

No. 635,756.

Patented Oct. 31, 1899.

W. H. DYER.

MACHINE FOR POLISHING AND ROUNDING TOOTHPICKS.

(Application filed Jan. 27, 1897. Renewed Apr. 7, 1899.)

(No Model.)

6 Sheets—Sheet 1.

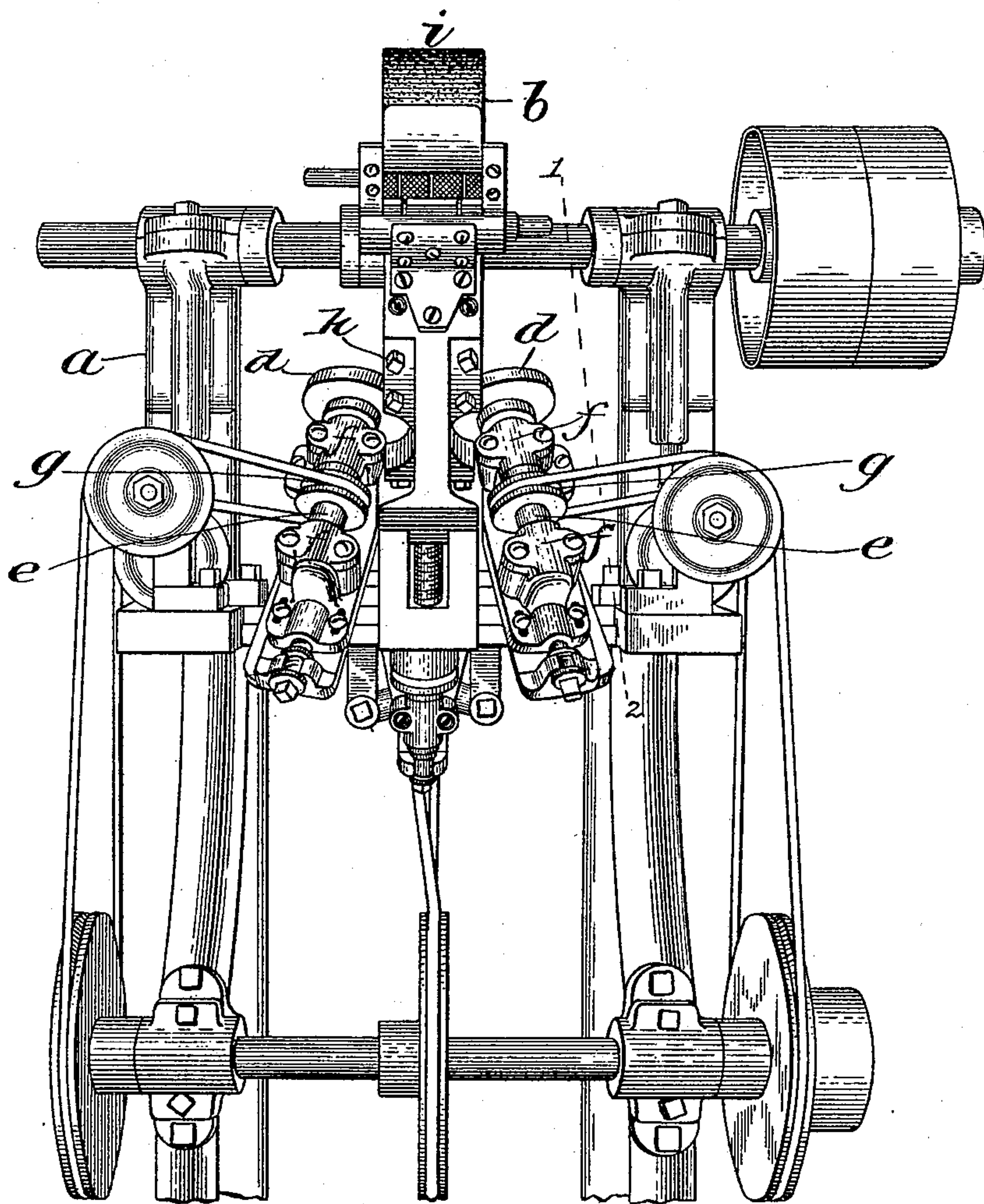


Fig. 1.

Witnesses:

Arthur D. Randall.
Mina H. Kelley.

Inventor:

William H. Dyer
by Charles D. Dyer
Atty.

