No. 842,402. PATENTED JAN. 29, 1907.

E. E. GRAVES.

TIRE TIGHTENER.

APPLICATION FILED SEPT. 8, 1906.

Fig. 2.

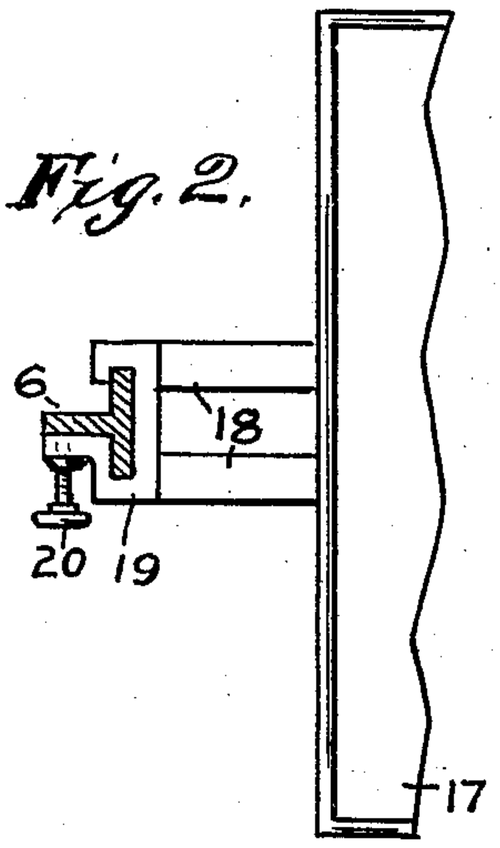


Fig. 1.

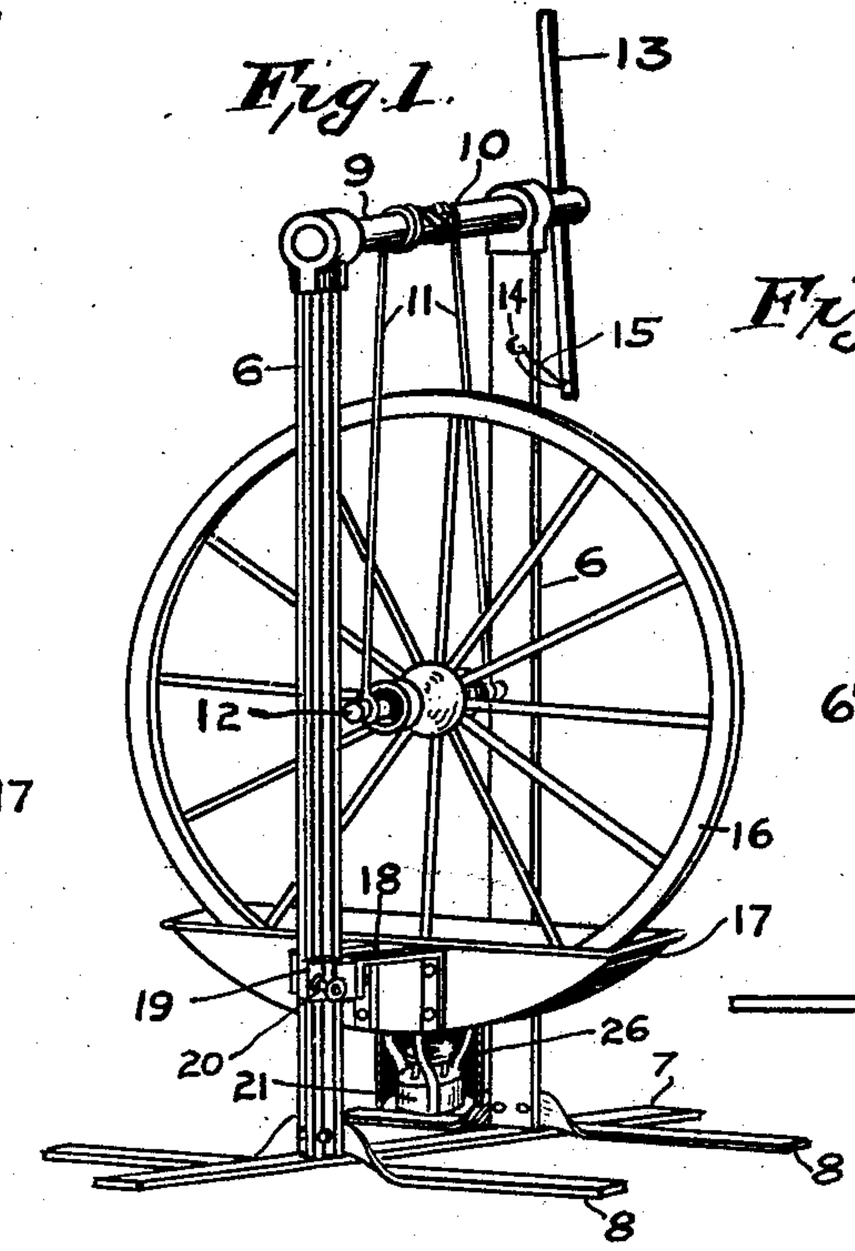


Fig. 5.

