

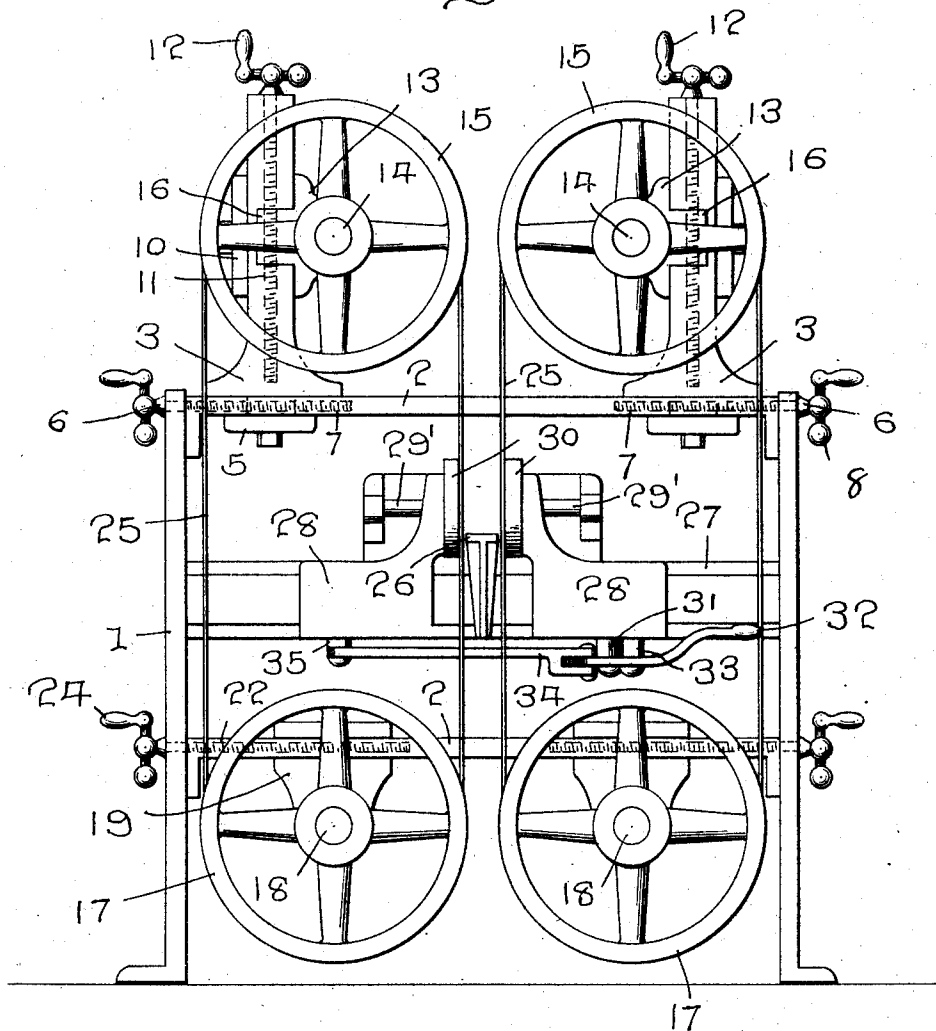
F. H. DICKSON.
POLISHING MACHINE.
APPLICATION FILED APR. 17, 1908.

908,977.

Patented Jan. 5, 1909.

3 SHEETS—SHEET 1.

Fig. 1.



