No. 658,479. Patented Sept. 25, 1900.

B. M. BUCKLAND.

WHEEL TIRE REMOVER.

(Application filed Sept. 30, 1899.)

(No Model.)

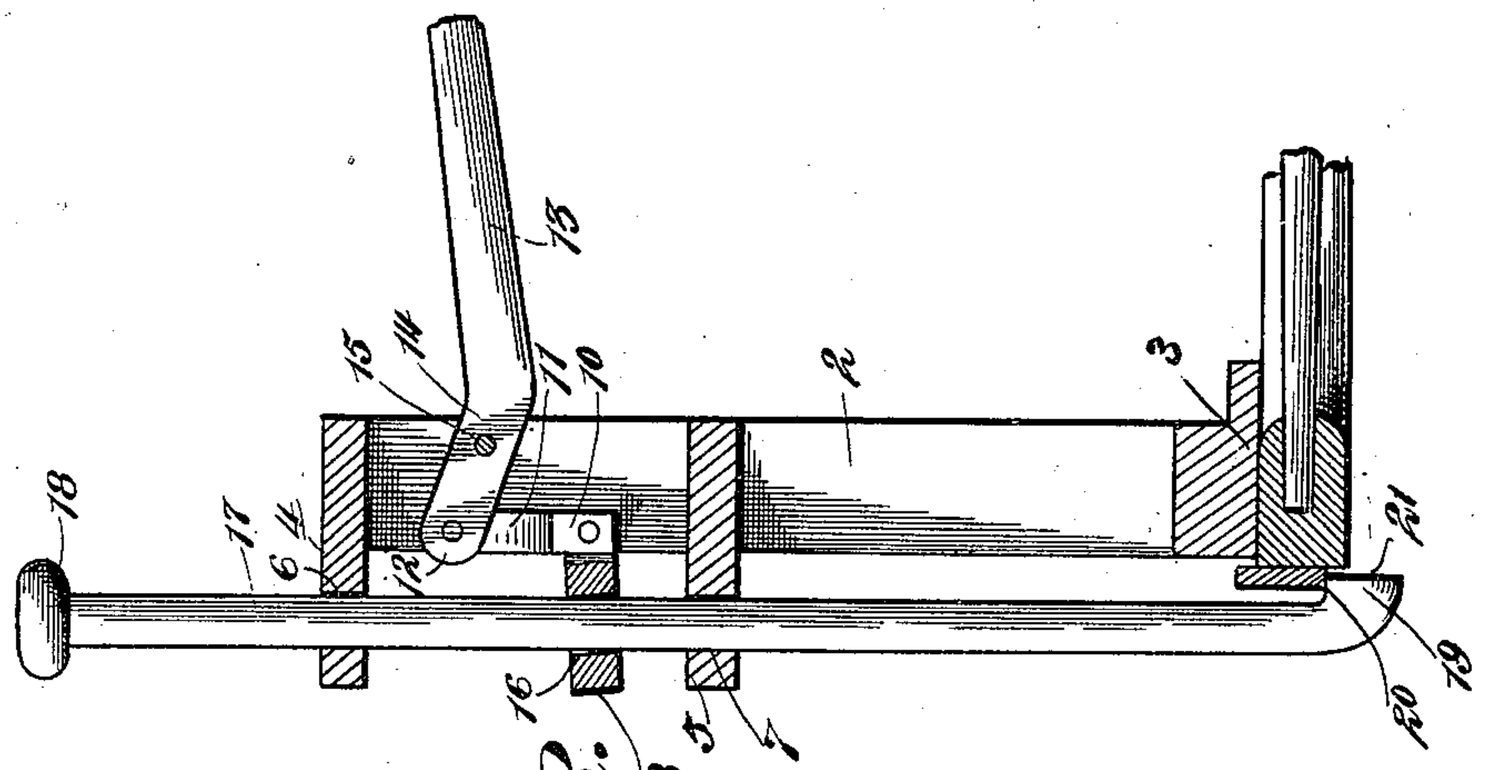

Fig. 2.

