June 30, 1925. 1,544,185

W. SCHNELL

POLISHING MACHINE

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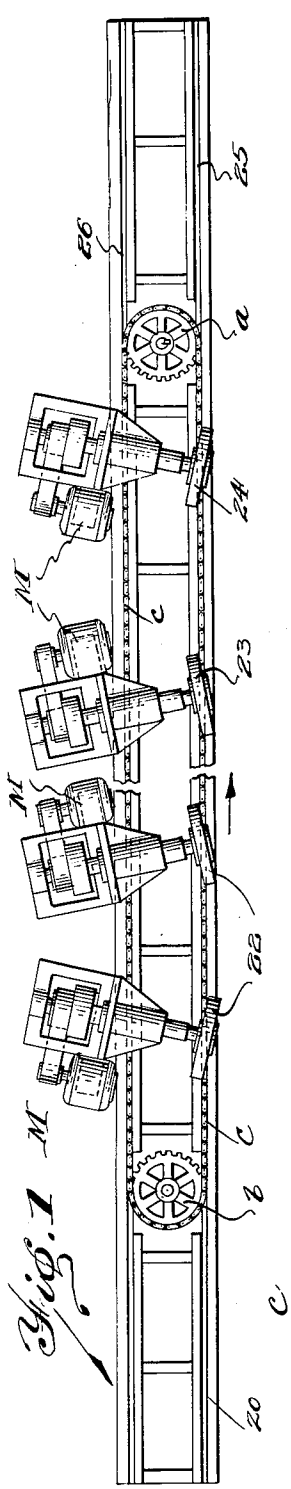