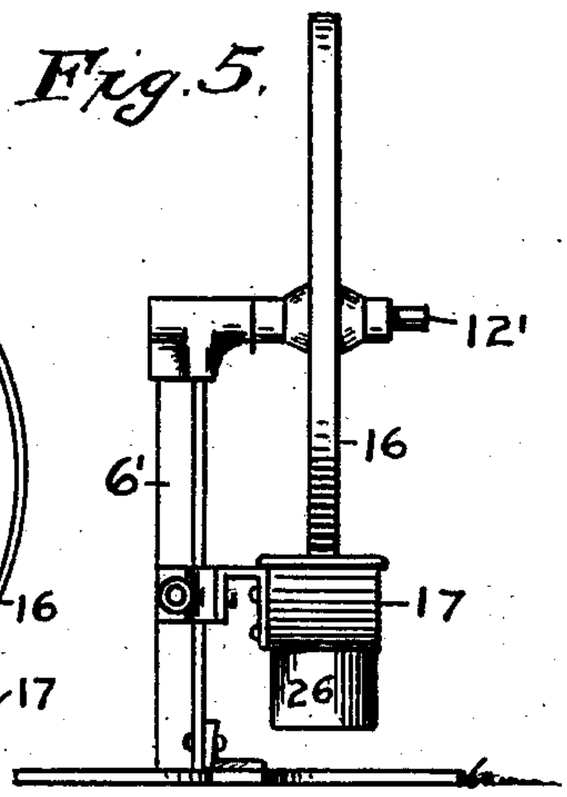


Fig. 3.

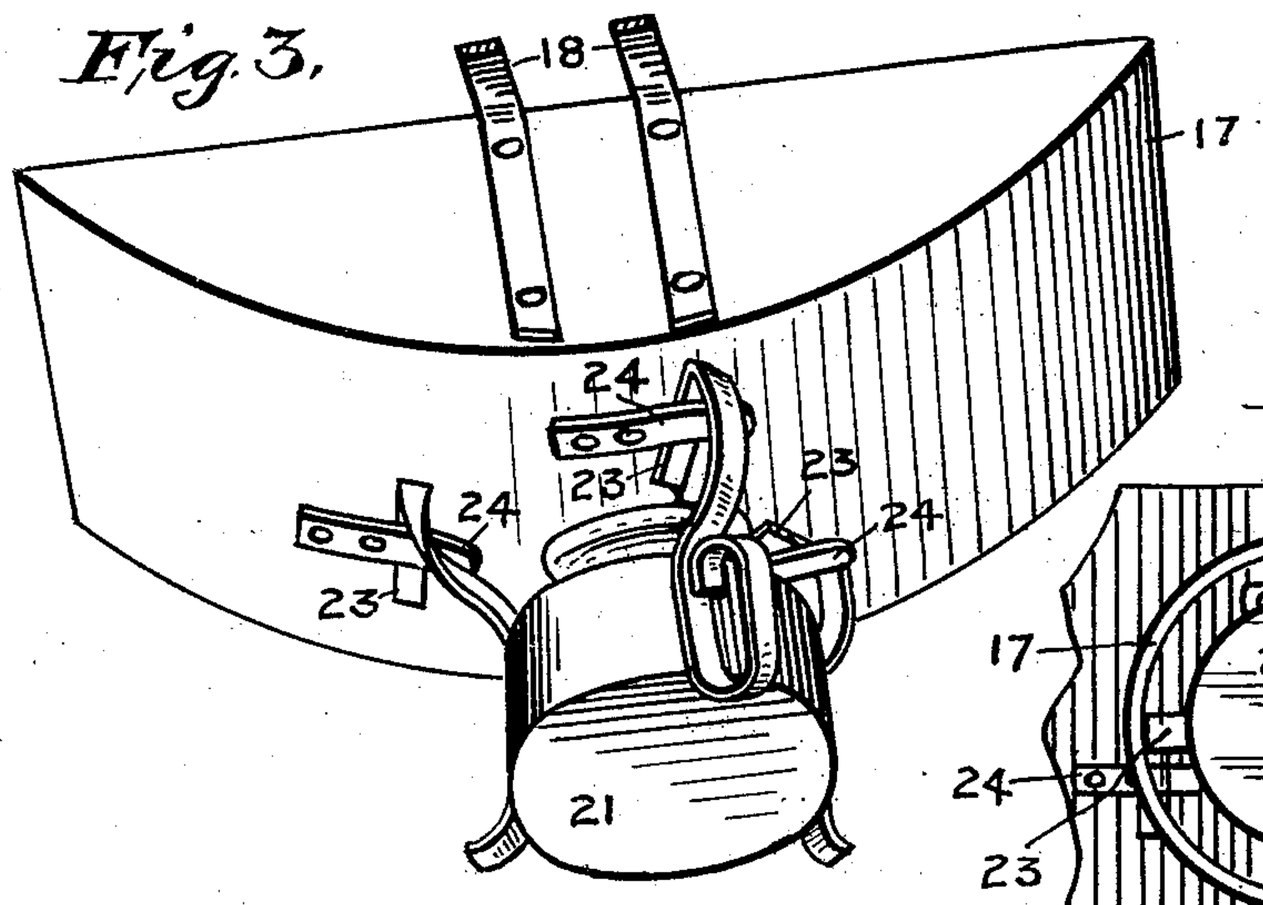
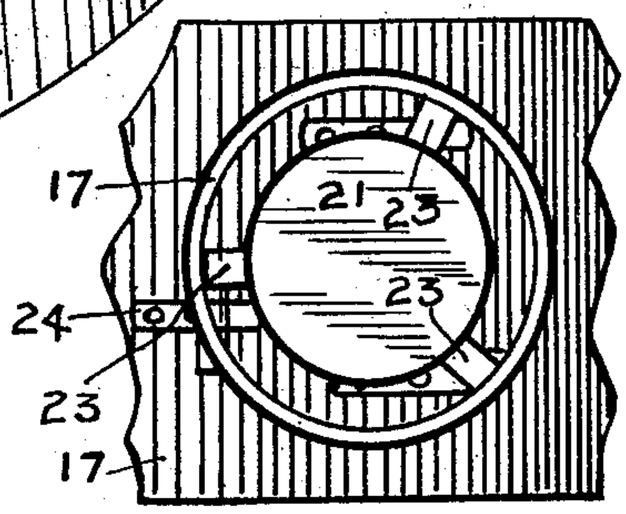


