

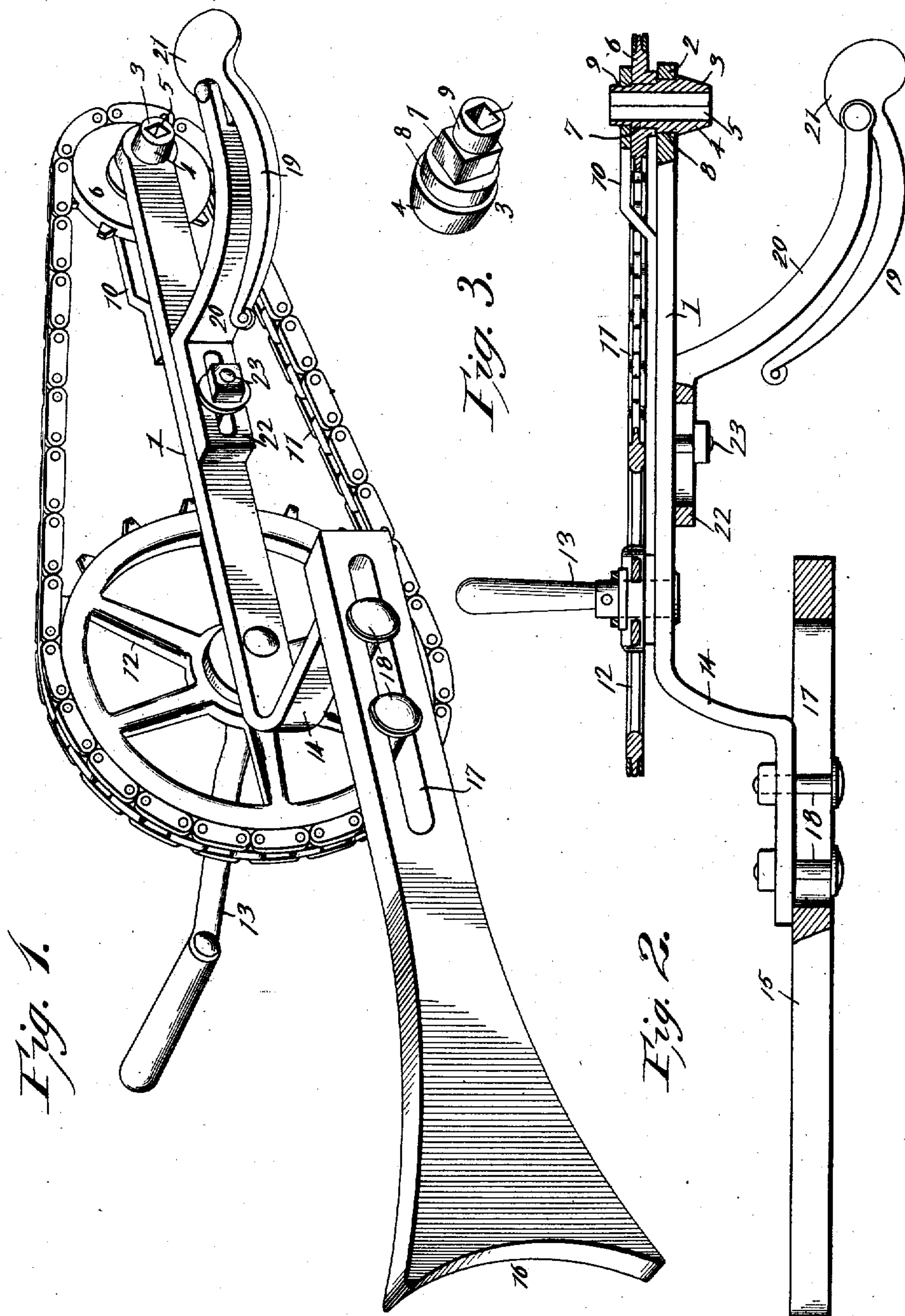
No. 661,658.

Patented Nov. 13, 1900.

J. F. GILLILAND.
TIRE BOLTING MACHINE.

(Application filed Apr. 16, 1900.)

(No Model.)



Witnesses
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UNITED STATES PATENT OFFICE.

JOHN F. GILLILAND, OF NEW VIENNA, OHIO.

TIRE-BOLTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 661,658, dated November 13, 1900.

Application filed April 16, 1900. Serial No. 13,090. (No model.)

To all whom it may concern:

Be it known that I, JOHN F. GILLILAND, a citizen of the United States, residing at New Vienna, in the county of Clinton and State of Ohio, have invented a new and useful Tire-Bolting Machine, of which the following is a specification.

The invention relates to improvements in tire-bolting machines.

One object of the present invention is to improve the construction of tire-bolting machines and to provide a simple, inexpensive, and efficient one adapted to be readily engaged with a wheel and capable of holding a bolt while the nut is being screwed on or off the same.

