

(No Model.)

2 Sheets—Sheet 1.

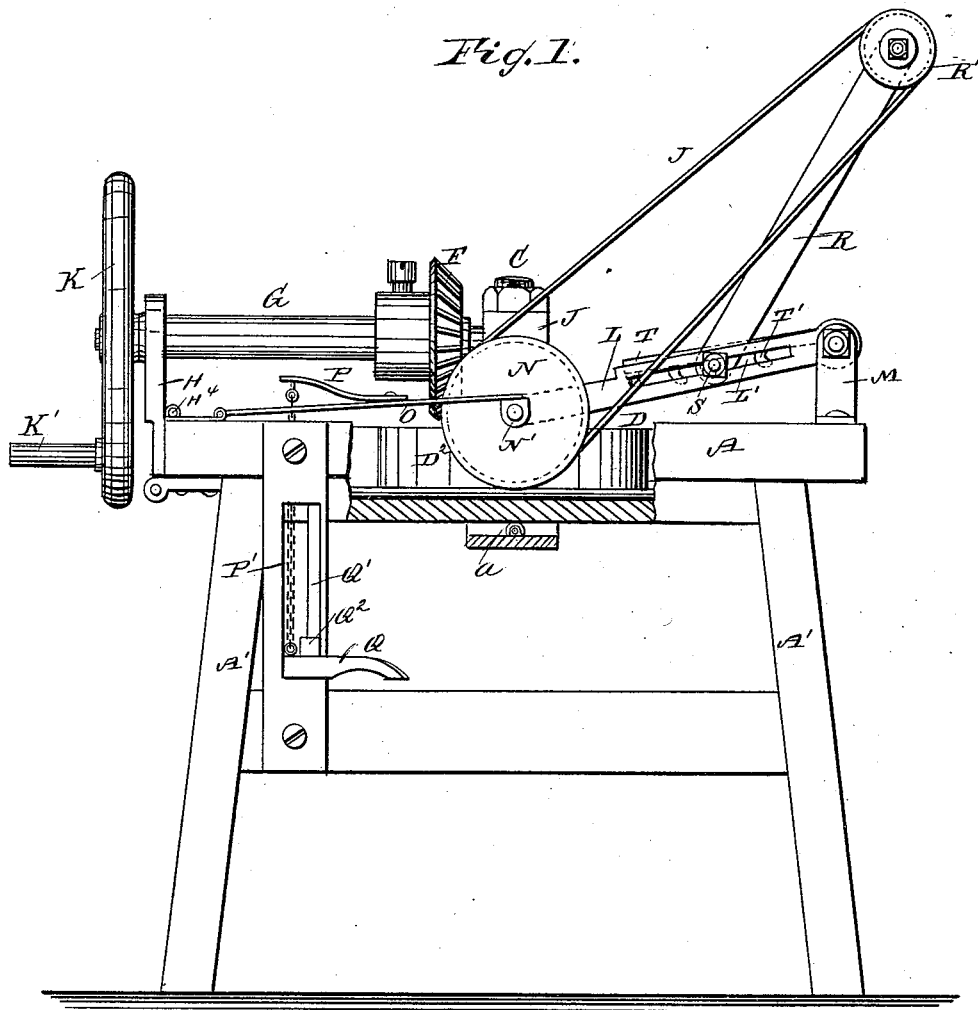
S. J. SMITH.

MACHINE FOR COATING EMERY BELTS.

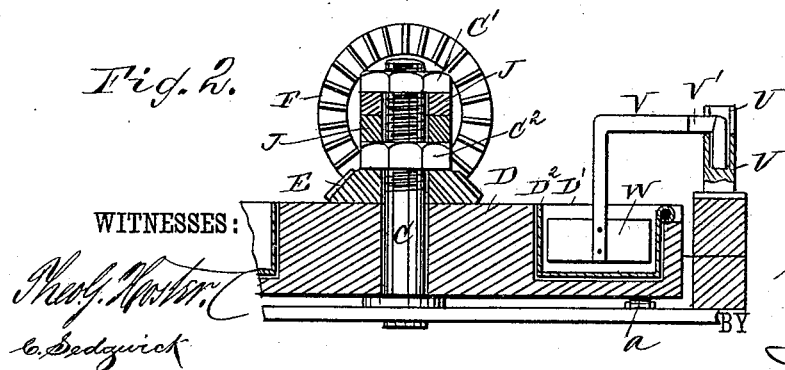
No. 345,083.

