

(Model.)

3 Sheets—Sheet 1.

W. H. BOUTELL.
APPLE PARER, CORER, AND SLICER.

No. 405,825.

Patented June 25, 1889.

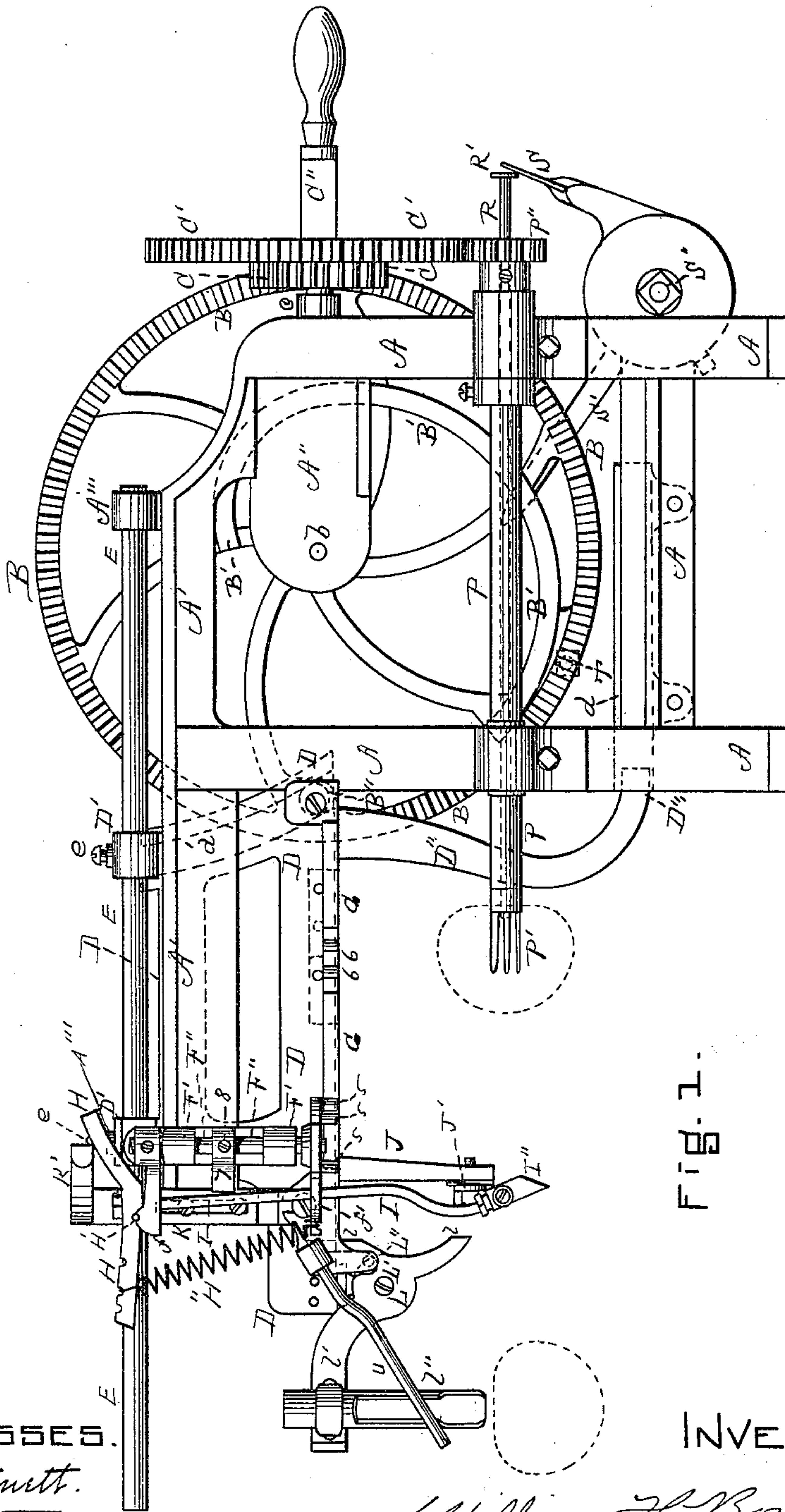


FIG. 1.

