

G. W. HIGHT.

Apparatus for Converting Rotary into Reciprocating Motion.

No. 155,442.

Patented Sept. 29, 1874.

FIG. I.

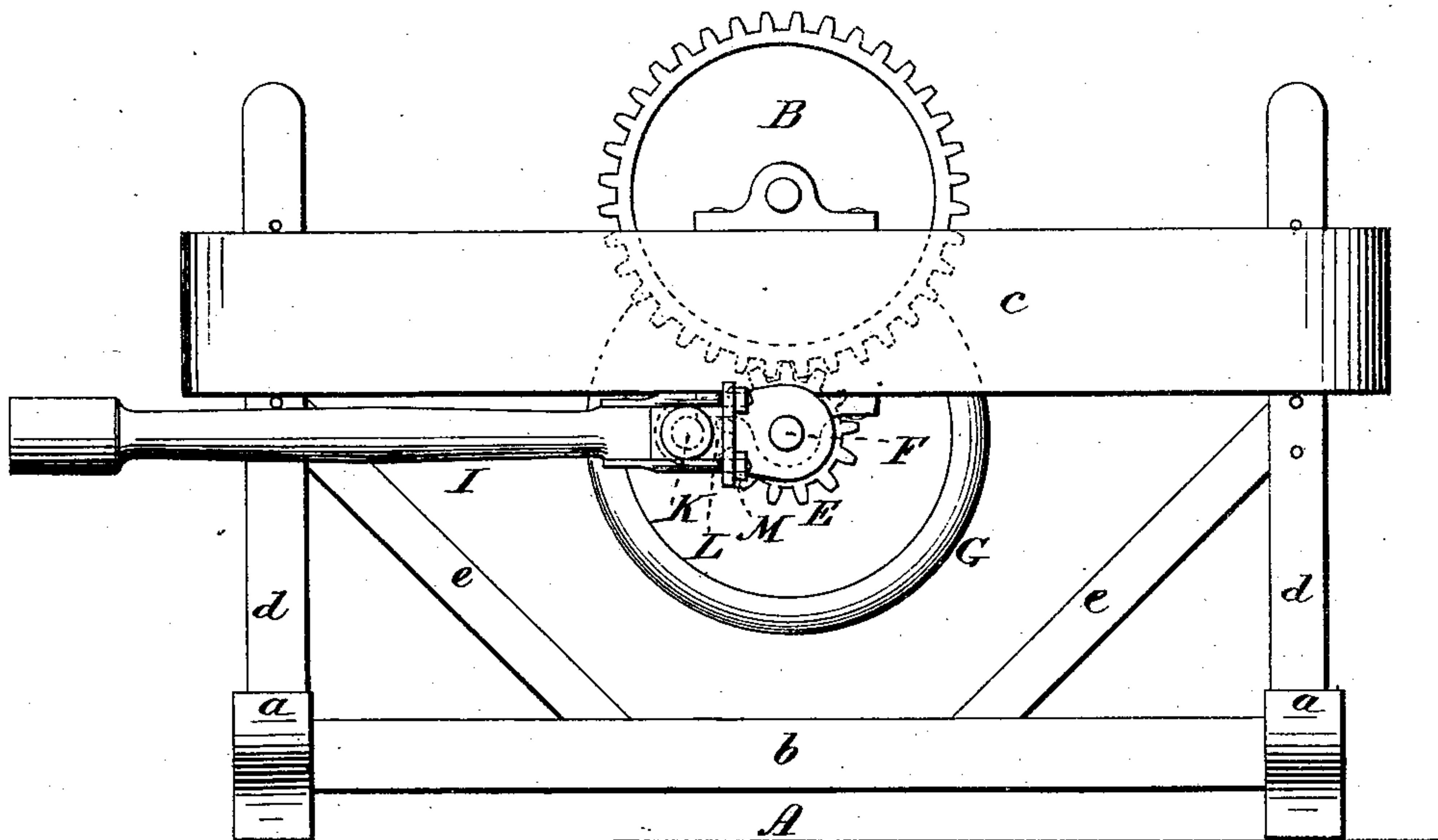
