

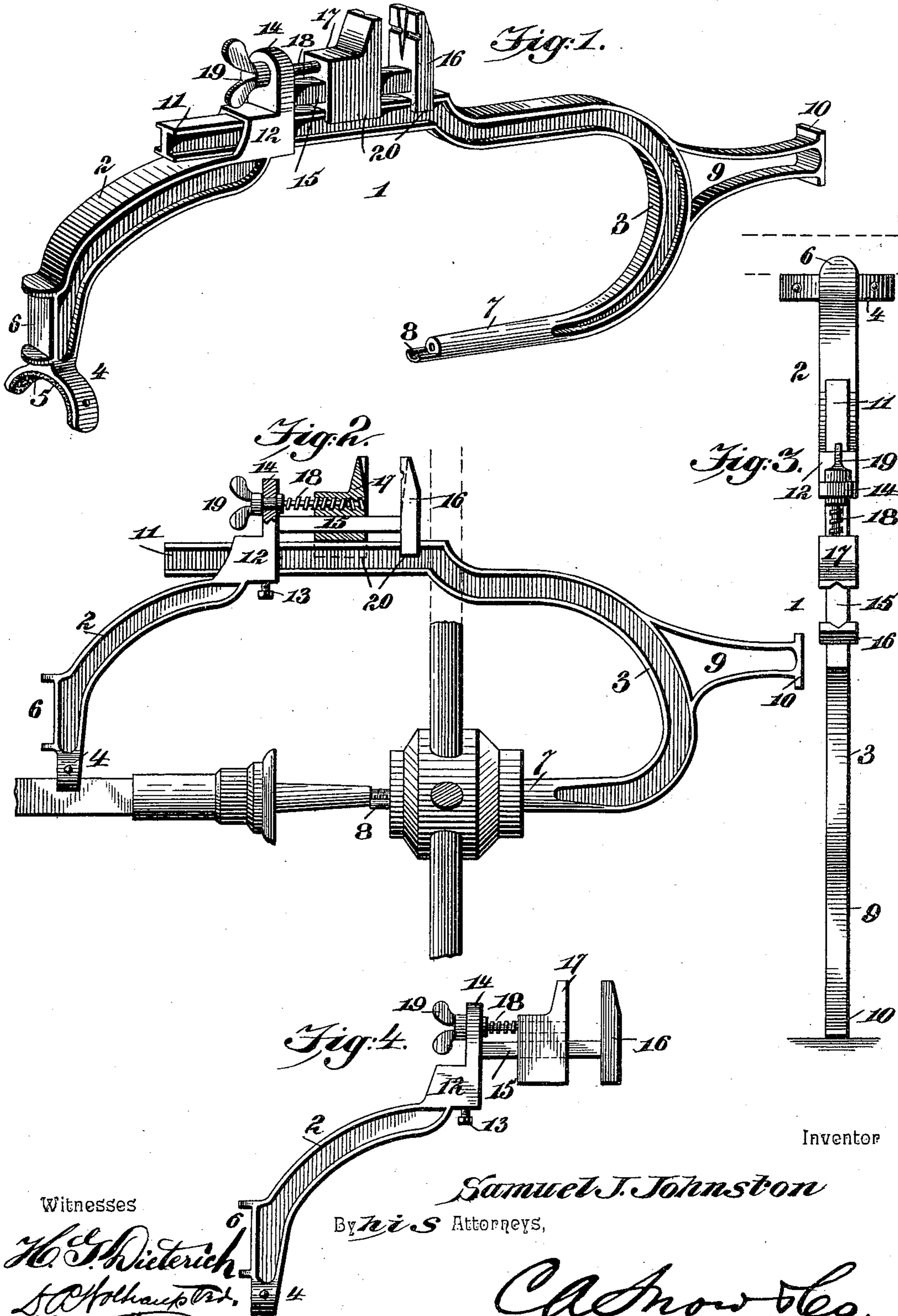
No. 607,439.

