Sept. 30, 1924. 1,509,836

J. J. HALDEMAN ET AL

REED POLISHING MACHINE

Filed May 8, 1922 3 Sheets-Sheet 1

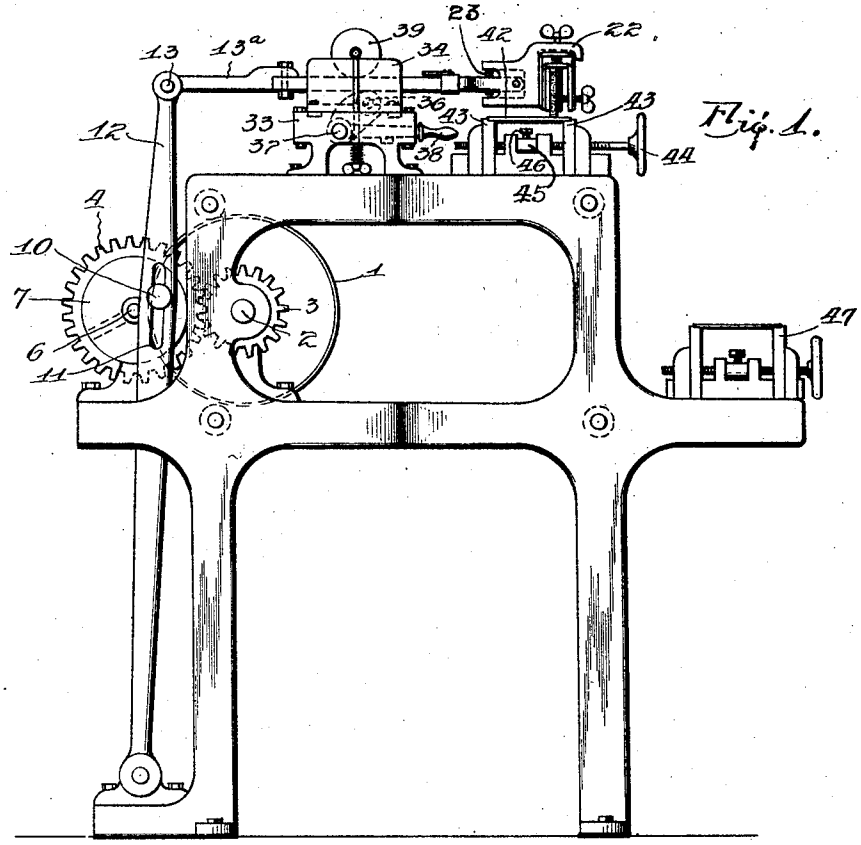


Fig. 1.

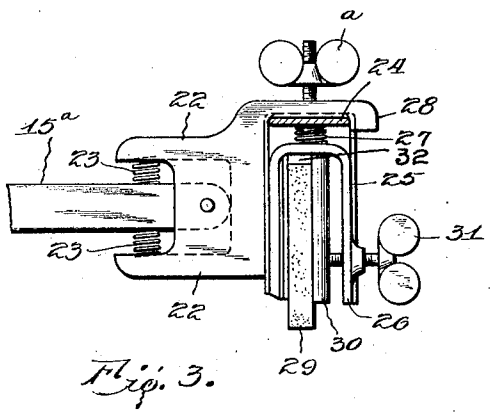
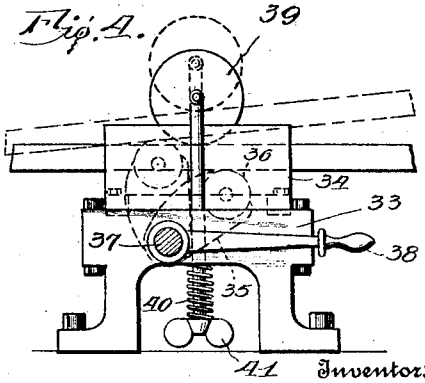


Fig. 3.

Fig. 4.



