(No Model.) 2 Sheets—Sheet 1.

A. H. KENNEDY.

BELT GEARING.

No. 287,297. Patented Oct. 23, 1883.

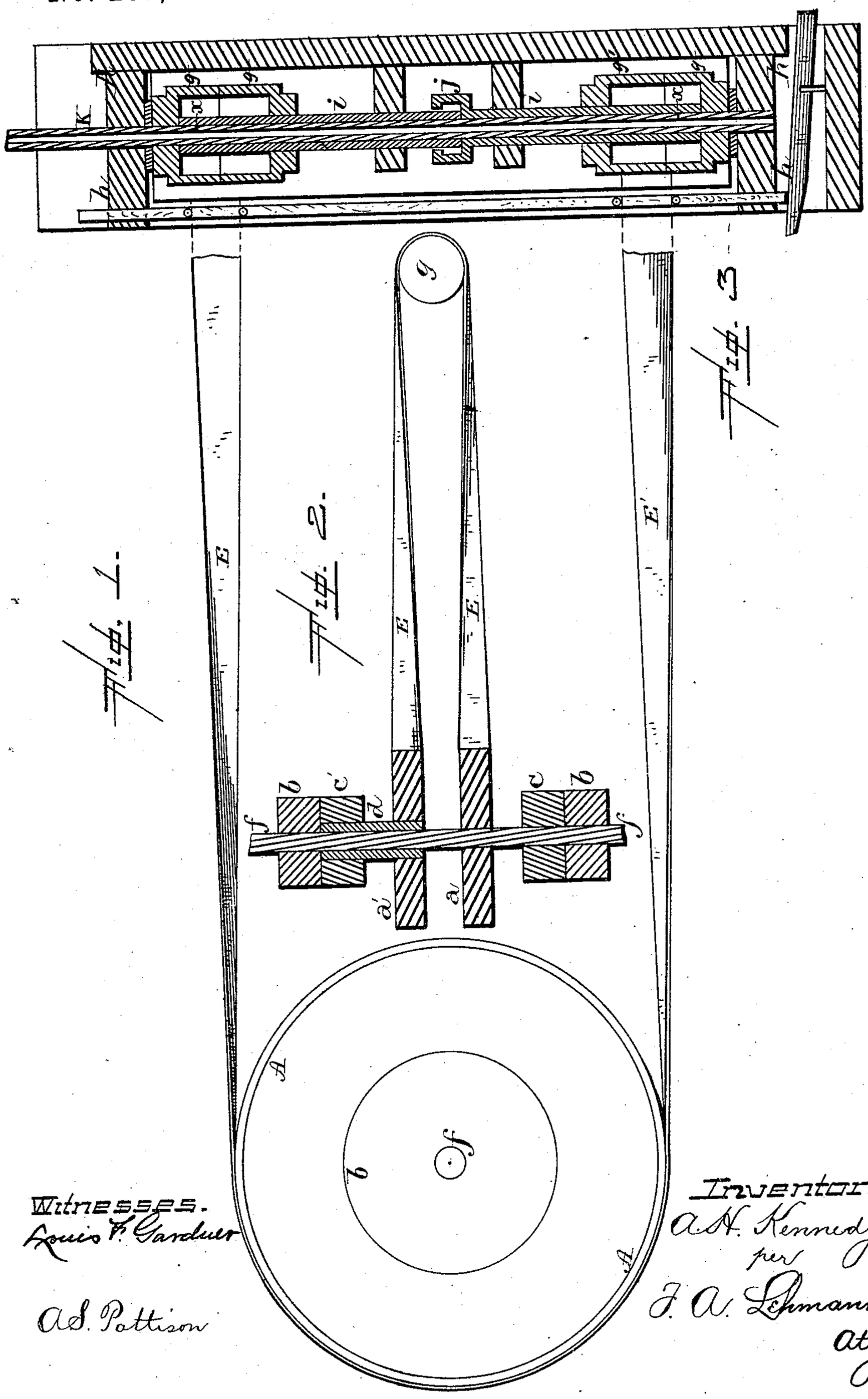

Fig. 1.

Fig. 2.

Fig. 3.

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(No Model.)

2 Sheets—Sheet 2.

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BELT GEARING.

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Fig. 3.