Fig. 1

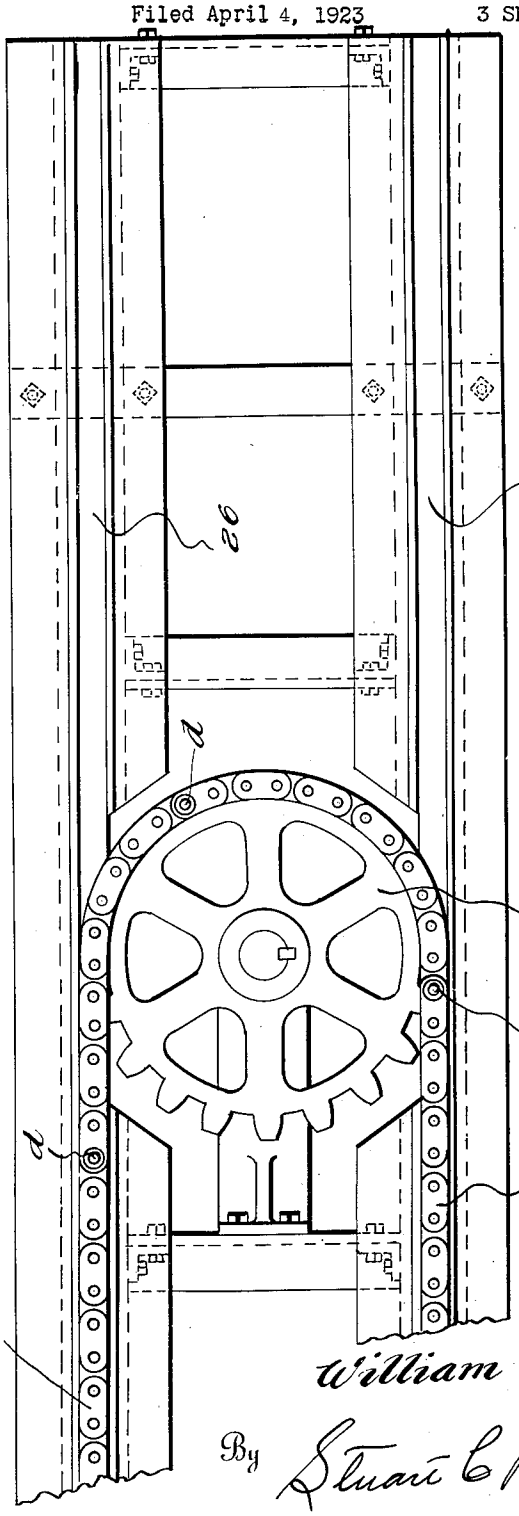


Fig. 2

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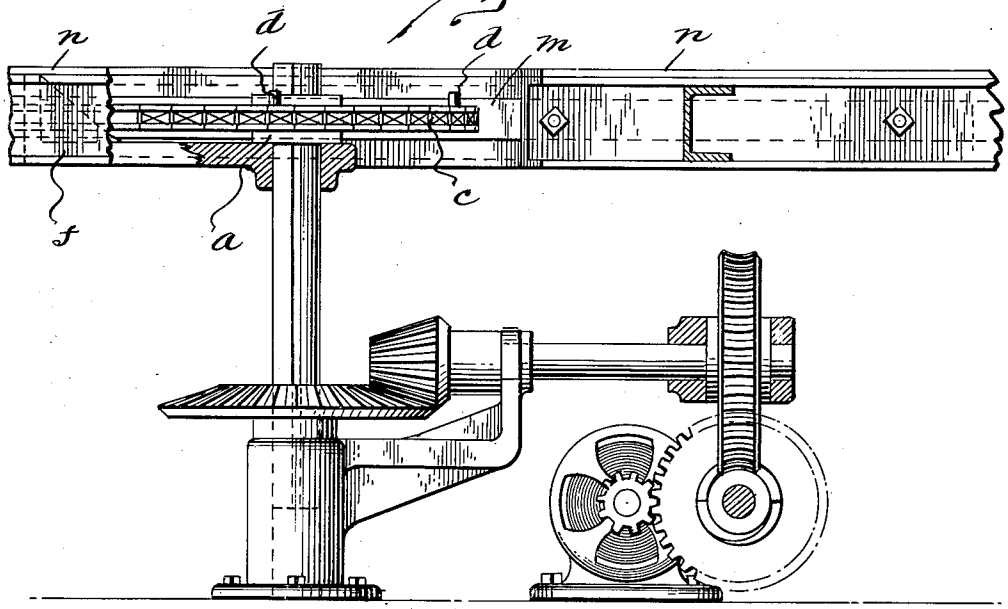
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POLISHING MACHINE

