No. 816,137.

PATENTED MAR. 27, 1906.

W. H. THOMPSON.

HAIR PIN RUBBING AND POLISHING MACHINE.

APPLICATION FILED NOV. 18, 1904.

2 SHEETS—SHEET 1.

Fig. 1.

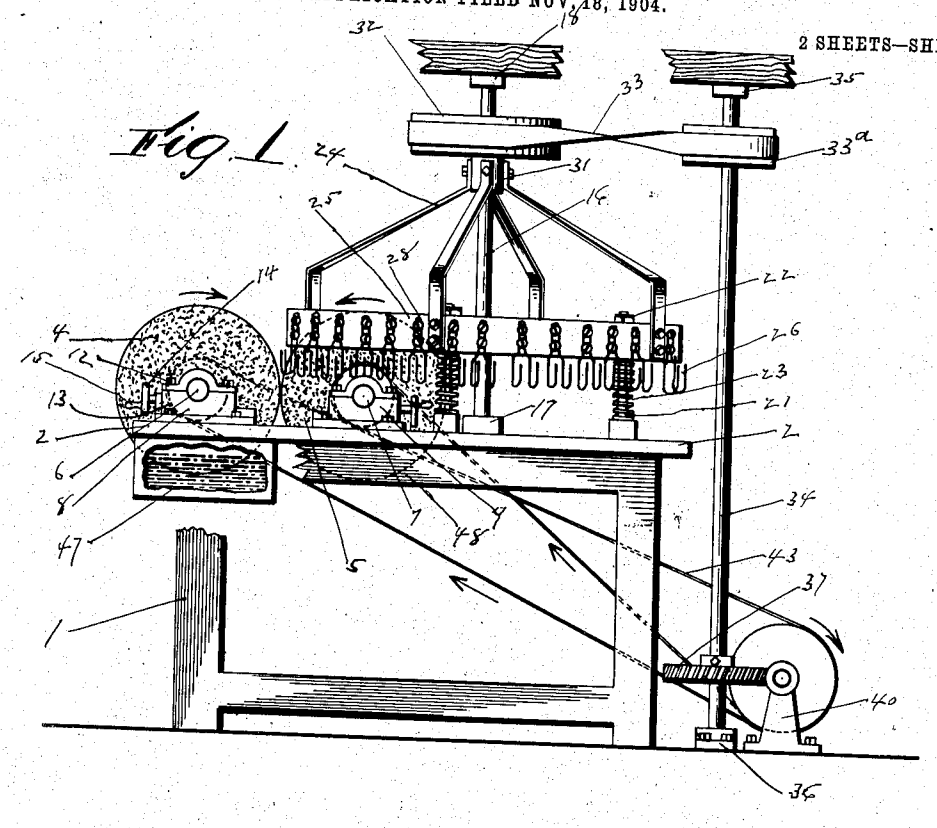


Fig. 2.

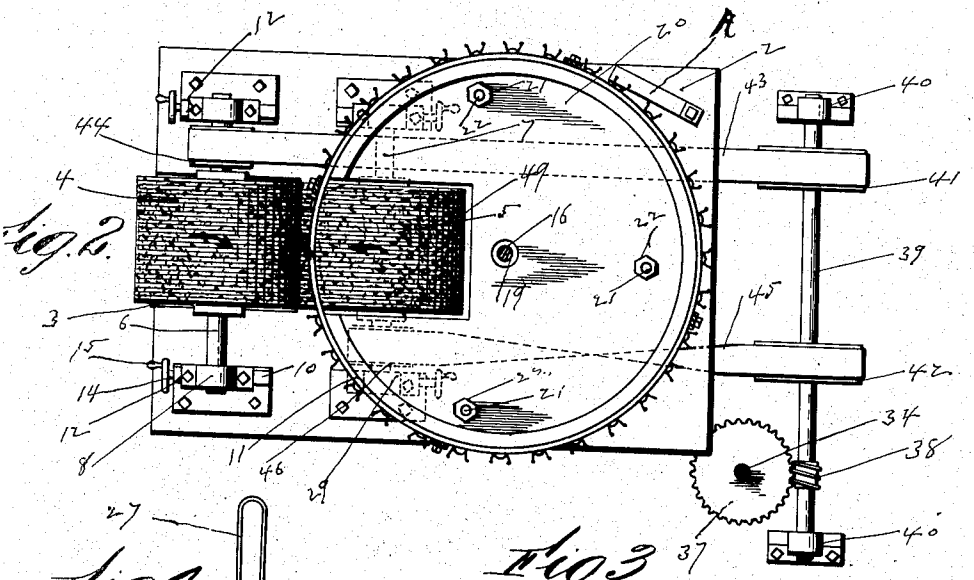


Fig. 4.

