

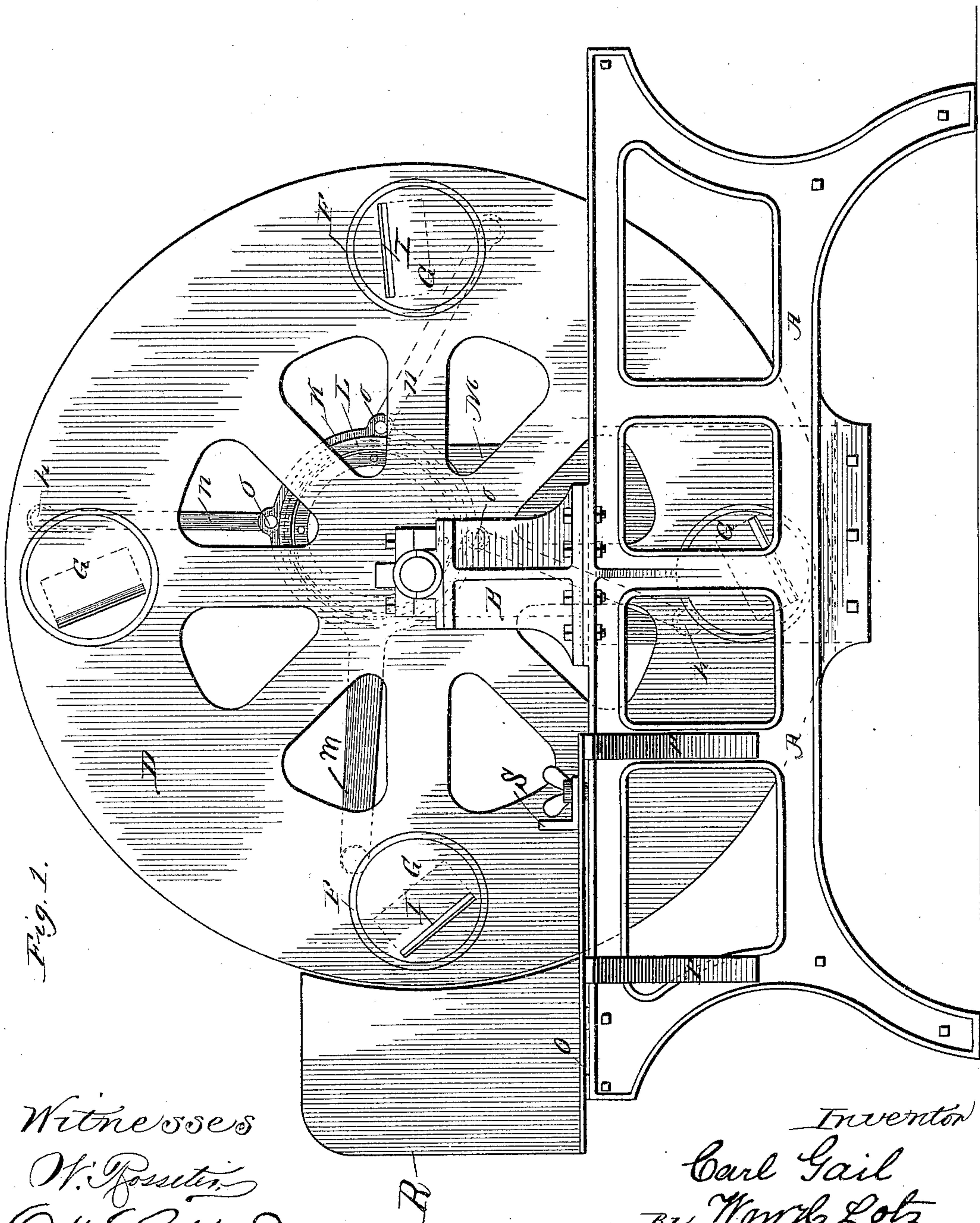
(No Model.)

3 Sheets—Sheet 1.

C. GAIL.
BOX BLOCKER.

No. 409,743.

Patented Aug. 27, 1889.



Witnesses
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Otto Lubke

Inventor
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by *Wm. Lotz*
Atty.

