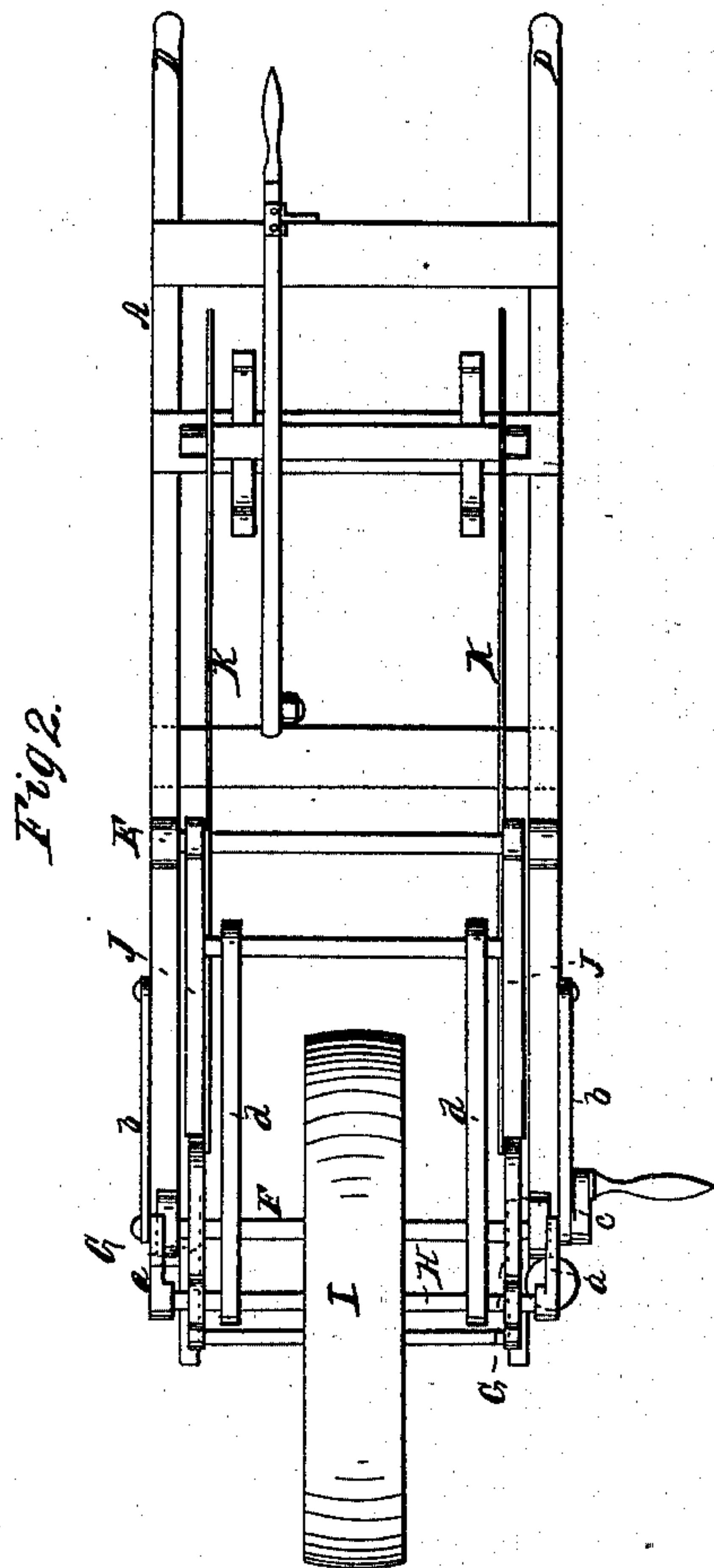