Patented July 6, 1886.

*Fig. 1.*



*Fig. 2.*



WITNESSES:

*Thos. Norton*  
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INVENTOR:

*S. J. Smith*  
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Fig. 3.

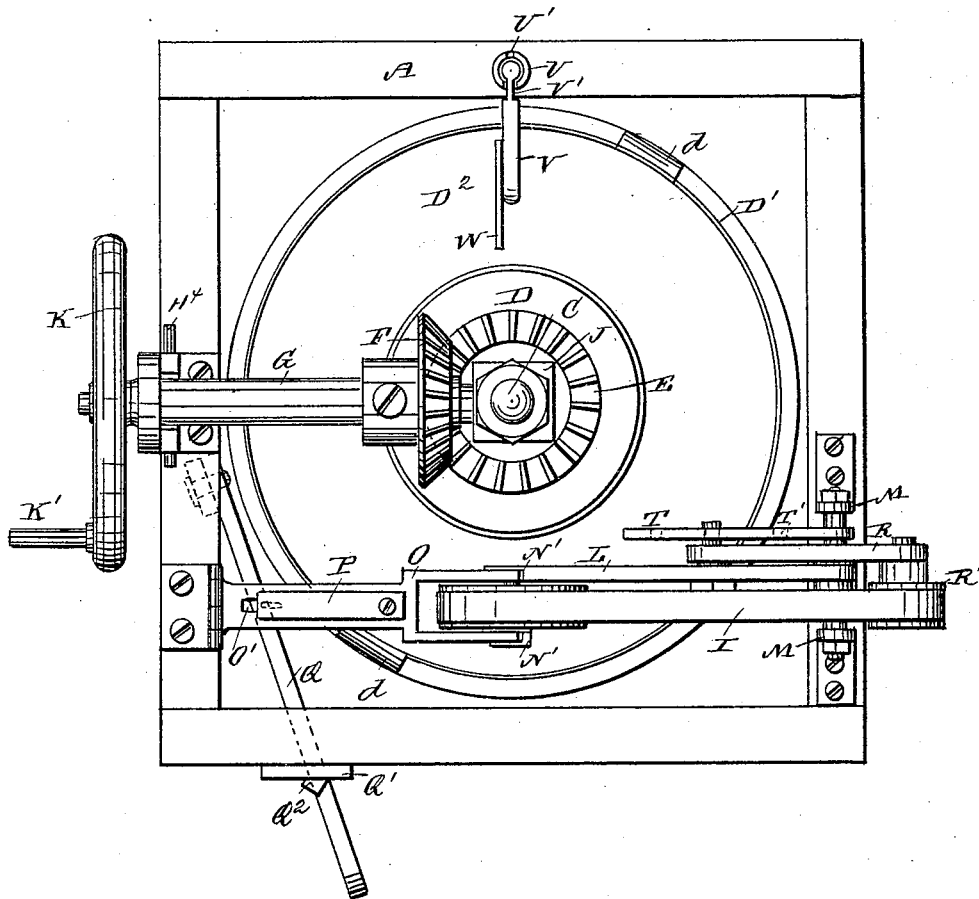
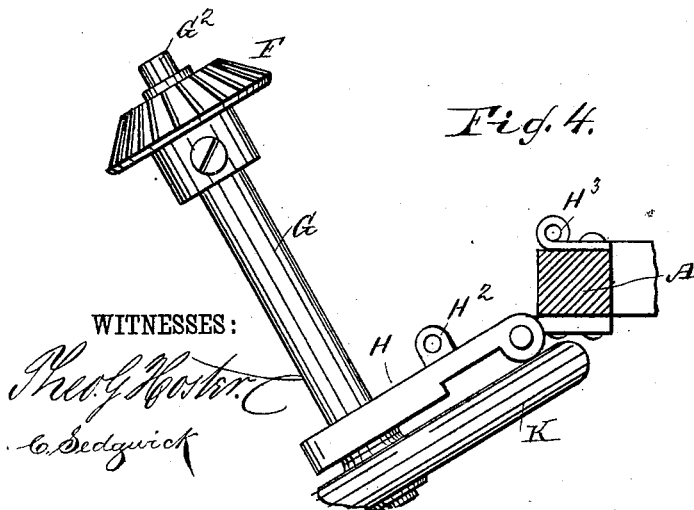