WITNESSES:

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W. C. Lawson

INVENTOR
F. H. Dickson

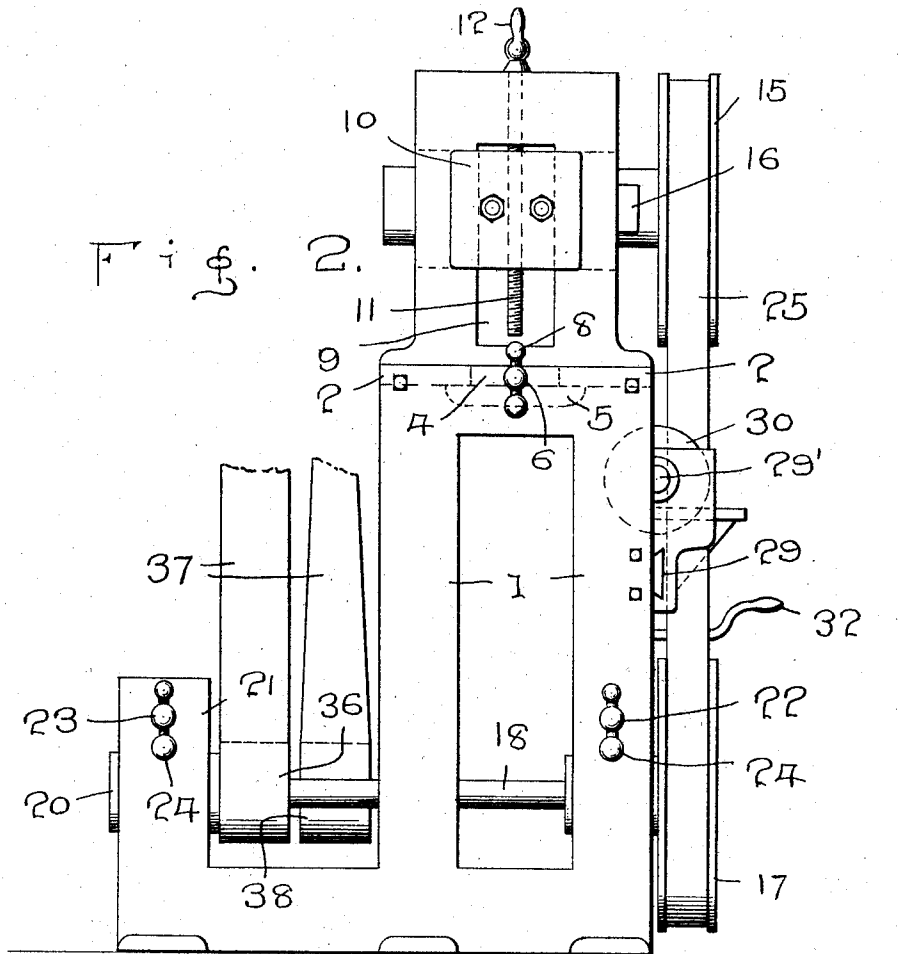
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3 SHEETS—SHEET 2.



WITNESSES:

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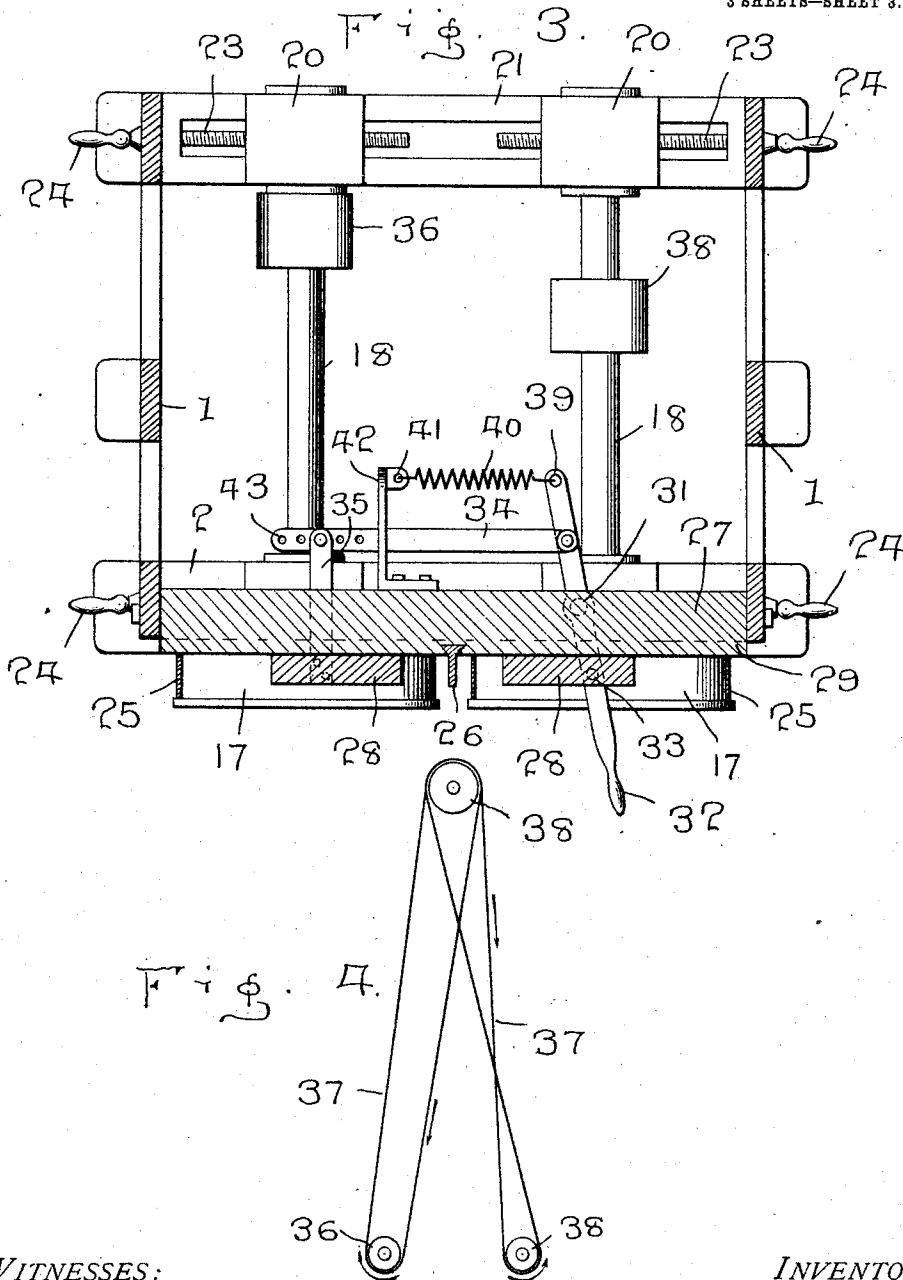
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3 SHEETS—SHEET 3.



WITNESSES:

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UNITED STATES PATENT OFFICE.

FRANK H. DICKSON, OF OSWEGO, NEW YORK.

POLISHING-MACHINE.

No. 908,977.

Specification of Letters Patent.

Patented Jan. 5, 1909.

Application filed April 17, 1908. Serial No. 427,730.

To all whom it may concern:

Be it known that I, FRANK H. DICKSON, a citizen of the United States, residing at Oswego, in the county of Oswego and State of New York, have invented certain new and useful Improvements in Polishing-Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to new and useful improvements in polishing machines, and it is an object of the invention to provide a novel device of this character employing two endless polishing belts, so that two surfaces of an article may be operated upon simultaneously.

It is also an object of the invention to provide a novel device of this character wherein the polishing belts may be so adjusted as to compensate for articles of various sizes.

It is also an object of the invention to provide a novel device of this character employing in combination with a plurality of polishing belts, means for causing the belts to contact with the work to be operated upon.

It is also an object of the invention to provide a novel device of this character, which will be simple in construction, efficient and advantageous in practice and comparatively inexpensive to manufacture.

With the above and other objects in view, the invention consists in the details of construction and in the novel arrangement and combination of parts to be hereinafter more particularly referred to.

In describing the invention in detail, reference will be had to the accompanying drawings forming part of this specification, wherein like characters of reference denote corresponding parts in the several views, and in which—

Figure 1 is a view in side elevation of the invention, Fig. 2 is an end elevation of the invention, Fig. 3 is a sectional view illustrating certain features of the invention in detail, and, Fig. 4 is a diagrammatic view illustrating the means for rotating the belt carrying wheels.

