

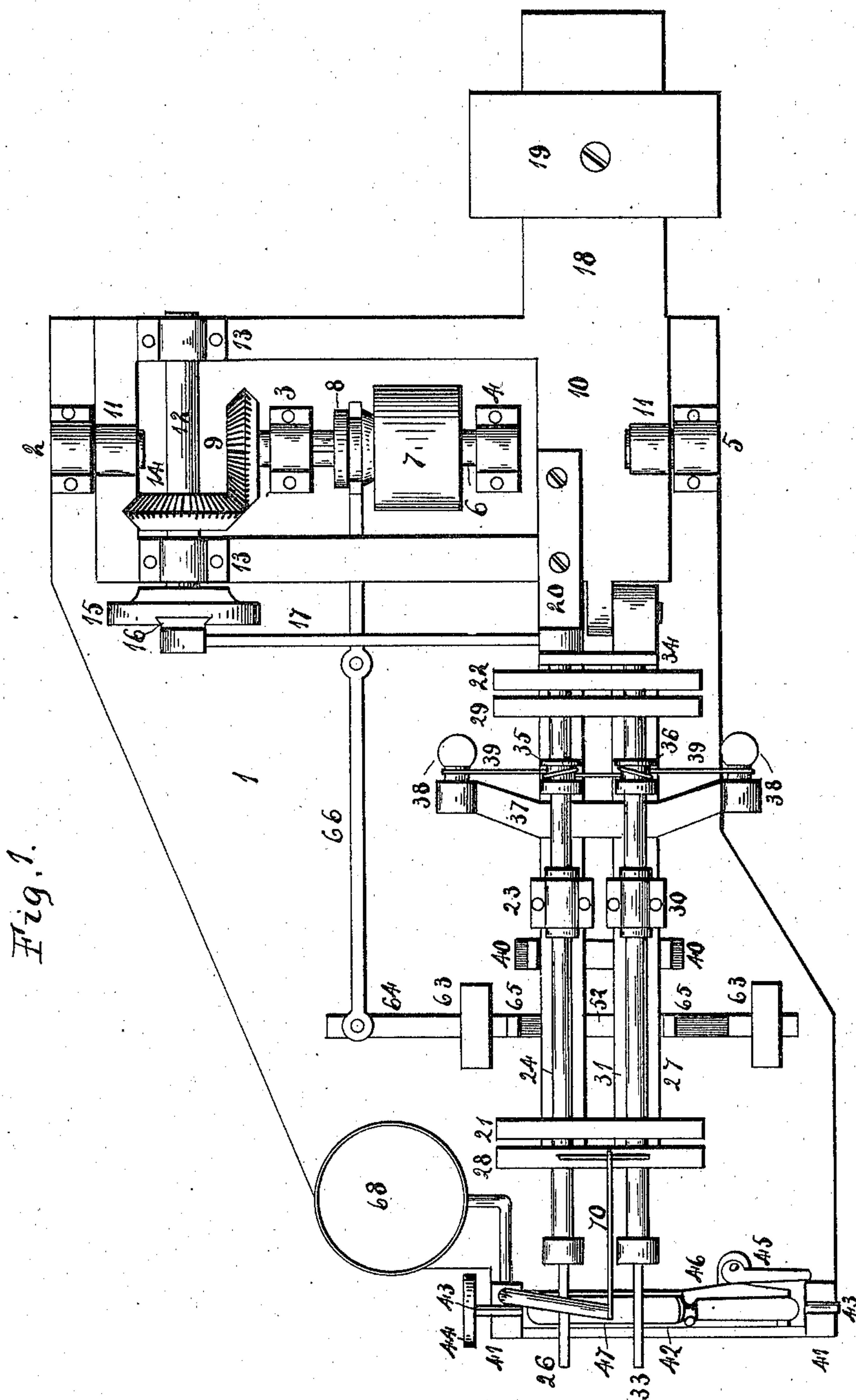
(No Model.)

4 Sheets—Sheet 1.

W. K. HERRINGTON.
BURNISHING MACHINE.

No. 575,350.

Patented Jan. 19, 1897.



Witnesses:
E. Behel.
E. Keith

Inventor:
William K. Herrington.
By A. O. Behel
Atty.