Fig. 4.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

SAMUEL J. SMITH, OF MERRIMACPORT, MASSACHUSETTS.

## MACHINE FOR COATING EMERY-BELTS.

SPECIFICATION forming part of Letters Patent No. 345,083, dated July 6, 1886.

Application filed June 13, 1885. Serial No. 168,622. (No model.)

*To all whom it may concern:*

Be it known that I, SAMUEL J. SMITH, of Merrimacport, in the county of Essex and State of Massachusetts, have invented a new and Improved Machine for Covering Emery-Belts, of which the following is a full, clear, and exact description.

The object of my invention is to provide a new and improved machine for providing belts with a covering of emery in a perfect manner in a short time and at a small expense.

The invention consists in the combination of parts and details, as will be fully set forth and claimed hereinafter.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a side view of my improved machine for covering emery-belts, parts being broken out and others in section. Fig. 2 is an enlarged detail sectional view of part of the same. Fig. 3 is a plan view of the same. Fig. 4 is an enlarged detail view of the swinging crank-shaft.

A platform or top plate, A, is supported by legs A' on a suitable frame, and is provided with an upwardly-projecting central bolt or pivot, C, on which a disk, D, is mounted to revolve in the horizontal plane, the said disk having an annular groove, D', containing a pan, D<sup>2</sup>, serving to receive the emery. A bevel-pinion, E, is secured on the top of the disk D at the middle, and through it the pivot C projects. The bevel-pinion E engages with a bevel-pinion, F, on a shaft, G, journaled at its outer end in an arm, H, hinged on the platform to swing downward, which shaft is provided at its inner end with a journal, G<sup>2</sup>, which fits a box, J, formed of two sections held on the pivot by nuts C' C<sup>2</sup>. The shaft G has a wheel, K, on its outer end, the wheel being provided with a handle, K'. A bar, L, having a longitudinal slot, L', is pivoted on a standard, M, on the platform, and on the free end of the same a groove-pulley, N, is pivoted, on each end of the pivot of which a block, N', is mounted, on which the forked ends of a lever, O, rest, the said lever being hinged at the opposite end to the platform A. A spring,

P, is secured on the top of the lever O, and to its free end a chain, P', is secured and passed through a slot, O', in the lever O, and has its outer end secured to a lever, Q, pivoted to a leg on the supporting-frame and passed through a slotted vertical guide, Q', having a projection, Q<sup>2</sup>, under which the lever can be passed. A bar, R, carrying a grooved pulley, R', on its upper end, is held to the bar L by a bolt, S, passed through the slot L'. A bar, T, having a series of lugs or hooks, T', on its bottom edge, is mounted to swing on the pivot of the bar L. A short tube or socket, U, projecting upward from the platform A, has notches U' extending downward from its top edge, and serves to receive the short end of a U-shaped rod, V, on the long end of which an evenner, W, is held a short distance above the bottom of the groove D'. A roller or caster, a, is journaled in the platform A', and supports the pan directly under the pulley N. The pan D<sup>2</sup> has handle-lugs d. An eye, H<sup>2</sup>, projects from the arm H, and through it and an eye, H<sup>3</sup>, on the platform A a locking-pin, H<sup>4</sup>, can be passed. The hooks T' on the bar T are used to adjust the arms R and L to hold belts of different lengths.