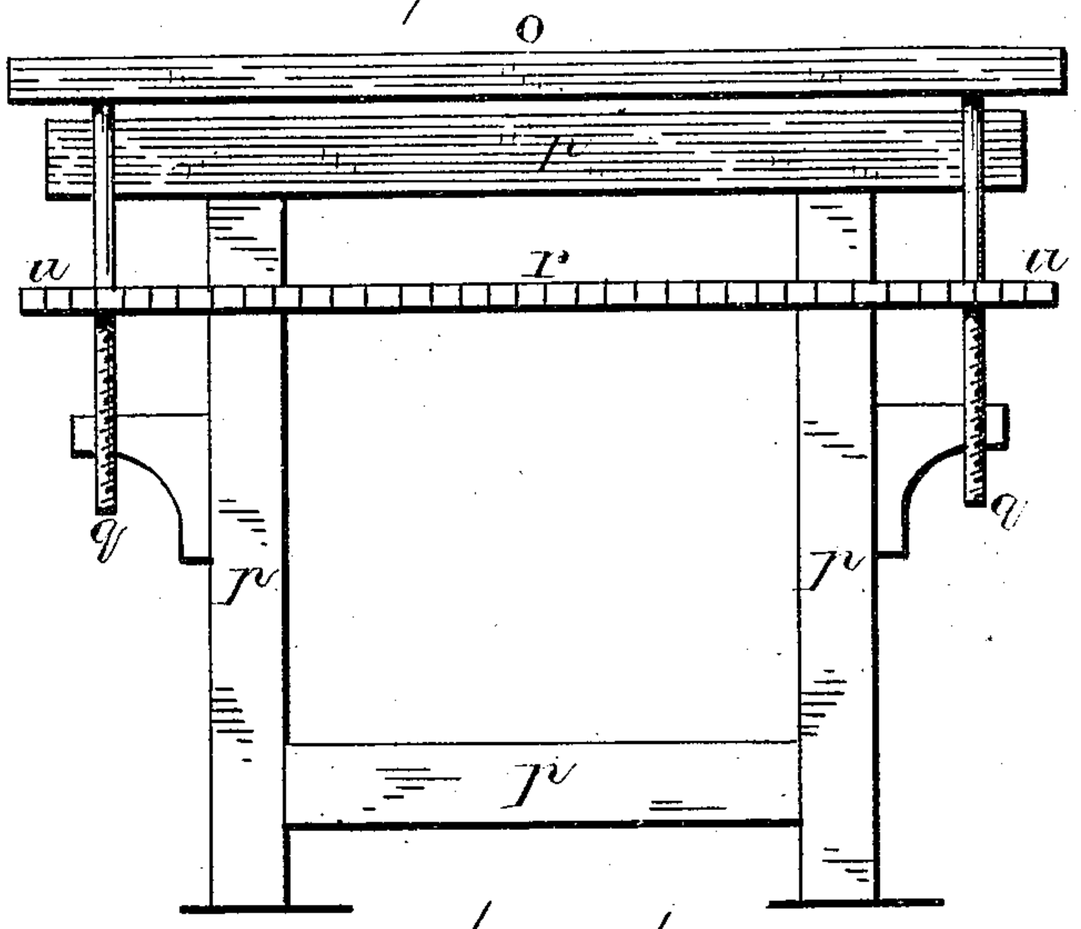


Fig. 4.

