

C B. BEALL.
Planing-Machine.

No. 163,567.

Patented May 25, 1875.

Fig 1

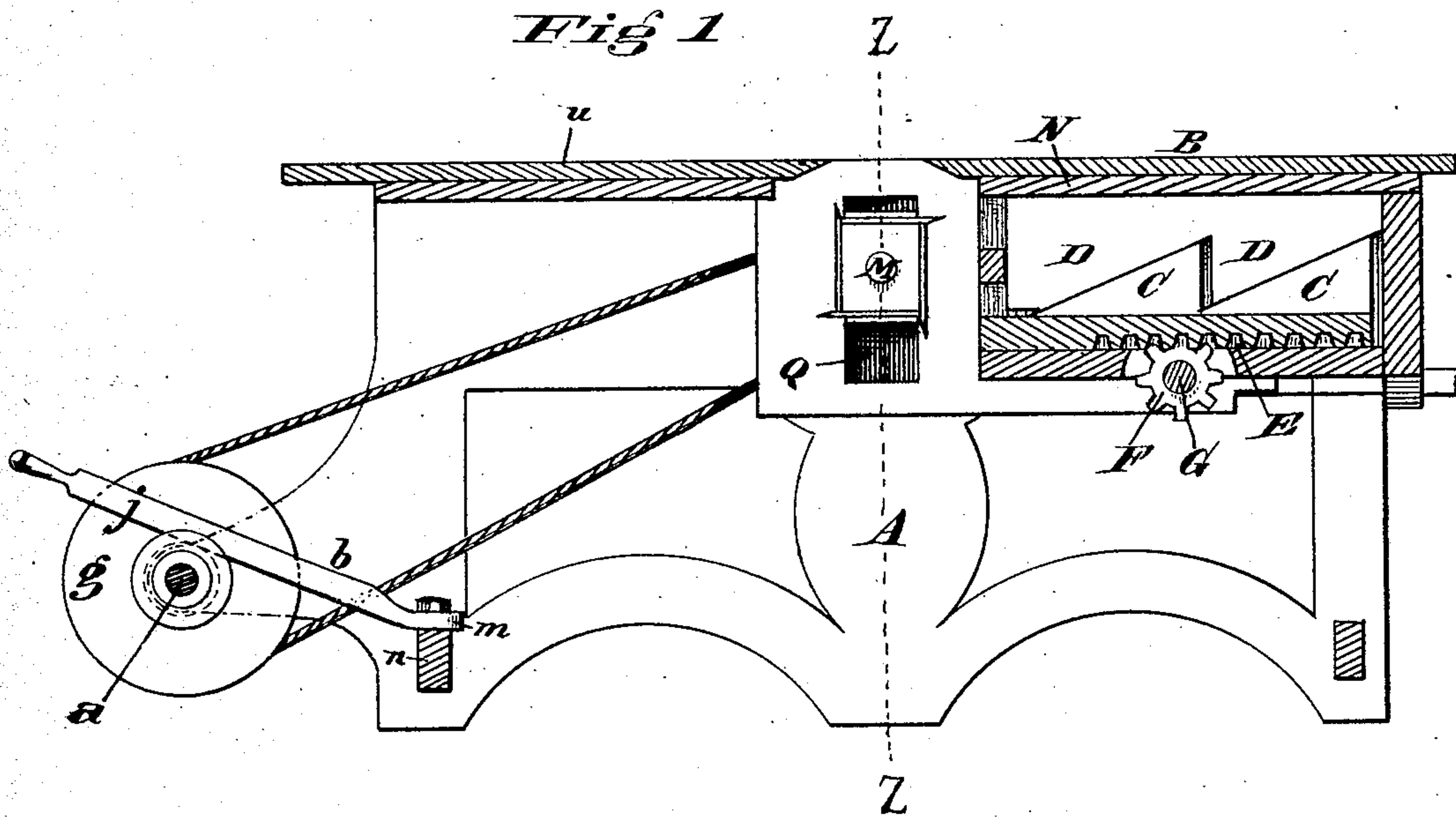
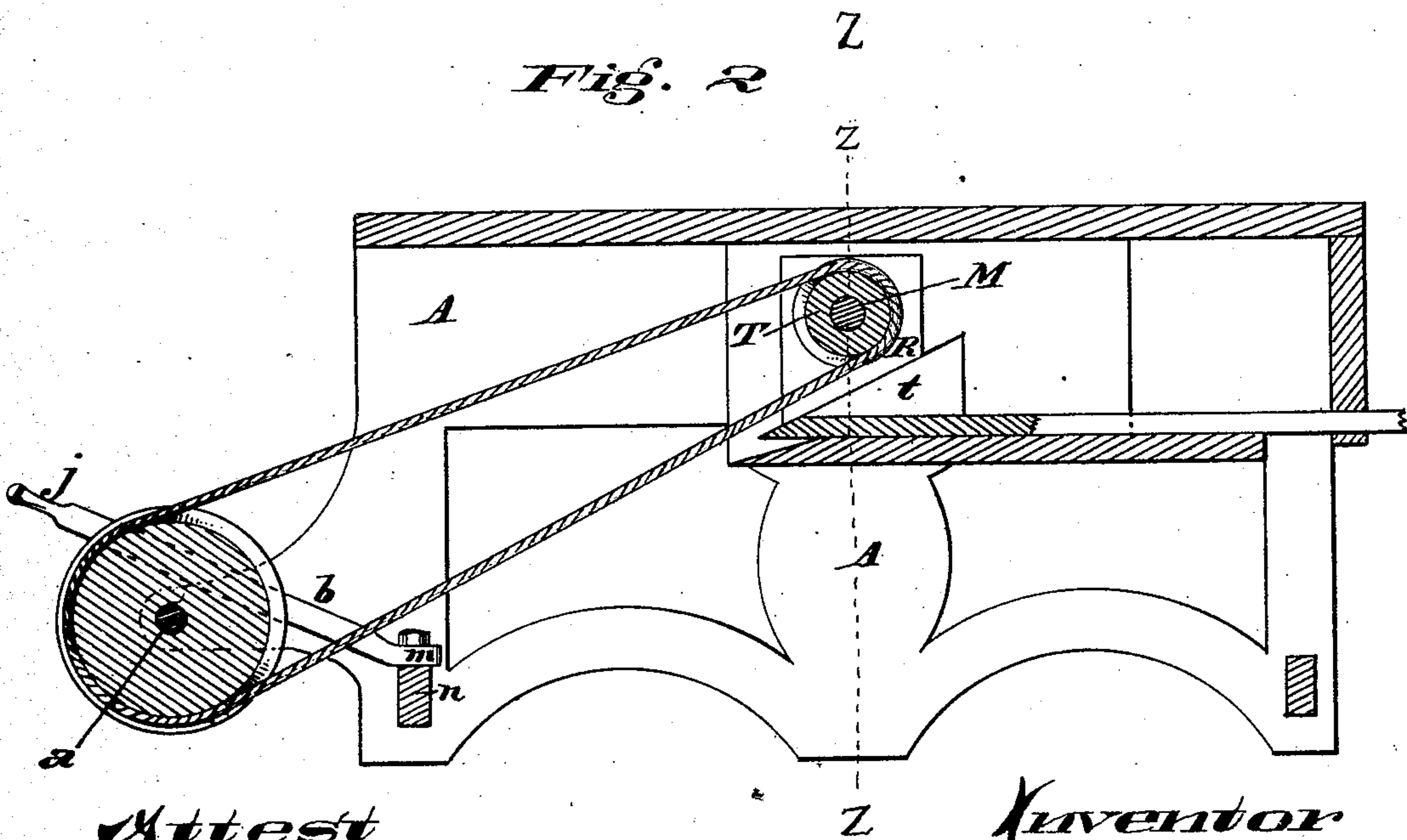


