that should the operator desire to stop the grinder it is merely necessary that he release the pressure upon the pedal whereupon the power roller will drop down out of engagement with the tire. Owing to the fewness of the parts and the ruggedness of the construction it is apparent that there is little to get out of order so that the device should have a long life and satisfactorily perform all of its functions.

While I have shown and described the preferred embodiment of the invention, it is to be understood that I reserve the right to make such changes in the form, construction and arrangement of parts as will not depart from the spirit of the invention or the scope of the sub-joined claims.

I claim:

1. A device of the character described comprising a base, a standard mounted thereon, supporting arms pivoted upon the standard and carrying a roller adapted to be engaged against the tire of a jacked up motor vehicle wheel, a grinding wheel journaled on the standard, and an operative connection between said roller and said grinding wheel for imparting movement to the latter when said vehicle wheel is rotated.

2. A device of the character described comprising a base, a standard thereon, arms pivoted upon the standard and carrying a roller adapted to be engaged against the tire of a jacked-up motor vehicle wheel, a grinding wheel journaled on the standard, an operative connection between the roller and the grinding wheel for driving the latter, and means for swinging said arms to bring the roller into engagement with the vehicle wheel.

3. A device of the character described comprising a base, a standard mounted thereon, supporting arms pivoted upon the standard and carrying a roller adapted to be engaged against the tire of a jacked up motor vehicle wheel, a grinding wheel journaled on the standard, an operative connection between said roller and said grinding wheel for imparting movement to the latter when said vehicle wheel is rotated, and pedal operated means for swinging said pivoted arms to bring said roller into engagement with the vehicle wheel.

4. A device of the character described comprising a base, a standard mounted thereon, supporting arms pivoted upon the standard and carrying a roller adapted to be engaged against the tire of a jacked up motor vehicle wheel, a grinding wheel journaled on the standard, an operative connection between said roller and said grinding wheel for imparting movement to the latter when said vehicle wheel is rotated, said standard being pivoted on the base and swingable toward the same, and means for holding said standard normally against swinging movement.

5. A device of the character described comprising an elongated base, a standard pivoted thereon, bars pivoted on the forward end of the base and straddling the standard, means on said bars and the standard for normally holding the standard in

upwardly extending position, a grinding wheel journaled on the standard, supporting bars pivoted on the standard and carrying a roller adapted for engagement with the tire of a jacked up motor vehicle wheel, a drive connection between said roller and the grinding wheel, toggle links pivotally connected with said supporting bars and with the base, and pedal operated means for moving said links to bring said roller into engagement with the vehicle tire.

6. A device of the character described comprising an elongated supporting base, a standard pivoted thereon and carrying a grinding wheel, upwardly and rearwardly extending bars connected with the forward end of the base and carrying a seat rearwardly of the standard, forwardly and downwardly extending bars pivoted upon the standard and carrying a roller grooved for engagement with the tire of a jacked up motor vehicle wheel, a belt connection between said wheel and roller toggle links pivotally connected with said last named bars and with the base, and pedal means connected with the lowermost toggle links for straightening the toggle and swinging said roller carrying bars.

7. A device of the character described comprising a base, a standard pivoted thereon and carrying laterally projecting pins, seat supporting bars pivoted on the base and straddling said standard, said bars being formed with notches normally engaging said pins for holding the standard rigid, a grinding wheel journaled on the standard, bars pivoted on the standard and carrying a roller adapted for engagement with the tire of a jacked up motor vehicle wheel, pedal operated means for swinging said last named bars, and a drive connection between said roller and grinding wheel.

In testimony whereof I hereunto affix my signature.

HERMAN R. SCHODROWSKY.