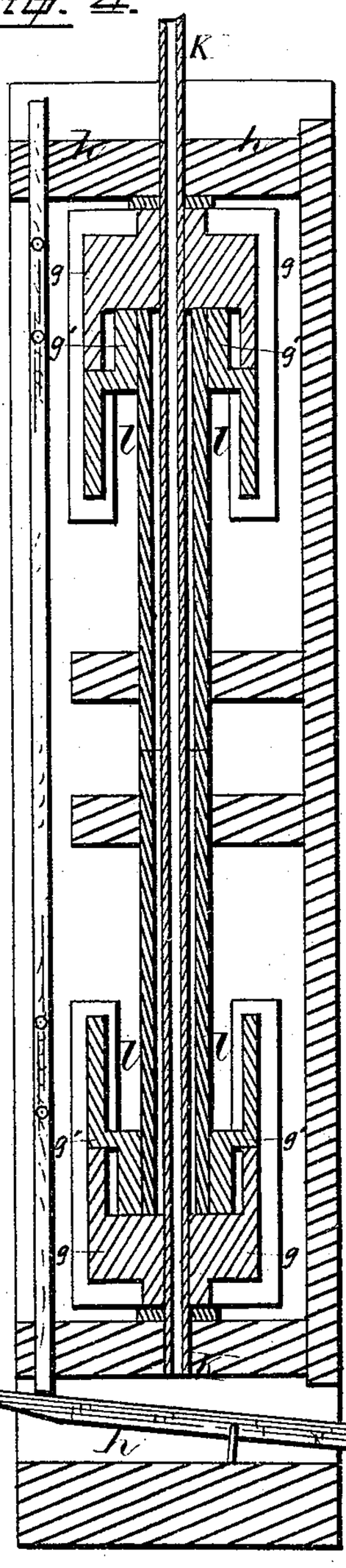
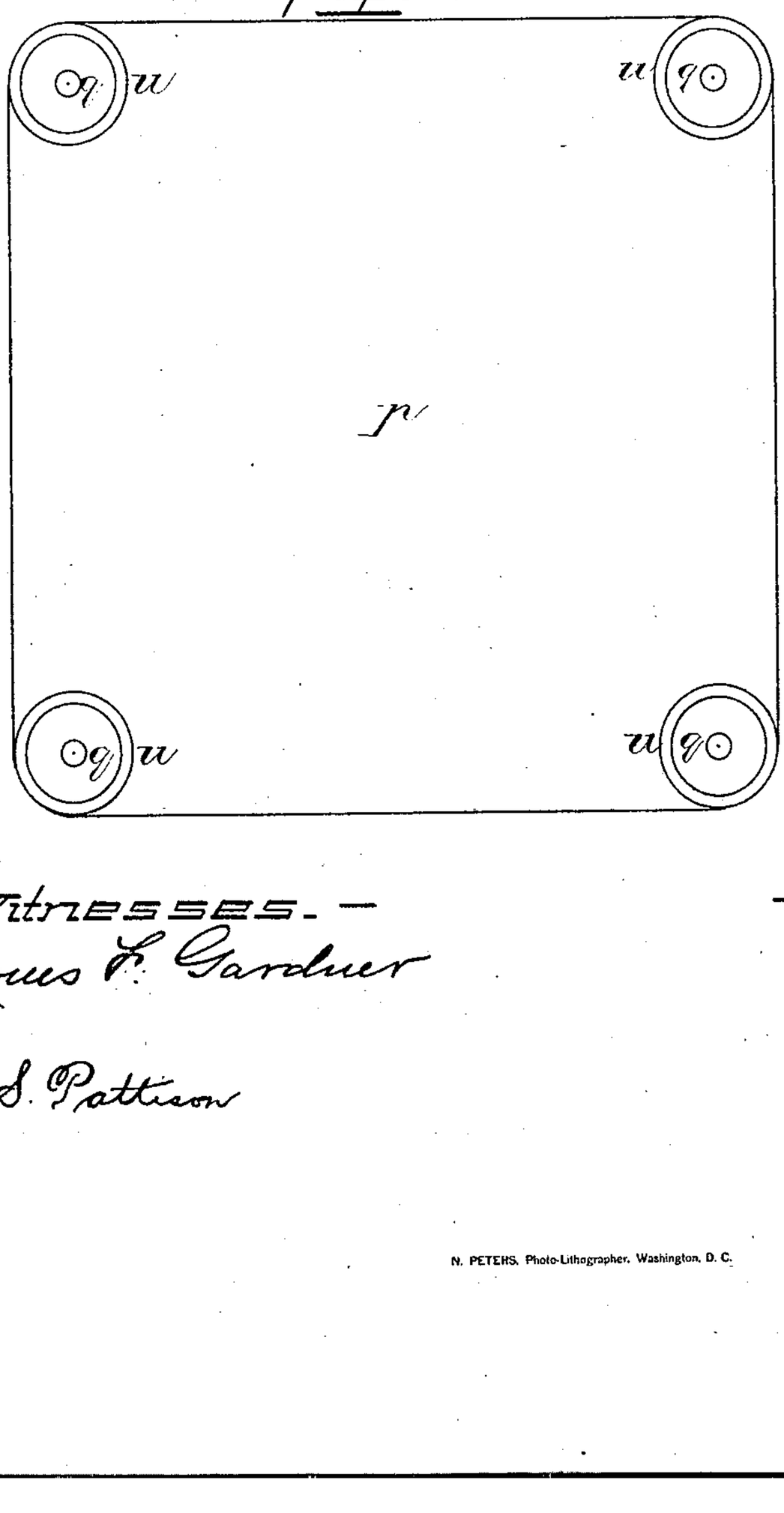


Fig. 6.



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UNITED STATES PATENT OFFICE.

ALBERT H. KENNEDY, OF ROCKPORT, INDIANA.

BELT-GEARING.

SPECIFICATION forming part of Letters Patent No. 287,297, dated October 23, 1883.

Application filed March 22, 1883. (No model.)

