

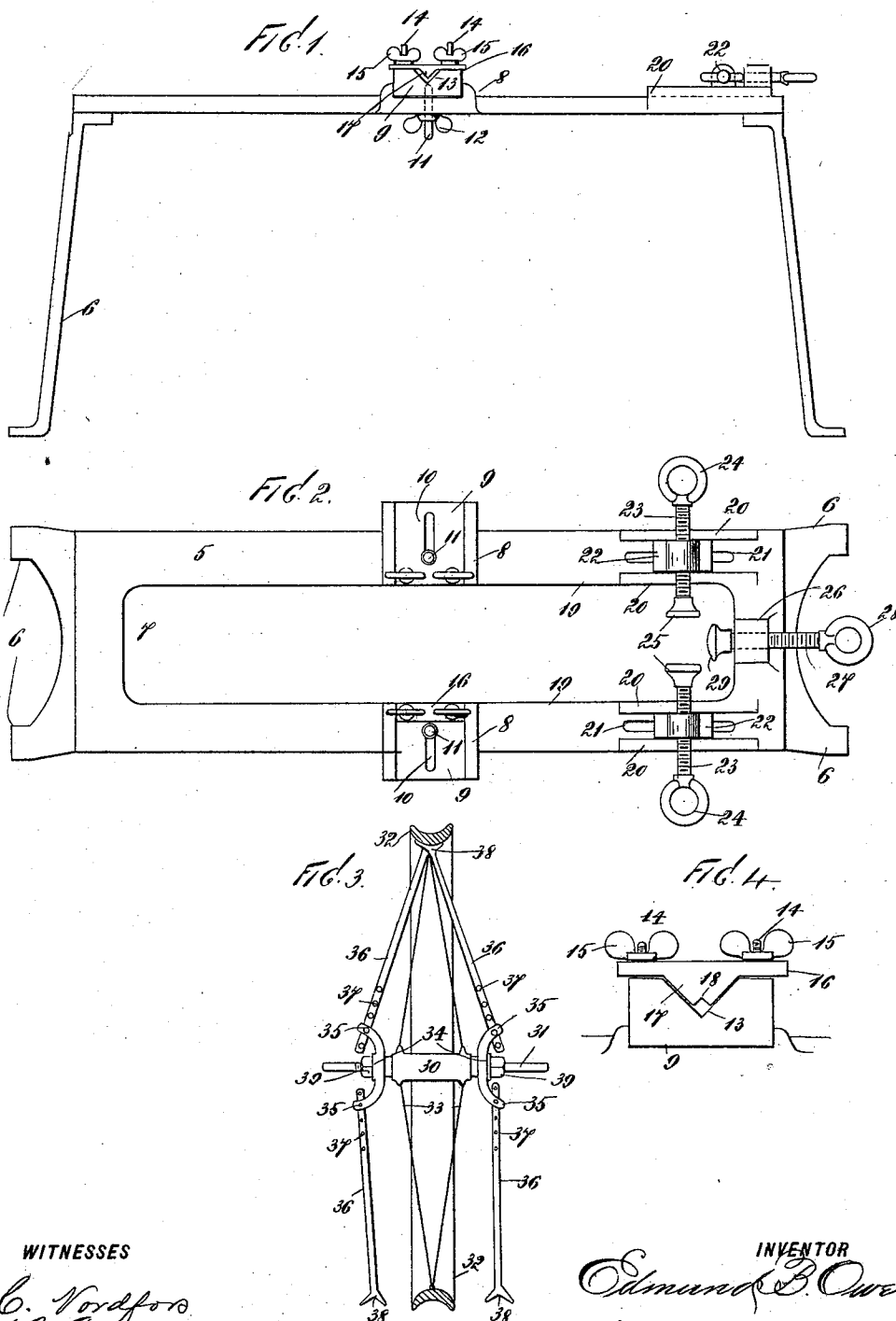
(No Model.)

E. B. OWEN.

APPARATUS FOR REPAIRING WHEELS OF BICYCLES.