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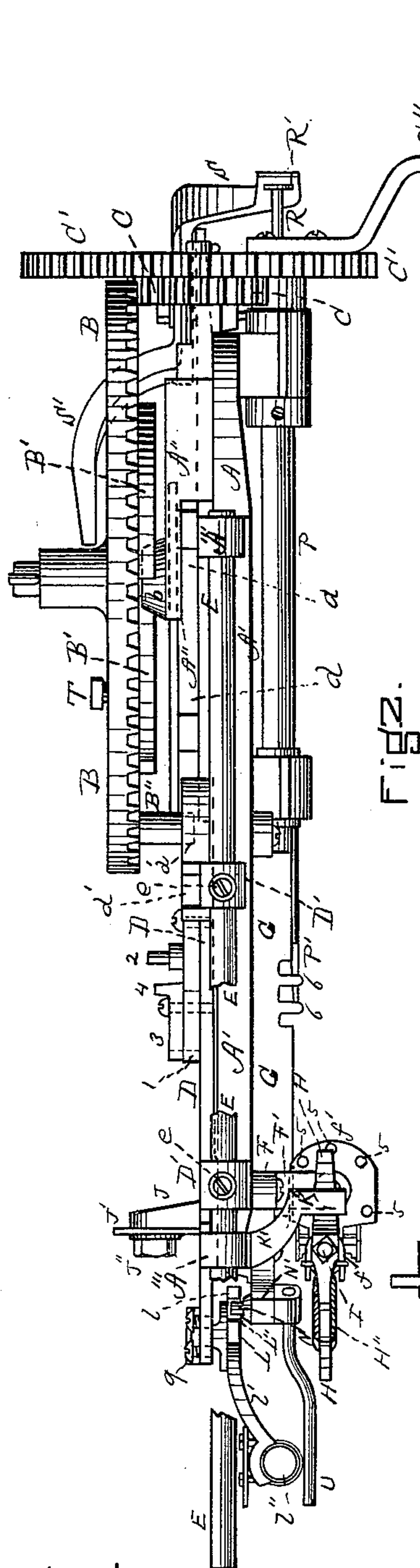


Fig. 2.

