No. 788,398. PATENTED APR. 25, 1905.

J. B. FLADBY.

EXTRACTING TOOL.

APPLICATION FILED OCT. 3, 1904.

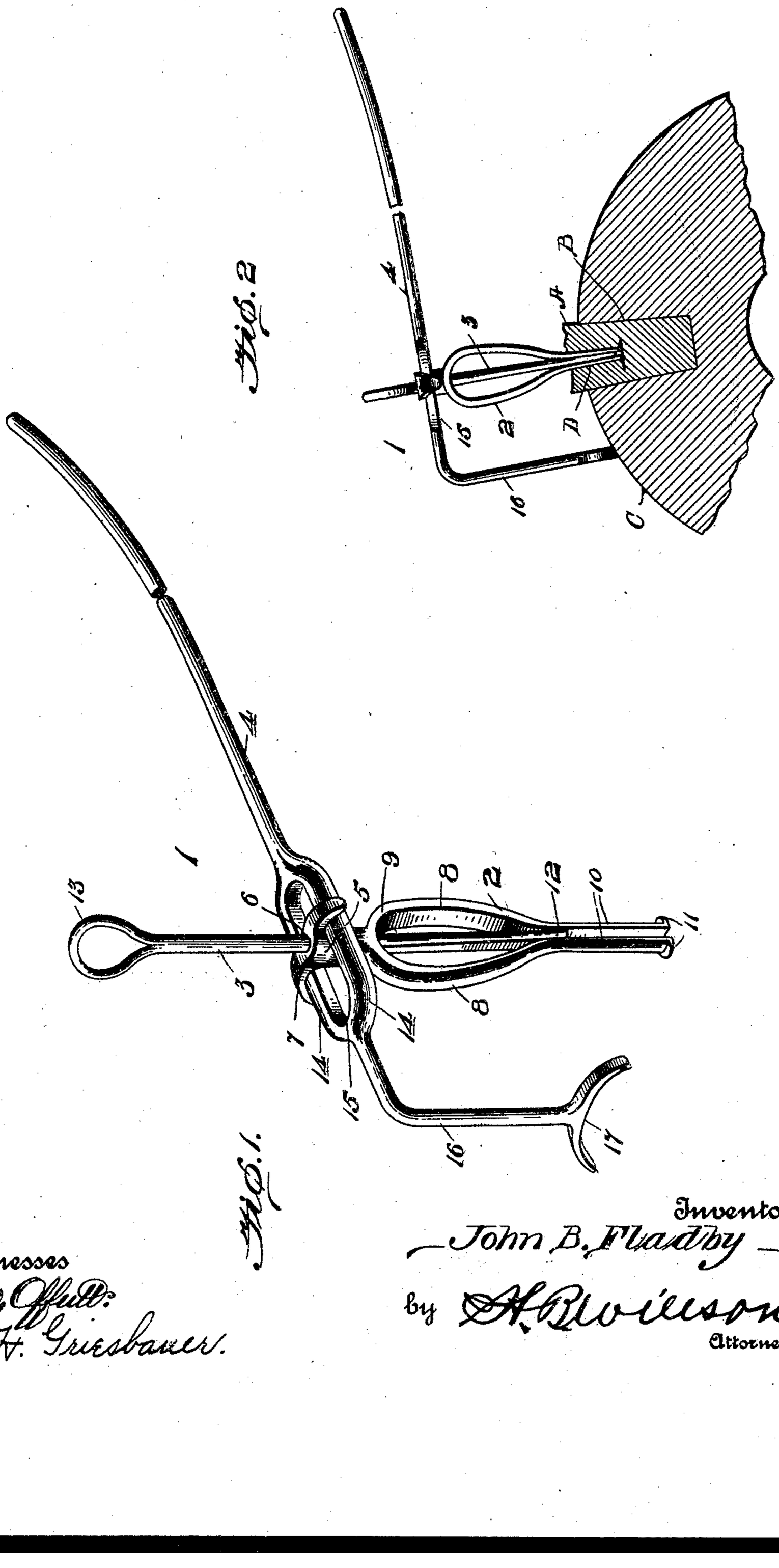

Fig. 2.

Fig. 1.

Witnesses
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No. 788,398. Patented April 25, 1905.

UNITED STATES PATENT OFFICE.

JOHN B. FLADBY, OF RUTLAND, NORTH DAKOTA, ASSIGNOR OF ONE-HALF TO JAMES S. PETERSON, OF LUDDEN, NORTH DAKOTA.

EXTRACTING-TOOL.

SPECIFICATION forming part of Letters Patent No. 788,398, dated April 25, 1905.

Application filed October 3, 1904. Serial No. 226,980.