No. 575,554.

Patented Jan. 19, 1897.



WITNESSES

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APPARATUS FOR REPAIRING WHEELS OF BICYCLES.

SPECIFICATION forming part of Letters Patent No. 575,554, dated January 19, 1897.

Application filed July 2, 1896. Serial No. 597,894. (No model.)

To all whom it may concern:

Be it known that I, EDMUND BURR OWEN, a citizen of the United States, and a resident of Jersey City, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Apparatus for Repairing the Wheels of Bicycles, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof, in which similar numerals of reference indicate corresponding parts wherever found throughout the several views.

This invention relates to apparatus for repairing the wheels of bicycles and similar vehicles; and the object thereof is to provide an improved apparatus for this purpose, which is simple in construction and operation and by means of which the wheels of a bicycle or other vehicle when injured by the breaking of a spoke or otherwise, or the rim thereof, may be trued or repaired and a new spoke or spokes placed therein.

The invention is fully disclosed in the following specification, of which the accompanying drawings form a part, in which—

Figure 1 is side view of the device which I employ; Fig. 2, a plan view thereof; Fig. 3, a side view of a jack which I employ for straightening a wheel that has been injured or truing the rim thereof and showing the same applied to a wheel, said jack being adapted to be used in connection with the apparatus shown in Figs. 1 and 2; and Fig. 4 is a side view of a detail of the construction shown in Figs. 1 and 2.

In the practice of my invention I provide a suitable frame, which, as shown in the drawings, reference being made to Figs. 1 and 2, consists of a top plate 5, which is provided at each end with legs or supports 6, and the top plate 5 is provided centrally with an oblong slot or opening 7, and the sides of the top plate are provided centrally thereof with cross-heads 8, in which are mounted transversely-movable blocks 9, said blocks being provided centrally thereof with longitudinal slots or openings 10, through which are passed pins or bolts 11, secured to the side of the top plate, and which are provided with thumb-nuts 12.

The blocks 11 are provided with triangular

notches or recesses 13, and at each side of said notches or recesses 13 are vertical screw-threaded bolts 14, provided with thumb-nuts 15, and mounted on said bolts 14 and resting on the blocks 9 are cross-plates 16, which are provided on their under sides and transversely thereof with triangular downwardly-directed shoulders or projections 17, and in practice I prefer to form in the under sides of these shoulders or projections 17 triangular notches or recesses 18.

The side plates 19 are provided near one end with vertical flanges 20, between which, on each side, is a longitudinal slot 21, and mounted between said flanges are sliding blocks 22, through which pass bolts 23, which are provided on their outer ends with rings or handles 24 and at their inner ends with circular heads 25, and the end of the top plate adjacent to the bolts 23 is provided centrally thereof with an upwardly-directed shoulder or projection 26, through which passes a bolt 27, which is similar to the bolt 23, and provided at its outer end with a ring or handle 28 and at its inner end with a head 29.

In practice the shaft of the wheel which is to be repaired is placed in the slot or opening 7 in the top plate and the axle or shaft thereof, or its ends, is placed in the notches or recesses 13 in the blocks 9, and the plate 16 is secured down thereon, by means of the thumb-nuts 15, so that the shoulder or projection 17 on said plate presses upon the ends of the axle or shaft and securely holds the same in said blocks, and when in this position the rim of the wheel may be laterally adjusted by means of the bolts 23, and said rim may be forced inwardly, if desired, by the bolt 27.

