(No Model.) 2 Sheets—Sheet 1.

W. O. WAY.

BURNISHING MACHINERY.

No. 293,826. Patented Feb. 19, 1884.

Fig. 1

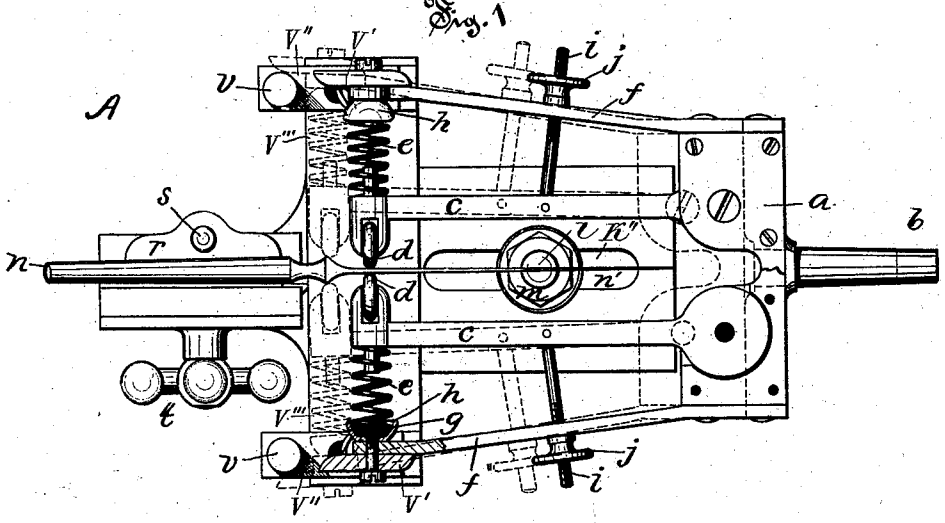


Fig. 2

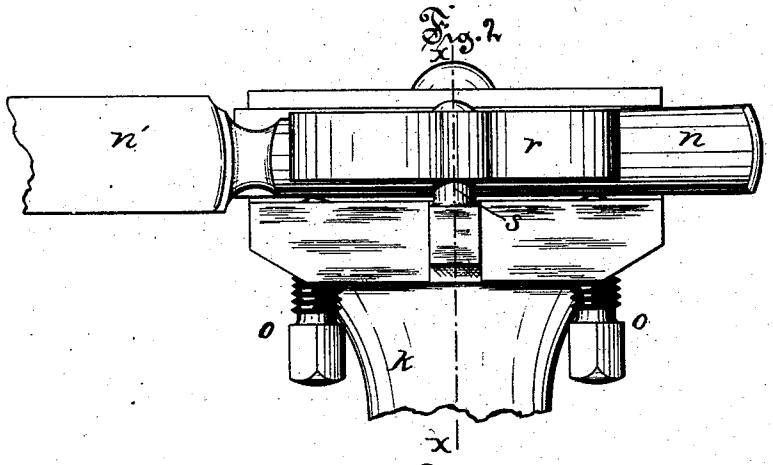
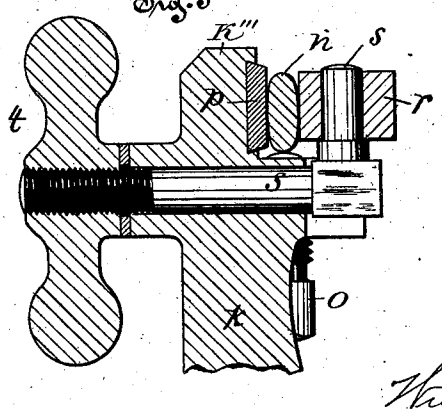


Fig. 3



Witnesses

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Atty's.

(No Model.)