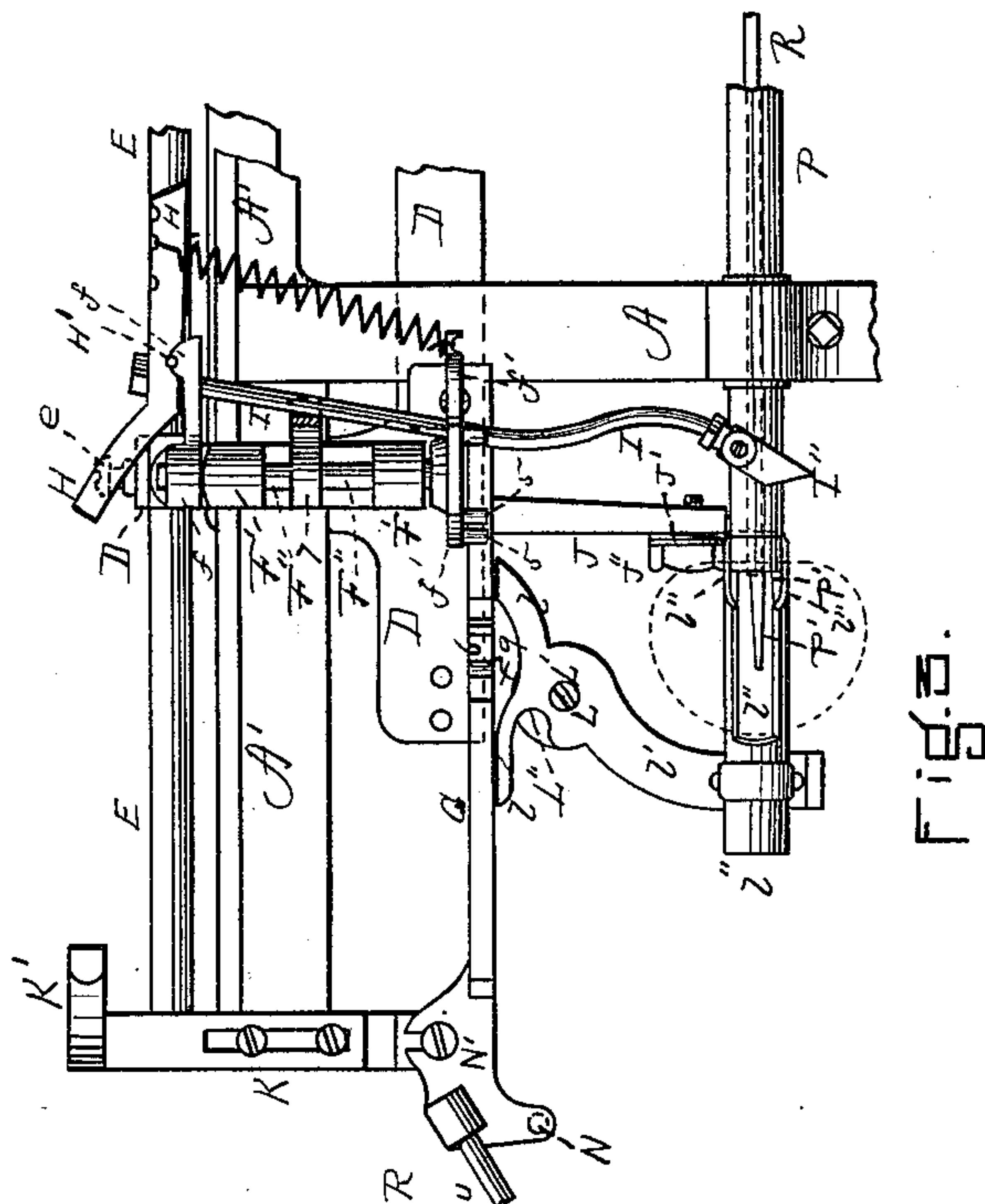


Fig. 3.