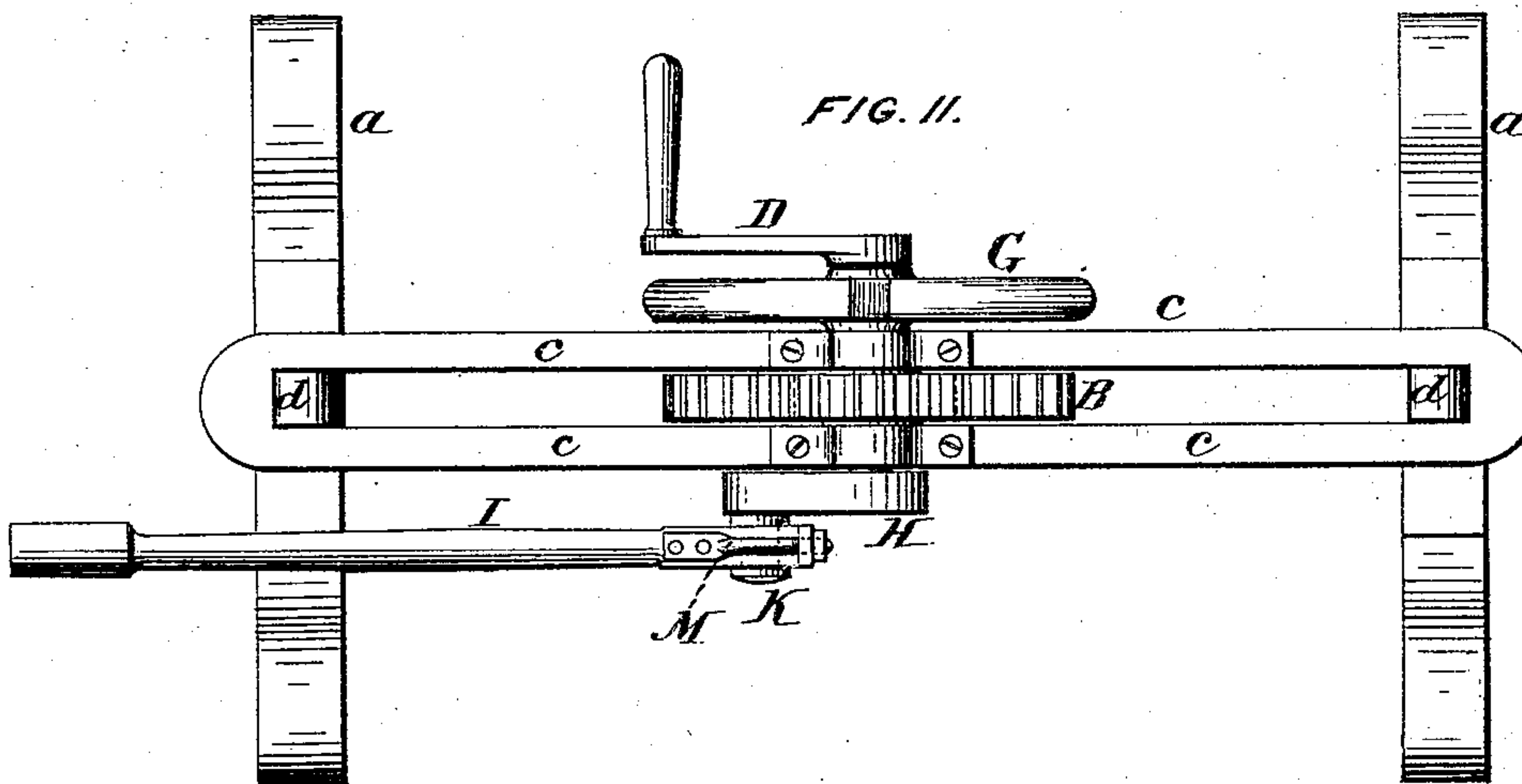


FIG. II.



WITNESSES:

A. H. Norris.
B. J. Burns.

INVENTOR:

G. W. Hight.
By James L. Norris.
Atty.

UNITED STATES PATENT OFFICE.