Patented July 19, 1898.

S. J. JOHNSTON.
WRENCH JACK.

(Application filed Sept. 15, 1896.)

(No Model.)



UNITED STATES PATENT OFFICE.

SAMUEL J. JOHNSTON, OF LEESBURG, VIRGINIA.

WRENCH-JACK.

SPECIFICATION forming part of Letters Patent No. 607,439, dated July 19, 1898.

Application filed September 15, 1896. Serial No. 605,914. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL J. JOHNSTON, a citizen of the United States, residing at Leesburg, in the county of Loudoun and State of Virginia, have invented a new and useful Wrench-Jack, of which the following is a specification.

This invention relates to a wrench-jack for carriages and wagons; and it has for its objects to provide an adjustable jack adapted for use in connection with any sized hub and providing means for supporting vehicle-axles by means of the wheels resting on the ground while oiling the axles and removing or putting on washers and also for the purpose of propping up the axles of vehicles as a lifting-jack while washing wheels, &c. In the accomplishment of these objects the invention also contemplates, in connection with the jack proper, a wrench construction whereby axle-nuts may be removed and other operations in connection with the care of carriages and wagons readily performed.

With these and other objects in view, which will readily appear as the nature of the invention is better understood, the same consists in the novel combination, construction, and arrangement of parts, as will be hereinafter more fully described, illustrated, and claimed.

In the drawings, Figure 1 is a perspective view of an adjustable wrench-jack for carriages and wagons constructed in accordance with this invention. Fig. 2 is a side elevation of the jack employed for supporting the axle of a vehicle and for holding the wheel when the latter acts as the prop. Fig. 3 is a similar view of the jack employed as a direct prop for a vehicle-axle. Fig. 4 is a detail elevation of the member of the jack-arm carrying the wrench.

Referring to the accompanying drawings, the numeral 1 designates a sectional bowed jack-arm comprising the separate curved members 2 and 3, that are adapted to be adjustably connected together at their inner adjacent ends in a manner to be presently described, so as to adapt the jack for use in connection with vehicle-wheels having hubs of different sizes, it being understood that in one use of the jack the jack-arm 1 is adapted to be passed between the spokes of a vehicle-

wheel to provide for holding the wheel when slipped off from the axle for oiling the latter or in removing and replacing washers. The curved arm member 2 of the jack-arm 1, while adjustably connected at its inner end with the inner portion of the other arm member 3, is provided at its outer extremity with a fulcrum-fork 4, having a leather or similar soft facing 5 and adapted to embrace and rest on the upper side of a vehicle-axle in rear of the spindle thereof when the jack-arm is passed between the spokes of the wheel, and directly adjacent to the fulcrum-fork 4 the arm member 2 is further provided with a notched rest-seat 6, adapted to fit the under side of an axle when the jack is placed in an upright position as a lifting-jack for the purpose of propping the axle to hold the wheel off of the ground.

The curved arm member 3, opposite and adjustable with the arm member 2, is provided at its outer extremity with the inwardly-disposed jack-spindle 7, the inner end of which is provided with a threaded semi-circular lip 8, in which rests the tip extremity of the axle-spindle, to which the jack is fitted or in connection with which the jack is employed. In addition to the inwardly-disposed jack-spindle 7 the curved arm member 3 has projected outwardly from its outer end a combined handle and foot-arm 9, at the outer extremity of which is formed a flat base portion 10, adapted to rest upon the ground and form a base for the jack when the same is employed as a lifting-jack to prop the axle, as illustrated in Fig. 3 of the drawings, while when the jack is employed as illustrated in Fig. 2 of the drawings the same is positioned between the spokes of the wheel, and after having been properly adjusted to suit the size of the hub the arm 9 is grasped as a handle and slightly raised, so that the wheel may be slid off the axle-spindle and onto the jack-spindle 7, in which position the wheel will act as a prop to support the axle-spindle, as will be readily understood.