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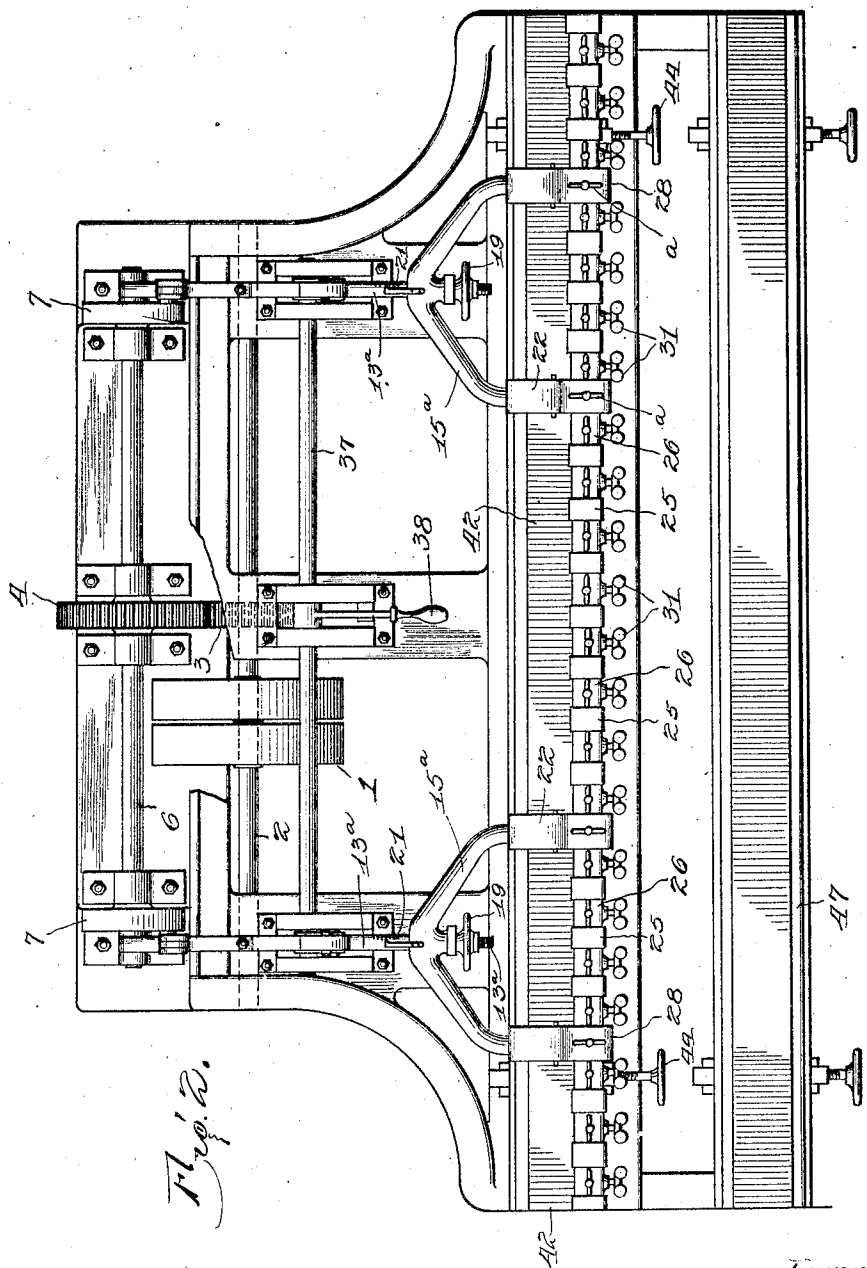


Fig. 2.

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Fig. 7.

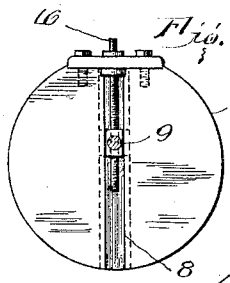


Fig. 5.