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Fig. 4

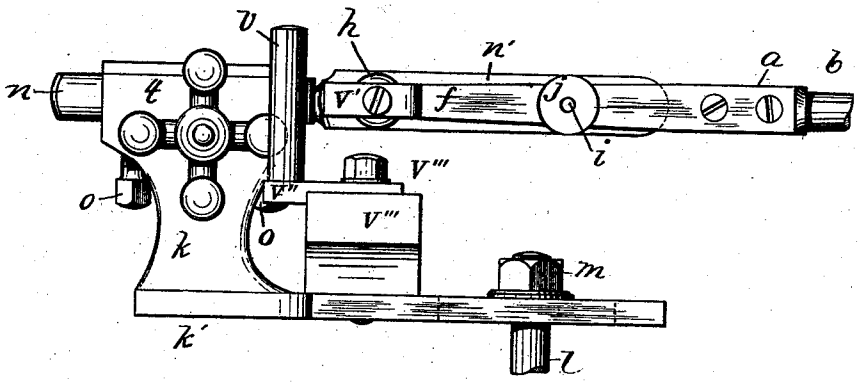


Fig. 5

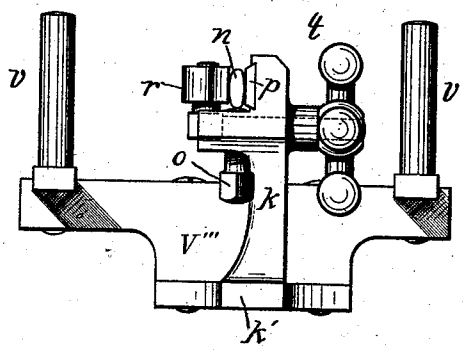
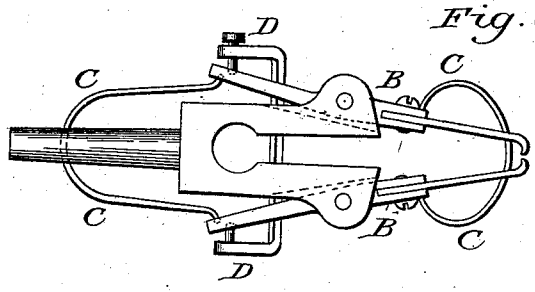


Fig. 6.



Witnesses

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UNITED STATES PATENT OFFICE.

WILLIAM O. WAY, OF NEWINGTON, CONNECTICUT.

BURNISHING MACHINERY.

SPECIFICATION forming part of Letters Patent No. 293,826, dated February 19, 1884.

Application filed September 15, 1883. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM O. WAY, of Newington, in the county of Hartford and State of Connecticut, have invented a certain new and useful Improvement in Burnishing Machinery, of which the following is a description, reference being had to the accompanying drawings, where—

Figure 1 is a top view of the parts wherein the improvement resides. Fig. 2 is a side view from side A of a part of the stock-holding standard. The scale is enlarged in this view as compared with the scale employed in Fig. 1. Fig. 3 is a view in vertical section, on plane denoted by broken line x x, of a portion of the stock-holding standard. Fig. 4 is a side view or elevation of the stock-holding standard from the side opposite A, showing also a side view of a portion of the remaining mechanism. Fig. 5 is an end view or elevation of the stock-holding standard. Fig. 6 is a view of a part of a mechanism belonging to the prior art.

The mechanism described herein is intended for burnishing both sides of a knife-blade or similar article at the same time. In order to make the practical application and operation of my present improvement intelligible without presenting an undue number of drawings, and to the end that the limits of my present invention may be the more readily understood, I will refer briefly to the prior art.

In Letters Patent No. 233,921, granted to me December 28, 1880, there is shown a "piston" (therein so called) reciprocating both horizontally and vertically, (the latter very slowly,) and carrying, hung in a pivoted arm, a wheel-burnish held to its work by a spiral spring abutting at one end against the back of said pivoted arm and at the other end against the back of a similar pivoted arm, the opposite side of which arm last mentioned bears as it reciprocates (through the medium of a small wheel) against a proper support. The mechanism shown in my said patent is designed for burnishing one side of two different pieces of stock at the same time. Several years ago there was in use an unpatented machine for burnishing both sides of an article like a knife-blade at the same time, containing, in general terms, two pivoted and reciprocating burnish-bearing arms, a device for causing the burnishers to traverse the whole width of the blade, a device for holding the stock, springs for pressing the burnishes to contact with the stock, and stops to prevent the burnishes from approaching each other too closely. The more important parts of this device are shown in top view in Fig. 6, wherein A denotes the cross-head. B B denote the pivoted burnish-bearing arms. C C denote the springs pressing the burnishes to contact with the stock, and D D denote the stops to prevent the burnishes from approaching each other too closely. It will therefore be understood that I do not, in these present Letters Patent, claim as my invention what was shown in my said prior patent, nor, broadly considered, such a machine as I have just described as being in use several years ago.

In the accompanying drawings, the letter a denotes a cross-head, having a pintle, b, intended for insertion into the end of such a reciprocating piston as is shown in my said prior patent, whereby the burnishes will be given the rapid horizontal and the slow vertical reciprocation necessary for making them cover the whole surface to be burnished.

The letter c denotes two similar burnish-bearing arms pivoted in the cross-head. Each is provided with a wheel-burnish, d. The burnishes are pressed to their work by the spiral springs e, which abut at one end against an arm, f, extending from and wholly supported by the cross-head alongside and back of the burnish-bearing arms. A feature of the present improvement is the interposition of a rubber cushion, g, held in a cup, h, between the arm f and the end of the spiral spring.