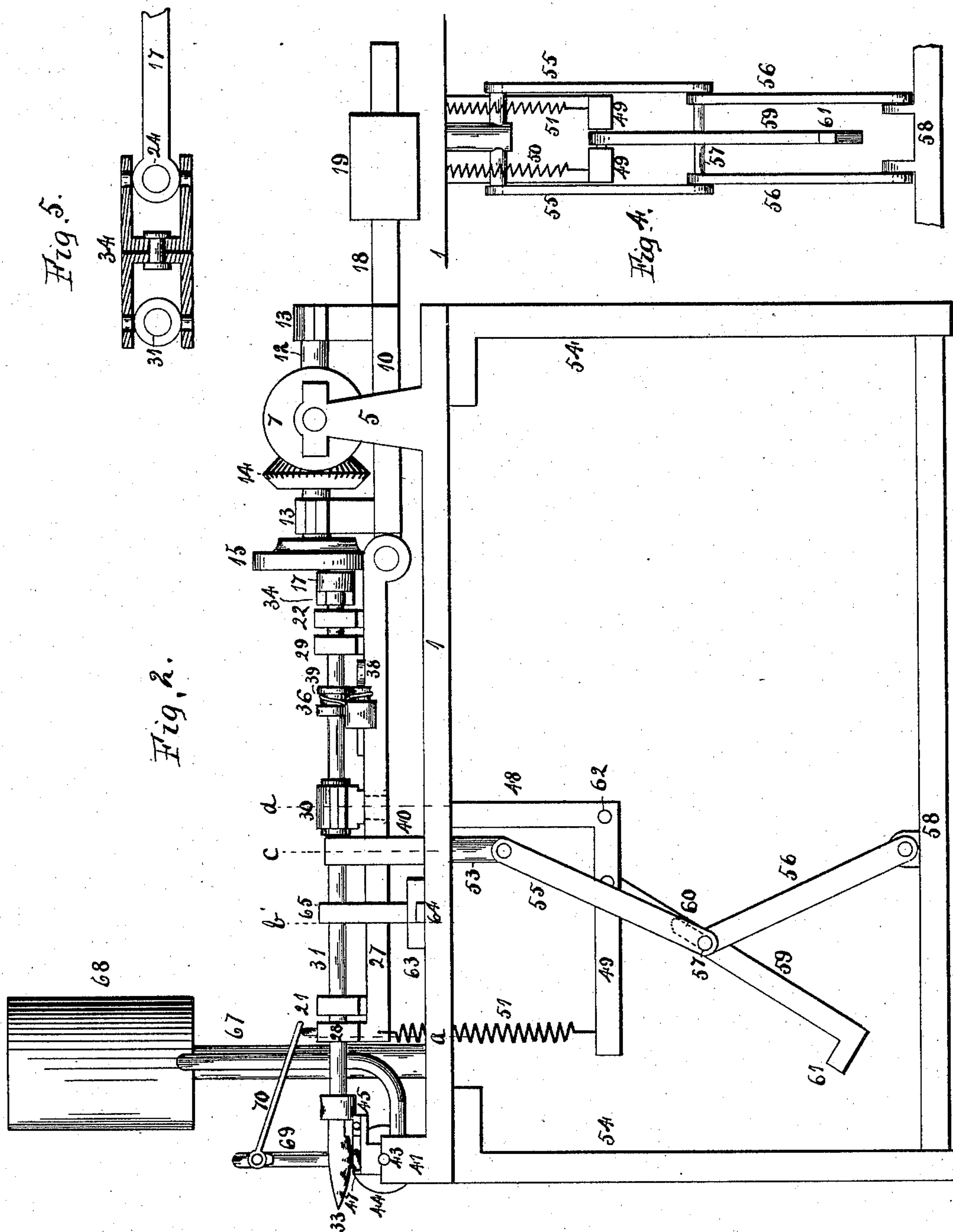
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Inventor:

William K. Herrington

By A.O. Rehel
att.