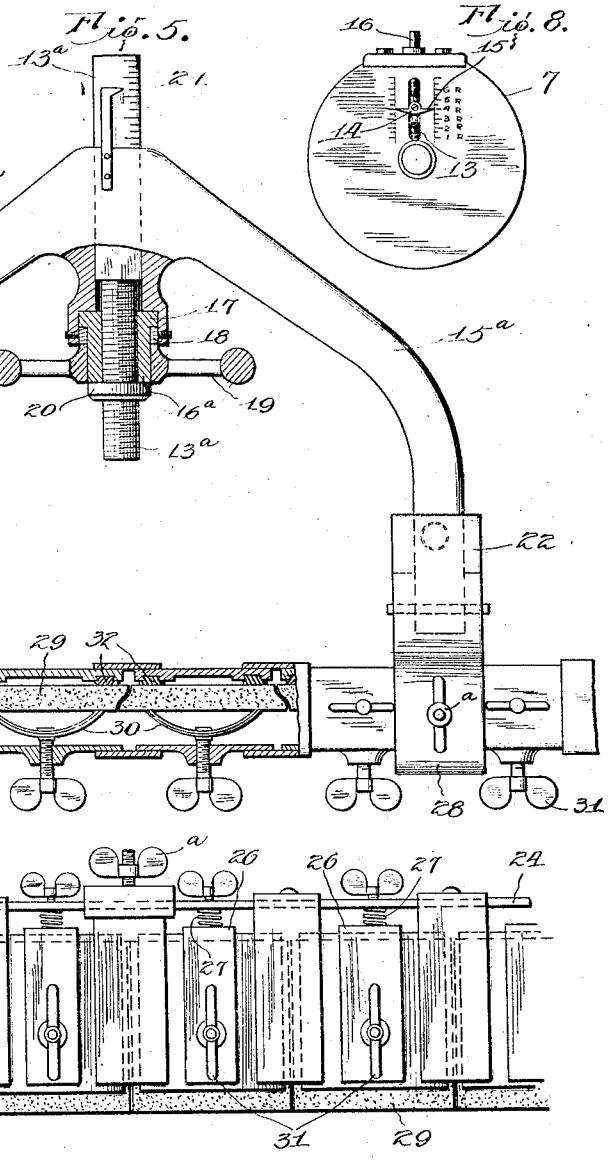


Fig. 8.

Fig. 9.

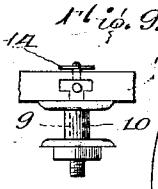


Fig. 6.

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Patented Sept. 30, 1924. 1,509,836

UNITED STATES PATENT OFFICE.

JOHN J. HALDEMAN AND ARNO W. VOGEL, OF SUNBURY, PENNSYLVANIA.

REED-POLISHING MACHINE.

Application filed May 8, 1922. Serial No. 559,339.

To all whom it may concern:

Be it known that we, JOHN J. HALDEMAN and ARNO W. VOGEL, citizens of the United States, residing at Sunbury, in the county of Northumberland and State of Pennsylvania, have invented certain new and useful Improvements in Reed-Polishing Machines, of which the following is a specification.

This invention relates to improvements in reed polishing machines, and the like, and has for its object the polishing of reeds more rapidly and efficiently than this operation can be performed by hand and more economically. It is an improvement on the Haldeman Patent No. 1,359,364.

The various features of the invention will be more fully described in connection with the accompanying drawings in which:—

Figure 1 is an end elevation of the polishing machine.

Figure 2 is a top plan view of the same.

Figure 3 is a detailed view of stone holding device.

Figure 4 is a detailed view of lifting device.

Figure 5 is a top plan view of the arms for holding the polishing stones.

Figure 6 is a front elevation of part of the series of stones and clamps.

Figures 7 and 8 indicate two sides of disc for graduated adjustment.

Figure 9 is a detailed view of connection between disc and operating arm.

Referring to the drawing, 1 indicates a fixed pulley on shaft 2, there being a loose pulley of same size adjacent to it shown on Figure 2. Fixed on shaft 2 is a gear 3 adapted to mesh with operating gear 4 fixed on shaft 6. On the end of shaft 6 is a disc 7 (detail Figs. 7–8–9) having on the outer face a radial T shaped groove (Fig. 9) adapted to receive a T shaped bolt 9 on the shank of which is a roller bearing 10 which engages a slot 11 in a perpendicular operating arm 12. When the bolt 9 is near the centre of the disc 7 it will give but slight movement to the arm 12, and as it is moved toward the circumference of the disc 7 the greater will be the length of the movement or stroke of the said arm. The stroke of the arm 12 is governed by the position of the bolt 9 in the disc 7.

In the inner face of the disc 7 is a radial groove 13 (Fig. 8) through which projects a small stud 14 fixed to the side of the bolt 9. Secured on the end of the stud 14 is a scale indicator 15. By means of an adjusting screw 16 which extends beyond the circumference of the disc 7 and has one end in the head of the bolt 9, the said bolt 9 and roller bearing 10 may be moved upward or downward, and the extent of said movement is shown on the scale on the inner side of disc 7. The operation above described is made to accommodate reeds of different widths that are to be polished, by regulating the length of the stroke of the operating arm.

