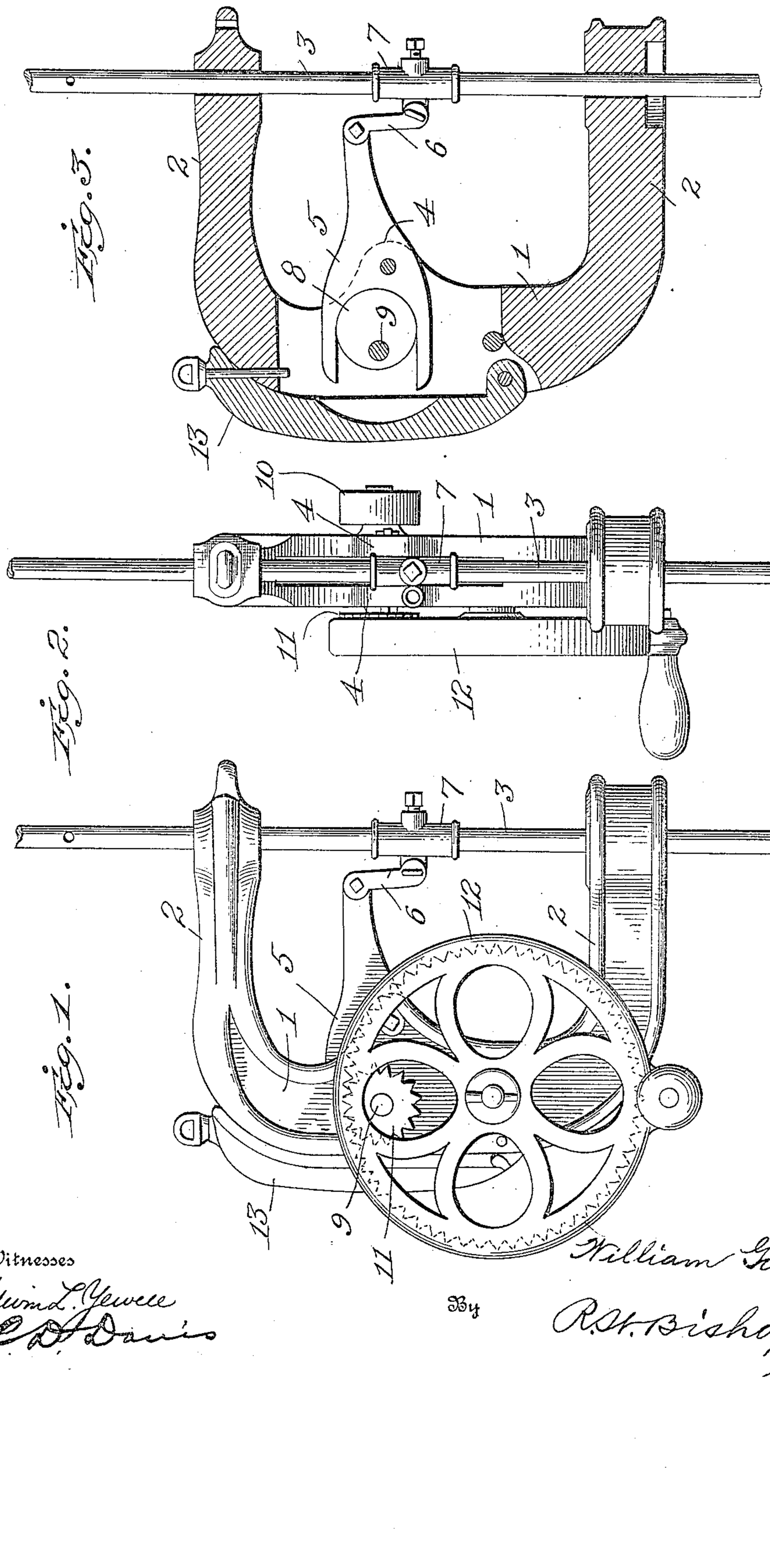
No. 817,639. PATENTED APR. 10, 1906.

W. GOBLE.

PUMP OPERATING MECHANISM.

APPLICATION FILED OCT. 12, 1905.



Witnesses

Edwin L. Yewell

C. D. Davis

Inventor

William Goble

By R. H. Bishop

Attorney

UNITED STATES PATENT OFFICE.

WILLIAM GOBLE, OF MONON, INDIANA.

