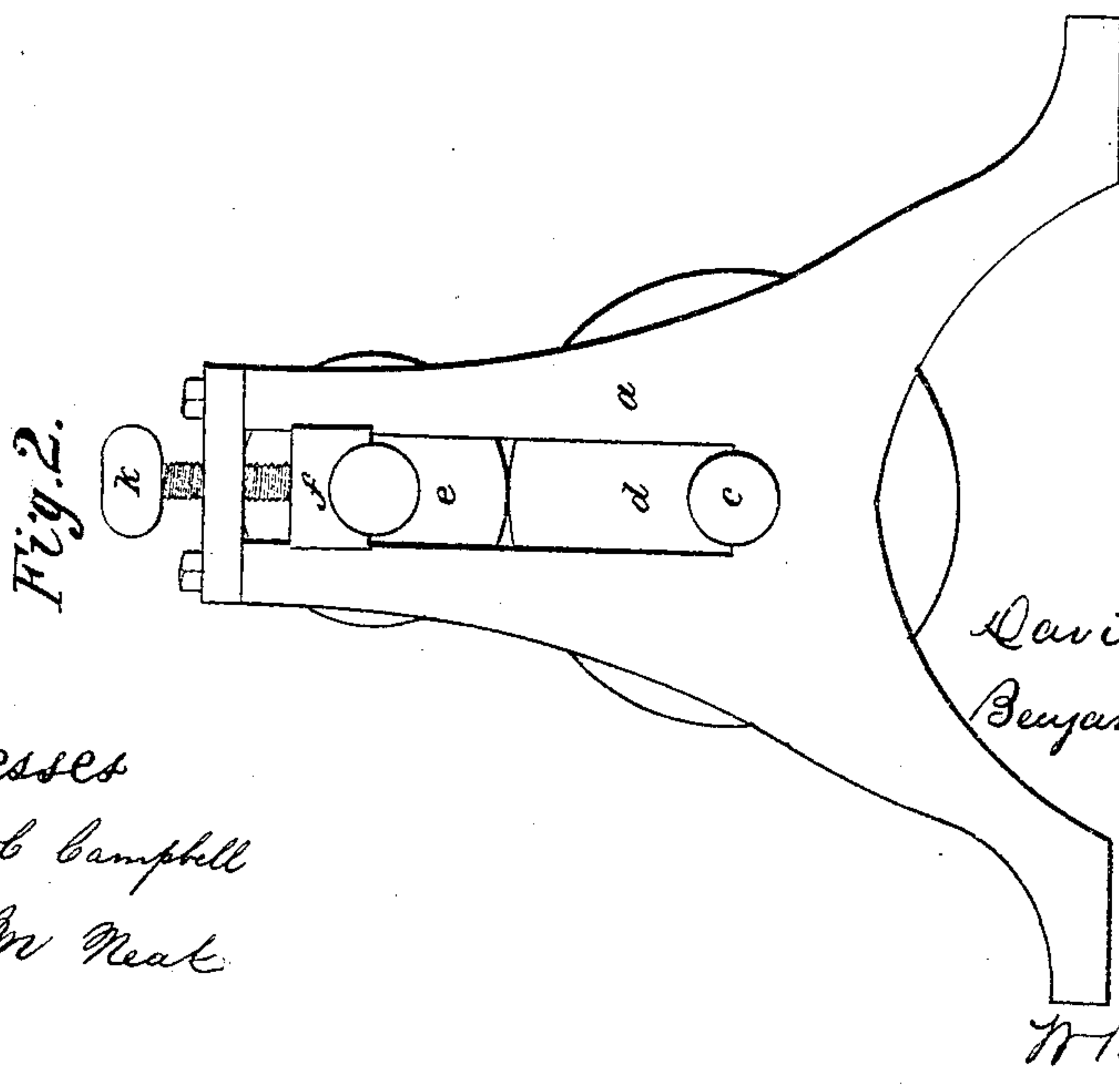