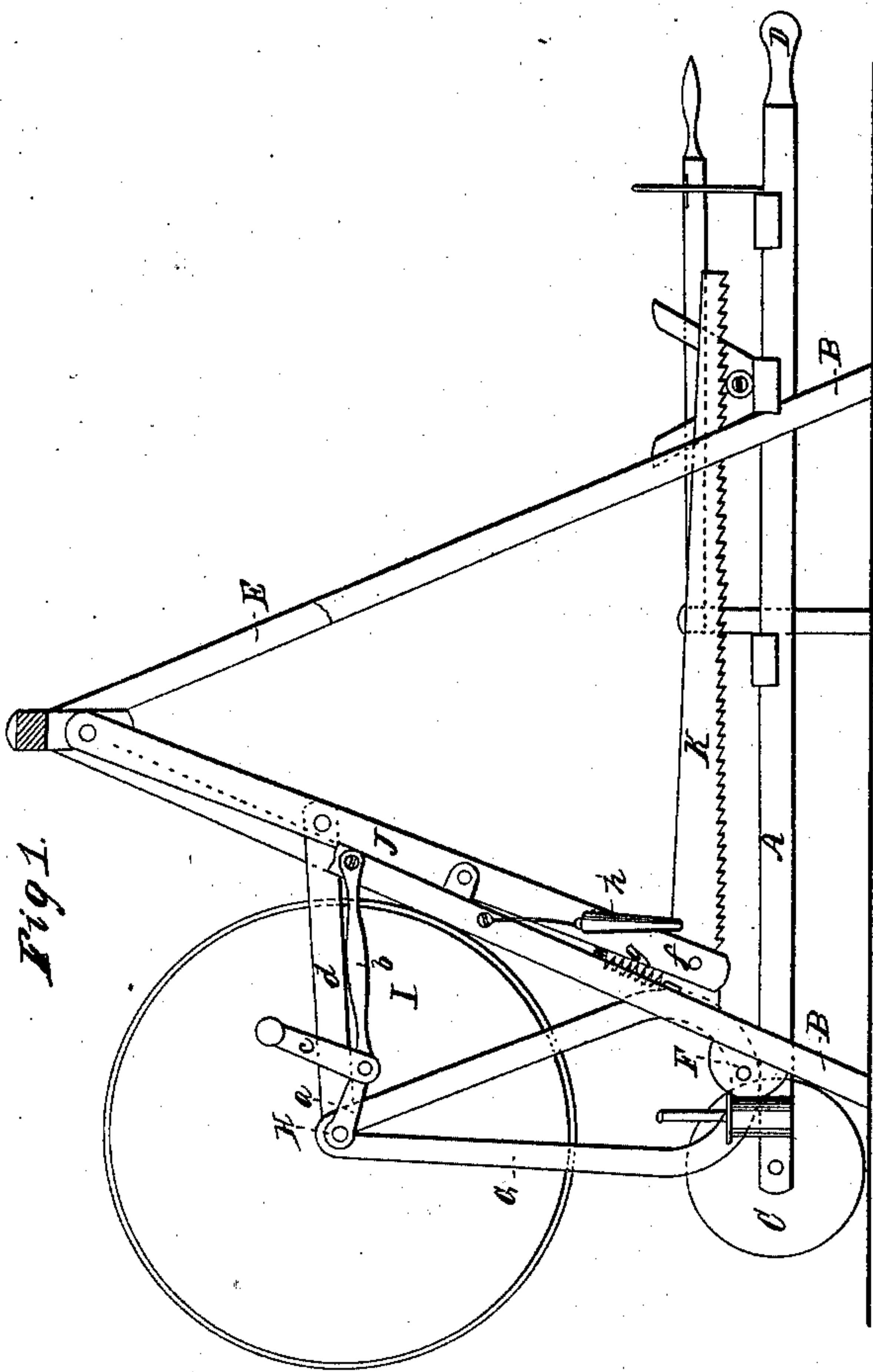