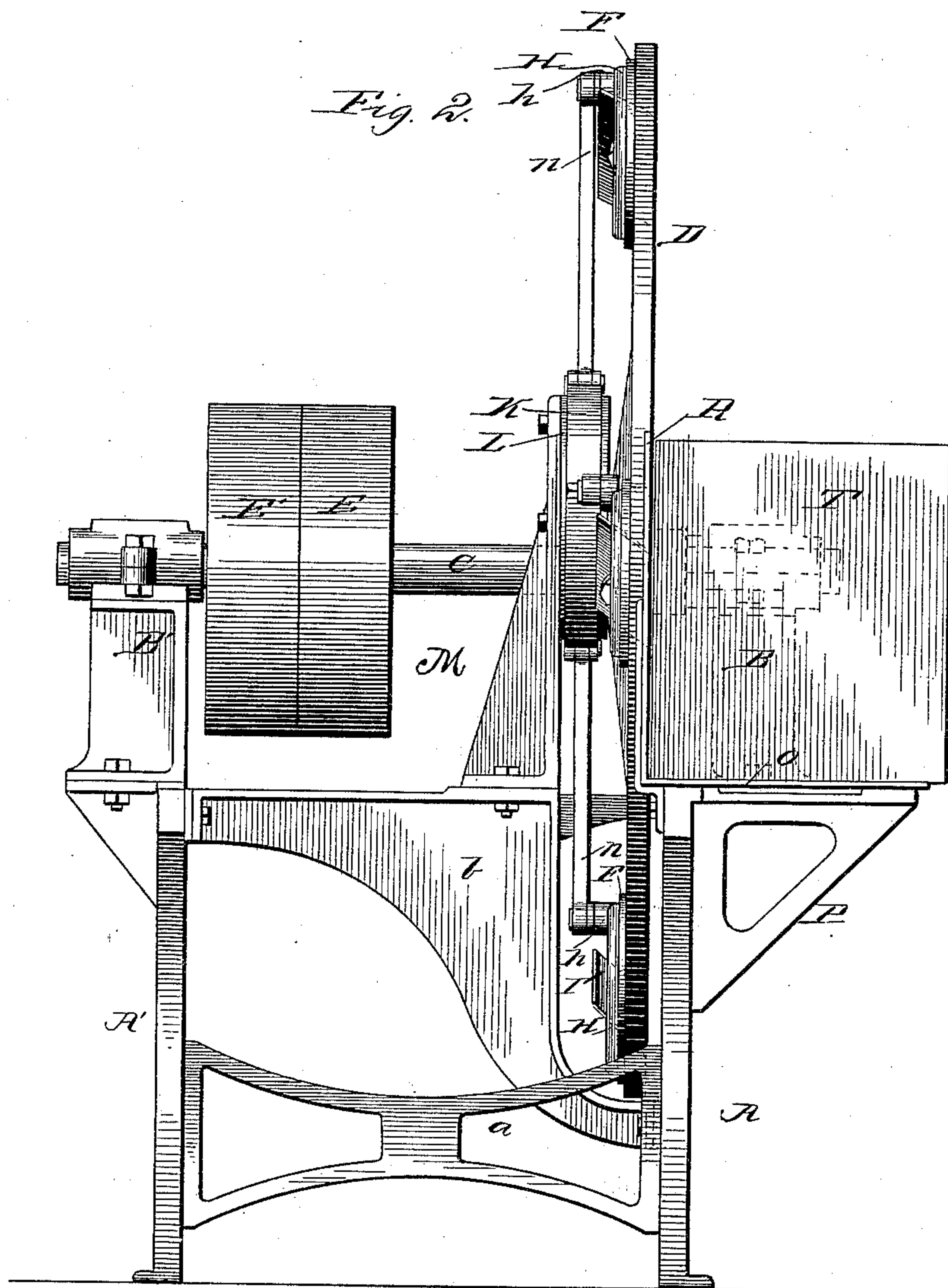
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C. GAIL.
BOX BLOCKER.

No. 409,743.

Patented Aug. 27, 1889.



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(No Model.)

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C. GAIL.
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Fig. 3.