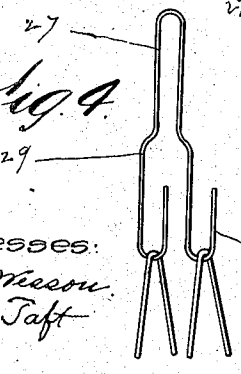
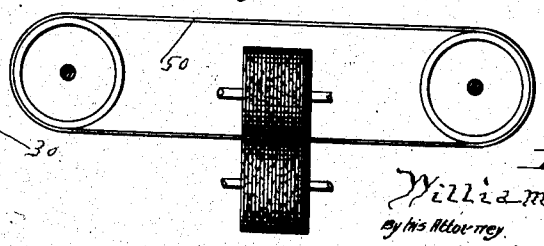


Fig. 3.



Witnesses:
C. F. Wesson.
K. S. Taft.

Inventor:
William H. Thompson
By his Attorney
O. A. Taft.

No. 816,137. PATENTED MAR. 27, 1906.

W. H. THOMPSON.

HAIR PIN RUBBING AND POLISHING MACHINE.

APPLICATION FILED NOV. 18, 1904.

2 SHEETS—SHEET 2.

Fig. 5

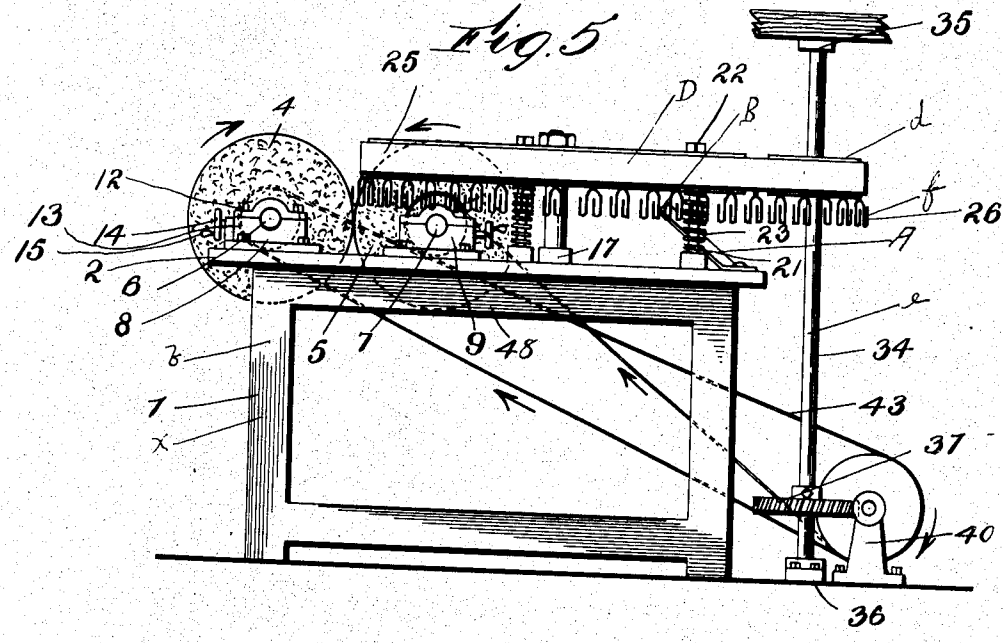


Fig. 6.

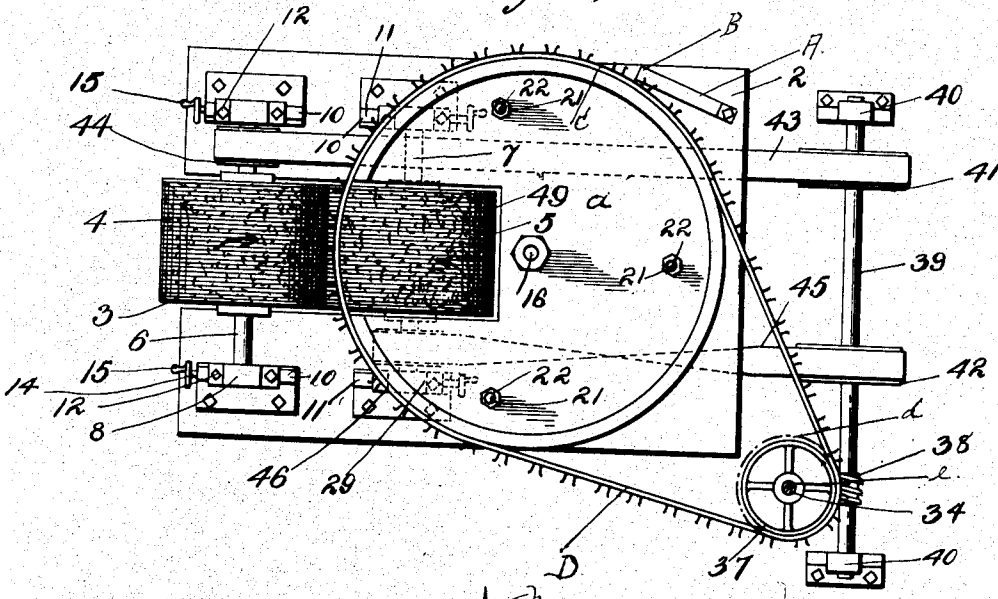
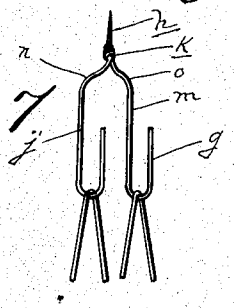