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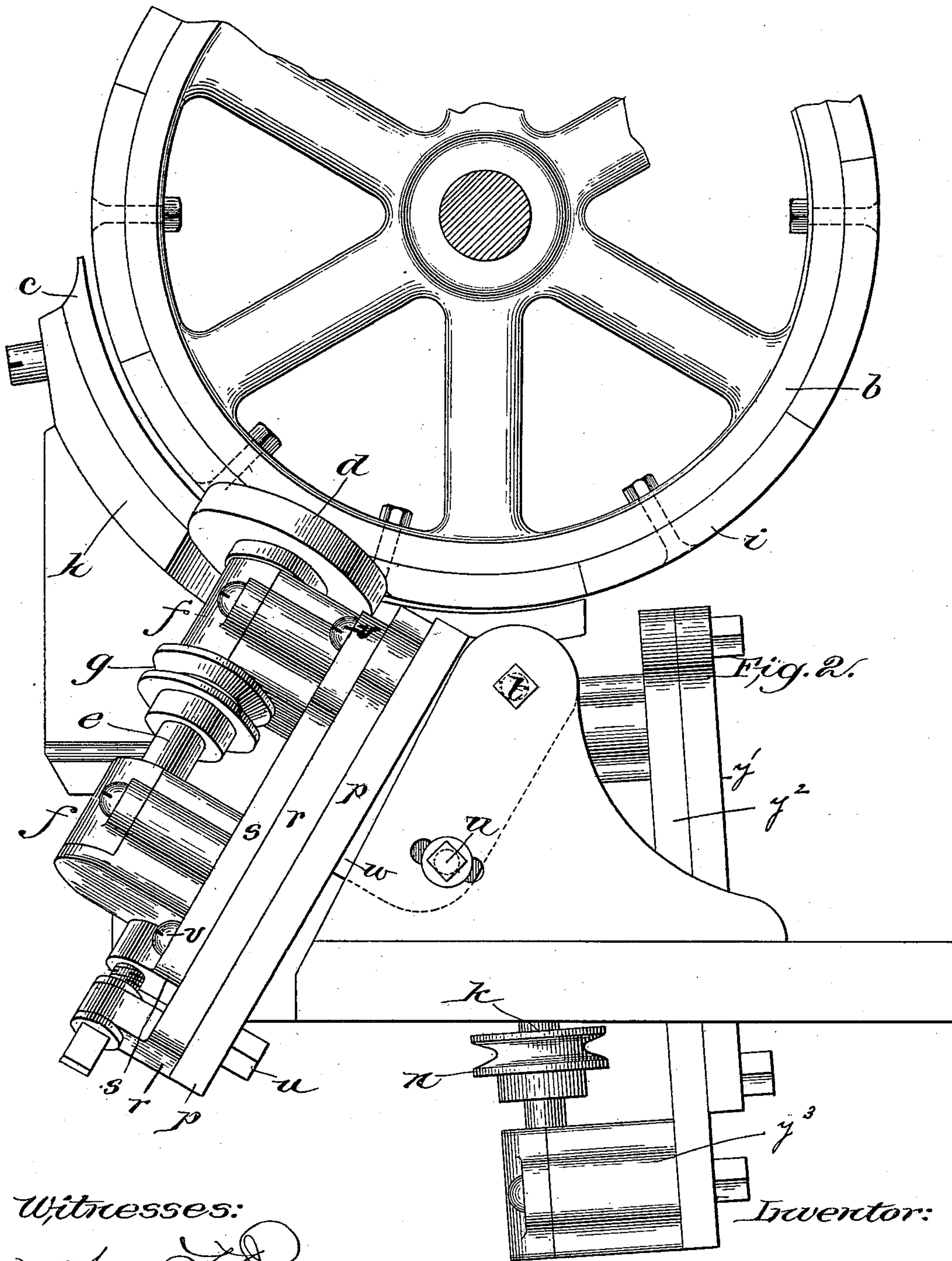
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Witnesses:

Arthur L. Randall.
Mona H. Kelley.

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6 Sheets—Sheet 3.

