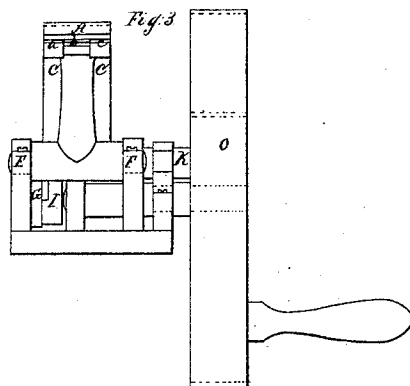
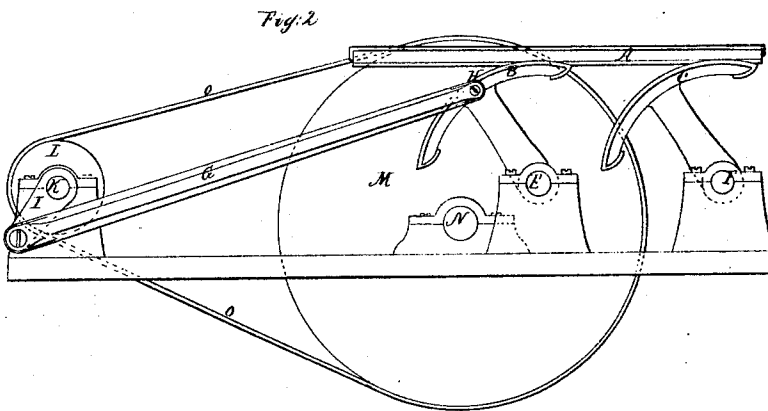
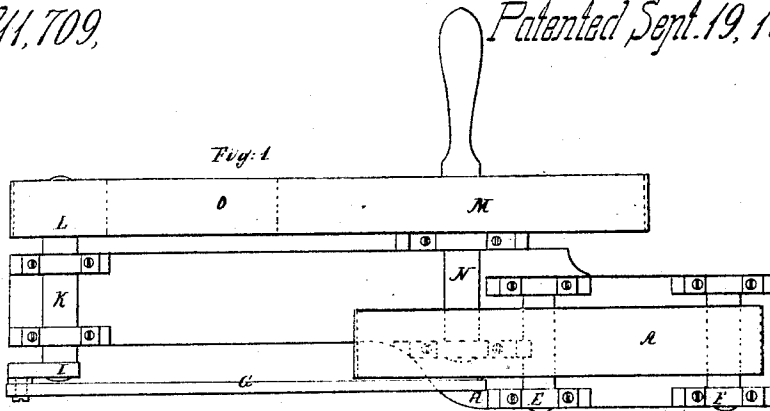


*B.F. Upton,*  
*Polishing Daguerreotype Plates,*  
*No. 11,709,* *Patented Sept. 19, 1854.*



# UNITED STATES PATENT OFFICE.

BENJAMIN F. UPTON, OF BATH, MAINE.

IMPROVED APPARATUS FOR POLISHING DAGUERREOTYPE-PLATES.

Specification forming part of Letters Patent No. **11,709**, dated September 19, 1854.

*To all whom it may concern:*

Be it known that I, BENJAMIN F. UPTON, of Bath, in the county of Sagadahoc and State of Maine, have invented a new and useful Machine for Polishing Daguerreotype-Plates; and I do hereby declare that the same is fully described and represented in the following specification and the accompanying drawings, letters, figures, and references thereof.

Of the said drawings, Figure 1 represents a top view, and Fig. 2 a side elevation, of my said machine.

In said drawings, A denotes a board having its upper surface covered with buff leather or other material suitable for polishing daguerreotype-plates. This board is supported on two rocker-sectors B C, whose radii are of equal length. The shafts of these sectors are supported in suitable bearings E F, and each sector is connected to the polishing-board by three belts *a b c*, they being represented in Fig. 3, which is an end view of the machine. Each belt has one end of it fastened to the polishing-board, while its other end is fastened to its rocker-sector, the belt being arranged between the polishing-board and sectors. The two outside belts in each set have their inner ends attached to the middle part of the under surface of the polishing-board, their outer ends being fastened to the outer ends of the sectors. Each of the middle belts *b* has its outer end fastened to one of the ends of the board, its inner end being fastened to the inner end of the arc of the sector, directly between which and such board the belt is placed. To one of the sectors one end of a connecting-rod G is affixed or jointed by means of a pin H, the other end of the connecting-rod being jointed to a crank I, which is jointed to a horizontal shaft K. On the said shaft K there is a pulley L, around which and a driving-pulley M, fixed upon a driving-shaft N, an endless belt O is made to travel.

When the driving-pulley is put in rotation, it produces a constant rotatory motion of the crank above mentioned, which by means of the connecting-rod will impart to that rocker-sector to which the said rod is attached a reciprocating rotative motion, such as will by means of the two sets of bands or belts hereinbefore mentioned impart to the polishing-board a reciprocating rectilinear motion. The two rocker-sectors serve to support the board and to maintain it in a horizontal plane or

in one plane during its reciprocating movements.

The guide-belts not only perform the function of causing the polishing-board to be moved by the sectors but they prevent the board from being moved laterally off by the sectors during their rapid reciprocating movements, while one of the sectors, or that one to which the connecting-rod is attached, performs the office of supporting the board and moving it longitudinally during a movement of said sector, as above described. The other sector serves to support the board and maintain its correct horizontal position during its reciprocating movements.

I am aware that there are various methods by which a board may be supported in a horizontal plane and have reciprocating rectilinear movements given to it, and that such modes may be considered as mechanical equivalents for my mode or device. Now such modes, and particularly those of them wherein the board is sustained and made to slide in stationary ways, are attended with much friction unless the parts moving in contact with each other are lubricated; and, besides, in polishing daguerreotype-plates it is desirable to have as little oil about the mechanism as possible and that such mechanism should operate with the least possible friction and noise, for as a matter of necessity the polishing-board has to be moved with great rapidity.

My mechanism, although equivalent to some other devices well known to mechanics, is not analogous to them. It forms a combination of parts to produce a like result, but in a better manner.

What, therefore, I claim is—

The combination and arrangement of mechanism for supporting the polishing-board, maintaining it constantly in one plane, and imparting to it a reciprocating motion, the said combination consisting of the two rocker-sectors, the two sets of forward and back draft belts, the connecting-rod, and crank, applied and made to operate together, essentially as hereinbefore specified.

In testimony whereof I have hereunto set my signature this 24th day of June, A. D. 1854.

BENJAMIN F. UPTON.

Witnesses:

R. K. HAINES,

AMMI R. MITCHELL.