Fig. 2



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John Telfer

Inventor

Charles B. Beall per

William Hubbell Fisher

his attorney.

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Fig. 3

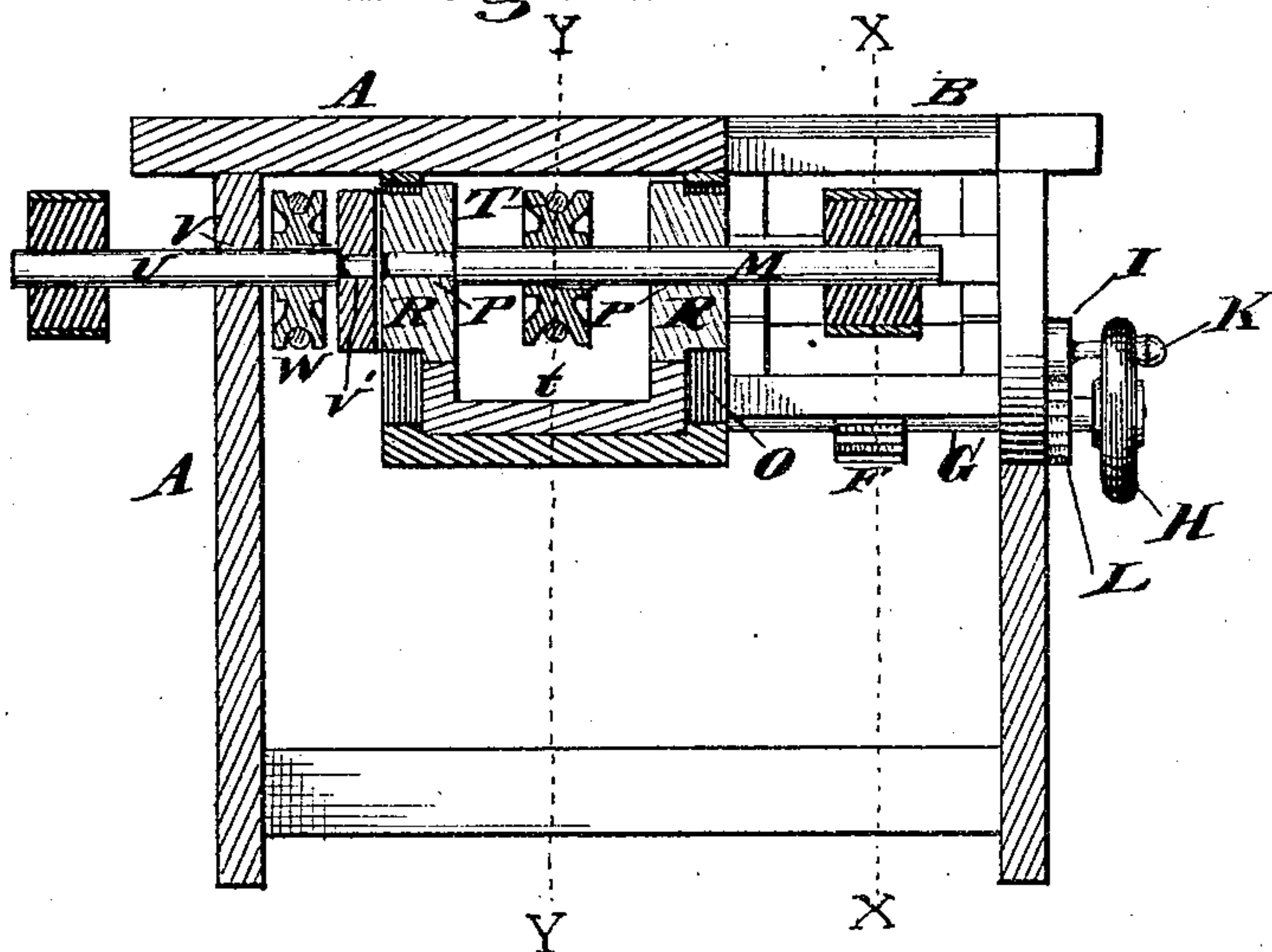


Fig. 4

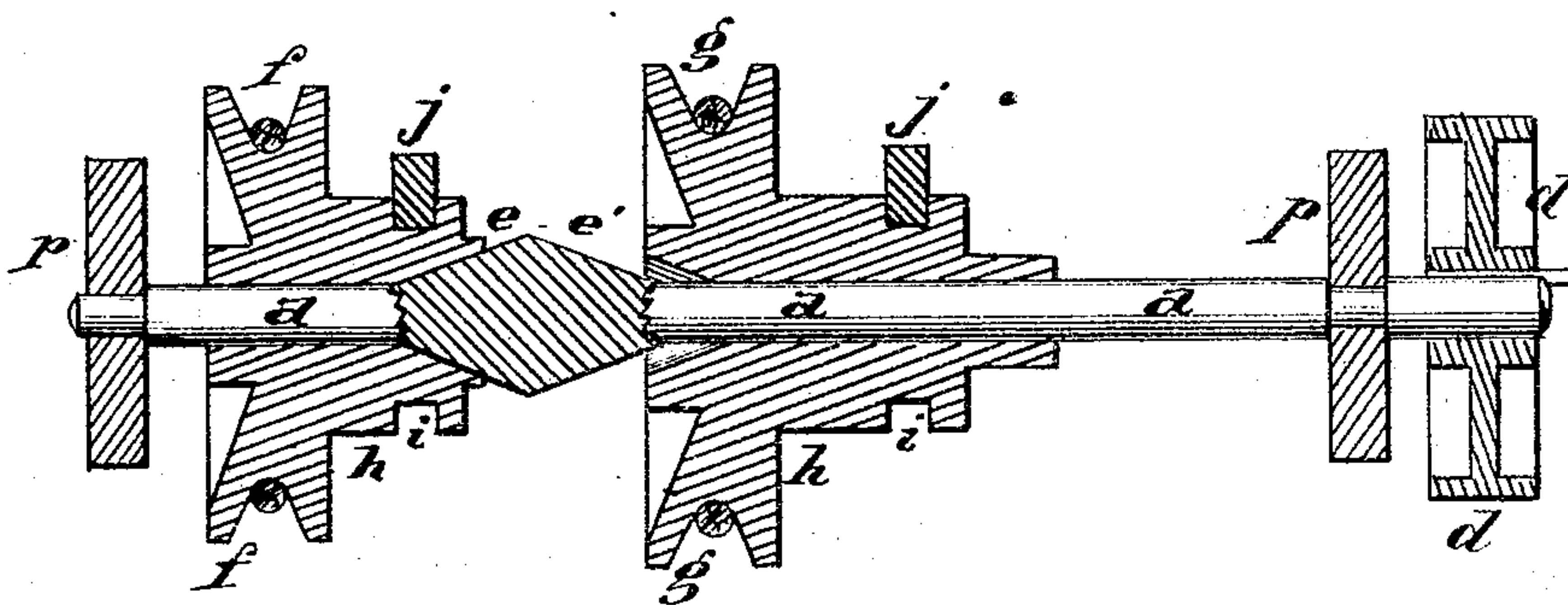
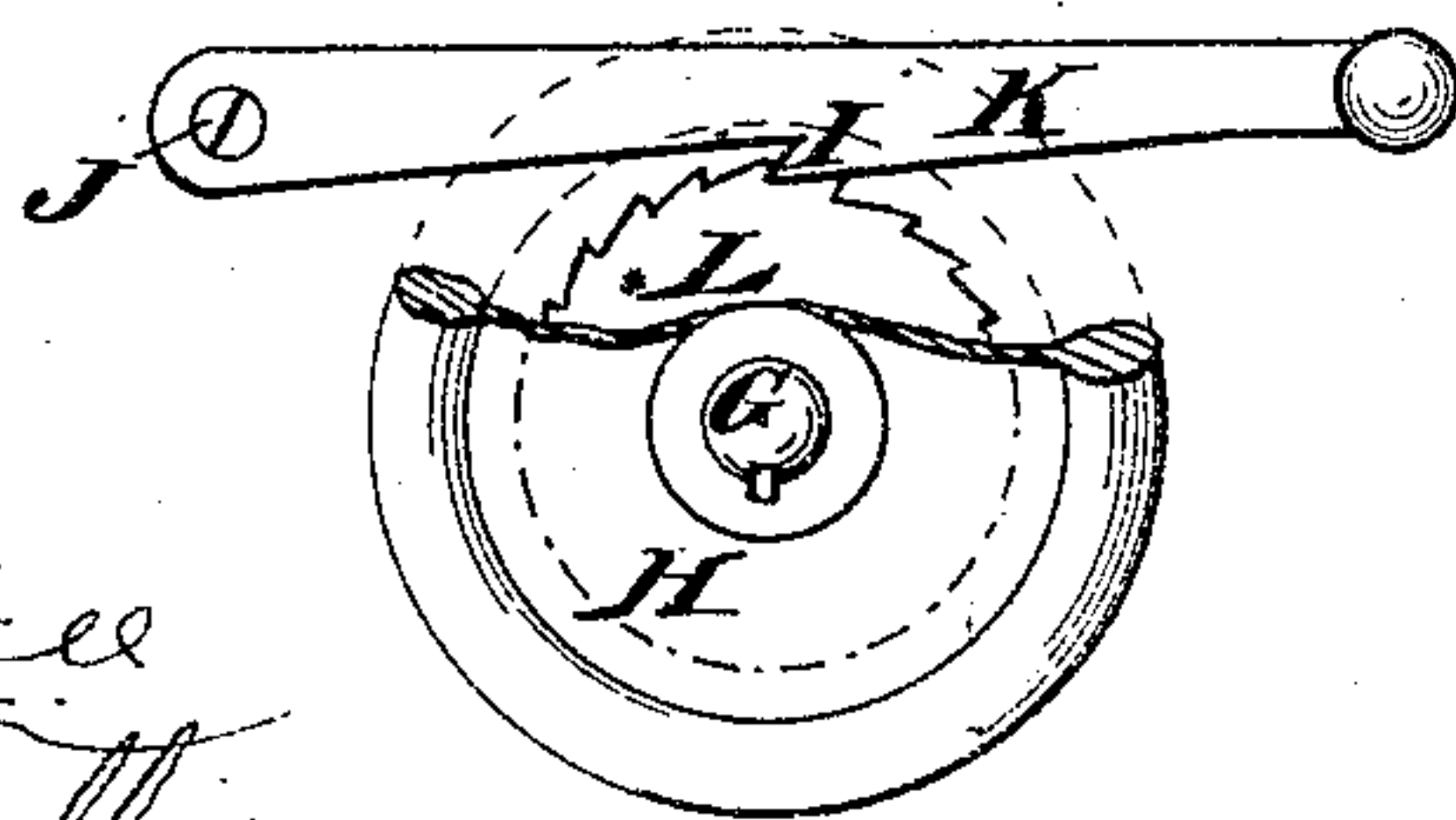