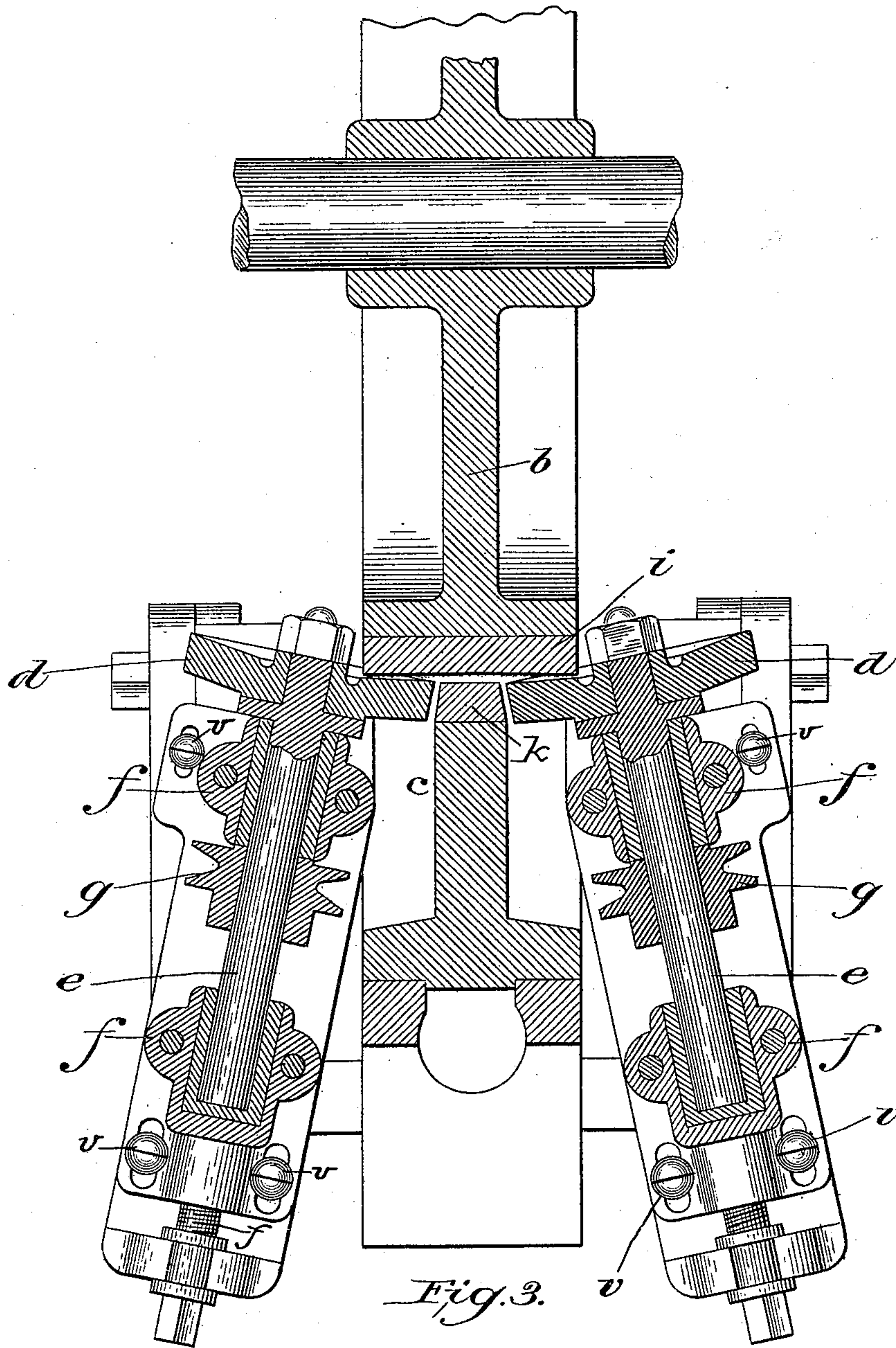


Fig. 3.

Witnesses:

Arthur V. Randall,
Mina H. Wilby.

Inventor:

William H. Dyer
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Att'y.