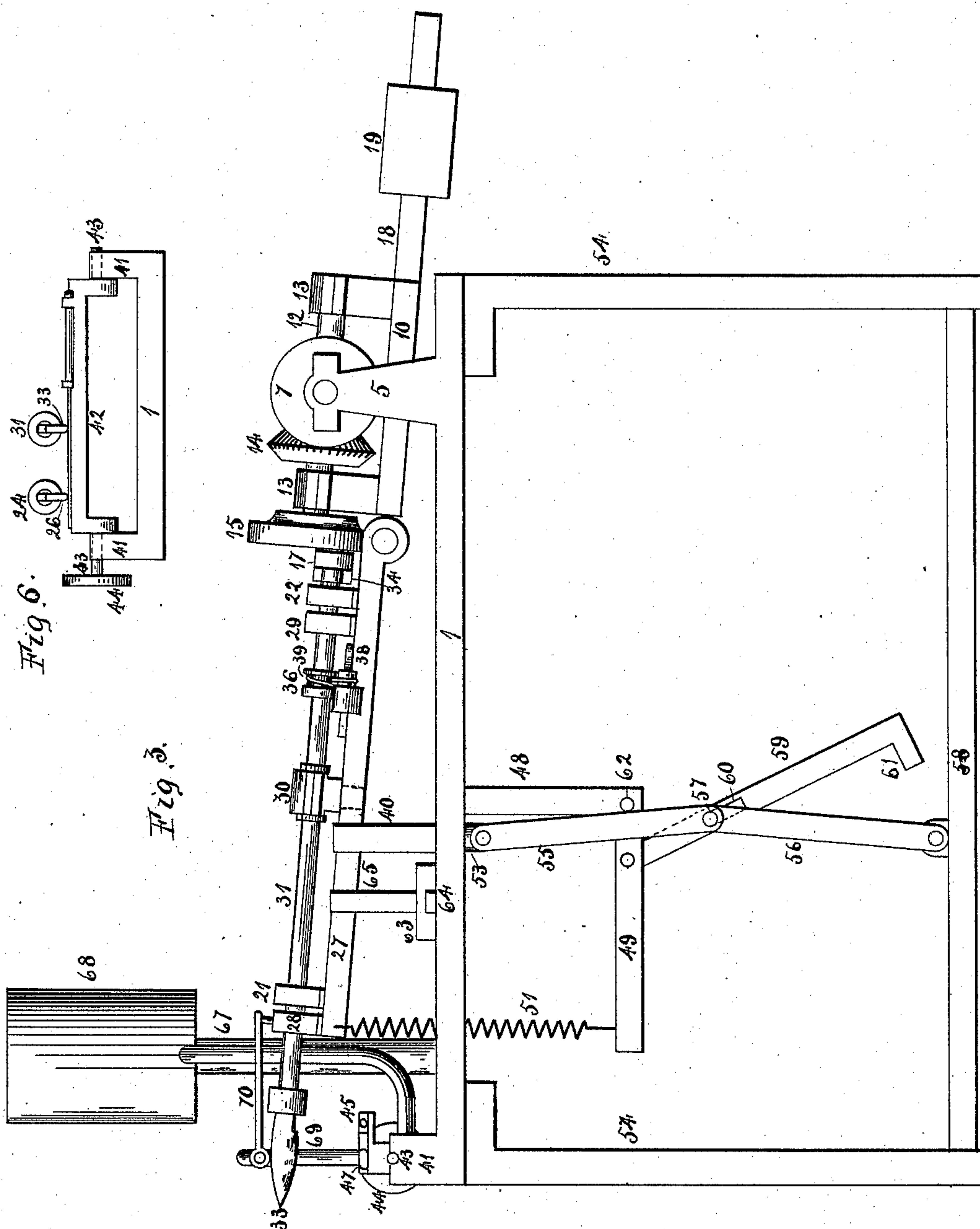
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E. Behel.
E. Keith

Inventor;
William H. Harrington
By A. O. Behel
attys.

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Fig. 7.

