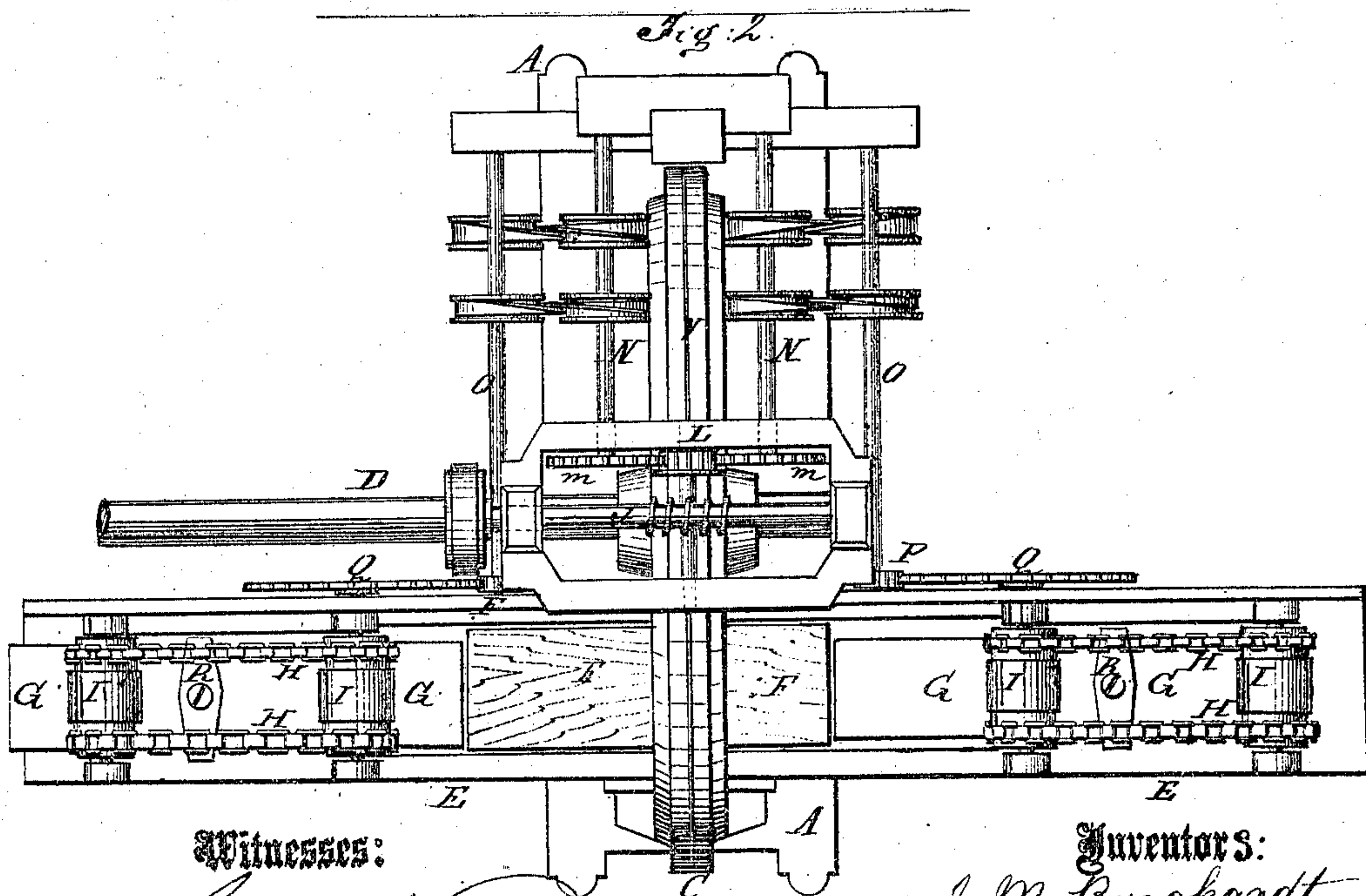