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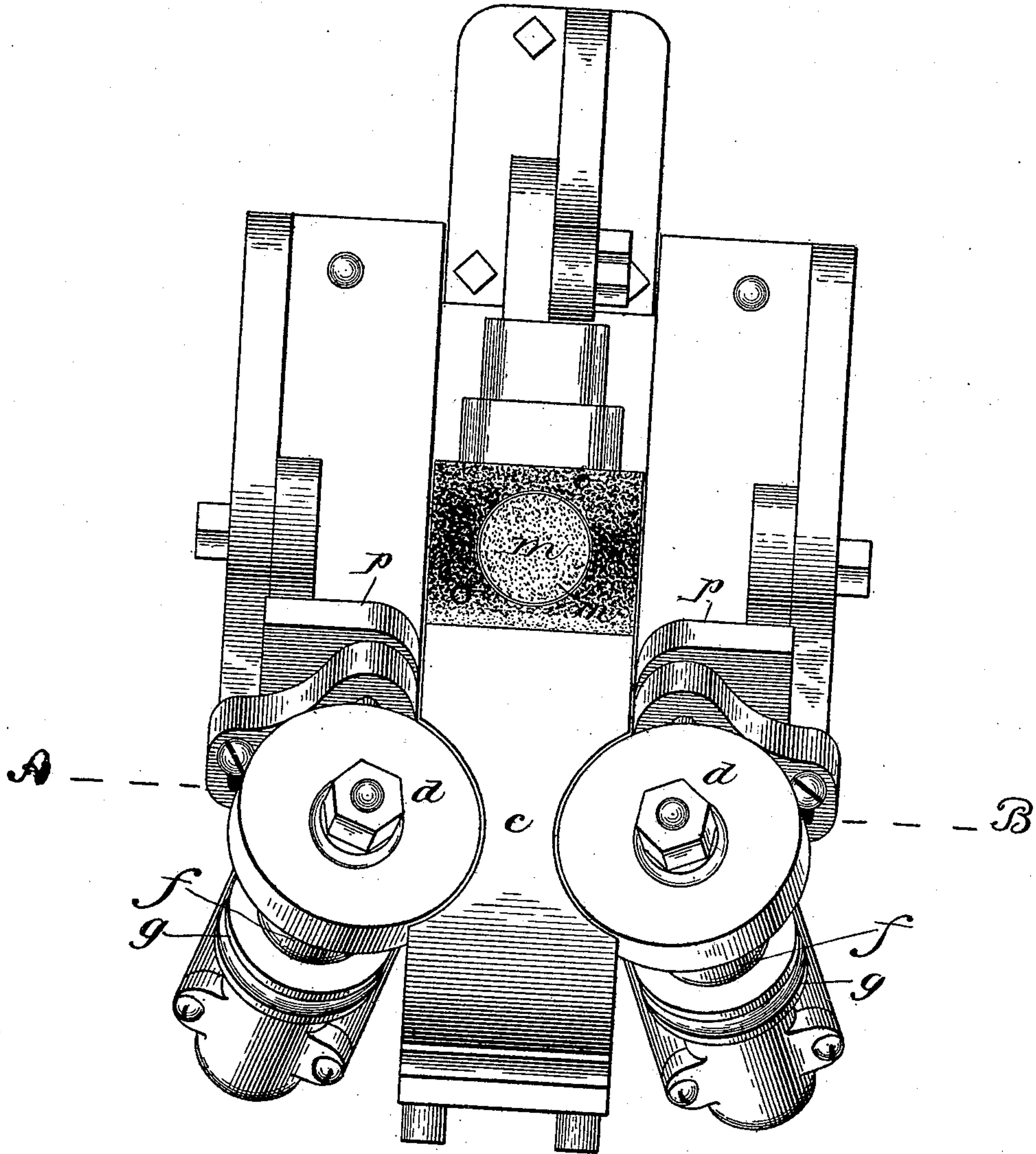


Fig. 4.