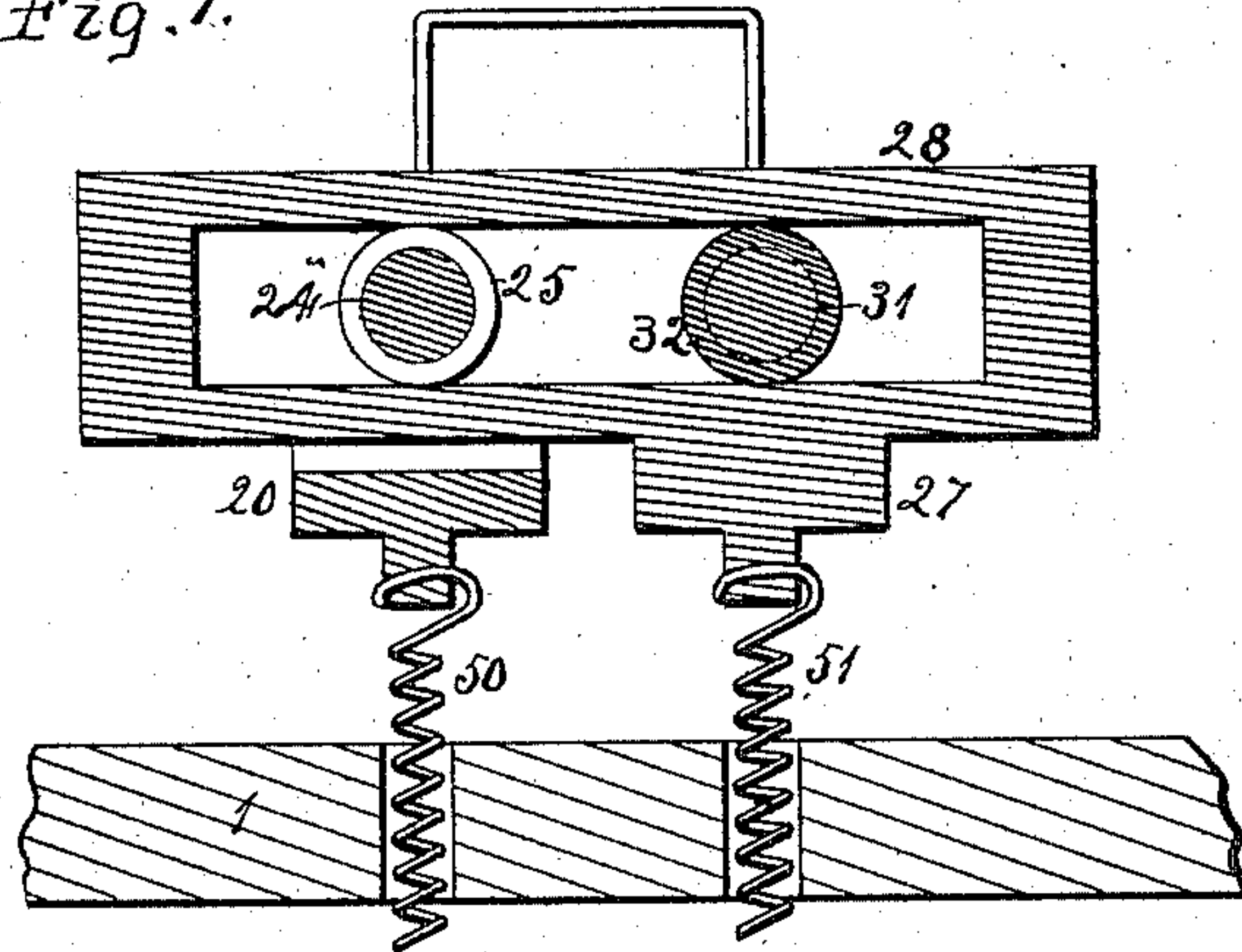


Fig. 8.