In Fig. 3 I have shown a part of a wheel of a bicycle or similar vehicle, which consists of the hub 30, the shaft or axle 31, which passes therethrough or is mounted therein, and the rim 32, said hub and said rim being connected by the usual spokes 33, and I have also shown a jack, which consists of plates 34, which are adapted to be mounted on the ends of the shaft or axle and which are provided with outwardly-curved arms 35, and I also provide rods 36, which are provided with a plurality of holes or perforations 37 in their inner ends, by means of which they are pivotally connected with the arms 35 of the plates 34, and

said rods are provided at their outer ends with curved or segmental heads 38, which are adapted to engage with the inner surface of the rim 32, and I also provide nuts or burs 39 by which the plates 34 may be forced inwardly, and in this operation the rods 36 will be forced outwardly, and the rim of the wheel may be thus trued up or forced outwardly, and this device is adapted to be used in connection with the apparatus shown in Figs. 1 and 2 for the purpose of aiding in repairing a wheel that has been damaged by the breaking of a spoke or spokes and in which the rim of the wheel has been forced out of proper position with relation to the hub thereof.

It will be understood that after the jack has been connected with the wheel, as shown in Fig. 3, the wheel may be placed in the frame, as hereinbefore described, and said jack is intended, primarily, for use in cases where the rim of a wheel has been forced inwardly and cannot therefore be adjusted by means of the bolts 23.

This device is simple in construction and operation and perfectly adapted to accomplish the result for which it is intended, and it is evident that changes in and modifications of the construction herein described may be made without departing from the spirit of my invention or sacrificing its advantages.

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

1. The herein-described apparatus for adjusting and repairing the wheels of bicycles, and similar vehicles, which consists of a suitable frame, provided with a top, having an oblong slot or opening therein, sliding blocks mounted on the opposite sides thereof, and provided with notches or recesses, adapted to receive the ends of the axle of the wheel, devices for securing said ends of the axle in position, and means connected with one end of the frame for adjusting the position of the rim of the wheel, substantially as shown and described.

2. The herein-described apparatus for adjusting and repairing the wheels of bicycles and similar vehicles, which consists of a suitable frame, provided with a top, having an oblong slot or opening therein, sliding blocks mounted on the opposite side thereof, and provided with notches or recesses adapted to receive the ends of the axle of the wheel, devices for securing said ends of the axle in position, and means connected with one end of the frame for adjusting the position of the rim of the wheel, consisting of transverse screw-threaded bolts which are mounted in sliding blocks, and which are provided at their

inner ends with heads adapted to engage with the rim of the wheel, substantially as shown and described.

3. The herein-described apparatus for adjusting and repairing the wheels of bicycles and similar vehicles which consists of a suitable frame, provided with a top, having an oblong slot or opening therein, sliding blocks mounted on the opposite side thereof, and provided with notches or recesses adapted to receive the ends of the axle of the wheel, devices for securing said ends of the axle in position, and means connected with one end of the frame for adjusting the position of the rim of the wheel, consisting of transverse screw-threaded bolts which are mounted in sliding blocks, and which are provided at their inner ends with heads, adapted to engage with the rim of the wheel, and a longitudinally-movable bolt, at the end of the frame, which is also provided with a head at its inner end by which the rim of the wheel may be forced inwardly, substantially as shown and described.

4. In an apparatus for repairing the wheels of a bicycle or similar vehicle, the combination with a suitable frame in which the wheel is adapted to be mounted, and which is provided with transversely mounted and movable bolts for adjusting the position of the rim thereof, of a jack which is adapted to be connected with the axle or shaft of the wheel, by means of which the rim thereof, may be forced outwardly substantially as shown and described.

5. In an apparatus for repairing the wheels of a bicycle or similar vehicle, the combination with a suitable frame in which the wheel is adapted to be mounted, and which is provided with transversely mounted and movable bolts for adjusting the position of the rim thereof, of a jack which is adapted to be connected with the axle or shaft of the wheel, by means of which the rim thereof, may be forced outwardly, said jack consisting of plates which are adapted to be mounted on the ends of the shaft or axle of the wheel, and provided at their opposite sides with outwardly-curved arms, and rods which are pivotally connected therewith, and provided at their outer ends with heads which are adapted to engage with the inner surface of the rim, substantially as shown and described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of the subscribing witnesses, this 29th day of June, 1896.

EDMUND BURR OWEN.

Witnesses:

C. GERST,
CHARLES S. ROGERS.