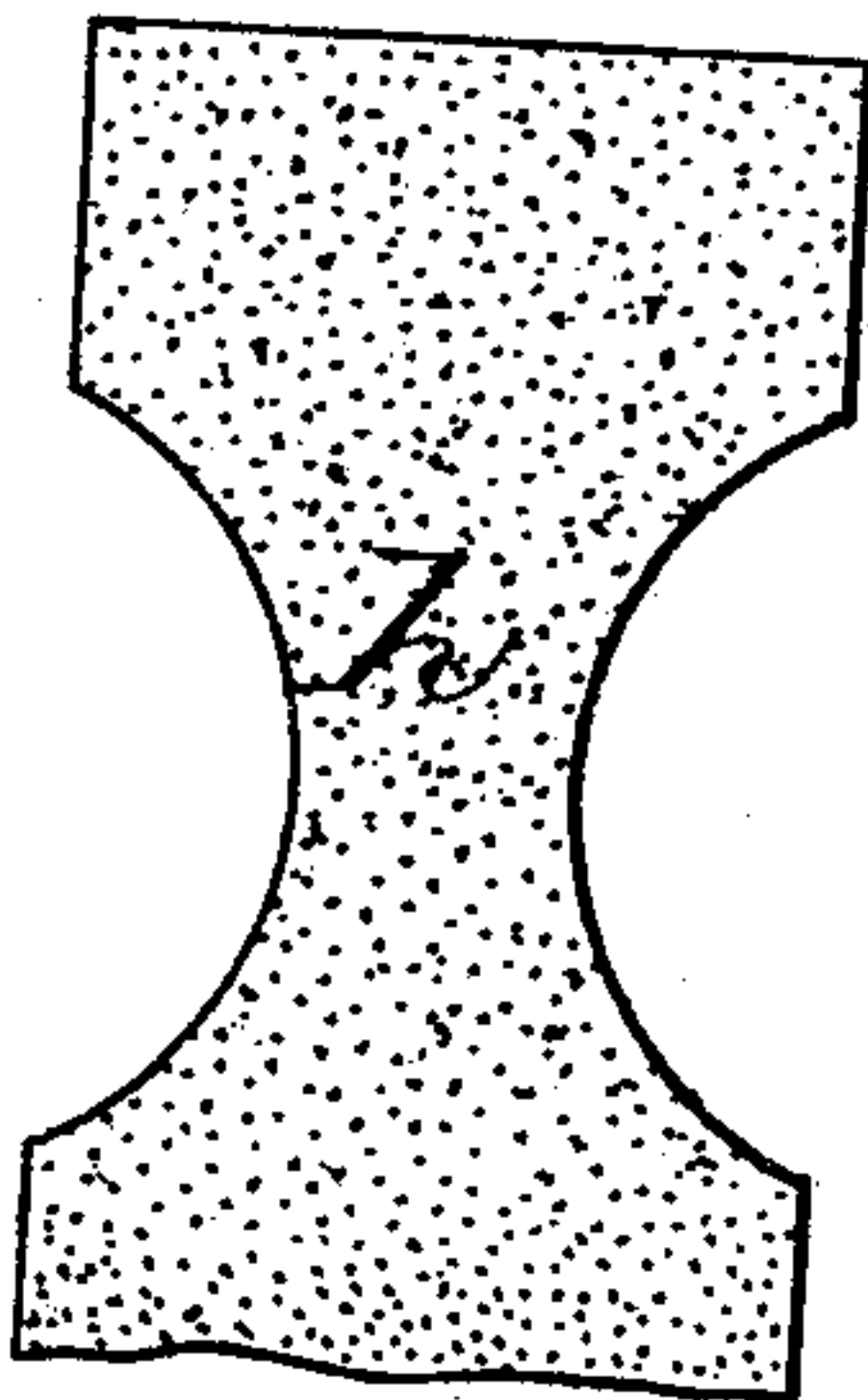


Fig. 8.

Witnesses:

Arthur J. Landall,
Mama H. Kelly.

Inventor:

William H. Dyer
by Charles Drew
Atty

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6 Sheets—Sheet 5.