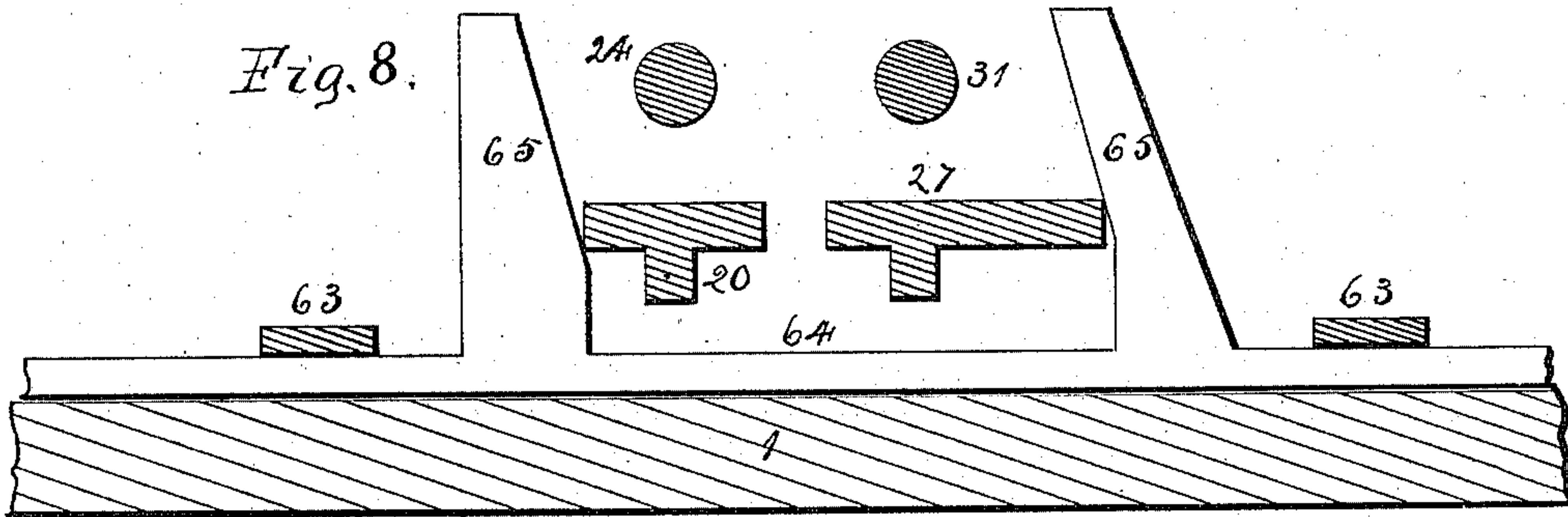


Fig. 9.