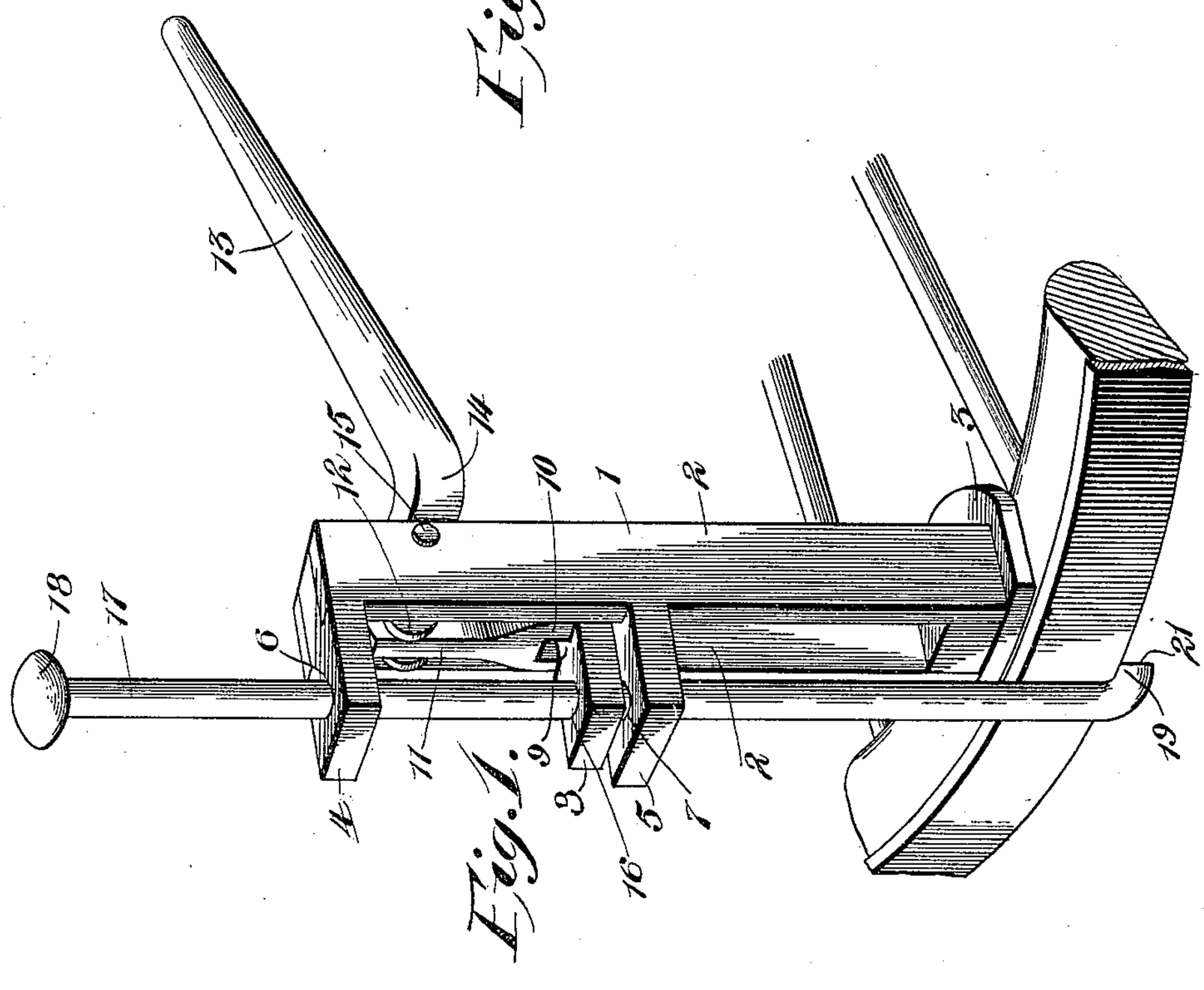

Fig. 1.

Witnesses
Clarence A. Wacker
Chas. S. Hoyer.

B. M. Buckland Inventor
By his Attorneys,
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UNITED STATES PATENT OFFICE.

BRADFORD M. BUCKLAND, OF POPLAR, CALIFORNIA.

WHEEL-TIRE REMOVER.

SPECIFICATION forming part of Letters Patent No. 658,479, dated September 25, 1900.

Application filed September 30, 1899. Serial No. 732,205. (No model.)

To all whom it may concern:

Be it known that I, BRADFORD M. BUCKLAND, a citizen of the United States, residing at Poplar, in the county of Tulare and State of California, have invented a new and useful Wheel-Tire Remover, of which the following is a specification.

This invention relates to a wheel-tire remover; and the object of the same is to provide a device through the medium of which tires may be removed from wheels in an expeditious and convenient manner and at little expense without in the least injuring the felly, the improved device in operative position being directly applied to the wheel and without other support.

With this and other objects in view the invention consists in the construction and arrangement of the parts which will be more fully hereinafter described and claimed.