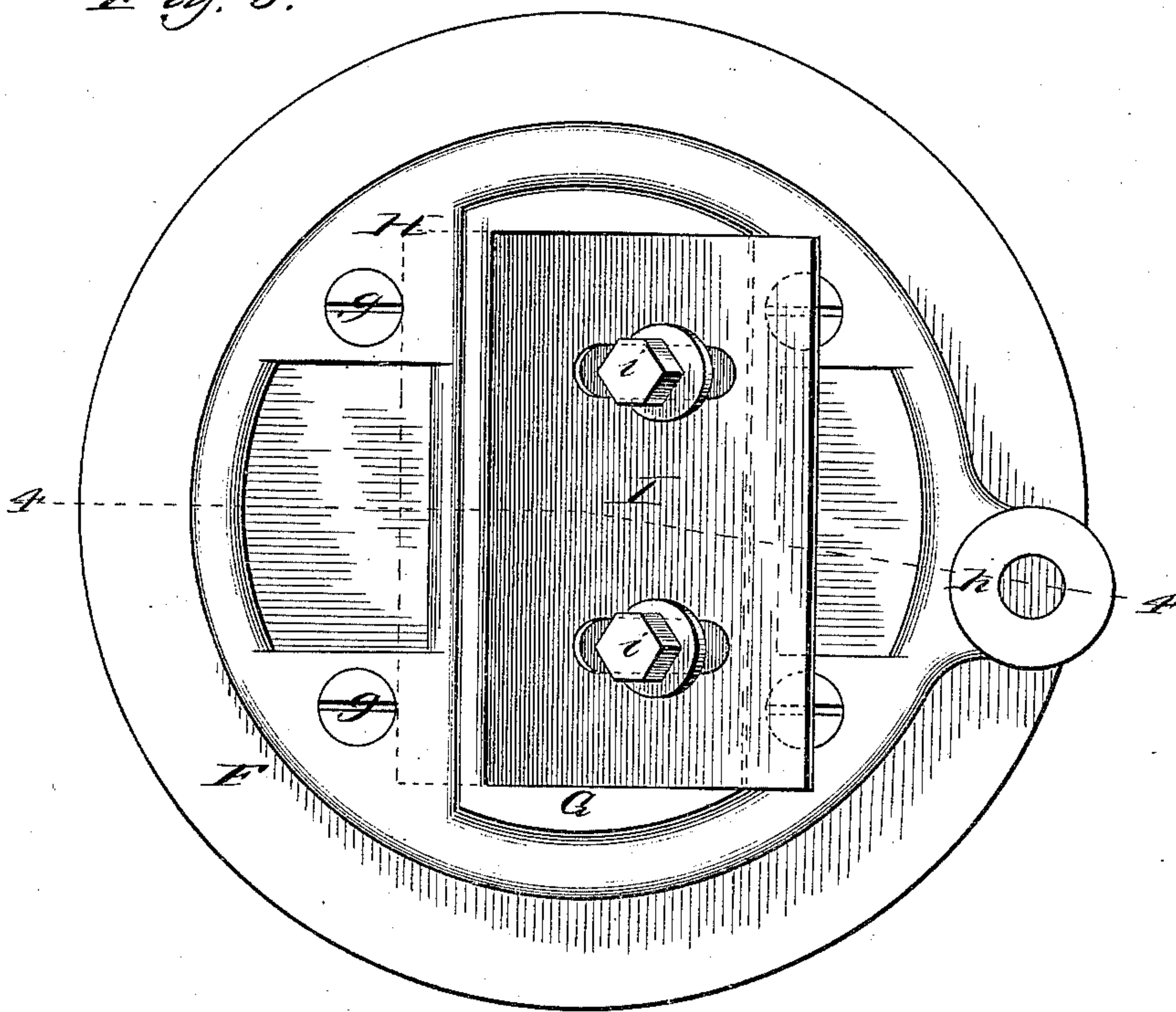
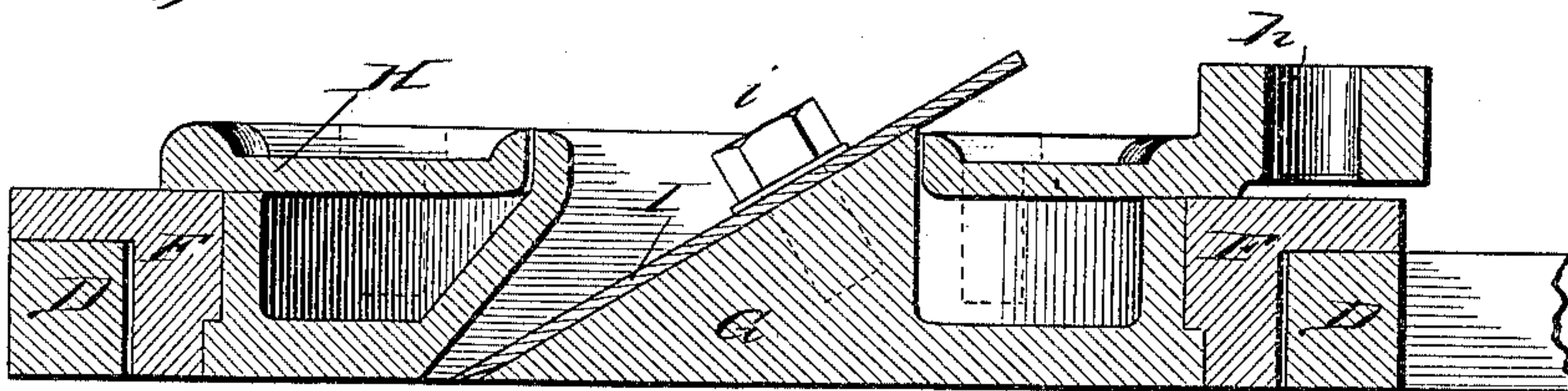


Fig. 4.