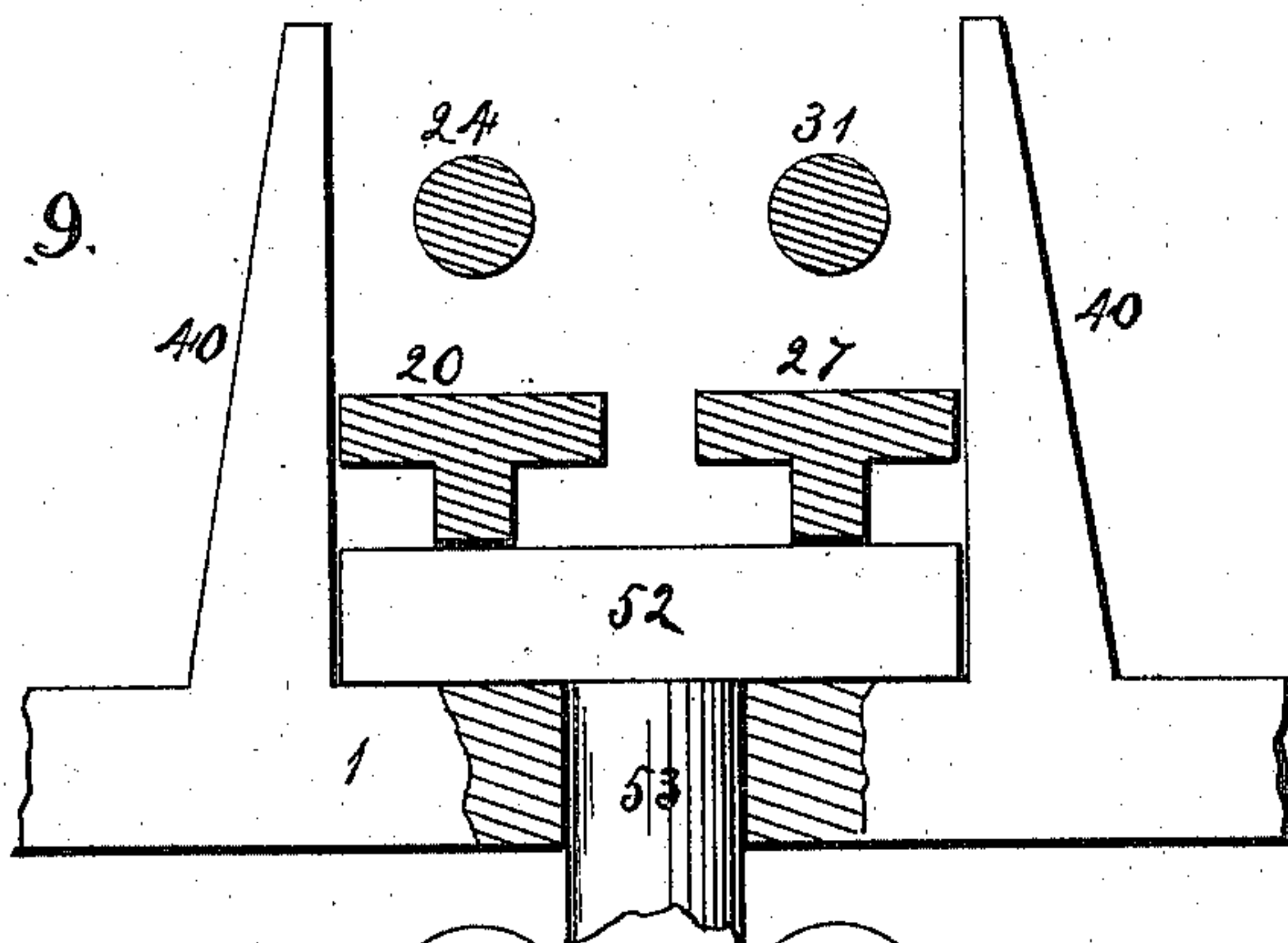
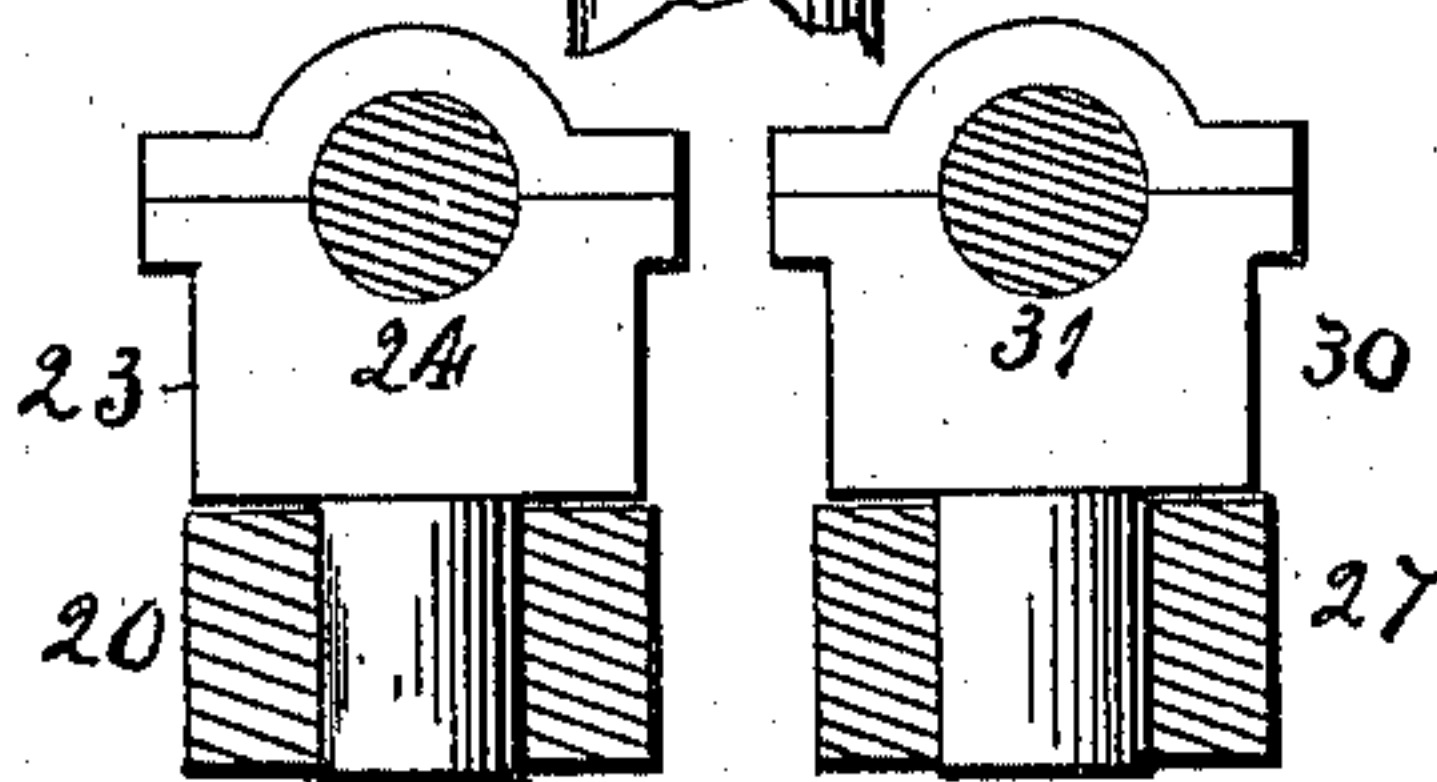