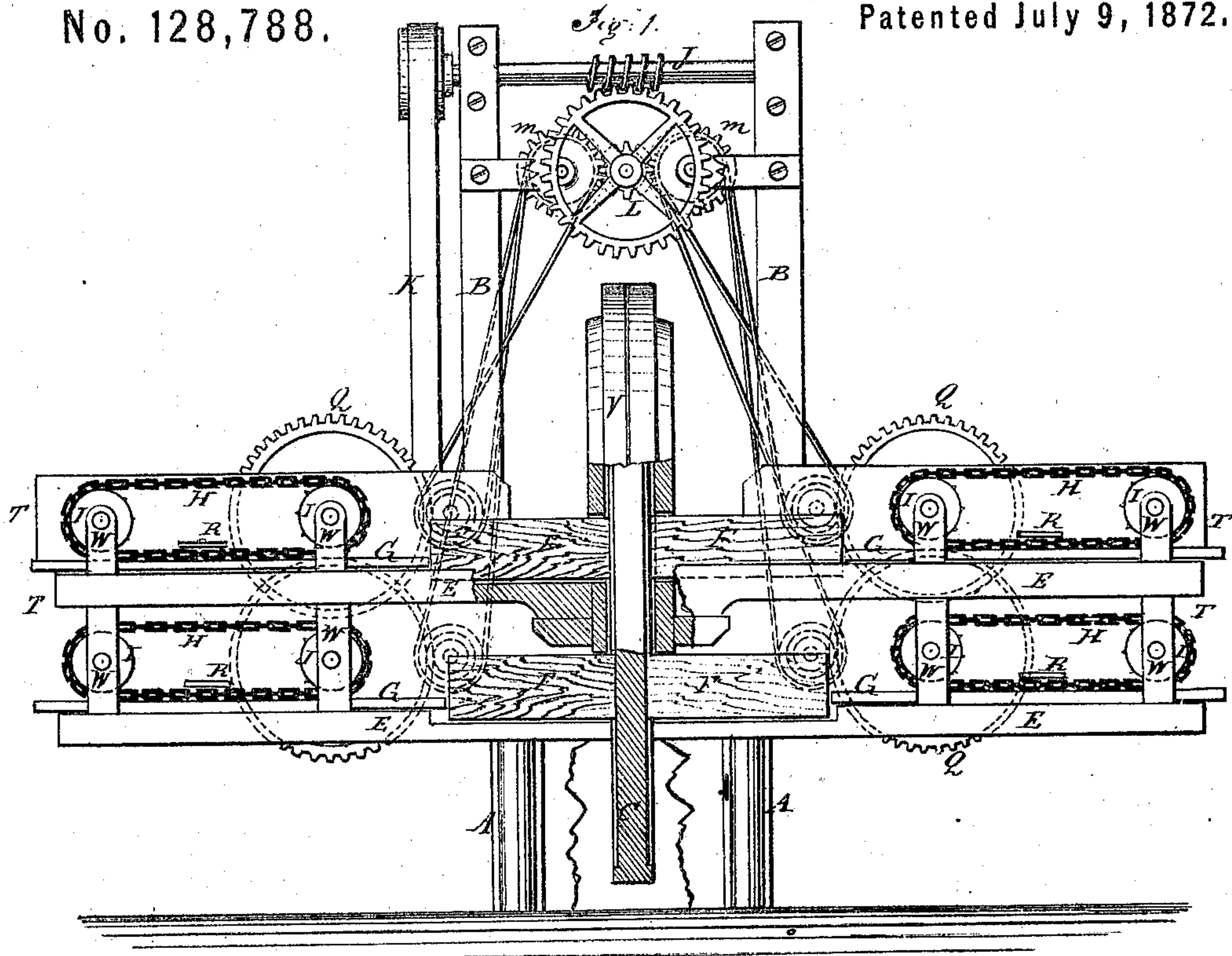