Fig. 4.



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UNITED STATES PATENT OFFICE.

EUGENE E. GRAVES, OF LINCOLN, NEBRASKA, ASSIGNOR OF ONE-HALF TO FRANK ELMER SANDERS, OF DANVILLE, ILLINOIS.

TIRE-TIGHTENER.

No. 842,402. Specification of Letters Patent. Patented Jan. 29, 1907.

Application filed September 8, 1906. Serial No. 333,807.

To all whom it may concern:

Be it known that I, EUGENE E. GRAVES, a citizen of the United States, residing at Lincoln, in the county of Lancaster and State of Nebraska, have invented certain new and useful Improvements in Tire-Tighteners, of which the following is a specification.

This invention relates to improvements in machines for tightening the tires of vehicle-wheels having wooden fellies; and the object of the invention is to provide a convenient means for dipping the wooden parts of the wheel to be treated in a warm liquid solution which will act as a preservative and by thoroughly saturating the wood rims swell the wood and restore it to a normal condition of sufficient tightness to hold the metal tire on the wheel.

The object of the invention is to provide a vertically-adjustable receptacle for holding the saturating solution, to provide means for heating the solution with an oil-lamp which is removably secured to and supported by the vessel containing the solution, and to provide means for suspending the wheel in the solution and for quickly lowering it therein and for removing it therefrom.

The object is to improve certain details of the machine in respects which will be hereinafter fully described, and pointed out in the claims.

I accomplish the objects of the invention by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of my tire-setter with a wheel in position to be operated on, the shield surrounding the lamp being shown in vertical section. Fig. 2 is a detail in cross-section of the vertical standard supporting the vessel to hold the solution and showing the attachment of the vessel with the standard. Fig. 3 is a perspective view of the under side of the vessel to contain the solution with the heating-lamp attached thereto, the view being for the purpose of illustrating the manner of attaching the lamp to the vessel. Fig. 4 is a detail in under side plan view of the vessel, showing the heating-lamp attached to the vessel and the shield in position around the lamp. Fig. 5 is a view in side elevation of a modified form of my machine.

Like characters of reference indicate like parts throughout the several views of the drawings.

