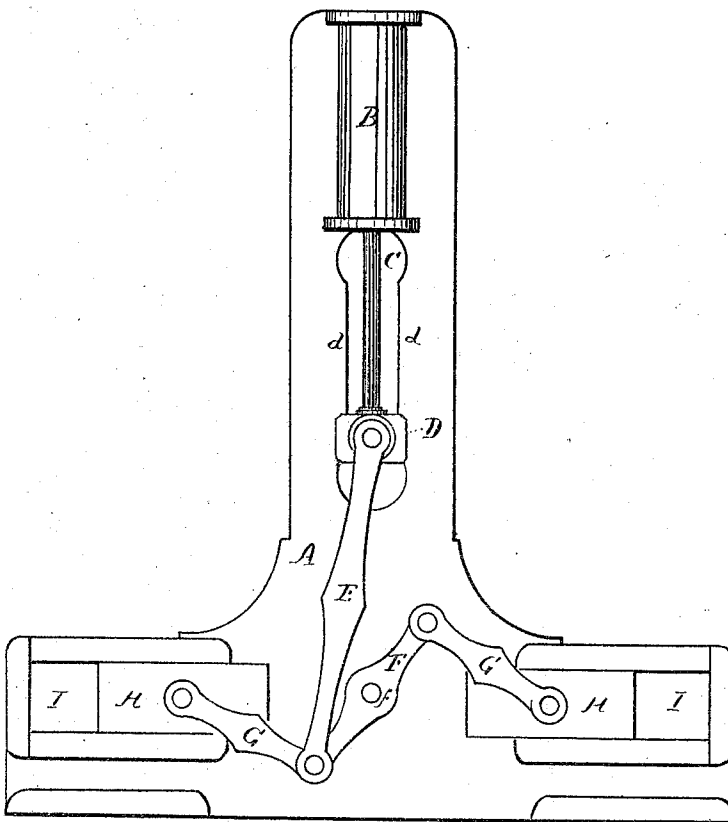


O. T. EARLE & T. J. RIDER.
Modes of Operating Presses.

No. 142,093.

Patented August 26, 1873.

FIG. 1



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Witnesses
Thomas Kelley
Samuel Wright

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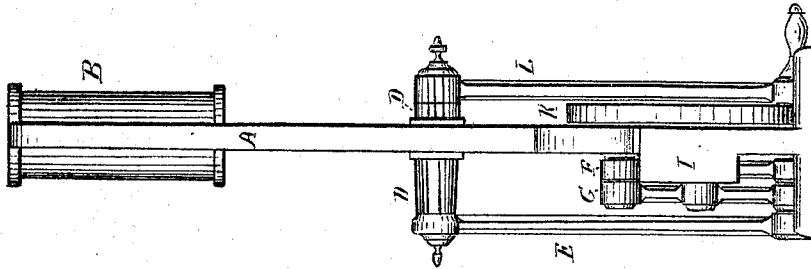