Fig. 10.



Witnesses:
E. Behel.
E. Keith

Inventor:
William K. Herrington.
By A. O. Behel.
Atty.

UNITED STATES PATENT OFFICE.

WILLIAM K. HERRINGTON, OF ROCKFORD, ILLINOIS.

BURNISHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 575,350, dated January 19, 1897.

Application filed June 1, 1896. Serial No. 593,949. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM K. HERRINGTON, a citizen of the United States, residing at Rockford, in the county of Winnebago and State of Illinois, have invented certain new and useful Improvements in Burnishing-Machines, of which the following is a specification.

The object of this invention is to impart an oscillatory movement to a burnisher, also a bodily movement independent of its oscillatory movement.

In the accompanying drawings, Figure 1 is a plan view of a burnishing-machine containing my improvements. Fig. 2 is a side elevation, the parts in working position. Fig. 3 is a side elevation, the parts held out of operative position. Fig. 4 is a front elevation of the mechanism for stopping and starting the running of the burnishers. Fig. 5 is an elevation, partly in section, of the pitman connection with the burnisher-shafts. Fig. 6 is a front elevation of the knife-holding device. Fig. 7 is a transverse section on dotted line *a*, Fig. 2. Fig. 8 is a transverse section on dotted line *b*, Fig. 2. Fig. 9 is a transverse section on dotted line *c*, Fig. 2. Fig. 10 is a transverse section on dotted line *d*, Fig. 2.

From the upper face of the bed 1 of the machine rise supports 2, 3, 4, and 5, two of them supporting a main drive-shaft 6, upon which is loosely mounted a drive-pulley 7, and a movable portion 8 of a friction-clutch having a feather connection with the shaft, and upon the projecting end of the shaft is secured a bevel-toothed wheel 9.

A platform 10 has two ears 11 rising from its upper face and are pivotally supported by the supports 2 and 5. This platform supports a shaft 12, located transversely to the main driving-shaft 6 in supports 13, and a bevel-toothed wheel 14 is secured to the shaft 12 and meshes with the bevel-toothed wheel 9. Upon one end of this shaft 12 is secured a crank-head 15, having a radially-extending groove 16, which supports a pitman 17 in a pivotal and adjustable manner. From the platform extends a projection 18, supporting a weight 19 in an adjustable manner. To the forward edge of the platform is secured an arm 20, which supports two frames 21 and 22,

also a bearing 23, having a pivotal connection with the arm, as shown at Fig. 10.

A shaft 24 is supported by passing through the pivoted bearing 23 and through the frames 21 and 22, within which are located collars 25, loosely mounted upon the shaft and closely fitted with the frames. To the forward end of the shaft is secured a burnisher 26. The pitman 17 has a pivotal connection with the rear end of the shaft, and as the crank-head rotates the pitman will impart a bodily movement to the shaft, the pivoted bearing 23 acting as the pivot upon which the shaft moves.

An arm 27 has a pivotal connection with the forward edge of the platform and extends parallel with the arm 20, but separated some distance therefrom.

The frames 28 and 29 are secured to this arm, also a bearing 30, having a pivotal connection therewith. A shaft 31 passes through the bearing and frames and supports collars 32, loosely mounted thereon and located within the frames. The forward end of this shaft supports a burnisher 33. The shafts 24 and 31 have a connection with each other at their rear ends by a yoke 34 (shown at Fig. 5) in such a manner that the movement of the pitman may be imparted to both shafts, so that both shafts may be moved in unison. Upon the shaft 24 is secured a groove-faced collar 35, and a like collar 36 is secured upon the shaft 31.