Fig. 5



Attest

Wm. D. Lee

John Telfer

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William Hubbell Fisher,
his Attorney

UNITED STATES PATENT OFFICE.

CHARLES B. BEALL, OF HAMILTON, ASSIGNOR OF ONE-HALF HIS RIGHT TO
THEODORE GREVILLE MASSIE, OF CINCINNATI, OHIO.

IMPROVEMENT IN PLANING-MACHINES.

Specification forming part of Letters Patent No. **163,567**, dated May 25, 1875; application filed
June 1, 1874.

To all whom it may concern:

Be it known that I, CHARLES B. BEALL, of the city of Hamilton and State of Ohio, have invented certain new and useful Improvements in Planing-Machines, of which the following is a specification:

My invention relates to a class of wood-working machinery known as wood-working tables, and in particular to that class of such tables as are provided with two mandrels for enabling two distinct wood-working operations to be carried on at the same time; and it consists in the combination and arrangement of the devices employed, as will be hereinafter more fully set forth.

In the accompanying drawings, Figure 1, Sheet 1, represents a longitudinal vertical section of a table embodying my improvements, the section being made at the dotted line X X in Fig. 3, Sheet 2. Fig. 2, Sheet 1, is a longitudinal vertical section of said table at the dotted line Y Y in Fig. 3, Sheet 2. Fig. 3, Sheet 2, a vertical transverse section of said table at the dotted line Z Z in Figs. 1 and 2, Sheet 1. Fig. 4, Sheet 2, a vertical longitudinal section of the counter-shaft and bearings, power-pulley, and clutch-pulleys. Fig. 5, Sheet 2, a view of the ratchet-wheel and pinion and hand-wheel for operating the adjustable slide.