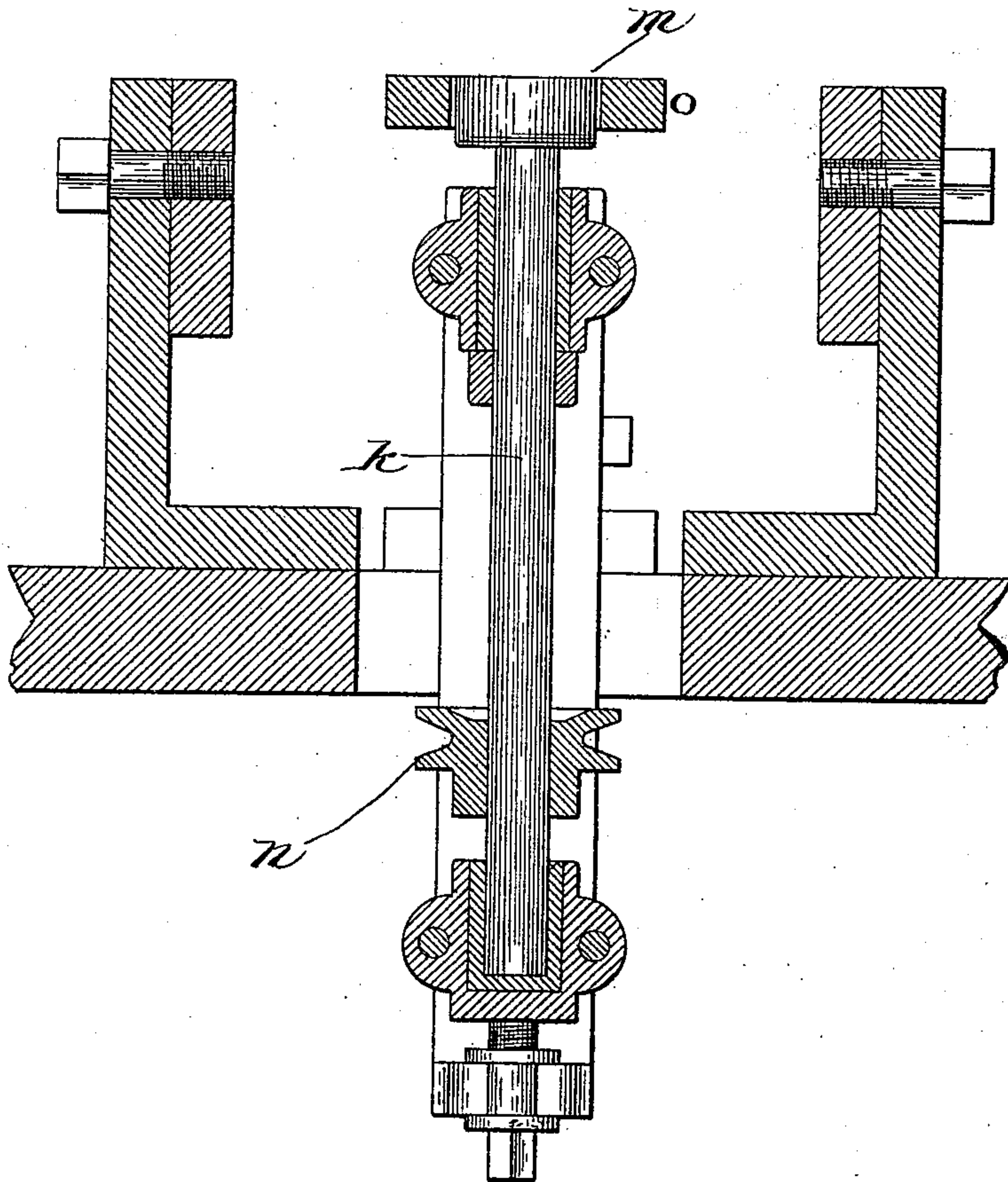


Fig. 5.

Witnesses:

Arthur V. Randall
Mina H. Kelley

Inventor:

William H. Dyer
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6 Sheets—Sheet 6.

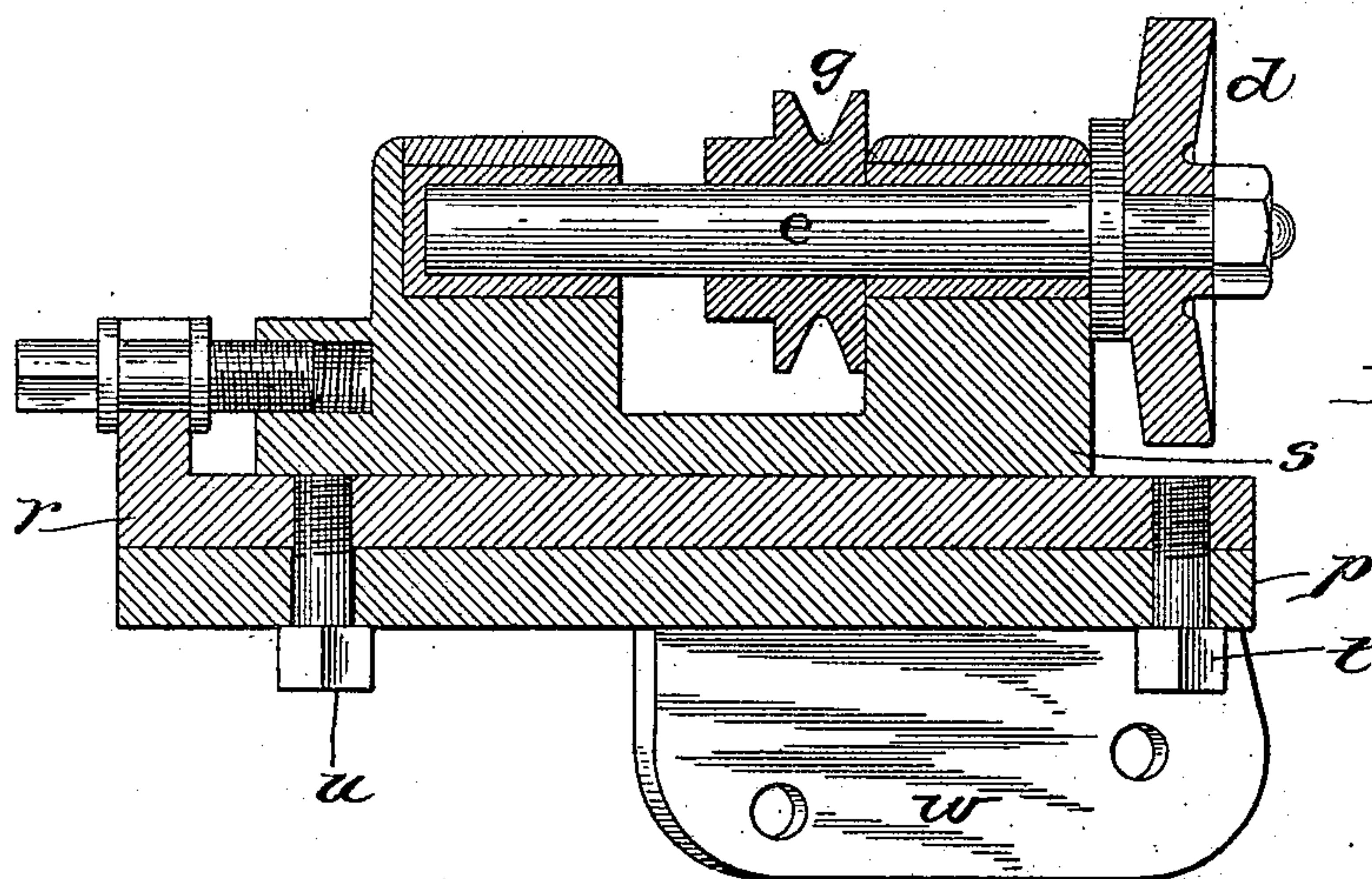


Fig. 6.

