M. Kaefer,

Converting Motion.

No 31,607. Patented Mar. 5, 1861.

Fig. 1

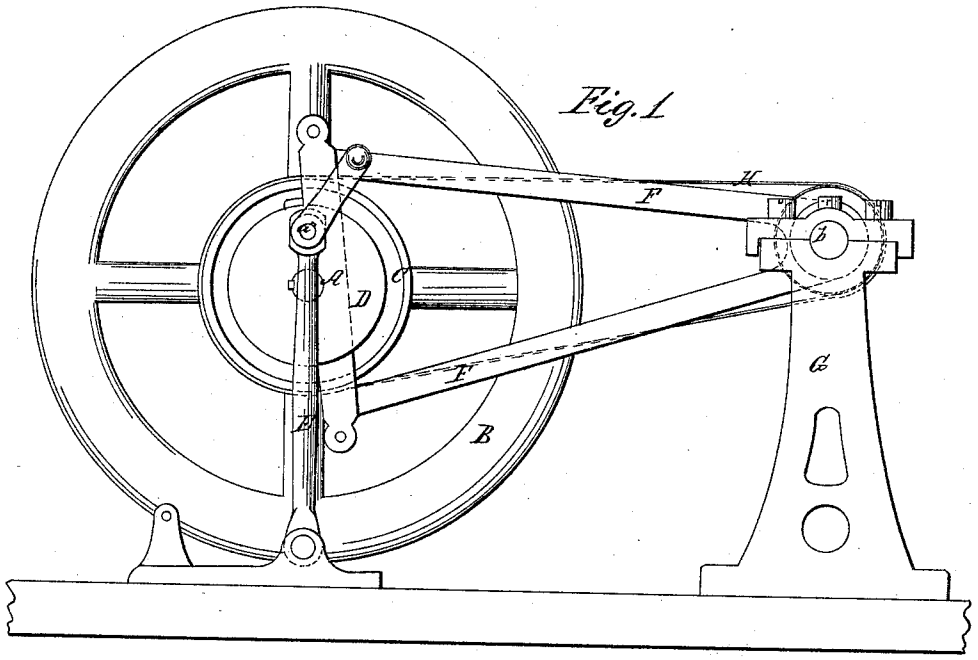
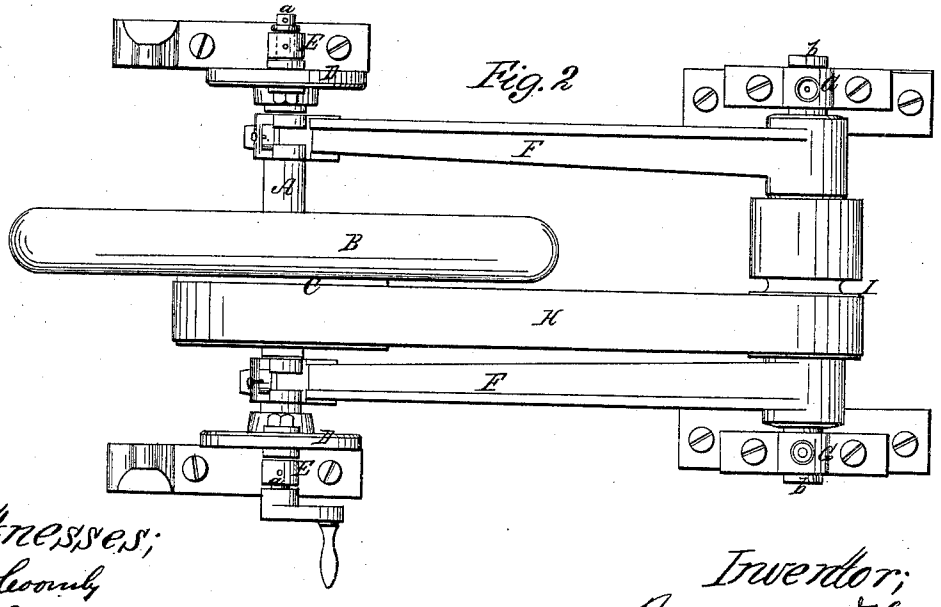


Fig. 2



Witnesses;
Jw Coomly
R. S. Spencer

Inventor;
Mathaus Kaefer

AM. PHOTO-LITHO. CO. N.Y. (OSBORNE'S PROCESS)

UNITED STATES PATENT OFFICE.