At one corner of the table A is the ordinary adjustable slide B fixed in a frame, N, and elevated or depressed by the inclined planes or wedges C C, Fig. 1, which impinge corresponding inverted wedges D D on the under side of the frame of slide B. Rack E, attached to the bottom of wedges C C, engages a pinion, F, fixed upon shaft G, revolving in fixed bearings in frame of table A. Shaft G projects beyond the side of the table, and a hand-wheel, H, Figs. 3 and 5, or its equivalent, fastened on said projecting end of the shaft, affords means for the operator to turn said shaft, and through the agency of said rack and pinion to elevate or depress the adjustable slide. A pawl, I, pivoted at J to the side of the table, (see Figs. 3 and 5,) and having a handle, K, whereby it, *i. e.*, the pawl, may be elevated or depressed, engages a ratchet-wheel, L, fixed upon shaft G between the side

of the table and hand-wheel H. The slide B is made vertically adjustable to cause the wood to feed heavier or lighter on the cutter; and is longitudinally adjustable to close up the gap between the frame of the slide and the mandrel M. Opposite to the slide B, and on the other side of mandrel M, and capable of being made to slide to or from the latter, is the ordinary slide *w*, Fig. 1, the function of which is to close the gap between the table and the mandrel. Mandrel M turns in bearings P P, sliding in vertical guideways Q fixed to the table. This mandrel is capable of vertical adjustment by any of the ordinary mechanical devices employed for that purpose. In the present instance there are wedges R R attached to the under side of bearings P P. Wedges *t t*, sliding on a flat support affixed to the table and operated by any of the ordinary mechanical devices, impinge against the wedges R. A pulley, T, on the mandrel M turns the latter. A mandrel, U, in fixed bearings V V', projects on that side of the table opposite to that from which the mandrel projects. Pulley W, fixed on this mandrel, operates it. The counter-shaft *a* revolves in bearing at the ends of arms P P of the table, and is operated by power-pulley *d*, Fig. 4. On this counter-shaft are two friction-cones, *e e'*. Pulleys *f* and *g* turn loosely on this counter-shaft. Each cone may be on the preferable side of its respective pulley. In the present instance the heads of the cones are united and placed between the pulleys *f* and *g*, the periphery of each cone diminished toward its respective pulley. Pulleys *f* and *g* are each provided with a sleeve, *h*, grooved at *i*, in the direction of its revolution. A lever, *j*, resting in this groove, and pivoted at one end, *m*, to a cross-bar, *n*, attached to the legs *b b* of the table enables the operator to move its pulley against a cone, and thus compel the counter-shaft to communicate motion to the pulley, or to disengage the pulley from the cone, thereby stopping the revolutions of the former. A belt around pulley *f* and the mandrel-pulley W communicates the force of the former to the latter. A belt around pulley *g* and mandrel-pulley T enables the former to operate the latter.

One kind of clutch for operating the pulleys *ef* is here shown and described; but is evident that other forms of clutch, as the friction-disk clutch, the ordinary clutch, &c., may be substituted for the one here shown without altering the principle of this portion of my invention.

The mode in which the improvements described operate is so apparent that any description of such mode seems unnecessary. The following brief explanations are offered: The operator, after elevating the adjustable slide *B*, by means of the hand-wheel *H*, retains the slide at the desired point by causing pawl *I* to engage the teeth of the ratchet-wheel *L*; and to lower the slide he disengages the pawl from the ratchet, when the slide and its wedges, of their own weight, will push away the wedges *C C* and descend.

In controlling the revolution of the mandrels the operator brings the counter-shaft pulley of that mandrel which he wishes to operate closely against its friction-cone, and moves the counter-shaft pulley of that mandrel which he desires to stop away from its friction-cone.

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

The combination of fixed mandrel *U*, adjustable mandrel *M*, counter-shaft *a*, cones *e e'*, clutch-pulleys *f g*, grooved sleeves *h*, and the lever *j*, substantially as and for the purposes set forth.

CHAS. B. BEALL.

In presence of—

D. P. KENNEDY,
R. J. GARRETTÉ.