Pivotally attached to the operating arm 12 at 13 is a horizontal arm 13^a which has adjustably mounted near its end a pair of polisher holder arms 15^a. The free end of arm 13^a is rounded and threaded and over its end is screwed a cylinder 16^a having a shoulder 17 at one end. A cylinder retaining ring 18 abuts against the side of the shoulder 17 on the end of the cylinder 16^a and is held in place by set screws. An adjusting arm 19 fits over the cylinder 16^a and is secured thereon by means of a set screw (not shown). A jam nut 20 is screwed over the end of the arm 13^a and abuts against the end of the cylinder 16^a and holds it securely in place. The function of the above described device is to place the polishing or abrasive stones on the ends of arms 15^a in the center of the reed before fixing the length of the stroke. The arms 15^a move in and out on the end of arm 13^a and the extent of said movement may be regulated by scale 21.

Pivotally secured on the ends of arms 15^a are polisher holders 22, the up and down movement being limited by means of springs 23 at the top and bottom of arms 15^a. Secured in the holders 22 is a retainer 24, held in place by means of bolts fastened to same and passing through holes in top of said holders and locked by thumb nuts a, which retainer secures guideways 25 for the stone keepers 26. On the top of the keeper 26 is a spring 27 which permits of a limited vertical movement of the said keepers 26 to accommodate stones of different widths. On one side of the holders 22 are shoulders 28 adapted to grip the retainers 24 and secure them in place. 29 indicates polishing or abrasive stones having the ends overlapping as shown, so that although a number of stones may be used there will be one continuous polishing surface.

The polishing stones 29 are held in place by means of bowed spring retainers 30 and

thumb screws 31, the retainers bearing against the ends of the stones only, to prevent breakage of the same. Between the stones and the rear side of the keeper 26 is a rubber cushion 32 for the purpose of preventing any slippage or breakage of the stones.

33 indicates the bed of a guideway 34, through the bottom of which operates a cam 35 having a roller 36 in the end of the same, and pivoted at 37. When the cam 35 is raised by means of lever 38 it assumes the position shown in dotted line raising the movable arm 13^a which in turn lifts the polishers from the reeds.

Pressure may be given to arm 13^a by means of a roller 39 on the top of the same, said roller being held in place by a U shaped bolt having the legs passing through the side walls of the guideway 34, secured by spring 40 and thumb nut 41.

The reed 42 to be polished is held in a bed by means of clamps 43 which are adjustable by means of screw 44 which has a right and left thread. A lug 45 on screw 44 is held permanently in place by means of set screw 46 and its object is to limit the movement of the screw 44.

A supplementary bed 47 is used in case any work is desired to be done by hand.

The operation of the device is as follows:—

The reed to be polished is secured in clamps by the means described, the abrasive block or polisher is placed on the reed and the center of the same is located by the adjustment means on the free end of rod 13^a. The length of the stroke of the arm 13^a may be regulated to accommodate reeds of different width by the adjustment arrangement in disc 7 on shaft 6.

What we claim as new and desire to secure by Letters Patent is:—

1. In a polishing machine, the combination with a holder for the article to be polished, of a plurality of horizontally movable operating arms, means for limiting the stroke of said arms, of adjustable arms mounted on the ends of said horizontally movable operating arms adapted to hold abrasive stones or polishers, means for adjusting arms to accommodate reeds of different widths.

2. In a polishing machine, the combination with a holder for the article to be polished, of a plurality of operating arms, means for limiting the stroke of said arms, of adjustable arms mounted on the ends of said operating arms having pivotally secured thereto holders for abrasive stones or polishers, means for adjusting said arms to accommodate reeds of different widths.

3. In a polishing machine, the combination with a holder for the article to be polished, of a plurality of operating arms, means for limiting the stroke of said arms, of adjustable arms mounted on the ends of said operating arms having pivotally secured thereto holders for abrasive polishers, means for securing the polishers in said holders.

4. In a polishing machine, the combination with a holder for the article to be polished, of a plurality of operating arms, means for limiting the stroke of said arms, of adjustable arms mounted on the ends of said operating arms having pivotally secured thereto holders for abrasive polishers, of a plurality of polishers with overlapping ends, means for retaining the polishers in said holders.

5. In a polishing machine, the combination with a holder for the article to be polished, of a plurality of operating arms, means for limiting the stroke of said arms, of adjustable arms mounted on the ends of said operating arms having secured thereto holders for abrasive polishers, of a plurality of polishers, of an elastic buffer for said polishers, means for throwing the polishers out of and into engagement with the article to be polished.

In testimony whereof we affix our signatures in presence of two witnesses.

JOHN J. HALDEMAN
ARNO W. VOGEL

Witnesses:
C. W. CLEMENT,
JOHN W. BASSLER.