BURGHARDT & BURGHARDT.
Improvement in Paper-Pulp Machines.

No. 128,788.

Patented July 9, 1872.



Witnesses:

Chas. Nida
H. A. Graham

Inventors:

J. M. Burghardt.
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Fig. 3

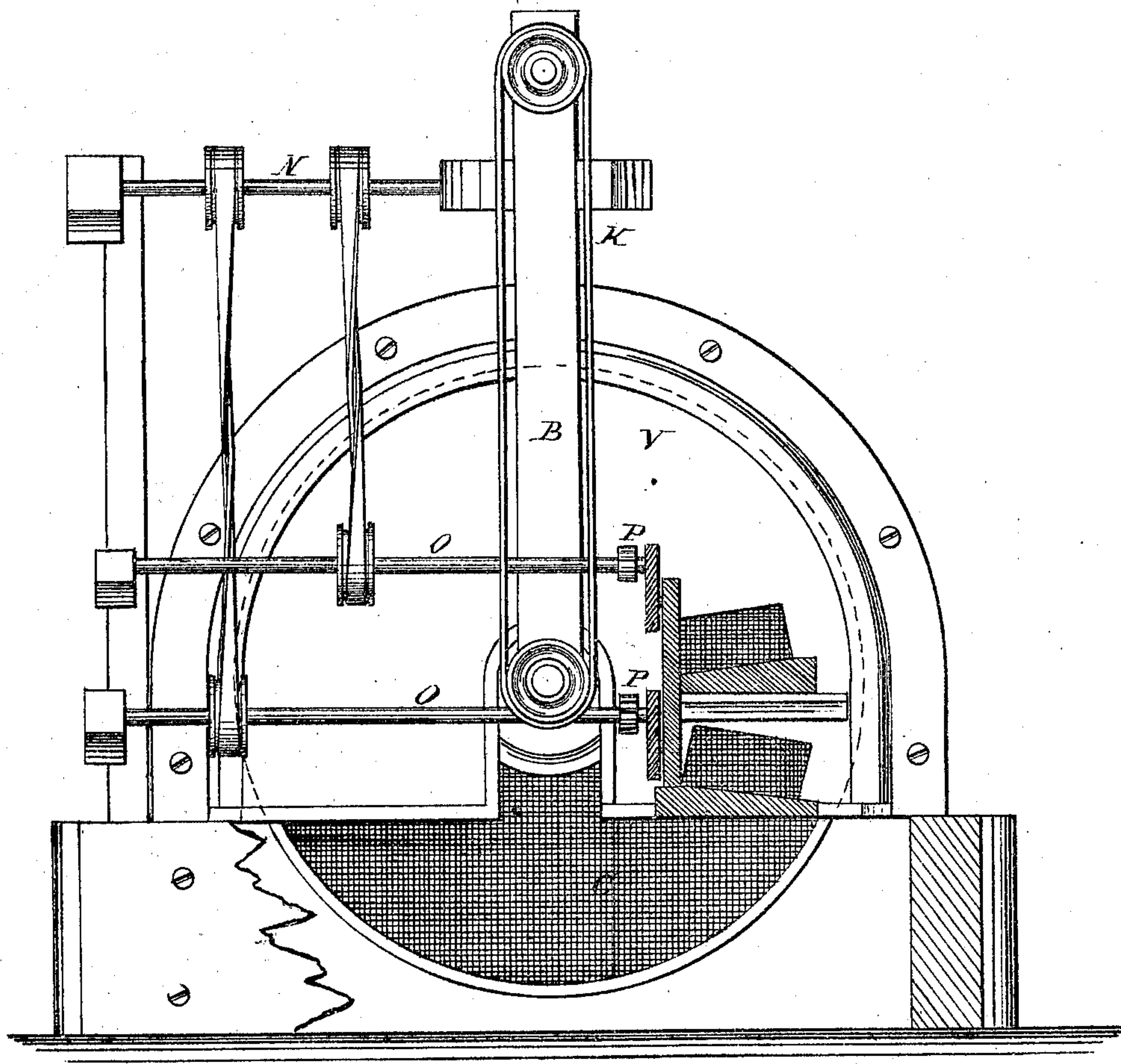
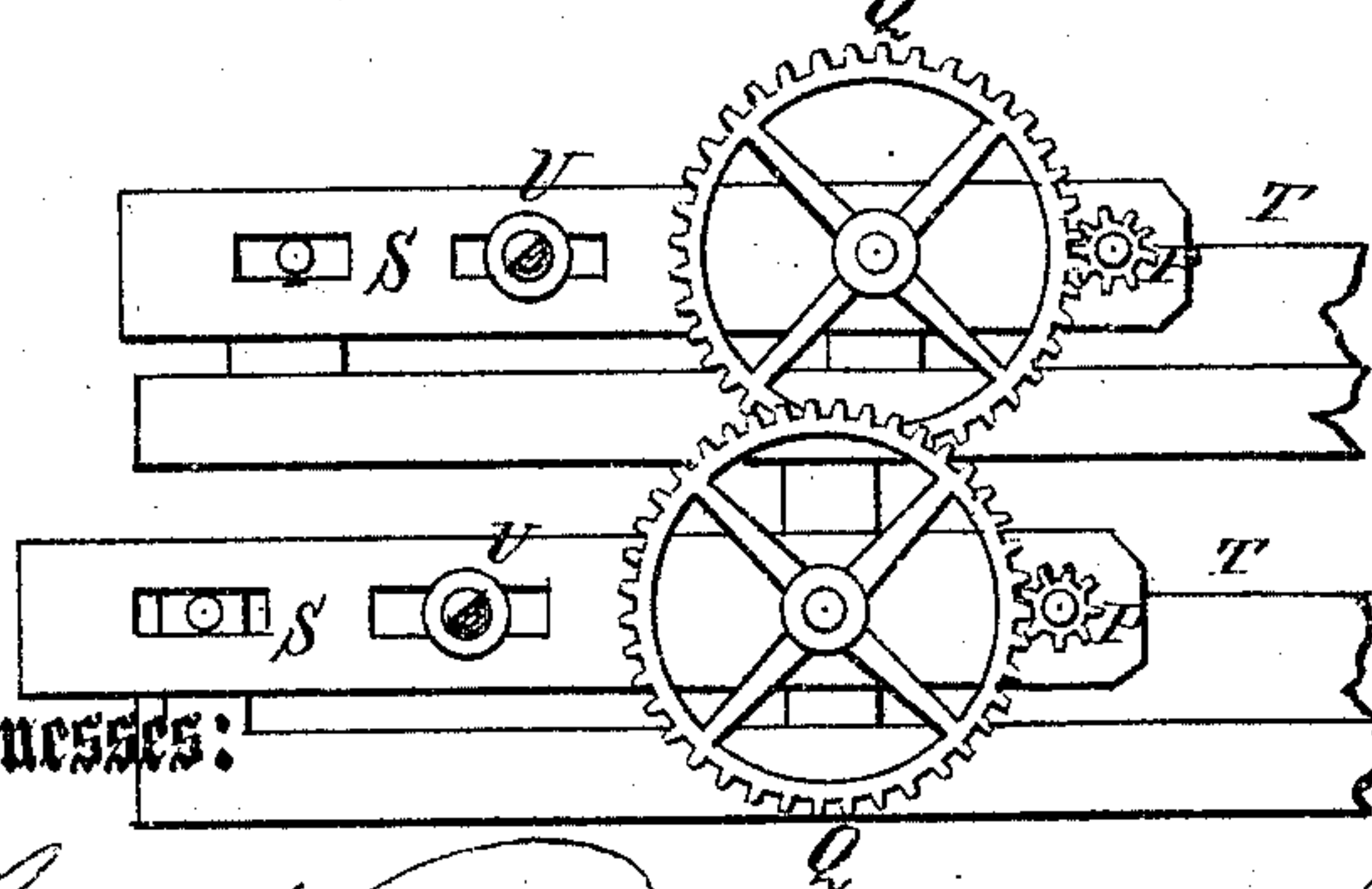


Fig. 4



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UNITED STATES PATENT OFFICE.