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Fig. 3



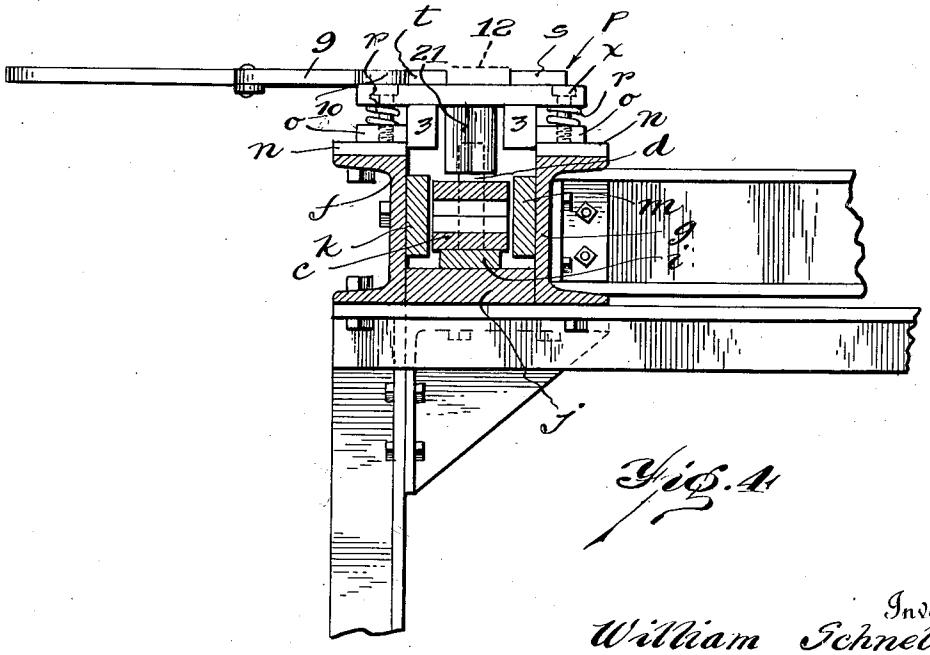


Fig. 4

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POLISHING MACHINE

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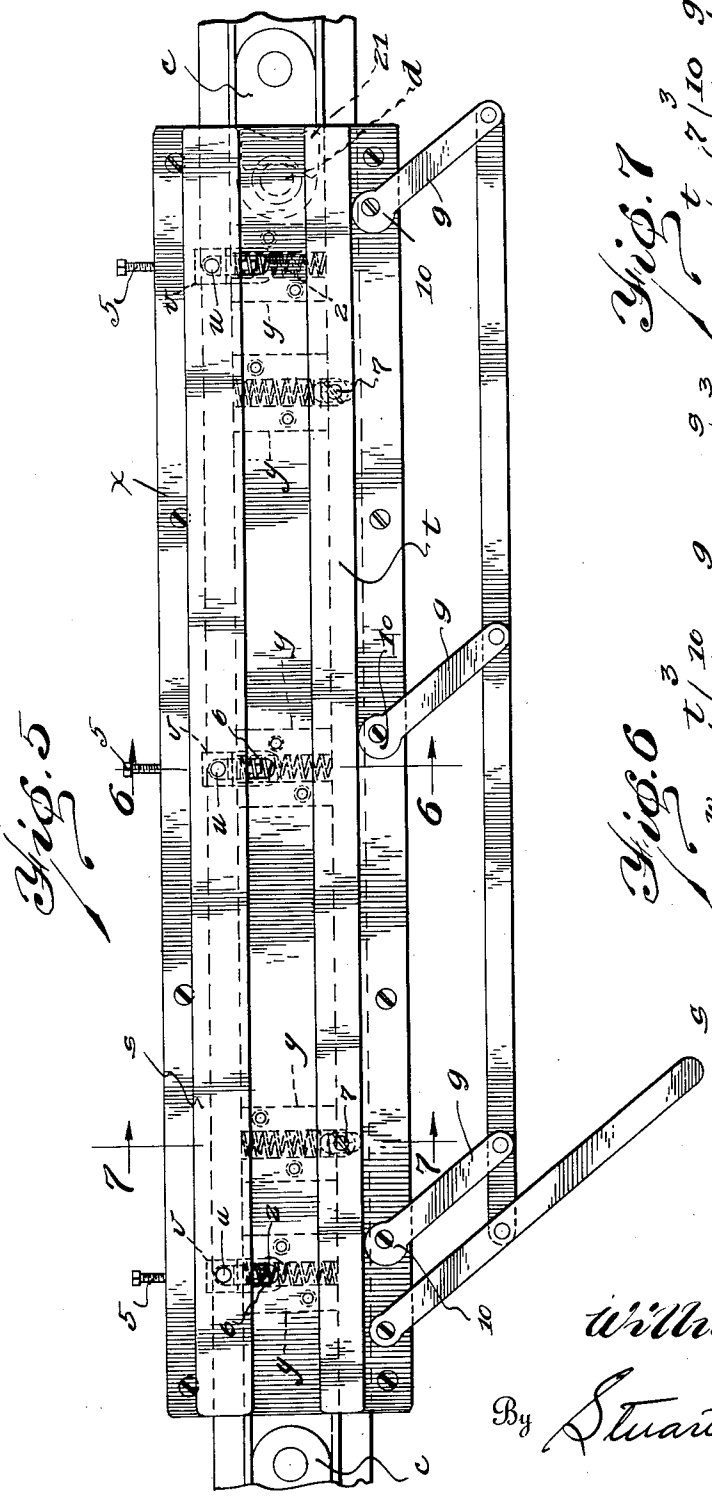


Fig. 5.