PUMP-OPERATING MECHANISM.

No. 817,639. Specification of Letters Patent. Patented April 10, 1906.

Application filed October 12, 1905. Serial No. 282,455.

To all whom it may concern:

Be it known that I, WILLIAM GOBLE, a citizen of the United States of America, residing at Monon, in the county of White and State of Indiana, have invented certain new and useful Improvements in Pump-Operating Mechanism, of which the following is such a full, clear, and exact description as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming a part hereof.

This invention has special reference to the mechanism for reciprocating a pump piston-rod.

The invention is fully illustrated in the accompanying drawings; and it consists in certain novel features, which will be hereinafter first fully described and then particularly pointed out in the claims.

In the drawings, Figure 1 is a side elevation of a pump-operating mechanism embodying the invention. Fig. 2 is a front elevation of the same, and Fig. 3 is a longitudinal vertical section.

In carrying out my invention I employ a yoke or frame 1, having the horizontal arms 2, in which the pump-rod 3 reciprocates and is guided. The vertical portion of the yoke is hollow throughout nearly its entire length and is formed with the forwardly-projecting lugs or bosses 4, in and between which a forked lever 5 is pivotally secured. The front end of this lever is pivoted to the upper end of a link 6, which has its lower end pivoted to a sleeve 7, in which the pump-rod 3 is secured. The inner forked end of the lever 5 engages a cam or eccentric 8, secured on a driving-shaft 9, which is journaled in the yoke or frame and passes transversely through the hollow portion of the same, the cam or eccentric being within the said hollow portion. The ends of the shaft project beyond the sides of the yoke or frame, and on one end a band-pulley 10 is secured, while on the other end is a pinion 11, meshing with an internal gear-wheel 12, provided with a crank-handle, by which it may be operated by hand. The rear side or back of the yoke or frame is open and is normally covered by a vertically-disposed plate or cover 13, pivoted at its lower end to the yoke and having its upper end held to the yoke by a thumb-nut or similar fastening.

When the pump is to be operated by hand, the operator rotates the internal gear-wheel manually, and this motion is transmitted directly to the driving-shaft through the pinion on the end thereof. The cam or eccentric on the driving-shaft follows its motion, of course, and the forked lever is thus vibrated, so as to reciprocate the pump-rod through the link and sleeve connecting the lever with the rod. If it be desired to operate the pump from an engine, it is necessary only to run a belt over the band-pulley on the end of the driving-shaft, as will be readily understood, and the pump-rod may be driven from a windmill by coupling its upper end to the said mill.

It will be observed that the mechanism is very compactly arranged and that the large internal gear-wheel acts as a fly-wheel, so that a smooth and easy-running pump is attained. The yoke or frame and the gearing are so arranged that the more-easily broken parts are protected from severe blows and the shafts and pivots are firmly supported. The pivoted covering-plate protects the cam from injury and at the same time permits ready access to the same when it is necessary to lubricate or clean it. The frame or yoke being in one integral structure in the form of a U-shaped body, the necessary rigidity in the support is assured, while the pump-rod is guided in a true vertical line and is reinforced at the point where it receives the impulse of the driving-gear.

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

1. The combination with the frame, of a driving-shaft mounted transversely therein, means for rotating the said shaft, a cam on the shaft, a forked lever pivoted in the frame and engaging the said cam, a pump-rod mounted to reciprocate in the frame, a sleeve secured on the pump-rod, and a link connecting the said sleeve and the end of the forked lever.

2. The combination of the hollow yoke having forwardly-extending arms, a driving-shaft therein, means for rotating said shaft, a cam on the said shaft, a pump-rod mounted in and guided by the arms of the yoke, connections between the said cam and the pump-rod, and a covering-plate hinged to the yoke and normally extending over the cam and the driving-shaft.

3. The combination of the yoke having for-

wardly-extending upper and lower arms, a driving-shaft mounted transversely therein, a pinion on one end of the said shaft, a pulley on the opposite end of the shaft, an internal gear-wheel mounted on the side of the yoke and meshing with the said pinion, a cam on the driving-shaft within the yoke, a pump-rod mounted in and guided by the yoke, a forked lever pivoted in the yoke and engaging the said cam, and a link having its opposite ends pivotally connected to the end of the lever and to the pump-rod.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

WILLIAM GOBLE.

Witnesses:
THEODORE WHITE,
GEORGE W. DUNCAN.