To the arm 20 is secured a bar 37, supporting a thumb-nut 38 at each end. A cord 39 is secured to one of the thumb-nuts and passed around each of the groove-faced rollers, its end secured to the other thumb-nut. As the shafts are moved by the action of the pitman they will also be oscillated by the cord connection, which will constantly turn the burnishers while they are being moved bodily.

From the upper face of the bed rise guides 40, serving to hold the bars in proper position, preventing sidewise movement.

At the front end of the bed of the machine rise projections 41, having their upper faces provided with semicircular recesses. A frame 42 has trunnions 43 extending from its ends, which are located in the semicircular recess of the projections. A hand-wheel 44 is se-

cured to one of the trunnions. The upper face of this frame has an eccentric 45, acting upon a clamp 46, which holds a knife 47 in position upon the frame. The burnishers rest in contact with the blade of the knife when in operation and move in its lengthwise direction, and by means of the hand-wheel 44 the frame supporting the knife is oscillated, presenting the entire surface of the knife-blade to the action of the burnishers, and when one face has been burnished the other face is presented.

From the under face of the bed 1 depends an arm 48, having its lower end divided into two branches 49. To the arm 20 is connected a spiral spring 50, and to the arm 27 a spiral spring 51 is connected, their lower ends connected to the branches 49. These springs give the required downward pressure of the burnishers upon the knife.

Between the guides 40 and beneath the arms 20 and 27 is located a block 52, having a depending circular stud 53 extending through the bed.

The base is supported upon legs 54 in any suitable manner and has brace-bars 58 connecting their lower ends.

To the lower end of the stud 53 are secured bars 55 in a pivotal manner, and to the lower ends of these bars are pivotally connected bars 56 on a stud 57, the lower ends of these bars 56 being pivotally connected to the brace-bars 58. A lever 59 has a pivotal connection between the branches 49 and is provided with a lengthwise slot 60, through which the stud 57 passes, its lower end provided with a foot-rest 61.

By means of the lever 59 and the toggle connection with the stud 53 the block 52 is raised, which will raise the bars 20 and 27, supporting the burnishers. The pivotal connection between the platform 10 and bed 1 forms the pivot upon which the parts move. This raising movement will hold the burnishers elevated in order that the knife may be placed in position. A stop 62 will limit the movement of the toggle-levers after they have passed their dead-center.

From the upper face of the bed rise loops 63, which guide a bar 64, from the upper face of which rise projections 65, having their inner faces beveled, as shown at Fig. 8. To one end of this bar is pivoted a rod 66, which

has a pivotal connection with the bed of the machine, its free end connected to the movable portion 8 of the clutch. By the raising-and-lowering movement of the arms 20 and 27 the bar 24 will be moved in its lengthwise direction, which will operate the movable portion of the clutch to stop and start the running movement of the burnishers.

Upon a post 67, rising from the bed, is secured a suds-can 68, which has a connection with a pipe 69, rising from one of the projections 41. A lever 70, having a connection with a valve supported by the upper end of the pipe 69, is automatically operated by the raising-and-lowering movement of the arms 20 and 27 in order to supply a quantity of suds when the burnishers are operating and cut off the supply when the burnishers are not in action.

The weight 19 serves to counterbalance the weight of the forward part connected to the platform.

By pivoting the arm 27 to the platform 10 and attaching arm 20 rigidly thereto the arms have a limited independent vertical movement.

I claim as my invention—

1. In a burnishing-machine, the combination of a suitable supporting-frame, a shaft having a pivotal movement, a burnisher supported thereby, and means for imparting a bodily swinging movement to the shaft.

2. In a burnishing-machine, the combination of a suitable supporting-frame, a burnisher, and means for automatically imparting an oscillatory and bodily swinging movement to the burnisher.

3. In a burnishing-machine, the combination of a suitable supporting-frame, a shaft, a burnisher supported thereby and means for automatically imparting an oscillatory and bodily swinging movement to the shaft.

4. In a burnishing-machine, the combination of a suitable supporting-frame, a burnisher, means for automatically imparting an oscillatory and bodily swinging movement to the burnisher and for starting and stopping its movements.

W. K. HERRINGTON.

Witnesses:

THOMAS W. SANDERS,
LEM GOODWIN.