MATHAUS KAEFER, OF FACTORYVILLE, NEW YORK.

IMPROVEMENT IN TRANSMITTING MOTION.

Specification forming part of Letters Patent No. **31,607**, dated March 5, 1861.

To all whom it may concern:

Be it known that I, MATHAUS KAEFER, of Factoryville, in the county of Richmond and State of New York, have invented a new and Improved Device for Transmitting Motion; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 represents a side elevation of my invention. Fig. 2 is a plan or top view of the same.

Similar letters of reference in both views indicate corresponding parts.

This invention is intended as an improvement on two patents granted to me May 5, 1857, and May 31, 1859. Instead of arranging the fly-wheel shaft on a reciprocating carriage, which, by reason of its moving on friction-rollers and on or between suitable guide-pieces, necessarily creates much friction and considerable wear and tear of the working parts, I have now arranged the fly-wheel shaft in the ends of two arms or pendants which swing on a rock-shaft in such a manner that the fly-wheel shaft, with its appendages, oscillates in an arc described around the center of said rock-shaft, and that all the friction created by the oscillating or reciprocating motion of the fly-wheel and fly-wheel shaft is shown on the journals of the rock-shaft. The loss by friction is thereby considerably diminished, and at the same time the driving-pulley, which is secured to the fly-wheel shaft, remains always at the same distance from the driven pulley which runs on the rock-shaft, so that the driving-belt retains a uniform tension, which is not the case with my former devices, where the fly-wheel shaft moves in a right line.

To enable those skilled in the art to make and use my invention, I will proceed to describe its construction and operation with reference to the drawings.

The shaft A, to which the fly-wheel B and the pulley C are rigidly attached, bears on its ends two disks D, and it is supported by means of hinged guide-rods E, that are secured to eccentric wrist-pins *a*, which are fastened in the faces of the disks D.

The shaft A has its bearings in arms F, which are rigidly secured to an arbor *b*, that rocks in the standards or hangers G. These standards are stationary, and if the fly-wheel shaft is rotated it is caused by the action of the guide-rods E and eccentric wrist-pins *a* to assume an oscillating motion in an arc described from the center of the arbor or rock-shaft *b*. The motion of the rock-shaft is necessarily very limited, and the friction of its journals in the standards G is therefore quite small and of little account.

The rotary motion of the fly-wheel shaft A is transmitted by means of a belt H, which runs on the pulley C to a pulley I, that is placed loosely on the rock-shaft *b*, and the width of which is such that it affords room for another belt for the purpose of communicating the motion to the desired working machines. The pulley C, in oscillating with the fly-wheel shaft A, turns on an arc described from the center of the rock-shaft *b*, and the tension of the belt H is not interfered with by the oscillating motion of the pulley C.

This device can be used in the position represented in the drawings, and in this case its effect is similar to that of my device for transmitting motion for which I obtained Letters Patent May 31, 1859; or it may be used with the arms or pendants F placed in a vertical position, and if now a weight is secured to one side of the fly-wheel the operation of my device is similar to that of the device described in the Letters Patent granted to me May 5, 1857. In both cases, however, my new device proves superior in its effect, and its construction is much simpler and cheaper than that of my former devices.

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

The arrangement of the shaft A, guide-rods E E, and fly-wheel B with the arms F F and rock-shaft *b*, in the manner and for the purposes herein shown and described.

MATHAUS KAEFER.

Witnesses:
W. HAUFF,
J. F. BUCKLEY.