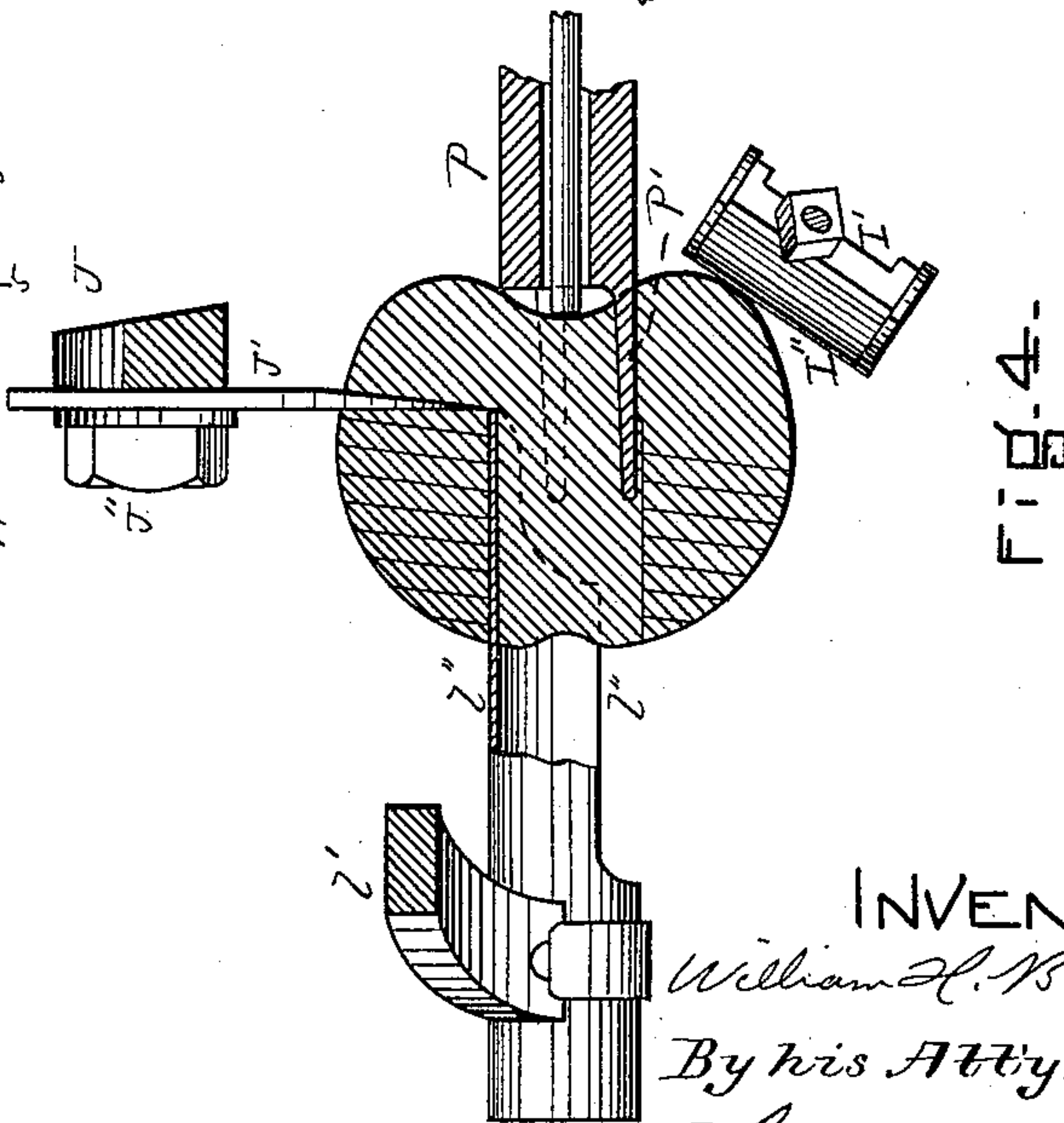


Fig. 4.

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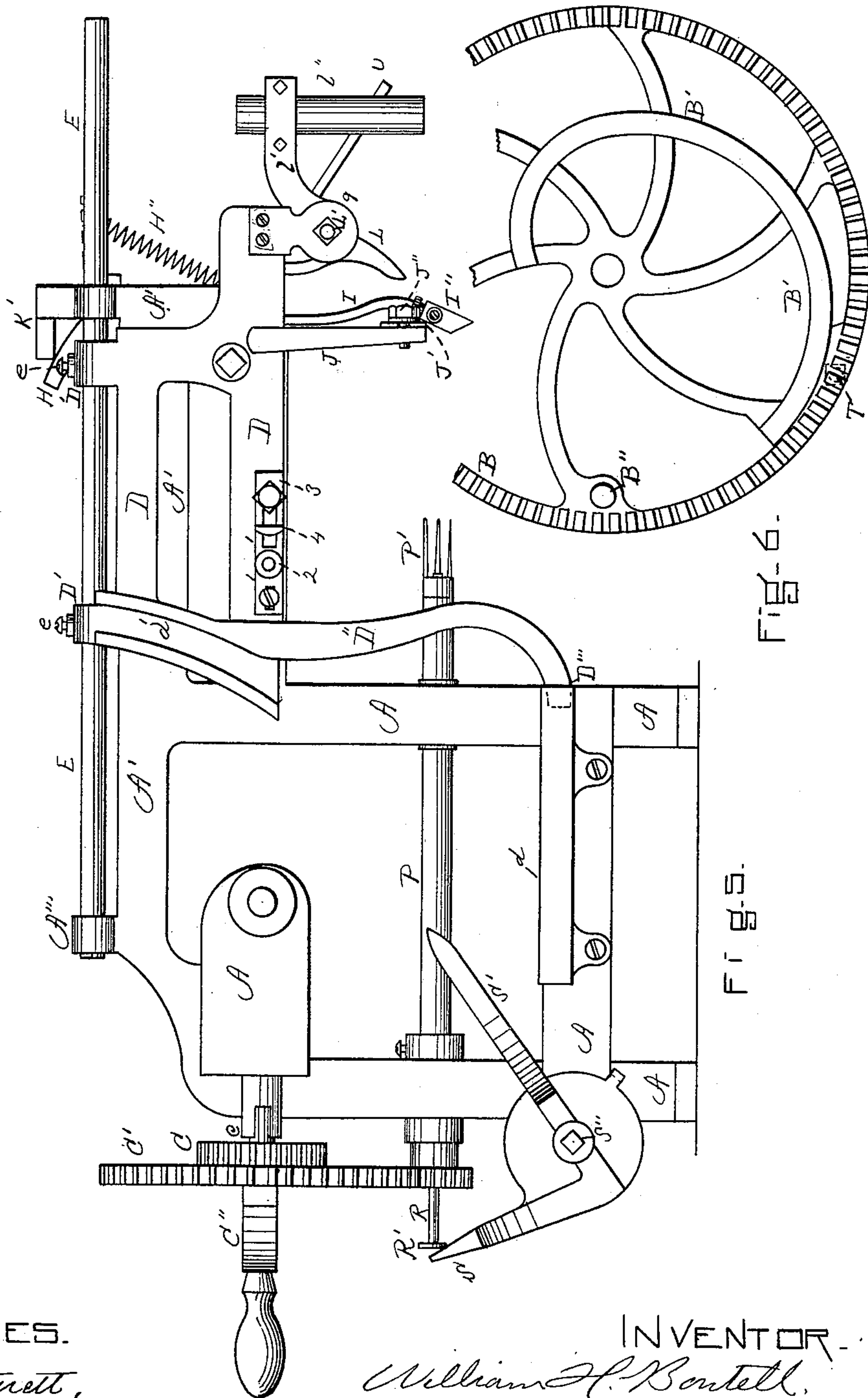
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UNITED STATES PATENT OFFICE.