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UNITED STATES PATENT OFFICE.

CARL GAIL, OF CHICAGO, ILLINOIS.

BOX-BLOCKER.

SPECIFICATION forming part of Letters Patent No. 409,743, dated August 27, 1889.

Application filed December 26, 1888. Serial No. 294,617. (No model.)

To all whom it may concern:

Be it known that I, CARL GAIL, a citizen of the United States of America, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Box-Blockers, of which the following is a specification, reference being had therein to the accompanying drawings,

This invention relates to machines for trimming the ends of wooden boxes to be flush, square, and smooth; and it is the object of this my invention to provide such a machine in which the planing-knives are secured in a rotating disk with their cutting-edges slightly projecting and each planing-knife arranged to be automatically oscillated for maintaining its cutting-edge on an angle of forty-five degrees to the vertical line during its segmental course of travel by the box to be planed; and with this object in view my invention consists of the novel devices and combinations of devices, hereinafter described and specifically claimed.

In the accompanying drawings, Figure 1 represents a front elevation, and Fig. 2 an end elevation, of the entire machine; Fig. 3, a rear elevation, and Fig. 4 a section on line 4 4 in Fig. 3, of one of the oscillating planing-knife frames.

Corresponding letters of reference in the several figures of the drawings designate like parts.

The frame of the machine is composed of the two sides A A', connected at their ends by transverse braces a and at their middle by a table b, horizontally extending from frame side A' to near frame side A, where it has a downwardly-extending plate curved at its lower end, where it is secured to a bottom flange of frame side A for the purpose of clearing the plane-disk.

Upon each frame side A and A' is secured a standard journal-box B and B' for shaft C, having mounted disk D and loose and tight pulleys E and E'.

Near its periphery and equal distance apart the disk D has circular openings for inserting therein rings F, to be flush with the front face of the disk D, and provided each with a flange to its rear, by which it is rigidly secured against the rear face of the disk D by screws.

These rings F are bored and counterbored from the front for circular frames G, turned with a shoulder, each snugly to fit into the bore of its ring F, to be flush with the front face thereof, and is pivotally fixed therein by a ring-plate H, overlapping the rear face of ring F, and secured against the rear face of frames G. Each circular frame G is diametrically slotted in a manner to provide an oblique bearing-surface for a plane-knife I, similar to a carpenter's plane, which plane-knife is adjustably secured by two clamp-screws i, passed through slotted holes in such plane-knife and tapped into disk G. The slotted opening in disk G widening toward the rear provides a free escape for the wood chips and shavings severed from a box while trimming the same. Each ring-plate H is provided with a crank-eye h. A ring L is placed over shaft C, and is rigidly secured against a standard-bracket M, bolted upon central frame-bracket b to occupy an eccentric position to such shaft C, and strap K is bored to fit upon ring L to rotate thereon. This strap K has a rigid arm m, the eyed end of which is pivotally connected with the crank-eye of one of the plane-knife frames G in a manner that such strap K will be rotated with the disk D, and by its eccentric position will impart an oscillating movement to the plane-knife frame G, to which its arm m is connected. This strap K is also provided with three eye-lugs o, one diametrically opposite to arm m, and the other two intermediate thereof or on a rectangular position therewith. A connecting-rod n pivotally couples each eye-lug o with one of the crank-eyes h of plane-knife frames G in a manner to impart a corresponding oscillating movement to all these plane-knife frames during each revolution of disk D. The cutting-edges of the plane-knife frames, as well as the eccentric-ring L, are so adjusted relative to each other that the cutting-edges of these plane-knives by their oscillating movement will maintain an angular position of forty-five degrees to the perpendicular line during their down segmental course of travel at the operating side of the machine, which particular angle has been found by experience to be desirable for smooth and easy cutting.

At the operating side of the machine is pro-

vided a shelf or table O, supported on brackets P, secured to or forming part of frame side A, and this table O has a vertical plate R, forming a stationary continuation of the
5 face of disk D, it being longitudinally in line with the front face of such disk D. A box T to be trimmed is placed upon table O and is guided by plate R and disk D toward the angle-plate S, adjustably secured upon table O,
10 to provide a stop or gage, and the side or end of the box thus brought in contact with the front face of disk D will be planed to be smooth, flush, and straight by the knives I.

What I claim is—

15 In a box-blocking machine, the combina-

tion, with frame A, table O, and guide R, of the vertically-rotating disk provided with pivotal plane-knife frames, each having a crank coupled with an eccentric-strap rotating on a stationary eccentric-ring to impart
20 an oscillating movement to the plane-knives during their circular course of travel, substantially as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

CARL GAIL.

Witnesses:

WILLIAM H. LOTZ,
OTTO LUBKERT.