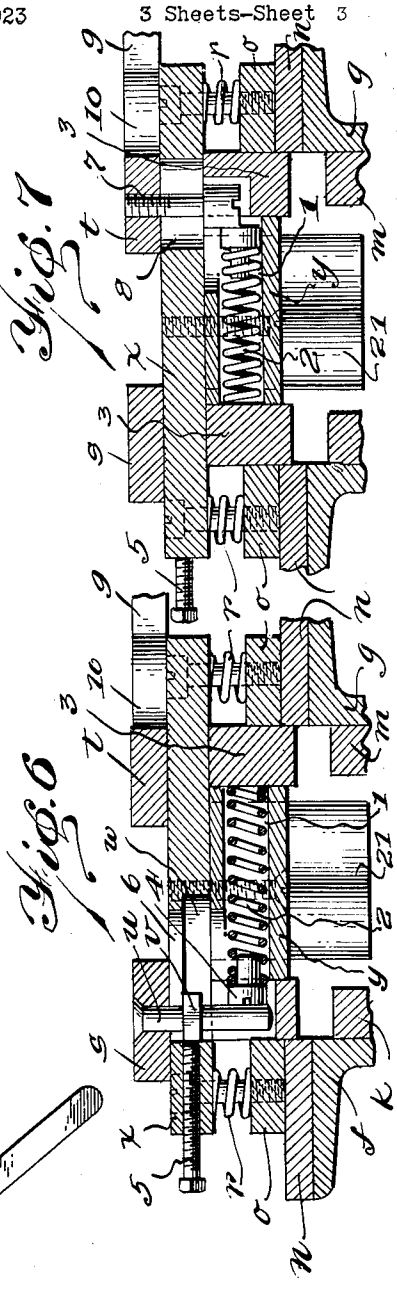


Fig. 7.

Fig. 6.

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Patented June 30, 1925. 1,544,185

UNITED STATES PATENT OFFICE.

WILLIAM SCHNELL, OF DETROIT, MICHIGAN, ASSIGNOR TO SHEPARD ART METAL COMPANY, OF DETROIT, MICHIGAN, A CORPORATION OF MICHIGAN.

POLISHING MACHINE.

Application filed April 4, 1923. Serial No. 629,766.

To all whom it may concern:

Be it known that WILLIAM SCHNELL, citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, has invented certain new and useful Improvements in Polishing Machines, of which the following is a specification.

This invention relates to a machine for simultaneously polishing plated articles or other articles requiring polishing. Specifically considered, the machine is intended to polish the trunk rack bars that are now so commonly attached to the back of automobile bodies.

In the drawings:

Fig. 1 is a plan view of the machine.

Fig. 2 is a plan view of the rear end of the machine.

Fig. 3 is a fragmentary longitudinal section showing the drive.

Fig. 4 is a vertical cross section through a portion of the machine.

Fig. 5 is a plan view of one of the carriages.

Fig. 6 is a section on the line 6—6 of Fig. 5.

Fig. 7 is a section on the line 7—7 of Fig. 5.

Referring to the plan view in Fig. 1, it will be seen that a pair of sprockets *a*, and *b* are employed and a conveyor chain *c*. This conveyor chain has upstanding lugs *d* and runs between a pair of channel bars *f* and *g* which have their backs opposed and which form a track or groove in which the chain runs. Preferably, the filler strip *j* is provided at the bottom of the groove and on this is a hardened guide strip *i*. There are also lateral hardened guide strips *k* and *m*. On the top flanges of the channels are bolted the hardened strips *n* on which slide the shoe strips *o* of the carriage *p*. This carriage *p* has interposed between the shoe strips *o* and the main body of the carriage, compression springs *r*.

On the top of the carriage are a pair of spring-spaced clamping bars *s* and *t* relatively movable with respect to each other. Figs. 6 and 7 show how the clamping bars are secured to the carriage. The clamping bar *s* (Fig. 6) is provided with a depending pin *u*, having an enlarged squared portion *v* adapted to slide in the groove *w* in the base plate *x* of the carriage *p*. A block *y* is secured to the underside of the plate *x* and is provided with a drilled hole 1, therethrough in which a spring 2 is fitted, one end of which abuts the bar 3 rigidly secured to the plate *x* and the other end abutting against a screw machine product 4 which bears against the depending pin *u* carried by the clamping bar *s*. A set screw 5 adjustably sets the bar *s* in different positions against the tension of the spring 2. The plate is provided with the slots 6 to allow the pin sufficient play.