A further object of the invention is to provide a device of this character adapted to be readily held by the operator and capable of adjustment to suit the said operator, so that it may be conveniently used by either a large or small man or boy.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

In the drawings, Figure 1 is a perspective view of a tire-bolting machine constructed in accordance with this invention. Fig. 2 is a longitudinal sectional view of the same. Fig. 3 is a detail view of the rotary wrench.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

1 designates a supporting-bar provided at its outer end with a bearing 2 for the reception of a rotary wrench 3, consisting of a tubular shank provided at one end with a head 4 and having a round exterior and provided with a polygonal bore 5, adapted to receive the nut of a tire-bolt. The rotary wrench is journaled in the bearing of the supporting-bar, and it carries a sprocket-pinion 6, which has a rectangular opening to receive an intermediate rectangular portion 7 of the wrench. The rectangular portion 7 of the wrench is smaller than the bearing portion 8, and the wrench is provided with a bearing portion 9 to fit a bearing-opening of a brace 10. By this construction the parts may be readily separated and assembled, and the sprocket-

pinion is arranged between the outer end of the supporting-bar and the outer end of the brace 10. The sprocket-pinion receives a sprocket-chain 11, which is also arranged on a sprocket-wheel 12, having a crank-handle 13 and mounted upon a suitable pivot or stub-shaft located at the inner portion of the supporting-bar. The inner portion of the supporting-bar is provided with an L-shaped arm 14, which is adjustably secured to an arm rest or stop 15, which is offset from the plane of the gearing by the angularly-bent L-shaped arm 14 and which is provided with a curved recess 16 to fit the shoulder of the operator. The stop, which is disposed longitudinally of the supporting-bar, is provided at its inner end with a longitudinal slot 17, receiving bolts 18, which adjustably fasten the stock to the offset inner end of the supporting-bar and which enable the frame formed by the bar and the stop to be varied in length to suit the operator. The bore or opening of the wrench is extended entirely through the same, so that in removing nuts from bolts the said nuts will drop through the wrench. The bolts are held while the nuts are being screwed on or off by being engaged at their heads by a lever 19, fulcrumed on an adjustable arm or bracket 20 and provided with a cam-head 21, having a sharp inner chisel edge adapted to cut into the head of a bolt. The arm or bracket 20, which is curved to extend over the rim of a wheel, is provided with a straight inner portion 22, which is slotted for the reception of a bolt 23, adapted to clamp the bracket or arm to secure the same in proper position with relation to the rotary wrench. The outer end of the bracket or bar is bifurcated to receive the head of the lever, which is curved to conform to the configuration of the adjacent portion of the bracket or arm.

The rim of a wheel is adapted to be received in the space between the rotary wrench and the cam-shaped head of the clamping-lever 19, the lever being in position for engaging the head of the bolt and the wrench being arranged to receive the nut. By rotating the sprocket-wheel the wrench will be rapidly rotated, and a nut may be quickly screwed on or off the bolt. The stock is placed against the shoulder of the operator, who grasps the crank-handle with his right hand and the

bracket 20 with his left hand, said bracket 20 forming a convenient grip or handle for holding the device.

It will be seen that the machine is exceedingly simple and inexpensive in construction, that it is capable of being conveniently and rapidly operated to screw a nut on or off a tire-bolt, and that the clamping-lever is adapted to cut into the head of a bolt, whereby the latter is held firmly while the nut is being screwed on or off.

What is claimed is—

1. A device of the class described comprising a frame, a wrench journaled on the frame and adapted to receive a nut, gearing for rotating the wrench, an adjustable bracket or arm carried by the frame, and a clamping device for engaging the head of a bolt, substantially as described.

2. A device of the class described comprising a frame, a wrench journaled on the frame and adapted to receive a nut, sprocket-gearing mounted on the frame and connected with the wrench for rotating the same, an adjustable bracket or arm carried by the frame, and a clamping-lever fulcrumed on the bracket or arm and adapted to engage the head of a bolt, substantially as described.

3. A device of the class described comprising a frame having an adjustable stop adapted to fit against the shoulder of the operator, a wrench journaled on the frame, sprocket-gearing connected with the wrench and mounted on the frame and having a crank-handle at one side of the same, an adjustable bracket arranged at the opposite side of the frame and adapted to be grasped by the operator, and a clamping device mounted on the bracket for engaging the head of a bolt, substantially as described.

4. A device of the class described comprising a supporting-bar, a rotary wrench, gearing mounted on the supporting-bar and connected with the wrench, a stock adjustably secured to the supporting-bar and offset from the gearing, a bracket extending from the supporting-bar, and a lever fulcrumed on the bracket and arranged to engage the head of a bolt, 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.

JOHN F. GILLILAND.

Witnesses:

A. B. GILLILAND,
C. W. MURRAY.