W. S. Mead,
Converting Motion.

N^o 69,009.

Patented Sep. 17, 1867.



Witnesses.

Geo. F. Southern
Guata. Berg

Inventor.

W^m S. Mead.
per
Var. Santwood & Haup
A. W.

United States Patent Office.

WILLIAM S. MEAD, OF NEW YORK, N. Y.

Letters Patent No. 69,009, dated September 17, 1867.

IMPROVEMENT IN MECHANICAL MOVEMENTS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, WILLIAM S. MEAD, of New York, in the county and State of New York, have invented a new and improved Mechanical Motion; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawing, forming part of this specification, in which drawing—

Figure 1 represents a sectional side elevation of this invention.

Figure 2 is a plan or top view of the same.

Similar letters indicate corresponding parts.

This invention relates to an apparatus composed of a fly-wheel or other equivalent body, which is mounted on a crank-shaft that has its bearings in two rockers, and the crank-pins of which connect by suitable links with the fixed frame of the apparatus in such a manner that by imparting a revolving motion to said crank-shaft a double motion is imparted to the fly-wheel or other body mounted on said shaft, viz, a revolving motion and an oscillating motion, and the double momentum of the revolving and of the oscillating motion is made available to overcome the resistance of a saw or other working machine, while at the same time the necessity of raising the weight of the fly-wheel or other equivalent body is avoided. The motion is transmitted to the saw or other working machine by one or more connecting-rods extending from the fly-wheel shaft to a frame, which is suspended at one end, and connected at its other to the saw or other device in such a manner that by imparting a revolving motion to the fly-wheel shaft an oscillating motion is imparted to the saw or other device, and the momentum derived from the oscillating motion of the fly-wheel or other heavy body assists materially in overcoming the resistance of said saw or other working machine. The whole device is mounted on a frame provided with a wheel and handles, so that it can be readily moved from place to place.

A represents a frame made of wood, or any other suitable material, and supported by four (more or less) legs B. This frame is furnished at one end with a wheel, C, and at the opposite end with handles D, so that it can be readily and conveniently moved from place to place. The legs B extend above the frame A, so as to form a derrick, E, and the lower part of said frame forms the bearings for the shaft F, from which extend the rocking-arms G, and these arms form the bearings for the main shaft H, on which is mounted the fly-wheel or other equivalent body I. The ends of the shaft H extend through the rocking-arms G, and on them are mounted the cranks *a*, the wrist-pins of which connect by links *b* with the derrick E, or with any other fixed part of the main frame. A handle or winch, *c*, serves to impart to the shaft H a revolving motion, and as said shaft revolves the arms G assume a rocking motion by the action of the cranks *a* and links *b*, and a twofold effect of the momentum of the fly-wheel or other equivalent body mounted on said shaft is obtained, first, from the revolving, and second from the rocking motion of said fly-wheel or other body. In order to apply the motion of the shaft H to some useful purpose, I suspend from the top of the derrick E a pendulum frame, J, which connects by one or more pitman-rods *d* with the shaft H, and to the lower ends of the pendulum frame I connect one or more saws K, or any other device to which motion is to be imparted. It will be readily understood that by changing the point of connection between the pitman-rods *d* closer to or further from the point of suspension of the pendulum frame the stroke of the saw or saws can be increased or diminished at pleasure. The saws are connected to the pendulum frame by pivots *f*, and from their back ends extend spiral springs *g*, so that the teeth of the saw are held in contact with the wood or other material to be cut. If the machine is to be used for cutting fire-wood the sticks of wood are placed in a triangular trough and held in position by a suitable lever-catch. The fly-wheel, I, can be replaced by a grinding-stone, and if it is desired to use this stone the links *b* are detached from the derrick or from the wrist-pins of the cranks *a*, and the pendulum frame is secured by a stop, *h*. By these means the shaft H is brought in such a position that by means of the handle or winch *c* a revolving motion can be imparted to the grinding-stone in the same manner as to a stone mounted in the usual manner. If desired, a treadle can be applied instead of the winch.

From the above description the various advantages of my mechanical motion will be readily understood, and require no further explanation. If desired, a churn may be so applied that it can be operated from one of the cranks *a*. I disclaim everything shown and described in the patents of M. Kaefer May 31, 1859, and March 5, 1860.

What I claim as new, and desire to secure by Letters Patent, is—

The combination and arrangement of the wheel C, frame A, handles D, rocking-arms G, fly-wheel, or other equivalent body, I, links *b*, pitman-rods *d*, pendulum frame J, and saws K, all constructed and operating substantially as and for the purpose described.

WM. S. MEAD.

Witnesses:

W. HAUFF,

AMASA A. REDFIELD.