The letter i denotes adjusting-screws jointed to the burnish-bearing arms, and j thumb-nuts thereon, by which the burnish-bearing arms and the burnishes may be adjusted laterally. The arms f are not absolutely rigid, but are stiff enough to be practically rigid so far as any function yet described is concerned. By unscrewing the nuts j the spiral springs e are permitted to push the burnishes more nearly together, and by screwing up the nuts j the burnishes are pulled apart. This is the manner in which the screws i and nuts j operate to adjust the burnishes laterally.

The letter k denotes the stock-holding standard, having a foot, k', intended to rest on a table. This foot is provided with a mortise,

k''. The bolt l runs through this mortise into the table, making the stock-holding standard longitudinally adjustable, and the nut m serves to fasten the standard in place when adjusted.

The letter n denotes the handle of the knife under process of burnishing, and n' denotes the blade thereof, the whole knife being held by the handle meanwhile.

The letters o o denote two vertical leveling-screws borne in the stock-holding standard, whereby the knife may be vertically adjusted.

The letter p denotes a soft-metal bed borne in the standard, against which the side of the knife-handle is clamped.

The letter r denotes a pivoted clamp hung rotarily on the vertical part of the bolt s. The hand-nut t on the horizontal parts of bolt s holds this clamp to its work. The top k''' of the standard k forms one jaw of the clamp.

The letters v denote two posts in the nature of stationary cams or guides for the burnishes, rising from a piece attached to the foot of the stock-holding standard. There are pattern-plates v' attached to the ends of the arms f, to co-operate with these posts. The purpose of these posts (co-operating with the rounded ends of the pattern-plates just referred to) is to turn the burnishes suddenly outward with a curved movement corresponding with the curve by which the blade of the knife rises to meet the bolster.

The arms f, while sufficiently rigid to answer all the purposes heretofore imputed to them herein, are elastic to that degree that they will spring laterally sufficiently to give the burnishes this outward movement just described. These arms f pull the burnishes outward through the medium of the screws i and nuts j. The parts v' are referred to herein as pattern-plates made separate from the arms f and attached thereto. Obviously these pattern-plates can be made integral with the arms f, if desired, and when these pattern-plates are in use they are, to all intents and purposes, integral with the arms f. Moreover, it is further obvious that, instead of having the arms f co-operate in the manner already described with the posts v, the pattern-plates might be attached directly to the burnish-bearing arms, and they in that position co-operate with the posts v, they of course changed in position to adapt them to the purpose in hand. The real co-operation of function is between the burnish-bearing arms, the pattern-plates, and the posts. These posts v each have a foot, v'', adjustable forward and back in slots or mortises made in the top of the block v''', which is screwed to the standard-foot k'. The screws v'''' hold the posts v in place when adjusted. The posts v being really guides for the burnishes when they ride up on the bolster of the knife, I term them herein "bolster-guides." These bolster-guides, as already remarked, are adjustable toward and from the burnishes, for obvious purposes.

I claim as my improvement—

1. In combination, the cross-head a, the pivoted burnish-bearing arms c, the spiral springs e, and the arms f, wholly supported against the outward pressure of said springs by said cross-head, all constructed and arranged to operate substantially as shown and described, and for the purpose set forth.

2. In combination, the cross-head a, the two pivoted burnish-bearing arms c, the spiral springs e, the arms f, wholly supported against the outward pressure of said springs by said cross-head, and the adjusting screws and nuts i i, all constructed and arranged to operate substantially as shown and described, and for the purpose set forth.

3. In combination, the cross-head a, the pivoted burnish-bearing arms c, the arms f, the spiral springs e, and the rubber spring-beds g, all constructed and arranged to operate substantially as shown and described, and for the purpose set forth.

4. In combination, the stock-holding standard k, bearing the clamp-jaw k''', the pivoted clamp r, the bolt s, and the nut t, all constructed and arranged to operate substantially as shown and described, and for the purpose set forth.

5. In combination, the stock-holding standard k, bearing the clamp-jaw k''', the pivoted clamp r, the bolt s, the nut t, and the leveling-screws o, all constructed and arranged to operate substantially as shown and described, and for the purpose set forth.

6. The combination of the posts v and the pattern-plates v' with the pivoted burnish-bearing arms and suitable intermediate parts, substantially as described, and for the purpose set forth.

7. The combination of the adjustable posts v and the pattern-plates v' with the pivoted burnish-bearing arms and suitable intermediate parts, substantially as described, and for the purpose set forth.

WILLIAM O. WAY.

Witnesses:
WM. E. SIMONDS,
ALBERT C. TANNER.