Fig. 7



Witnesses:
C. F. Wesson
K. S. Taft

Inventor:
William H. Thompson
by his Attorney
O. A. Taft

UNITED STATES PATENT OFFICE.

WILLIAM H. THOMPSON, OF LEOMINSTER, MASSACHUSETTS.

HAIR-PIN RUBBING AND POLISHING MACHINE.

No. 816,137. Specification of Letters Patent. Patented March 27, 1906.

Application filed November 18, 1904. Serial No. 233,371.

To all whom it may concern:

Be it known that I, WILLIAM H. THOMPSON, of Leominster, in the county of Worcester and Commonwealth of Massachusetts, have invented certain new and useful Improvements in Hair-Pin Rubbing and Polishing Machines; and I do hereby declare that the following is a full, clear, and exact description of the same.

This invention relates to machines for rubbing and polishing hair-pins.

An object of the invention is to produce a device of this character in which an endless carrier is employed, said carrier being adapted to so travel as to bring the pins carried thereby between the abrading-wheels.

It is also an object of the invention to provide in a device of this character novel means of suspension for the hair-pins to be treated, the means of suspension residing in hooks of special construction.

A further object of the invention is to provide a device of this kind that will be simple in construction, efficient in operation, and economical to manufacture.

With the above and other objects in view the invention consists in the details of construction and in the arrangement and combination of parts to be hereinafter more fully described and claimed.

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

Figure 1 is a view in side elevation, partly broken away, of a rubbing-machine. Fig. 2 is a top plan view thereof. Fig. 3 is a view illustrating a modified form of carrier. Fig. 4 is a view in elevation of a pin-suspending hook, pins being shown held thereby. Fig. 5 is a view in elevation of a polishing-machine. Fig. 6 is a plan view thereof, and Fig. 7 is a modified form of a pin-suspending hook.

In the drawings, 1 is a frame of any suitable construction having the top or table surface 2. Centrally of one side of the table is a recess 3, in which rest the abrading-wheels 4 5, mounted on the shaft 6 7, resting in the bearings 8 9, secured to the upper surface of the table. These bearings 8 9 ride on the trackways 10 11 in order that they may be adjusted with relation one to the other. This adjustment is obtained by means of threaded bolts 12, working in projections 13 at one end of the trackways, one end of the bolts being swiveled to the bearings. On the opposite end of the bolts are the operating-wheels 14, provided with the handhold or crank 15. The wheels for rubbing purposes are made up of coarse material, usually wool; but for polishing or finishing they are made of cotton or other soft material. These wheels are preferably quite broad.

Extending upwardly about centrally of the table is a shaft 16, which at its lower end bears in the bushing 17, secured to the table, and at its upper end in the bearing 18, secured to the ceiling or other suitable place.

Arranged above the table and having an aperture 19, through which the shaft 16 passes, is permanently secured a flat circular drum or shelf 20. This shelf is held in position by means of the upright bolts 21, secured to the table, said bolts passing loosely through the table and provided at their upper ends with the nuts 22, which are adapted to limit the upward movement of the shelf. The shelf is adapted to normally bear against these nuts 22 and is held and supported in its normal position by means of the spiral springs 23, which embrace the bolts 21.

Above the shelf a spider 24 is secured to the shaft, near the upper end thereof, said spider having secured at its lower end a hoop or conveyer 25, which passes around the shelf 20, said hoop being adapted to pass between the wheels 4 5 slightly above their plane of contact.

Formed on the exterior face of the hoop are a series of buttons arranged two by two and one above the other. These buttons are adapted to be removably engaged by the pin-suspending hooks 26. These hooks each comprise a single piece of wire bent upon themselves to form the narrow portion 27, which engages the buttons 28. The hook is then enlarged, as at 29, and terminates in the upturned portions 30, forming hooks to hold the pins.