In the drawings, 1 denotes the end frames, which may be constructed as desired and connected one to the other by the side bars 2.

Slidably mounted on the upper side bars 2, are the standards 3. Each of the standards 3 has projecting from its under surface, an extension 4, which passes between the side bars 2 and has affixed thereto a head 5, which is of greater width than the space between the side bars 2 and holds the bar against displacement, as is believed to be apparent.

Loosely passing through an end frame, is a rod 6 having a threaded portion 7 passing through the extension 4. On the outer end, this rod 6 is provided with an operating handle 8. It will thus be seen that the standards can be adjusted one with relation to the other.

The central portion of each of the standards is cut away, as at 9, and in this cut-away portion is slidably mounted a block 10, which has threaded there through a rod 11, which passes loosely through the top of the standard. The upper end of this rod 11 is provided with an operating handle 12. It is thought to be apparent that by the proper rotation of the handle 12, and the rod 11, to which it is affixed, the block 10 may be adjusted vertically.

On the inner face of the block 10 is formed a bearing 13, in which is mounted a shaft 14 having fixed thereto a grooved wheel 15. The bearing 13 projects beyond one side of the standard 3 and has projecting outwardly therefrom, an extension 16, which is adapted to contact with a side of the bearing 3 to hold the bearing against any undue lateral movement. This extension is positioned to contact with the side of the bearing 3 adjacent the wheel 15. It is also to be stated that the shaft 14 is of such length as to bring the wheel 15 beyond a side of the frame, as is more particularly shown in Fig. 1.

Mounted beneath the wheel 15 and in the same vertical plane, is a grooved wheel 17 fixed on a shaft 18. This shaft 18 is mounted in bearings 19 and 20. The bearing 19 is slidably mounted on the lower side bar 2, while the bearing 20 is slidably mounted in an extension frame 21, arranged a distance from the side of the main frame, opposed to the side having the wheels. The bearing 19 is engaged by a threaded rod 22, while the bearing 20 is engaged by a threaded rod 23. Each of these rods is provided with a turning crank 24. By this arrangement, it will be

seen that the wheels 17 can be adjusted one with relation to the other, independently of the adjustment of the wheels 15. Each of the wheels 15 and 17 have passing there-
 5 around and resting within the grooves there-
 of, an endless belt 25, having a suitable pol-
 ishing or abrading surface, adapted to con-
 tact upon the surface of an article to be pol-
 ished.

10 By having the upper wheels 16 vertically
 adjustable, various sized belts 25 may be
 employed and by having the wheels 15 and
 17 adjustable, one independently of the
 other, the belts 25 may be arranged on vari-
 15 ous inclines or angles in order to compen-
 sate for the surfaces of various configura-
 tions, as is believed to be apparent.

Positioned between the opposed faces of
 the belts 25, when applied, is a work holder
 20 26, fixed to a cross bar 27 having its outer
 face provided with a dove-tail tongue 29.
 This dove-tail tongue 29 projects within cor-
 responding grooves of carriages 28, arranged
 one adjacent the inner face of the opposed
 25 portions of the belt. Each of these car-
 riages 28 has mounted therein, a shaft 29'
 and to the inner end of the shaft 29' is fixed
 a disk 30. The disk 30 is of such size as to
 have a portion thereof beyond its center
 30 contacting with the belt 25, in order that the
 same may be forced upon an article to be
 polished placed upon the work holder 26.
 By having this disk rotatable, the possibility
 of friction between the belt and disk is pre-
 35 vented. If desired, the carriages 28 carry-
 ing the disks 30 may be removed and other
 carriages substituted therefor, having sta-
 tionary plates of a configuration desired.
 In other words, it is to be stated that the
 40 disk 30 or a plate employed in lieu thereof,
 is engaged as a guide for the polishing belt.
 In order that the carriages 28 may be re-
 moved with facility, it is to be observed that
 the dove tail tongue 29 projects beyond the
 45 face of the frame.