The operation is as follows: The belt I to be covered with emery is passed over the pulleys N R', and the arm R is swung upward until the belt is taut, and then the said arm R is locked in place by the nut on the bolt S. The lever Q is pressed downward and locked in place, and presses that part of the belt passed around the pulley on the emery in the pan D'. By turning the wheel K the disk D and the pan D' on the same are revolved, and the friction moves the belt I, the same turning on the pulleys N and R', and thereby the entire surface of the belt is pressed on the emery in the pan, which emery adheres to the glue or other adhesive material applied on the belt at the same time that the belt is being rolled in the trough. The evenner W keeps the top of the emery level. The caster a prevents the pressure on the pulley N from pressing the disk A down at one side. The U-shaped bar V has a flattened part, V', which passes into a notch, U', and prevents the short shank of the bar V from turning in the tube or socket

N. Emery of different grades is kept in different pans, D<sup>2</sup>, and a pan containing the emery desired must be placed in the groove D' before beginning operations.

5 To permit of removing and replacing the pans, the nut C' is unscrewed, the top section of the box J is removed, and the shaft G swung over from the top of the machine, as shown in Fig. 4. The bar V is raised and  
10 swung to the outside and the pans changed. Then the parts are placed into their former positions and another belt covered, and so on.

15 One man can cover a large quantity of belts in a very short time by means of my improved machine.

The invention can also be used for covering belts, bands, &c., with other material than emery.

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

1. The combination, with a revolving disk for carrying emery, of pulleys carrying a belt and holding it on the emery in the disk, substantially as herein shown and described.

25 2. The combination, with a revolving disk for carrying emery, of pulleys carrying a belt, and of devices for pressing the lower pulley upon the disk, substantially as herein shown and described.

30 3. The combination, with a revolving disk, of arms having pulleys, and of a lever for pressing the lower pulley on the disk, substantially as herein shown and described.

35 4. The combination, with a revolving disk, of the hinged bar L, carrying the pulley N, the bar R on the bar L, and the pulley R' on the bar R, substantially as herein shown and described.

40 5. The combination, with a revolving disk, of the hinged bar L, the bar R on the same, the pulley N on the bar L, the pulley R' on the bar R, and the lever O, resting on boxes on the pivots of the pulley N, substantially as herein shown and described.

45 6. The combination, with the disk A, of the pulleys N and R, arms holding the pulleys, the lever O, and a lever with which the said lever O is connected, substantially as herein shown and described.

50 7. The combination, with the disk D, of the bars L and R, the pulleys N and R' on the same, the lever O, the spring P on the same, the chain P', secured to said spring, and the

lever Q, to which the chain is fastened, substantially as herein shown and described.

8. The combination, with a revolving disk, of the hinged bar L, the pulley N on the same, the bar R, pivoted on the bar L, the pulley R' on the bar R, and the bar T, having hooks or  
60 lugs T', substantially as herein shown and described.

9. The combination, with the revolving disk D, of the bar L, the pulley N on the same, the bar R, pivoted to the bar L, the pulley R' on  
65 the bar R, and a bar for locking the bar R at the desired inclination to the bar L, substantially as herein shown and described.

10. The combination, with a revolving disk having an annular groove, of pulleys for hold-  
70 ing a belt passed around them against the bottom of said groove, substantially as herein shown and described.

11. The combination, with a revolving disk having an annular groove, of a removable cir-  
75 cular pan in said groove, and of pulleys for holding a belt passed over them against the bottom of the pan, substantially as herein shown and described.

12. The combination, with a revolving disk  
80 having an annular groove, of pulleys for pressing a belt passed around them against the bottom of the groove, and of an evenner in the said groove, substantially as herein shown and described.

13. The combination, with a revolving disk having an annular groove, of pulleys for hold-  
85 ing a belt passed around them against the bottom of the groove, the tube U, the U-shaped bar V, and the evenner W on the end of the  
90 said bar, substantially as herein shown and described.

14. The combination, with the revolving disk D, of the hinged arm H, the shaft G in the same, the bevel-pinion F on the inner end  
95 of the shaft, and the bevel-pinion E on the disk, substantially as herein shown and described.

15. The combination, with the revolving disk D, of the pivot C, the sectional box J on  
100 the same, the hinged arm H, the shaft G on the same, the pinion F on the said shaft, and the bevel-pinion E on the disk, substantially as herein shown and described.

SAMUEL J. SMITH.

Witnesses:

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FRANK BAILEY.