GEORGE W. HIGHT, OF CHEROKEE, KANSAS.

IMPROVEMENT IN APPARATUS FOR CONVERTING ROTARY INTO RECIPROCATING MOTION.

Specification forming part of Letters Patent No. 155,442, dated September 29, 1874; application filed June 10, 1874.

To all whom it may concern:

Be it known that I, GEORGE W. HIGHT, of Cherokee, in the county of Crawford and State of Kansas, have invented certain new and useful Improvements in Converting Rotary into Reciprocating Motion, of which the following is a specification:

This invention has for its object to furnish a portable apparatus for converting rotary into reciprocating motion, the operative mechanism and frame-work of which are brought into as close a compass or body as possible, so as to occupy comparatively little space or room.

The invention consists in the peculiar combination and arrangement of the operative gearing, fly-wheel, crank-shafts, and pitman, in respect to a portable supporting-frame, as will be hereinafter more fully described, and subsequently pointed out in the claim.

Figure 1 is a side view of my apparatus for converting rotary into reciprocating motion, and Fig. 2 is a top or plan view thereof.

The frame-work A, which supports or contains the operative mechanism, is made comparatively narrow, and is composed of the base-sills *a a*, and the longitudinal beams or bars *b c*, located, respectively, at the bottom and top of the frame. The upper beam *c* is slotted throughout its entire length, and is fitted on vertical standards *d d*, rising from the base-sills, and braced by diagonal struts *e e*, extending from the standards to the cross-bar *b*. The beam *c* is made adjustable in a vertical direction or on its standards.

The operative mechanism is applied entirely to the top beam *c*, and consists of a large spur-wheel, B, which is mounted on a shaft, C, journaled in the top of the beam *c*, and provided with a crank-handle, D, for turning said shaft.

The spur-wheel which operates between the side pieces of the beam *c*, so as to be partially concealed and protected, serves to drive a pinion, E, which is mounted on a shaft, F, carrying at its opposite ends a fly-wheel, G, and a crank or eccentric, H, for the attachment of a pitman, I. Said pitman is attached to a wrist-pin, K, of the crank-arm H, by means of a bearing-block, L, and stirrup-bolt or clip M, and the opposite end of the pitman

may be connected with a crosscut-saw, or other machinery to be driven.

It will be perceived that the large spur-wheel serves to accelerate the motion of the pinion-shaft, the speed of rotation of the same being rendered uniform by the fly-wheel, so as to drive the pitman in a regular manner.

By supporting the driving-gear upon the standard *c*, and constructing the latter so that it is adjustable upon the standards *d d*, I am enabled to raise or lower the driving-gear, and at the same time the pitman, so that the pitman can be connected with any sized machine or apparatus, without using props under the machine to secure the proper inclination of the pitman.

The arrangement of the driving mechanism shown—that is, the fly-wheel and crank on one side of the frame, the crank-arm, wrist-pin, and pitman on the other, and the spur-wheel and pinion between the slotted top beam or bar of the frame—will permit the entire mechanism to be brought into such a close compass or body as to cause the apparatus to occupy comparatively little space or room in the work-shop or other place.

A portable or light apparatus, constructed as above described, for multiplying power and driving reciprocating objects, will commend itself to all by reason of its compactness, and the facility with which it can be employed to drive different kinds of light machinery, such as saws, churns, &c.

I claim as my invention—

The portable apparatus for converting rotary into reciprocating motion, herein described, consisting of the frame-work A, the large spur-wheel B, its driving or crank shaft C D, the pinion E, its shaft F, and the fly-wheel G, and crank-arm H, wrist-pin K, and pitman I, the spur-wheel and pinion being located between the top beam of the frame-work, the fly-wheel and hand-crank on one side, and the crank-arm and pitman on the other side, of the same, all as herein shown and described, and for the purpose set forth.

In testimony that I claim the foregoing I have hereunto set my hand.

Witnesses: GEORGE W. HIGHT.
R. H. MILLER,
A. H. NORRIS.