The bar *t* is similarly held under spring tension (Fig. 7) and is provided with the depending pin 7 slidable in the slot 8 in the plate *x*. A block *y* is secured to the underside of the plate and contains a compression spring element which bears against the depending pin 7 to force the clamping bar *t* outwardly.

The bar *s* when properly adjusted is thus held stationary. The pivoted levers 9 have an eccentric terminal 10 adapted to contact with the spring pressed bar *t* whereby actuation of the pivoted levers will cause the eccentric to force the bar inwardly against the spring tension. A bar 12 such as shown in Fig. 4 can be laid in this carriage and by shifting the levers as described the clamping bar *t* will bind against the work and hold it in place.

The operator at the head of the machine clamps the work in the carriage by simply laying one of the strips in the space between the two clamping bars *s* and *t*. He then throws the levers 9 to hold the work on the carriage. This is done on the upper inactive portion of the track 20. He then shoves the carriage along the track until it comes above the run of chain rounding the sprocket wheel *b*. This run of chain carries the upstanding lugs *d*, while the carriage is provided with a downwardly extending lug 21. Obviously, the chain immediately picks up the carriage and carries it forward under the polishing wheels 22 under the buffing wheels 23 and under the coloring wheel 24. The buffing, polishing and coloring wheels are obliquely but oppositely disposed across the line of travel of the chain. The coloring wheel is a plural groove wheel intended to reach down into the crevices and depressions formed in the bars for ornamentation. Each wheel is provided with a driving motor M. These wheels are constructed of

felt or other soft material and provided with a surface for effecting the polishing and buffing operation. A soft polishing soap or compound is continually applied to the wheels to provide the polishing medium.

These trunk rack bars may be made either of steel and nickel plated, or they may be aluminum; in either case they need polishing on the exposed surface.

After the carriage has traveled through the wheels, which will be referred to generically as " the polishing wheels " it is carried on to the lower inactive track portion 25. Here an attendant unclamps the clamping bars, removes the rack bar and lifts the carriage on to the opposite track, 26. He shoves it ahead until the chain catches it and carries it back to the head of the machine where the feeding operator can again load it with one of the bars.

This machine is a labor saving machine as it does not require a man to be continuously holding the article in contact with the polishing wheel. In short, two men are practically operating five polishing wheels or even more, at one time. All they have to do is to load and unload the carriages while the conveyor carries the work through the polishing wheels.

These trunk rack bars are of different widths and the clamping bars are so adjustable that any size bar can be clamped on the carriage. Sometimes the rack bars are of such a width that two or more of them can be clamped on one carriage.

What I claim is:

1. In a machine for the purpose specified, the combination of a plurality of polishing wheels arranged in a line, a guide along the line of polishing wheels, a conveyor running along part only of the said guide, and clamping carriages for clamping the work removably to the carriages and which can be pushed along one end of the guide to be coupled up with the conveyor to carry the work along the line of polishing wheels and in contact with the same.

2. In a machine for the purpose specified, the combination of a plurality of polishing wheels arranged in line, a guide along the line of polishing wheels, a conveyor running along said guide, a return guide, said conveyor running also along the return guide, and carriages for carrying the work which may be coupled up with the conveyor to carry the same along, the first guide in contact with the polishing wheels and which may be again coupled up with the return conveyor in the return guide to return the unloaded carriages.

3. In a machine for the purpose specified, the combination of a track and a return track side by side, a pair of sprockets at the head and rear ends of said tracks, a conveyor chain running in the first mentioned track and in the return track and passing around said sprocket wheels, pick up lugs on said chain, a plurality of polishing wheels along the first mentioned track continuously driven, and work carriages guided in the tracks and which can be coupled up with the lugs of the conveyor chain to carry the work through the polishing wheels and which may be again coupled up with the return track and conveyor chain when unloaded to return the carriage.

4. In a machine for the purpose specified, the combination of a line of polishing wheels, a track running along the line of polishing wheels and beyond the same, a conveyor chain along the track for part of its length alone and provided with means for picking up a carriage, and clamping carriages for supporting the work and which can be pushed along the track to be picked up by the conveyor chain and carried through the polishing wheels.

In testimony whereof I affix my signature.

WILLIAM SCHNELL.