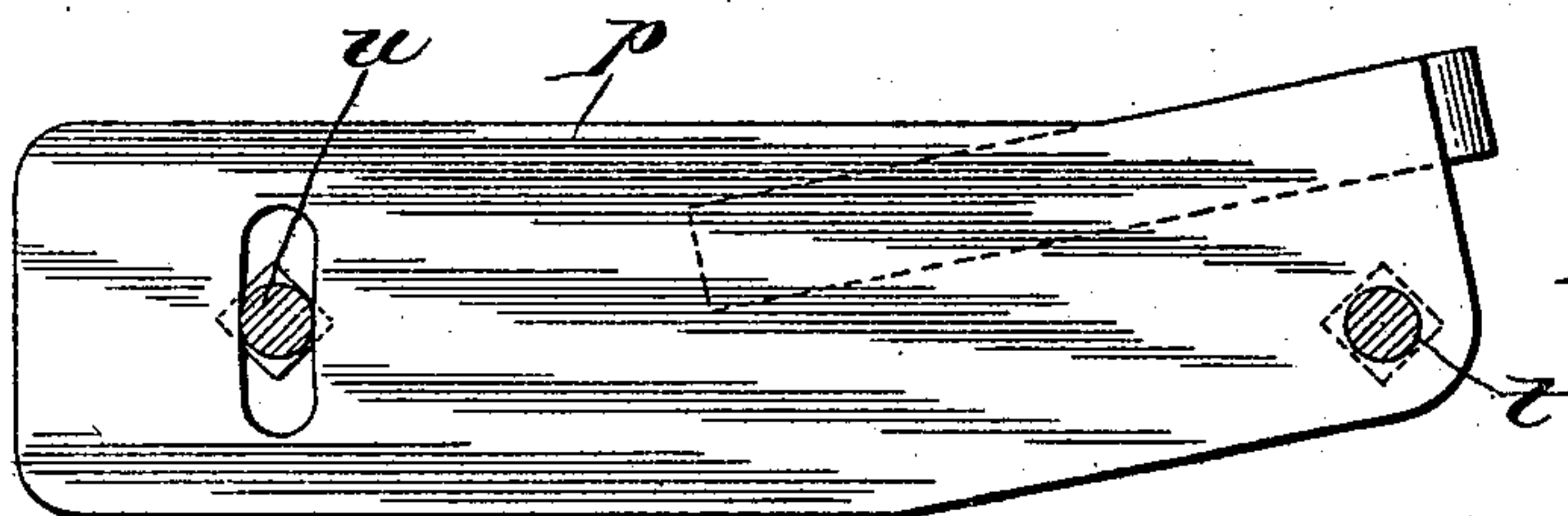


Fig. 7.

Witnesses:

Arthur D. Randall.
Mina H. Kelley.

Inventor:

William H. Dyer
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UNITED STATES PATENT OFFICE.

WILLIAM H. DYER, OF STRONG, MAINE.

MACHINE FOR POLISHING AND ROUNDING TOOTHPICKS.

SPECIFICATION forming part of Letters Patent No. 635,756, dated October 31, 1899.

Application filed January 27, 1897. Renewed April 7, 1899. Serial No. 712,154. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. DYER, of Strong, in the county of Franklin and State of Maine, have invented certain new and useful Improvements in Machines for Polishing and Rounding Toothpicks, of which the following is a specification.

My invention relates to that class of machines for rounding and polishing toothpicks in which the blanks or splints are fed forward between a wheel rotating over a concaved bed, between which the blanks or splints are pressed and rolled; and it consists in devices for rounding and polishing the ends as well as the central portion of toothpicks. In the machines to which I have referred toothpicks are very effectually rounded and polished so far as their central portion is concerned, but the ends are not as well executed.

My invention, therefore, has for its principal object the rounding and polishing of the whole toothpick.

In the drawings I have shown in Figure 1 a perspective view of a machine with my improvement attached. Fig. 2 is an enlarged vertical section taken through the machine at one end of the framework and upon the dotted lines 1 2 of Fig. 1. Fig. 3 is a section on line A B, Fig. 4. Fig. 4 is a plan view of the upper part of the machine with the large wheel removed. Fig. 5 is a vertical cross-section taken through the frame of the machine, showing the shaft or spindle which drives the disk *l*. Fig. 6 is a vertical section taken through one of the polishing-disks *d* and the parts by which it is adjusted. Fig. 7 is a detached view of the plate *p*. Fig. 8 is an enlarged plan view of a portion of the surface of the plate *h*.

a is the frame of the machine.

b is a wheel rotating in the bed *c*, as usual in said machines.