To provide for the adjustable connection between the inner ends of the arm members 2 and 3, the curved arm member 3 has projected or formed at its inner end a straight connecting-bar portion 11, that slidably works in the slide-loop or open socket 12, preferably

formed integrally with the arm member 2 on the inner end thereof, and said inner end of the arm member 2 has mounted therein a set-screw 13, working into the loop 12 and im-
 5 pinging on the connecting-bar portion 11 to provide for rigidly fastening the two members of the jack-arm together after the proper adjustment thereof to suit the size of hub. The curved arm member 2, having the slide-
 10 loop 12, is further provided on the outer side of its loop 12 with an offstanding wrench-post 14, from one side of which is extended a shank-piece 15, lying parallel with and di-
 15 rectly adjacent to the outside of the straight bar portion 11 of the arm member 3. At the end opposite the wrench-post 14 the shank-piece 15 is provided with a fixed wrench-jaw 16, opposed to the movable wrench-jaw 17, slid-
 20 ing on the shank-piece 15 and engaged by the adjusting-screw 18, swiveled in the wrench-post 14 and provided at one end, directly at one side of said wrench-post, with a finger-
 25 nut 19 for turning the screw and providing for the relative adjustment of the jaw 17 with respect to the jaw 16. Both of the jaws 16
 30 and 17 of the wrench construction are provided at their inner end with the guide-flanges 20, projecting from the jaws, so as to slidably embrace opposite sides of the straight
 35 connecting-bar 11 and thereby assist steady-
 ing the tool while being adjusted.

The particular disposition of the shank-piece 15 and the sliding engagement of the wrench-jaws with the connecting-bar 11
 35 cause the shank-piece 15 to act as a brace for the arm member 3 when the jack is employed for supporting the axles with the wheels used as a prop, and in such case it
 40 being noted that the disposition of the parts would necessarily tend to cause a severe binding of the straight connecting-bar portion 11 in the slide-loop 12.

From the foregoing it will be seen that the wrench construction forms an essential part
 45 of the jack and with the two members of the jack-arm connected together the jaws may be adjusted onto the axle-nut and the opposite members of the jack-arm grasped, so
 50 as to turn the wrench and thereby secure a powerful leverage for screwing and unscrewing nuts and the like, but by detaching the

arm members 2 and 3 it will be seen that the arm member 2 forms a complete handle for the wrench, as illustrated in Fig. 4 of the
 drawings, so that such wrench may be readily
 55 employed for any purpose without having to hold the entire jack for using the wrench, as will be readily apparent.

Changes in the form, proportion, and the minor details of construction may be resorted
 60 to without departing from the principle or sacrificing any of the advantages of this invention.

Having thus described the invention, what I claim, and desire to secure by Letters Pat-
 65 ent, is—

1. In a wrench-jack, for carriages and wagons, a jack-arm comprising separate mem-
 70 bers, one of which members is provided at its inner end with a loop or socket adjustably receiving a straight shank or bar portion of the other member, and a wrench connected
 75 to one of said members and having relatively fixed and sliding jaws, the sliding jaw of the wrench having a play in the space between the fixed jaw and said loop or socket at the
 80 inner end of one of the jack-arm members, substantially as set forth.

2. In a wrench-jack for carriages and wagons, a jack-arm comprising separate mem-
 80 bers, one of which is provided at its inner end with a straight connecting-bar portion, and the other of which members is provided at its inner end with a loop adjustably receiving
 85 said connecting-bar portion, and with an off-standing wrench-post projected from said loop and supporting a shank-piece lying parallel with the straight connecting-bar portion
 90 of one of the jack-arm members, and relatively fixed and adjustable wrench-jaws fitted on the shank-piece and provided at their inner ends with guide-flanges slidably embrac-
 95 ing said straight connecting-bar portion, substantially as set forth.

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

SAMUEL J. JOHNSTON.

Witnesses:

JOHN H. SIGGERS,
 HAROLD H. SIMMS.