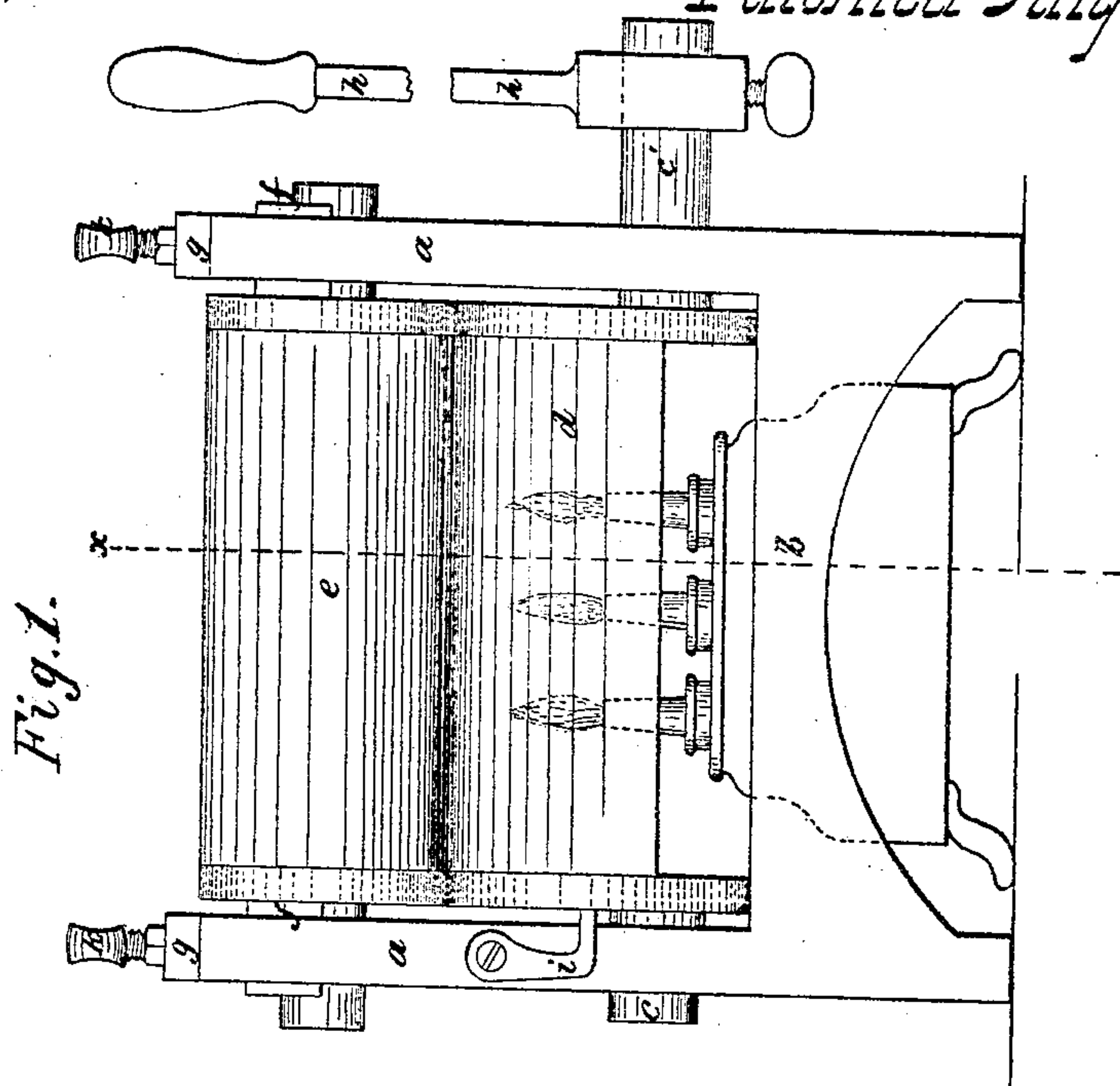