FIG. 3

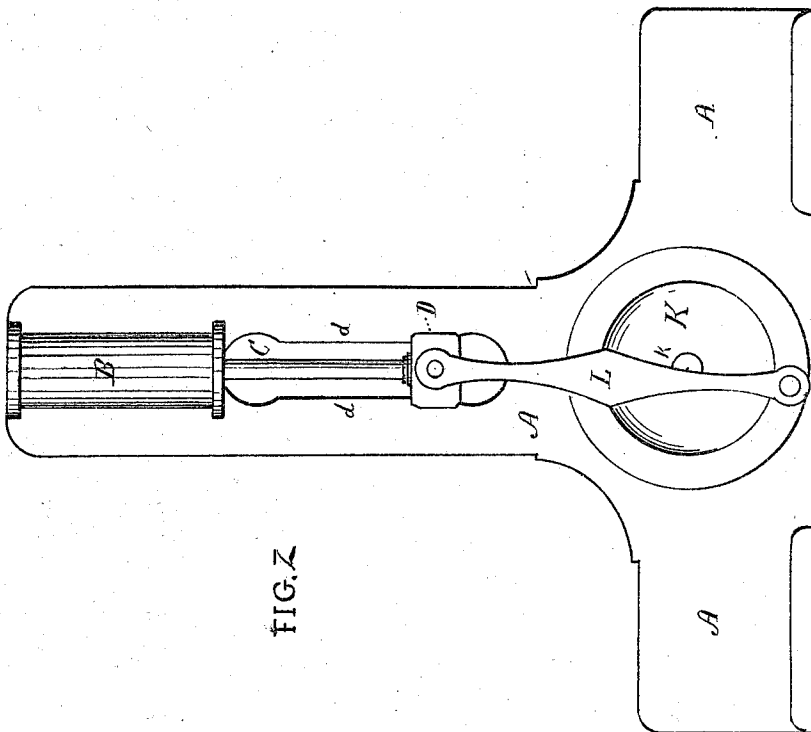


FIG. 2

Witnesses

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Inventors.

Oscar T. Earle &

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Att'y.

UNITED STATES PATENT OFFICE.

OSCAR T. EARLE, OF NORWALK, CONNECTICUT, AND THOMAS J. RIDER,
OF NEW YORK, N. Y.

IMPROVEMENT IN THE MODES OF OPERATING PRESSES.

Specification forming part of Letters Patent No. **142,093**, dated August 26, 1873; application filed
March 18, 1873.

To all whom it may concern:

Be it known that we, OSCAR T. EARLE, of Norwalk, in the county of Fairfield and State of Connecticut, and THOMAS J. RIDER, of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in a Compressing Apparatus, of which the following is specification:

The nature of our invention relates to an apparatus designed particularly for compressing air, but which may also be used for general pressing purposes, such as baling hay, cotton, &c., and also as an exhauster, and for pumping and forcing water; and its object is to equalize and distribute the power employed to drive the apparatus throughout the entire stroke of the compressing-pistons. Our invention consists in the combination of a fly-wheel with a reciprocating or vibrating compound or toggle-joint lever, said fly-wheel and lever deriving their motion from a carrier attached to the piston-rod of a reciprocating steam or other engine by means of suitable pitmen, which are so arranged, in connection with said fly-wheel and lever and with the carrier, as to impart a rotary motion to the fly-wheel, and a reciprocating or vibrating motion to the lever, said lever operating the pistons in two horizontal compressing-cylinders arranged opposite each other.

In the drawings, Figure 1 represents a front elevation of an apparatus embodying our invention. Fig. 2 is a back elevation, and Fig. 3 a side elevation, of the same.

A represents a strong frame, of iron or other suitable materials, to the upper part of which is secured an ordinary steam cylinder or en-

gine, B. The piston-rod C of said engine extends downward, and is connected to a carrier, D, which slides between the ways *d d* in the frame A. To the carrier D is secured one end of a pitman, E, the other end being attached to one end of the lever F, which vibrates upon a pin or fulcrum, *f*, secured to the frame A. To each end of said vibrating lever is attached one end of a link, G, the other end of each link being secured to the plunger or piston H of the cylinders or chambers I secured to the frame A in suitable positions. K represents a fly-wheel, turning upon a pin, *k*, secured to the back of the frame A, and operated by means of a pitman, L, secured to the carrier D.

The pitman E is not long enough to give a complete rotation to the lever F, but only of sufficient length to impart to it a vibrating motion, while the pitman L, Figs. 2 and 3, is of sufficient length to give the fly-wheel a complete rotation.

What we claim is—

The fly-wheel K, in combination with the compound lever F G employed to operate the compressing-pistons, said wheel and lever being so arranged in connection with the carrier D by means of the pitmen E L that a vibrating motion will be imparted to the lever and a rotary motion to the fly-wheel, as and for the purpose set forth.

OSCAR T. EARLE.
THOMAS J. RIDER.

Witnesses:

A. CAMPBELL,
ALBERT G. WEED.