WILLIAM H. BOUTELL, OF ANTRIM, NEW HAMPSHIRE, ASSIGNOR TO CHARLES W. KELSEA, OF SAME PLACE.

APPLE PARER, CORER, AND SLICER.

SPECIFICATION forming part of Letters Patent No. 405,825, dated June 25, 1889.

Application filed March 31, 1888. Serial No. 269,058. (Model.)

To all whom it may concern:

Be it known that I, WILLIAM H. BOUTELL, of Antrim, in the county of Hillsborough and State of New Hampshire, have invented new and useful Improvements in Apple Corers, Parers, and Slicers, of which the following is the specification.

In the accompanying drawings, in which similar letters of reference indicate like parts, Figure 1 is a front elevation of my improved apple paring, coring, and slicing machine in the position assumed after a pared, cored, and sliced apple has been thrown off, the machine being ready to operate upon another apple. Fig. 2 is a plan view of the machine in the same position, portions of the reciprocating rod E being represented as broken out. Fig. 3 is a front elevation of a portion of the machine in the position assumed when the apple has just been pared, cored, and sliced, but before it has been removed from the prongs or fork. Fig. 4 is an enlarged horizontal section in detail, showing the positions of the corer, parer, and slicer during the operation. Fig. 5 is a rear elevation of the machine with the gear-wheel B removed. Fig. 6 is a detail front elevation of the gear-wheel B removed.

A represents the frame, of which A' is the upper bar, extending a considerable distance beyond the main portion of said frame.

B is a gear-wheel supported at b by the arm A'', projecting from the frame. This wheel is engaged by the pinion C, integral with the actuating-wheel C', which is provided with a crank C'', said gear-wheels C and C' being supported by the frame at c. (See Fig. 1.)

D is a slide or carriage supported by the horizontal rod E, to which it is rigidly secured by means of the set-screws e in the horizontally-bored projections D', extending upward from the said carriage. This rod slides in and is supported by the horizontally-bored projections A'', extending upward from the frame A. Extending downward from the sliding carriage is a leg D'', whose foot D''' slides in a horizontal groove d in the rear side of the frame. To the rear side of this carriage is adjustably secured a plate 1, provided with the stud 2, and to this plate is adjustably secured a supplemental plate 3, provided with

the projection 4. (See Fig. 2.) The stud 2 and projection 4 engage with the cam B', rigidly secured to the face of the gear-wheel B. The carriage is further provided on its rear side with a curved groove d', of the shape shown by broken lines in Fig. 1, in which travels the stud B'', extending horizontally from the face of the wheel B. By means of the stud 2 and projection 4, the cam B', the stud B'', and the groove d', reciprocating horizontal motion of varying speed is given to the carriage, the nature and object of which motion are below set forth. Rigidly secured to the carriage is the bracket F, substantially as ordinarily constructed in machines of this character, whose two horizontal arms F' support loosely the post F''. Rigidly secured to this post is the bifurcated upper arm f and the lower arm f', provided with a central longitudinal slot. Projecting downward from the under side of this arm f' are pins or sprockets 5, adapted to be engaged by the teeth 6 in the rack G, rigidly secured to the frame.

H is a bent lever pivoted at H' on the arm f, its long arm being held normally horizontal by the spring H'', whose lower end is secured to the arm f'. This bent lever supports the rod I, which extends down through the forked arm f and the slot in the arm f', its angle being determined by the adjustable rest 7, against which said rod lies, being held there by the power of the spring H''. To move this rod toward a vertical position, the set-screw 8 is loosened and the rest dropped on the rod F'', while to move the rod I from a vertical position the rest is raised. As this rod I supports the paring-knife, the paring device is thus made capable of being adjusted to the size of the apple to be pared. On the lower end of the rod I is the block I', supporting the paring-knife I''. This knife is attached well up on the block and to the outside thereof, thus giving it a long cutting-surface.

J is an arm secured to the rear side of the carriage D and supporting the cutting or slicing knife J', which being held in said arm by the nut J'' can be dropped from its working horizontal position into a vertical position in case it is not to be used.

A bar K is adjustably secured to the bar A' 100

of the frame near its outer end and bent horizontally at K', so that the upwardly-bent arm of the lever H will strike it as it passes under.