D. & B. Marshall,

Photographic Burnishing Press,

N^o 43,515.

Patented July 12, 1864.



Witnesses

Sarah C. Campbell
John M. Meak

David Marshall
Benjamin Marshall

Inventors

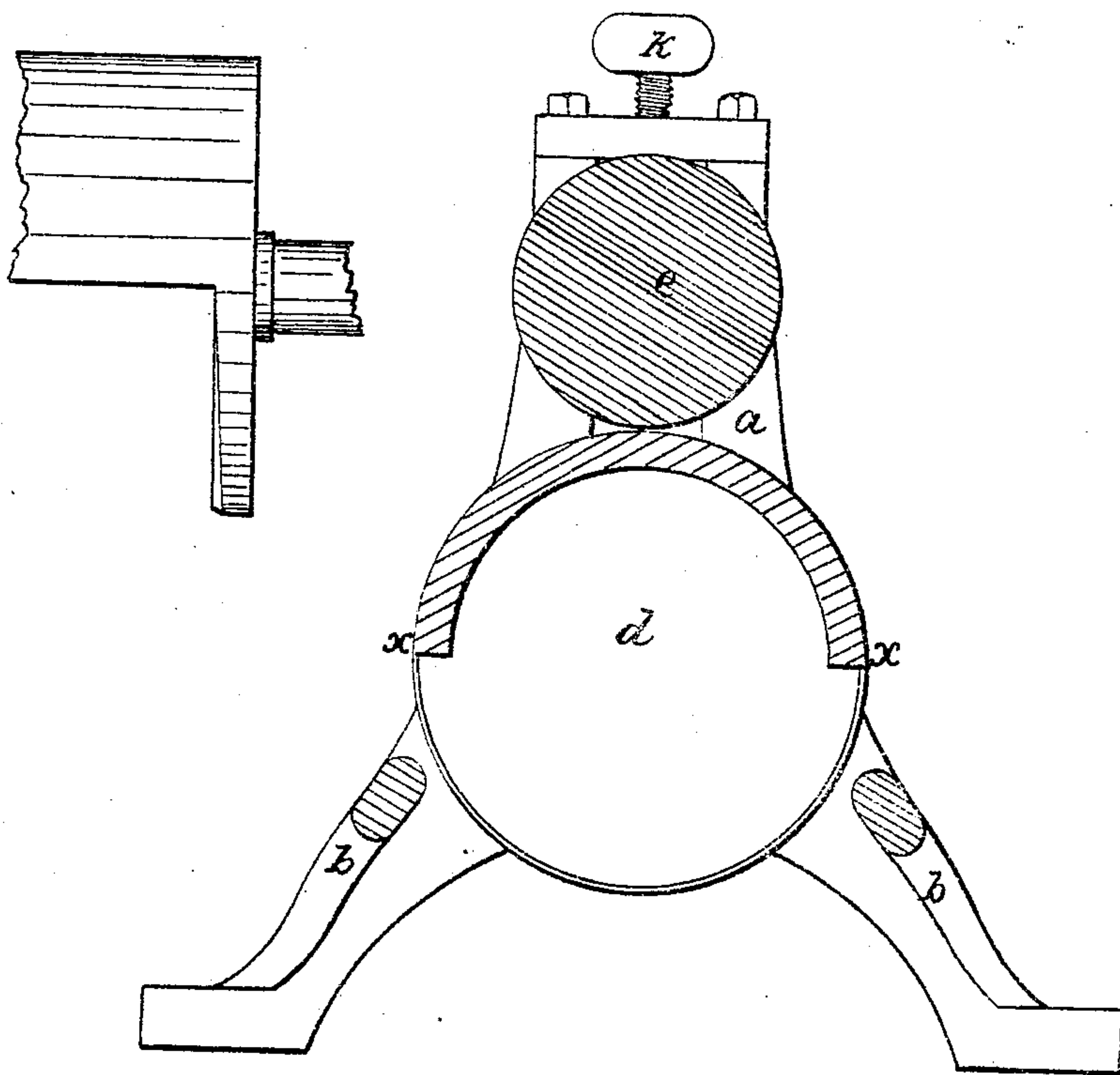
by their
attorney

W. Bakewell

Sheet 2-2 Sheets

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Fig. 3.



Witnesses
Samuel C. Campbell
John M. Neal

David Marshall
Benjamin Marshall
Inventors
by their attorney
W. B. Bakewell

UNITED STATES PATENT OFFICE.

DAVID MARSHALL, OF PITTSBURG, PENNSYLVANIA, AND BENJAMIN MARSHALL, OF MARIETTA, OHIO.

ROLLER-PRESS FOR FINISHING PHOTOGRAPHS, &c.

Specification forming part of Letters Patent No. 43,515, dated July 12, 1864.

To all whom it may concern:

Be it known that we, DAVID MARSHALL, of Pittsburg, in the county of Allegheny and State of Pennsylvania, and BENJAMIN MARSHALL, of Marietta, in the county of Washington and State of Ohio, have invented a new and useful Improvement in Apparatus for Finishing Photographs; and we do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a front view of our improved machine for finishing photographs. Fig. 2 is an end view thereof. Fig. 3 is a vertical section of our machine through *x x*, Fig. 1, at right angles to the axis of the rolls.

Our improvement consists in a new mode of finishing photographic pictures by passing them after they are mounted through or between polished rollers, one of which is heated, or otherwise exposing them to considerable pressure between polished heated surfaces, and in certain improvements in the construction of the apparatus for that purpose.

After photographic pictures have been printed on sensitized paper from the negative and toned in any ordinary manner, they are usually mounted by pasting them on cardboard or heavy paper. The copious washing to which the printed paper is necessarily exposed to remove all trace of nitrate of silver and to give tone to the picture takes away all gloss from the paper and leaves it rough and dull looking. To remove this dull appearance from the picture it is usual to subject them to pressure between cold metallic rolls. This restores a slight gloss to the picture and improves its appearance. Our invention is designed to give a much finer gloss and more highly-polished surface to the finished picture than has hitherto been attained.