6 represents the standards of my machine, here shown as made out of T-iron and two in number. They are connected at the bottom by means of the horizontal base-plate 7, and the stability of the machine is insured by means of the additional horizontal plates 8 at right angles to the plate 7. Connecting the tops of the standards 6 is the shaft 9, which is mounted to be revolved like a windlass. Secured to the shaft 9 midway between the standards 6 is the hook 10, to which the middle portion of a cable, chain, or other flexible suspending medium 11 is fastened, so that by rotating the shaft 9 both members of the cable 11 will be wound and unwound equally on the shaft. Both ends of the cable are looped to receive the opposite ends of a shaft 12. This shaft 12 is for insertion through the hub of a wheel to be supported from the windlass by means of the cable 11, and the object of winding and unwinding the cable in the manner shown and described is to cause the wheel to be raised and lowered without tilting sidewise.

13 is a pin passing through the end of shaft 9 to form a handhold for operating the windlass.

14 is a hook seated in the standards 6, and 15 a flexible tie fastened to the pin 13 and caught over the hook 14 to hold a given position of the shaft 9.

16 is the wheel to be treated by dipping it into a heated solution contained in the vessel 17. This vessel 17 will be formed out of sheet metal, preferably in the shape shown in the drawings, and will be connected, by means of the arms 18, with a cast-iron slide 19, embracing the near standards 6. The slide 19 will have the set-screw 20 for securing the slide to the standard, and thereby retaining the vessel 17 at the required height on the standard.

21 is an oil-lamp which is attached to the under side of the vessel 17. The vessel 17 will be partially filled with a solution, which in a more or less heated state will soak into the wooden rim of the wheel, so as to thoroughly saturate it and swell it out into its original size. The solution will be a wood-preservative and of such a nature, preferably, as to form an outer coating on the wood to

prevent the loss of the solution by volatilization. The lamp 21 has the arms 23, which are slipped under hooks 24, fastened to the under side of the vessel 17, whereby the lamp may be readily attached to and removed from the vessel.

26 is a cylindrical shield of sheet metal, which is held in position around the lamp 21 to act as a guard to protect the flame of the lamp against wind and drafts that would interfere with its operation. This cylindrical shield is pushed up tight around the supporting members of the arms 23 and is held in place by friction with said members, as shown in Fig. 4.

In the modification shown in Fig. 5 only one standard 6′ is used, and the shaft 12′ for supporting the wheel is attached to the standard 6′ in a stationary manner. In this construction the vessel 17 is raised and lowered to and from the wheel to be treated.

Having thus fully described my invention, what I claim as new, and wish to secure by Letters Patent of the United States, is—

1. In an apparatus for treating wheels, a standard of T-iron, a base to support the standard, means supported by the standard for supporting the wheel to be treated, a bracket following the contour of the T-iron standard and sliding thereon, a set-screw for securing the bracket to the standard, a receptacle to hold a solution in position to submerge the lower rim of the wheel, said receptacle being attached to and supported from the bracket, and means under the vessel for heating the solution contained within the vessel.

2. In an apparatus for treating wheels, a standard, a base for supporting the standard, a windlass supported by the standard, a shaft passing through the hub of the wheel, and a rope having its middle portion wrapped several times around the windlass and fastened thereto and having its ends attached to the respective ends of the shaft to support the latter, a vessel to contain the treating solution secured under the wheel to the standard in a vertically-adjustable manner, a lamp to heat the contents of the receptacle removably secured to the under side of the latter, and a shield surrounding the lamp.

3. In an apparatus for treating wheels, a standard, a base for supporting the standard, means supported by the standard for supporting the wheel in a vertical position for treatment, a vessel for containing the treating solution slidingly mounted on the standard under the wheel, said vessel having a plurality of under side hooks, all of which open in the same direction, and a lamp having upwardly-extended arms with horizontal ends, adapted to be caught by being slipped under said hooks.

4. In an apparatus for treating wheels, a standard, a base for supporting the standard, means supported by the standard for supporting the wheel in a vertical position for treatment, a vessel for containing the treating solution slidingly mounted on the standard under the wheel, said vessel having under side hooks, a lamp having upwardly-extended arms adapted to be caught under said hooks, and a cylindrical shield surrounding the lamp held by friction with the lamp-holding arms.

5. In an apparatus for treating wheels, a base, a pair of standards supported by said base, a windlass at the top of the standards, a shaft on which the wheel to be treated is mounted said shaft having its ends separately suspended from the windlass, a slide mounted on one of the standards, a set-screw to fix the position of the slide, a receptacle to hold the treating solution supported under the wheel from the said slide, said receptacle having under side hooks, a lamp having arms adapted to be engaged by said hook, and a shield surrounding said lamp.

In witness whereof I have hereunto set my hand and seal, at Indianapolis, Indiana, this 14th day of August, A. D. 1906.

EUGENE E. GRAVES. [L. S.]

Witnesses:
JOSEPH A. MINTURN,
F. W. WOERNER.