To all whom it may concern:

Be it known that I, ALBERT H. KENNEDY, a citizen of the United States, residing at Rockport, in the county of Spencer and State of Indiana, have invented a new and useful Belt-Gearing for Actuating a Spindle and Reversing the Motion of the Same, of which the following is a specification.

The object of my invention is broadly to provide improved means for actuating a spindle and reversing the motion of said spindle at will, and also means for applying and collecting the waste lubricant.

My invention consists in the hereinafter-described means for attaining said object.

In the drawings, Figure 1 represents a top view of the counter-shaft, one of the pulleys, and part of the band. Fig. 2 is a vertical section of the counter-shaft, pulleys, and part of the band. Fig. 3 is a vertical section of the spindle, the spindle-frame, and the spindle-pulleys. Fig. 4 is a modification of Fig. 3. Fig. 5 is an elevation of a work-table to which the spindle-frame is ordinarily bolted. Fig. 6 is a top view of same.

Similar letters of reference indicate corresponding parts throughout.

To the counter-shaft *f*, which may be supported in any desirable manner, are secured the fast pulleys *a b c*. Said shaft is driven by the pulley *c*, and imparts in turn motion to the pulley *a*. Loose upon said shaft is a sleeve, *d*. Said sleeve carries at one extremity a pulley, *a'*, similar in size to the pulley *a*, and upon its other extremity a pulley, *c'*, similar to pulley *c*. The shaft *f* is driven by means of a belt connecting the pulley *c* with the driving-power, and the pulley *a'* may also be driven (in an opposite direction from pulley *a*) by means of a crossed belt connecting it with the driving-power.

h represents the spindle-frame, and may be constructed or cast in a single piece provided with proper slots or openings for the accommodation of the spindle and its pulleys.

k is the spindle, provided with suitable bearings in the frame *h*. Said spindle is provided with two pulleys, *g*, secured to or made integral with it. Loose upon the spindle, and situated between the pulleys, are sleeves *i*, to which are secured pulleys *g'*. The loose pulley *k* is provided with a suitable number of openings, *x*, for the purpose of allowing the oil to pass through and freely lubricate the pulleys. The fast pulleys *g* and the loose pulleys *g'* are preferably recessed on their juxtaposed extremities, and the spindle is preferably made hollow, and provided with apertures connecting the hollow with the inside surface of the sleeves *i*. By this construction oil may be fed through the spindle to the sleeves and the escaping lubricant be caught by the recessed pulleys. The lower of the sleeves *i* is provided at its upper extremity with a peripheral cup, *j*, within which is caught the oil escaping between the extremities of the two sleeves.

In Fig. 4 is shown a modification of the spindle-pulleys and oiling apparatus, the modification consisting of the different form of the loose pulleys *l*, as shown. The pulleys carried by the spindle *k* are in the present case arranged in a vertical line, while the pulleys carried by the counter-shaft *f* are arranged in a horizontal line. A single belt, *e*, serves to connect the two series of pulleys. This is effected by having that part of the belt which passes over the pulleys *a a'* carried about one of the upper pulleys of the spindle, and that part of the belt which passes below the pulleys *a a'* carried about one of the lower pulleys of the spindle. When the part *e'* of the belt is about the lower fast pulley, *g*, the part *e* is about the upper loose pulley, *g'*. When the belt is shifted, the part *e'* will be carried by the lower loose spindle, *g'*, while the part *e* will be carried by the upper fast pulley, *g*.

By the aforegoing construction it will be apparent that while the counter-shaft *f* is revolving at all times in the same direction the revolution of the spindle *k* may be reversed by simply shifting the belt from the upper to the lower of each juxtaposed pair of spindle-pulleys.

In Figs. 5 and 6 is shown a work-table designed to be used in connection with the aforesaid spindle. This table consists of a top, *o*, and a supporting-frame, *p*. Said top and supporting-frame are connected together by corner-screws *q*, which work in nut-brackets secured to the frame *p*. Said corner-screws carry chain-wheels *u*, about which passes the chain

r, by means of which the top of the table is raised or lowered.

Having thus described my invention, I claim—

1. The combination, with a counter-shaft provided with a fast and loose pulley, of a spindle provided with two fast and two loose pulleys, and a single belt connecting the pulleys of the counter-shaft and of the spindle, substantially in the manner specified, whereby the direction of revolution of the spindle may be reversed by shifting the belt, as set forth.

2. The combination of the hollow spindle *k*, provided with outlets *x*, the recessed pulleys *g g'*, and the sleeves *i*, the lower of said sleeves provided with cup *j* on its upper extremity, substantially as described, whereby the lubricant is supplied and the waste collected, as set forth.

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