d d are polishing-disks concaved or inwardly beveled on their upper sides, to which are attached surfaces of sand or emery paper or other polishing material, and attached to the shafts *e e*, rotated on the bearings *f f* by means of the pulleys *g g*. The shafts *e e* are placed at an angle to the perpendicular line of the machine to which they are attached, as shown in Fig. 1, so as to leave an opening

between the upper surfaces of the polishing-disks *d d* and the periphery of the wheel *b*, this opening coming to a point at the outer end of said periphery and being of the size and shape adapted for the reception of the end of the toothpick.

h is a plate, a plan view of which is shown in Fig. 8, having a roughened surface.

i is one of a series of plates covering together the entire surface of the periphery of the wheel *b* and suitably attached thereto and capable of being readily removed therefrom, so that others can be attached in their places, if desired.

k is a shaft, to the upper end of which is attached the disk *m*, having a surface of sand-paper, emery-paper, or other suitable polishing material adapted to engage with the toothpick immediately after it leaves the disks *d d*. The shaft *k* is turned by means of the pulley *n*.

o is a holder in which is placed the disk *m* and having its upper surface slightly concaved and covered with sand or emery cloth or paper, the object being to hold the toothpicks while they are being acted upon by the disk *m*.

The disks *d d*, the shafts *e e*, with their bearings *f f*, and pulleys *g g* are attached to the machine in the following manner: *w w* are side pieces, to which is attached the plate *p*; which turns upon the bolt *t*. By loosening the screw *u* a slight swinging motion upon the bolt *t* is obtained. The plate *r* is attached to the plate *p* by means of screws, which when loosened will permit a slight sidewise motion upon the plate *p*. To plate *r* is attached plate *s* by means of screws *v v*. By loosening these screws a slight up-and-down motion is obtained. To the plates *p*, *r*, and *s*, connected as described, is attached shaft *e*, with its bearing, pulley, and disk *d*. It will be seen that by this means a threefold motion is obtained—that is, a slight swinging or oscillating motion, a sidewise motion, and an up-and-down motion—so as to bring the disk *d* into any desired position for accomplishing the purpose for which it is designed. A similar device is employed for the adjustment of the shaft *k* and disk *m*, three plates *y' y'' y'''*, arranged, respectively, to have a swinging motion, a sidewise motion, and an up-and-down motion, be-

ing provided, to which the shaft *k* is attached and connected with pieces *z*.

The operation of my invention is as follows: The previously-prepared blanks or splints are fed forward by suitable feeding mechanism, so as to fall between the wheel *b* and bed *c*, and by the action of the wheel *b* they are carried or rolled forward between the wheel *b*, provided with the plates *i*, attached to the periphery of the wheel, and the bed *c*. The blanks or splints lie transversely across the bed *c*, being carried forward sidewise. When they reach the polishing-disks *d d*, they are subjected to the polishing action of the sand or emery surfaces of said disks, by means of which the ends are suitably rounded, smoothed, and polished. They are then carried forward, so that their central portion is exposed to the action of the rotating disk *m*, where the central portion of the pick is suitably smoothed and polished by their action. These are then carried forward and discharged from the machines, the desired operations having been fully accomplished, so that the toothpicks are smoothed, rounded, and polished.

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

1. In a machine for polishing toothpicks, the wheel having its periphery adapted for polishing, and the bed used in connection therewith, combined with two polishing-disks placed at an angle to the polishing-wheel; the disks being concaved upon their upper surfaces for sharpening the picks, substantially as shown.

2. A large polishing-wheel, and a bed used in connection therewith, combined with two polishing-disks placed at a suitable inclination to the wheel so as to sharpen the ends of the picks, and a separate polishing-disk for polishing the centers of the picks, substantially as described.

3. In a toothpick-polishing machine a large wheel and a bed used in connection therewith for guiding the picks in position, combined with polishing-disks placed at a suitable inclination to the large wheel near the center of the bed, which is recessed so as to receive the edges of the disks, and a separate polishing-wheel for finishing the centers of the picks, placed beyond the lower end of the bed, substantially as set forth.

4. In a toothpick-polishing machine, the large wheel *b*, having polishing-plates attached to its periphery, the bed for guiding the toothpicks into position, and the two polishing-disks placed upon opposite sides of the bed, and having their inner edges recessed therein, combined with suitable bearings for the shafts upon which the disks are secured, the plates *r, s, p*, being provided with the side braces *w* which are placed at an angle to the plate *p*, the pivoted plate *p* and the adjusting-screw *u* which passes through a slot in the plate *p*, and the adjusting-screw for regulating the vertical position of the plate *s*, substantially as specified.

WILLIAM H. DYER.

Witnesses:

FAYETTE W. WHEELER,
CHAS. H. DREW.