To all whom it may concern:

Be it known that I, JOHN B. FLADBY, a citizen of the United States, residing at Rutland, in the county of Sargent and State of North Dakota, have invented certain new and useful Improvements in Extracting-Tools; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in devices for removing or extracting objects from sockets or holes, and more particularly to a tool of this character which is especially designed for pulling or extracting the tenons of broken spokes from their sockets in vehicle-wheels.

The object of my invention is to provide a device of this character which will be simple in construction, durable in use, efficient in operation, and comparatively inexpensive to manufacture.

With the above and other objects in view the invention consists of certain novel features of construction, combination, and arrangement of parts, as will be hereinafter more fully described, and particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a perspective view of a device or tool constructed in accordance with my invention, and Fig. 2 is a sectional view showing the manner in which the tool is used in extracting a broken spoke-tenon from its socket in the hub of a wheel.

Referring to the drawings by numerals, 1 denotes my improved extracting-tool, which comprises three separable elements—namely, a grapple 2, a locking-key 3, and an operating-lever 4. The grapple 2, which is adapted to engage the object to be extracted, comprises a tubular body portion 5, having a central bore or opening 6 and formed at one end with two laterally and oppositely projecting curved arms or hooks 7 and at its other end with two oppositely-projecting spring-arms 8, which are preferably disposed in a plane at right angles to that of the said hooks 7. These spring-arms 8, which project laterally and longitudinally from the body 5, are curved outwardly away from each other, as shown at 9, and have their outer ends 10 disposed in parallel relation and formed with jaws 11, which are here shown in the form of outwardly-projecting tapered ends or spurs of substantially semicircular shape. These jaws 11 upon the spring-arms 8 are adapted to be forced apart and into engagement with the object to be removed or extracted by the locking-key 3, which is preferably in the form of a tapered pin or wedge. This key 3, which is slidably mounted in the bore 6 of the body 5, has its lower or inner end 12 tapered or wedge shape to adapt it to enter between the opposing or inner faces of the spring-arms 8 to force and hold them apart. The outer end of the said key 3 is provided with a suitable handle 13 to permit it to be readily operated, the handle or finger piece 13 being here shown in the form of integral ring.

The grapple 2 is pivotally connected to or hung upon the operating-lever 4 by a movable fulcrum, which is formed by the hooks 7 upon the grapple engaging the sides 14 of a divided or bifurcated portion 15 of said lever, which portion 15 is disposed adjacent to the outer right-angularly-bent end 16 of said lever. Said end 16 is provided with a forked or bifurcated end 17, which forms a foot to engage any suitable stationary support while the tool is in use. The opposite end of said lever is preferably slightly curved and forms a handle.

In using the device for extracting a broken spoke-tenon A from its socket B in the hub C of a wheel, as seen in Fig. 2 of the drawings, a recess or cavity D is bored or otherwise formed in said tenon after it has been sawed off close to the hub, and the spring-arms 8 of the grapple 2 are then inserted in said recess, the wedging-key 3 being removed to permit the jaws 11 upon said spring-arms to be inserted as shown. The key 3 is then forced between the arms 8 to drive their jaws 11 into the walls of said recess D, and thus lock the grapple to the tenon. The lever 4 is then engaged with the grapple 2 and the hub C, as shown in Fig. 2, and by forcing the outer end of the lever 4 upwardly the tenon

A will be easily extracted from its socket B, as will be readily understood.

The device or tool may be made in various sizes and may be used for various other purposes than the one just explained. It will be further understood that I do not wish to be limited to the precise construction herein set forth, since various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

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

1. An extracting-tool comprising a lever having an engaging foot and a longitudinal slot, in combination with a grapple having spring-arms, and further provided with a portion which extends through and is shiftable in the slot of the lever, and devices to bear on the lever on opposite sides of the slot and fulcrum the grapple thereto, and a key carried by the grapple and adapted to be forced between the arms of the latter to spread said arms, substantially as described.

2. A device of the class described, comprising a grapple provided at one end with oppositely-projecting hook-arms and at its other end with spring-arms having jaws to engage the object to be extracted, a wedge for forcing and holding said jaws in engagement with said object, and a lever having a slotted portion engaged by said hook-arms upon said grapple to provide a shiftable fulcrum connection between the same, substantially as described.

3. A device of the class described, comprising a grapple having a tubular body formed at one end with oppositely-projecting hook-arms and at its other end with spring-arms having oppositely-projecting jaws, a tapered pin slidably mounted in said tubular body and adapted to enter between said spring-arms to force and hold their jaws in engagement with said object, and an angularly-bent lever having a foot at one end and a slotted or bifurcated portion adapted to be engaged by said hook-arms to provide a movable fulcrum connection between said grapple and said lever, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JOHN B. FLADBY.

Witnesses:
H. L. GREENE,
J. H. JOHNSON.