JOHN M. BURGHARDT, OF GREAT BARRINGTON, AND FREDERICK
BURGHARDT, OF CURTISVILLE, MASSACHUSETTS.

IMPROVEMENT IN PAPER-PULP MACHINES.

Specification forming part of Letters Patent No. 128,788, dated July 9, 1872.

Specification describing a new and useful Improvement in Paper-Pulp Machines, invented by JOHN M. BURGHARDT, of Great Barrington, in the county of Berkshire and State of Massachusetts, and FREDERICK BURGHARDT, of Curtisville, in the county of Berkshire and State of Massachusetts.

The object of this invention is to provide improved means for reducing wood to pulp for the manufacture of paper; and it consists in the construction, arrangement, and combination of parts, hereinafter described.

In the accompanying drawing, Figure 1, Sheet I, represents a front elevation of the machine. Fig. 2 is a top or plan view. Fig. 3, Sheet II, is a sectional side elevation. Fig. 4, Sheet II, is a view looking in the direction indicated by the arrow in Fig. 2, showing the gear-wheel which drives the followers.

Similar letters of reference indicate corresponding parts.

A is a bed-frame, to the opposite sides of which are attached the upright posts B B. C is a revolving grinding emery wheel hung on the horizontal shaft D, supported in boxes on the two uprights B B. The driving-power is applied to this shaft D by means of a belt, or in any convenient and suitable manner. E represents the beds, four in number, on which the blocks of wood F rest in being cut or reduced to pulp. These beds are arranged on each side of the grinding-wheel in pairs, one over the other, as seen in Fig. 1, and the wood is fed up to the wheel by a sliding follower, G, on each bed. The feeding is done by means of the endless chains H on the revolving chain-wheels I. The position of the wood block in relation to the grinding-wheel is seen in Fig. 3, Sheet II. The arrangement of the beds E is such that they are parallel with lines radiating from the center of the grinding-wheel. J represents a worm-gear, the shaft of which is revolved by the belt K from grinding-wheel shaft D. The wood blocks must, of course, be fed up to the grinding-wheel at a very slow rate of speed, and the speed of the wheel is reduced mainly by this worm-gear J; but is further reduced by means of the pinion L and spur-wheels *m m*, which latter revolve the pulley-shafts *n n*, from which motion is communicated to the pulley-shafts O O on each side of the grind-

ing-wheel. P is a pinion on the end of each of these four shafts O, which pinions mesh with the spur-wheels Q, which wheels are on the ends of the shafts of the two inner chain-wheels I on each side of the grinding-wheel. The chains H simply pass around the outer wheels I. The followers G are connected with the chains by means of the clamps R. The followers are thus forced against the blocks of wood, and the latter are forced up to the sides of the grinding-wheel with a slow, steady, and uniform motion. When the grinding of a block has been completed the small pinions P are thrown out of gear with the wheels Q by means of the slides S, (see Fig. 4,) in which the ends of the shafts O revolve. These slides are held to the bed-frames T by means of set-screws U. V is the curb or casing of the grinding-wheel, in which apertures are made on each side of the wheel to admit the blocks to be reduced. This casing is made of cast-iron and tightly incloses the grinding portion of the wheel above the bed-frame A.

It will be seen from the drawing that each follower is provided with two chains for moving it or feeding up the block, the chains being arranged as seen in Figs. 1 and 2.

W represents the stands upon the bed-piece, which support the shafts of the chain-wheels.

We do not limit or confine ourselves to the precise form or arrangement of the parts described, as variations may be made without departing from our invention.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

1. The combination of the worm-gear J, wheels L and M M, shafts N N and O O, and pinions P with the followers G, chains H, chain-wheels I, and slides S, as shown and described.

2. The followers G, chains H, and chain-wheels I, arranged to operate as and for the purposes described.

3. The slides S, in combination with the followers G and chains H, substantially as and for the purposes described.

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FREDERICK BURGHARDT.

Witnesses:

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B. PALMER.