In the drawings, Figure 1 is a perspective view of the improved tire-remover shown applied to a portion of a wheel and arranged to pull the tire therefrom. Fig. 2 is a section through the improved device, showing the manner of moving or pulling the tire loose therewith.

Similar numerals of reference are employed to indicate corresponding parts in the views.

The numeral 1 designates a staff-support comprising opposite vertical side pieces 2, connected at the bottom and attached to a base-rest 3. At the top and an intermediate point the staff-support has projecting outwardly therefrom horizontal guides 4 and 5, which are provided with vertical openings 6 and 7, arranged in alinement. The horizontal guides 4 and 5 have between them a movably mounted or attached clutch-head 8, which has a central rearwardly-projecting tongue 9, pivotally held in the lower bifurcated end 10 of a link 11, which has its upper end or extremity pivotally mounted in the bifurcated end 12 of an operating-lever 13. The end 12 of the lever 13 works between the upper portions of the side pieces 2 of the staff-support 1, and the adjacent end of the lever 13 is formed with an angular deflection, as at 14, to afford means for conveniently locating the same between the said side pieces and making said lever effective in its operation. A pivot bolt or pin 15 extends through the upper portions of the side pieces 2 and the part of the lever 13 therebetween, and the distance between said pivot-pin and the adjacent terminal or end of the lever is such as to permit sufficient reach or working movement to properly operate the clutch-head 8. The said clutch-head 8 has a vertical opening 16 therethrough, and in the openings 6 and 7 of the guides 4 and 5 and the opening 16 of the clutch-head 8 a staff 17 is movably mounted and is free to slide through the openings 6 and 7, but is gripped by the clutch-head 8 as the latter has its angle changed, as shown in Fig. 2, by the downward movement of the lever 13, which pulls up on the link 11 and tilts the said clutch-head. The opening 16 in the clutch-head 8 is large enough to permit said clutch-head to slip downwardly over the staff 17 in the primary adjustment or arrangement of the parts previous to the pulling strain exerted by the staff on the tire. By exposing the clutch-head 8 at an angle, as shown by Fig. 2, the upper and lower opposite portions of the edges of the opening 16 bite into opposite parts of said staff, and said head is prevented from slipping on the staff so long as the force on the lever 13 is steadily applied in a downward direction. The upper end of the staff 17 is supplied with a stop knob or projection 18 and the lower terminal is formed with an inturned foot 19, forming an upper shoulder 20 and an inner vertical face 21.

In arranging the staff 17 in position to remove a tire the wheel is first laid flat on the hub, so that the tire will be exposed, and the base-rest 3 is then placed upon the upper side of the felly, with the outer edge thereof close to the joining line of the tire therewith. The staff 17 is then let down to the position shown in Fig. 1, and during this depression of said part the lower inturned foot is outermost, so as to fully clear the tire. When a proper level of said foot 19 has been attained relatively to the tire to be removed, the staff is rotated to bring the shoulder 20 under the lower edge of the tire. The staff is now in condition to exert a pulling strain on the tire, and this is supplied by a downward pressure on the lever 13, which disposes the clutch-head 8 in the position shown in Fig. 2 and slides the staff upwardly through the guides

4 and 5 until the tire has been pulled up clear of the periphery of the felly. It may be necessary to partially loosen one portion of the tire, and then another, and subsequently another portion by moving the device from one position to another. If this operation is demanded, it can be easily carried on by moving the base-rest over the felly and carrying on in succession the operation just described.

The device is simple in its construction and effective in its operation, and at times it may be necessary to change the form, proportions, and minor details to suit different applications. Such changes therefore will be made as reside within the scope of the invention and without sacrificing any of the advantages of the preferred form of construction.

Having thus described the invention, what is claimed as new is—

A device of the class described comprising the vertical support 1, consisting of the vertical side pieces 2, the base-rest adapted to be placed on a felly contiguous to one of the edges of a tire, and the horizontal projecting guides 4 and 5 arranged respectively at the top of the support and at the center thereof, the vertical staff 17 extending through the horizontal guides and provided at its lower end with the foot 19, and adapted to be rotated in the guides to engage the foot properly with the lower edge of the tire, the operating-lever fulcrumed between the upper portions of the sides 2, the clutch-head 8 having an opening to receive the staff, and the approximately-vertical link depending from the lever and connected with the clutch-head, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

BRADFORD M. BUCKLAND.

Witnesses:
J. C. McCABE,
J. F. BOLLER.