The spider 24 is, in fact, secured to a drum 31, which is splined or otherwise attached to the shaft 16 to rotate therewith. On the upper end of the drum is formed or secured a pulley 32, over which passes an endless belt 33, which also passes around a pulley 33ª, secured to the vertical shaft 34, which is mounted in suitable bearings 35 36 away from the frame 1. Also secured to the shaft 34 is a gear-wheel 37, which meshes with the worm-gear 38 on the horizontal shaft 39, resting

in the bearings 40. On the shaft 39 are two pulleys 41 and 42. Passing around the shaft 41 is an endless belt 43, which in turn engages a pulley 44 on the shaft 6 of the wheel or ball 4. Another belt 45 engages the pulley 42 and a pulley 46, arranged on the shaft 7 of the wheel 5. The last-named belt is crossed upon itself in order that the rotation of the wheels or balls will be inward and in a direction one toward the other.

Attached to the under surface of the table and beneath the wheels 4 and 5 are troughs 47 48, through which the wheels revolve. Within these troughs are placed a mixture of ashes and water or other similar substance which may be used for smoothing or rubbing the pins. In order that the wheel 5 may be free to rotate, a recess 49 is formed in the shelf 20.

In Fig. 3 is shown a modified form of conveyer or carrier for the pins. In this form an endless belt 50 is employed instead of the hoop. By this arrangement a greater quantity or number of pins may be carried.

In the finishing or polishing machine the same construction is employed, with the exception that the troughs and spider are removed and rolls of different material are used or substituted.

The shelf *a* is supported above the frame *b*, and passing around the shelf is a hoop *c*. Passing around the hoop *c* is an endless belt D, which in turn engages the pulley *d* on the shaft *e*. Secured to the under surface of the belt are the hooks *f*. In this connection a modified form of hook is employed. Each hook comprises two sections, each terminating at one end in the upturned portion *g*. The opposite end *h* of the section *j* is screw-threaded in order that it may be removably secured to the belt. The opposite end *k* of the section *m* is coiled about the section *j*. At the points *n o* each of the sections converge slightly in opposite directions in order that the sections proper may be suitably spaced apart.

After passing from between the abrading-wheels it is found advantageous to provide means for automatically removing the pins from the hooks. The preferred means for accomplishing this result consists in securing to the table beneath the carrier or conveyer a trip A, which is arranged on an incline and has upper end B free and in a position to contact with the pins and lift them from the hooks, said pins falling upon the table where they may be easily collected. This device may be used on both forms of machine.

The conveyer in both forms of the machine at all times is to be so positioned with relation to the abrading-wheels that the hooks carried thereby will be on a line with the contacting plane of the wheels.

From the foregoing description it is thought that the operation and construction of the invention will be clearly apparent to those skilled in the art, it being noted that all changes may be resorted to that fairly fall within the scope of the claims without sacrificing the value thereof.

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

1. In a device of the character described, a frame, abrading-wheels mounted thereon, a spring-supported table arranged over the frame, a conveyer passing around the table and between the wheels, and hook-supporting means carried by the conveyer.

2. In a device of the character described, a frame, abrading-wheels carried thereby, and a conveyer adapted to pass between said wheels, said conveyer having hook-supporting means, and means for automatically throwing pins from the pin-supporting means.

3. In a device of the character described, a frame, abrading-wheels suitably mounted thereon, uprights on the frame, a table yieldably supported by the uprights, and a conveyer passing around the table and between the wheels.

4. In a device of the character described, a frame, abrading-wheels mounted thereon, uprights on the frame, a table loosely mounted on the uprights, springs interposed between the table and the bases of the uprights, and a conveyer passing around the table and between the wheels.

5. In a device of the character described, a frame, abrading-wheels mounted thereon, uprights on the frame, a table loosely mounted on the uprights, springs interposed between the table and the bases of the uprights for exerting an upward movement to the table, means carried by the uprights for limiting said upward movement of the table, and a conveyer passing around the table and between the wheels.

6. In a device of the character described, a frame, abrading-wheels thereon, a table supported by the frame, a shaft, a spider on the shaft, a hoop on the spider arranged around the table and between the wheels, supporting means carried by the hoop, and means for rotating the shaft.

7. In a device of the character described, a frame, abrading-wheels mounted thereon, a conveyer passing between said wheels, article-supporting means carried by the conveyer, and means carried by the frame, for automatically throwing the articles from their supporting means.

8. In a device of the character described, a frame, abrading-wheels thereon, a conveyer passing between the wheels, means on the conveyer for supporting articles, and a trip on the frame for throwing the said articles from their supporting means.

9. In a device of the character described, a frame, abrading-wheels thereon, a conveyer passing between said wheels, means carried

by the conveyer for supporting articles, and a trip arranged on the frame on an incline for throwing the said articles from their supporting means.

10. In a device of the character described, a frame, abrading-wheels thereon, a conveyer passing between said wheels, means on the conveyer for supporting articles, a trip secured at one end to the frame, the free end of the trip contacting with the articles and throwing them from their support.

WILLIAM H. THOMPSON.

Witnesses:
O. A. TAFT,
C. S. TAFT.