Pivoted intermediate its length to the
 under face of the cross bar 27, as at 31, is a
 lever 32. Intermediate the pivot 31 and the
 outer end of the lever, the lever is pivoted as
 50 at 33, to the under surface of the adjacent
 carriage 28. Pivoted to the lever 32 inter-
 mediate the pivot 31 and the inner end of the
 lever, is an end of a link 34, which has its
 opposite end portion in pivotal engagement
 55 with an arm 35, projecting inwardly from the
 under surface of the second carriage 28. By
 this arrangement, it will be seen that when
 the lever 32 is moved, both of the carriages
 28 will move simultaneously and in a direc-
 60 tion in accordance with the direction of
 movement of the lever 32.

The inner end of the lever 32 is provided
 with an eye 39, in order to permit the engage-
 65 ment with the lever 27 of a spring 40, which
 is in turn in engagement with an ear 41 car-

ried by an arm 42 projecting inwardly from
 the inner face of the cross bar 27. By this
 means, it will be seen that the spring will
 hold the carriages 28 normally apart or dis-
 tended, so that immediately upon the oper-
 ator relieving the lever 32, the carriages will
 70 move away from the work-holder 26, as is
 believed to be apparent. It is also to be
 observed that the lever 34 is provided at a
 free end portion with a plurality of openings
 75 43. These are provided in order to permit
 an adjustment of the movement of the car-
 riages 28.

Affixed to the shafts 18 and within the ex-
 tension frame, are rollers or pulleys 36,
 80 around which passes the endless belts 37.
 These belts 37 in turn engage a pulley 38
 suitably mounted above the machine and
 approximately on a plane between the shafts
 18. By this arrangement, it has been found
 85 that the wheels 17 can be adjusted one with
 relation to the other without affecting the
 operation of the machine.

I claim:

1. In a polishing machine, the combina-
 90 tion of a frame, a plurality of endless belts, a
 work holder interposed between the opposed
 portions of the belts, carriages slidably
 mounted on the frame to contact with the
 belts to force the belts in a direction towards
 95 the work holder, contact faces carried by the
 belts, a lever pivoted intermediate its length
 to the frame, said lever intermediate its
 pivotal connection with the frame and an
 end thereof being pivotally connected to a
 100 carriage and a link pivoted to the lever
 adjacent its opposite end, said link being in
 pivotal connection with a second carriage.

2. In a polishing machine, the combina-
 105 tion of a frame, a plurality of endless belts, a
 work holder interposed between the opposed
 portions of the belts, carriages slidably
 mounted on the frame to contact with the
 belts to force the belts in a direction towards
 110 the work holder, contact faces carried by the
 belts, a lever pivoted intermediate its length
 to the frame, said lever intermediate its
 pivotal connection with the frame and an end
 thereof being pivotally connected to a car-
 115 riage, a link pivoted to the lever adjacent its
 opposite end, said link being in pivotal con-
 nection with a second carriage and a contrac-
 tion spring engaging the lever adjacent the
 length to hold the carriages normally separ-
 120 ated.

3. In a polishing machine, the combina-
 125 tion of a frame, a plurality of endless belts, a
 work holder interposed between the opposed
 portions of the belts, carriages slidably
 mounted on the frame to contact with the
 130 belts to force the belts in a direction towards
 the work holder, contact faces carried by the
 belts, a lever pivoted intermediate its length
 to the frame, said lever intermediate its
 pivotal connection with the frame and an end
 135

thereof being pivotally connected to a carriage and a link pivoted to the lever adjacent its opposite end, said link being in pivotal connection with a second carriage, the connection of the link with the second carriage
5 being adjustable.

In testimony whereof I have signed my

name to this specification in the presence of two subscribing witnesses.

FRANK H. DICKSON.

Witnesses:

JOSEPH F. DONOVAN,
ELLA T. HOURIGAN.