L is a depending support for the coring-knife, pivotally secured at L' to the bracket 9, extending downward from the outer end of the carriage D. This support L is provided with the slot L'', two arms *l l*, whose edges are adapted to slide against the under side of the rack G, and an arm *l'* which clamps the corer *l''*. A stud N extends rearward from the bracket N', which extends from the rack G, and as the carriage moves horizontally this stud, engaging the slot L'', moves the corer *l''* from a vertical position, as shown in Figs. 1 and 2, into a horizontal position, as shown in Fig. 3, and vice versa. Rigidly secured to the bracket N' is the knock-off rod U. This rod is placed at about the angle shown, and is bent slightly, as shown in Figs. 1 and 2, so as to extend by and close to the corer when the latter is in a vertical position, for the purpose below described.

P is a horizontal tubular rod, loose in the frame A and provided at one end with the fork or prongs P' and at the other end with the gear-wheel P'' engaging with the actuating gear-wheel C'. A rod R lies in this tube and is provided with a head R'. A lever is pivoted at S'' to the frame A, one arm S of which lies against the head R' of the rod, and the other arm S' of which is adapted to be engaged by a stud or pin T on the rear side of the wheel B near its periphery.

In operation the device works as follows: The machine being in the position shown in Fig. 1—that is, with the carriage D pushed out to its farthest point, the corer raised into a vertical position, the parer swung toward the left, and the stud B'' lying in the groove *d'*—the apple is placed upon the fork, forcing the rod P back, as shown. Upon turning the crank C'' the stud B'' travels up in the groove *d'*, drawing the carriage toward the main portion of the frame and, hence, withdrawing the pin N from the slot L'' and allowing the corer *l''* to drop into a horizontal position. As the wheel continues to turn, the carriage, with its paring device and corer, approaches the prongs, the arms *l l* of the coring device slipping under the rack G' until the sprockets 5 engage the teeth 6 in the rack. At this point the stud 2 comes in contact with the cam B', and while the stud is acting on this cam the parer is circling round the apple, removing the skin, the corer is pushing its way into the apple, and the slicer is cutting it, the apple meantime rotating rapidly. (See Fig. 4.) After the paring, coring, and slicing are completed (see Fig. 3) the cam B' releases the stud 2, and the stud B'', which has reached its lowest point, engages the leg D'' and pushes the slide rapidly back until the corer has resumed its vertical position. As

the corer rises, the apple strikes the knock-off rod U, which projects from the bracket N', and is dropped into a suitable receptacle. Meantime the projection T has engaged the lever-arm S', thus causing the other arm S to push the rod R out from the tube P in the midst of the prongs P', removing the core, and the raised portion of the lever H has struck the projection K', thus removing the parer from too close proximity to the prongs P', thus allowing space for placing another apple upon the said prongs.

It will be observed that great economy of time is secured by this machine, as after the corer, parer, and slicer have done their work the carriage retreats rapidly, then approaches a little less rapidly, while during the paring, slicing, and coring the horizontal movement is much slower.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination of the rod I with the paring device, lever H, spring H'', arm *f*, rod F'', supported in a suitable bracket, and adjustable rest 7, adapted to be moved vertically on said rod, substantially as and for the purpose described.

2. The combination of the rod I with the paring device, lever H, pivotally supported by a suitable bracket, said bracket being rigidly secured to a sliding carriage, and the bar K, provided with the horizontal projection K', secured to the frame of the machine, substantially as and for the purpose set forth.

3. The combination of the frame A with the rack-bar G, having teeth 6, and the carriage D, provided with the bracket F F' and rod F'', to which is rigidly secured the bifurcated arm *f* and slotted arm *f'*, said slotted arm being provided with the sprockets 5, the lever H, spring H'', rod I, and the paring device, substantially as and for the purpose described.

4. The combination, with the frame or stationary portion of the machine, to which is rigidly secured the stud or pin N, of the carriage D, provided with the bracket 9, and the support L, pivotally secured to said bracket for engagement with said stud, the arms *l l*, adapted to slide under the rack G, and the arm *l'*, to which is secured the corer, substantially as and for the purpose described.

5. The combination of the frame A A', the gear-wheel B, provided with the stud B'', the cam B', rigid with said gear-wheel, the sliding carriage D, provided with the curved groove or cam groove *d'*, the leg D'', and the stud 2, rigidly secured to said carriage, substantially as and for the purpose set forth.

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Witnesses:

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