In order to explain more fully our invention and the manner in which it is put into practical operation, we will proceed to describe the machine which we have invented for this purpose.

The frame of our machine is made of iron, and consists chiefly of two upright end pieces, *a a*, connected together on both sides by side pieces, *b b*. Each end piece has a slot extending from the top as far down as the journals

cc' of the lower roll, *d*, which have their bearing in the bottom of the slots. The lower or segment roll, *d*, extends horizontally across the machine and the upper roll, *e*, which is of smaller diameter than the lower one, is placed immediately about it with its axis parallel to the axis of the segment roll, as seen in Fig. 1. Above each journal of the upper roll, *e*, is a rider, *f*, or journal-box, placed in the slot in the end piece of the machine, a pressure screw, *k*, passed through a cap piece, *g*, which bridges the stop on top of each end piece of the machine, presses upon the rider over each journal of the upper roll. One of the journals, *c'* of the segment roll *d* extends outward beyond the side piece of the machine, and is furnished with a lever, *h*, by which the machine is operated. The upper roll, *e*, is cylindrical, and may be cast hollow, if preferred. The lower roll is hollow and is in shape a half-cylinder, with a circular disk or head at each end, from which the journals *cc'* project. The upper roll is of uniform diameter throughout, excepting that at each end, for about the width of half an inch, the diameter is slightly greater, the difference being such only as is caused in dressing and polishing the rolls by not dressing them for the width of about half an inch at each end. The object of this is to prevent the polished surface of the lower or segment roll from coming in contact with the face of the upper roll when the mounted photograph passes away from the rolls, which it would do with a sharp stroke were it not that the slightly projecting rims of the edges of the rolls prevent it. A hook or detent, *i*, pivoted to one of the uprights *a* of the frame, enters a notch in the disk at one end of the segment-roll, as seen in Fig. 1, and holds the segment-roll in the position shown in the drawings, with the body of the segment-roll turned up so as to heat it by means of a spirit-lamp or gas-burner placed under the machine. The segment-roll thus forms an arch over the flame and soon becomes heated sufficiently. The lamp may be kept burning under the segment-roll when it is in use, care being taken that the roll does not become too hot.

The segment-roll is dressed and polished to within a short distance from the edge on either side like the upper roll, but should be more highly burnished, as the face of the photo-

graph is turned toward the heated roll. In dressing the segment-roll the edges of the body of the roll at x (see Fig. 3) are dressed down a little more than the remainder of the semi-cylinder d , which, when the lower roll is turned so that the edge of the semi-cylinder is near the lowest point of the upper roll, c , leaves a wider opening between the rolls than at any other point between their surfaces, and thus allows the mounted photographs to be more easily inserted.

The operation of our machine is as follows: The lower or segment roll being sufficiently heated, the operator releases the detent i from the lower roll, and, taking hold of the lever h , turns it down so as to bring the edge of the lower roll up to the lowest point of the upper roll. The photograph, having been recently mounted on a card, and not yet quite dry, is inserted with one edge parallel to the axis of the roll in the space between them, the face of the photograph being turned toward the heated roll. The handle is then turned back, and the card is drawn through between the rolls, the heat and pressure giving a very smooth finish and high gloss to the photograph. If necessary, the card may be passed between the rolls more than once. The proper degree of pressure is communicated to the rolls by means of the pressure-screws k k , by which also the machine is adjusted to suit the different thickness of the cards on which the photographs are mounted.

We do not desire to confine ourselves to the use of a segment-roll such as described, as a

hollow cylinder might be used heated in other ways than that which we have described, as by the insertion of a gas-pipe through its journal with burners inside, but the machine constructed as described we think more simple and desirable.

Having thus described our improvement, what we claim as our invention, and desire to secure by Letters Patent, is—

1. The use of a machine for finishing photographic pictures, consisting of the combination of an upper roll and a lower roll or segment of a hollow cylinder so constructed as to be easily heated by the flame of a lamp or otherwise, substantially as and for the purposes hereinbefore described.

2. Making either or both of the rolls in machines for finishing photographs slightly higher or of greater diameter at the edges than in the middle, so as to prevent the polished face of the lower roll being struck by the upper roll when the card is discharged, substantially as described.

3. Chamfering down the edges of the body of the segment-roll so as to allow of the easy insertion of the photographic picture between the rolls, substantially as described.

In testimony whereof the said DAVID MARSHALL and BENJAMIN MARSHALL have hereunto set their hands.

DAVID MARSHALL.

BENJAMIN MARSHALL.

In presence of—

A. S. NICHOLSON,
JOHN M. NEAL.