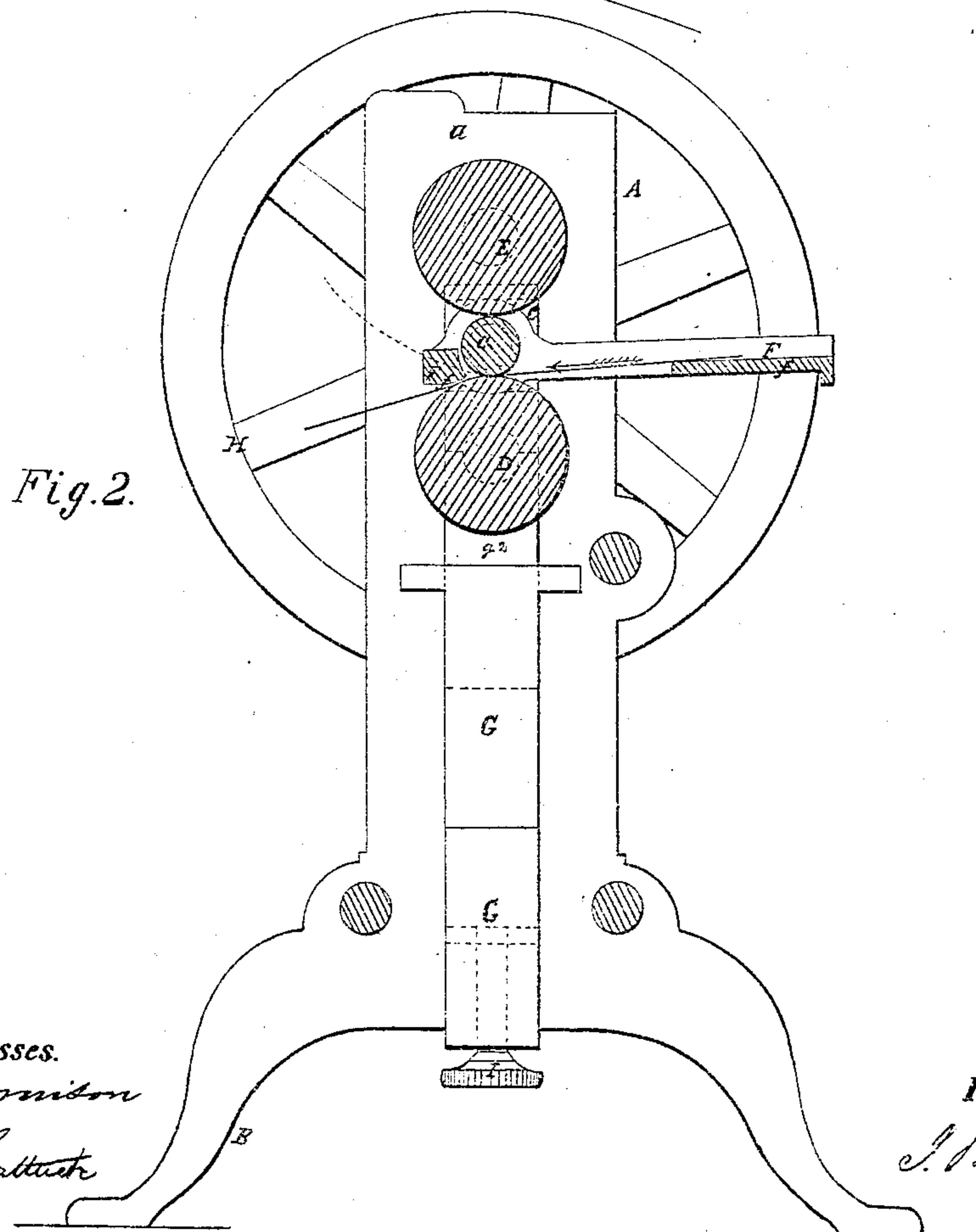
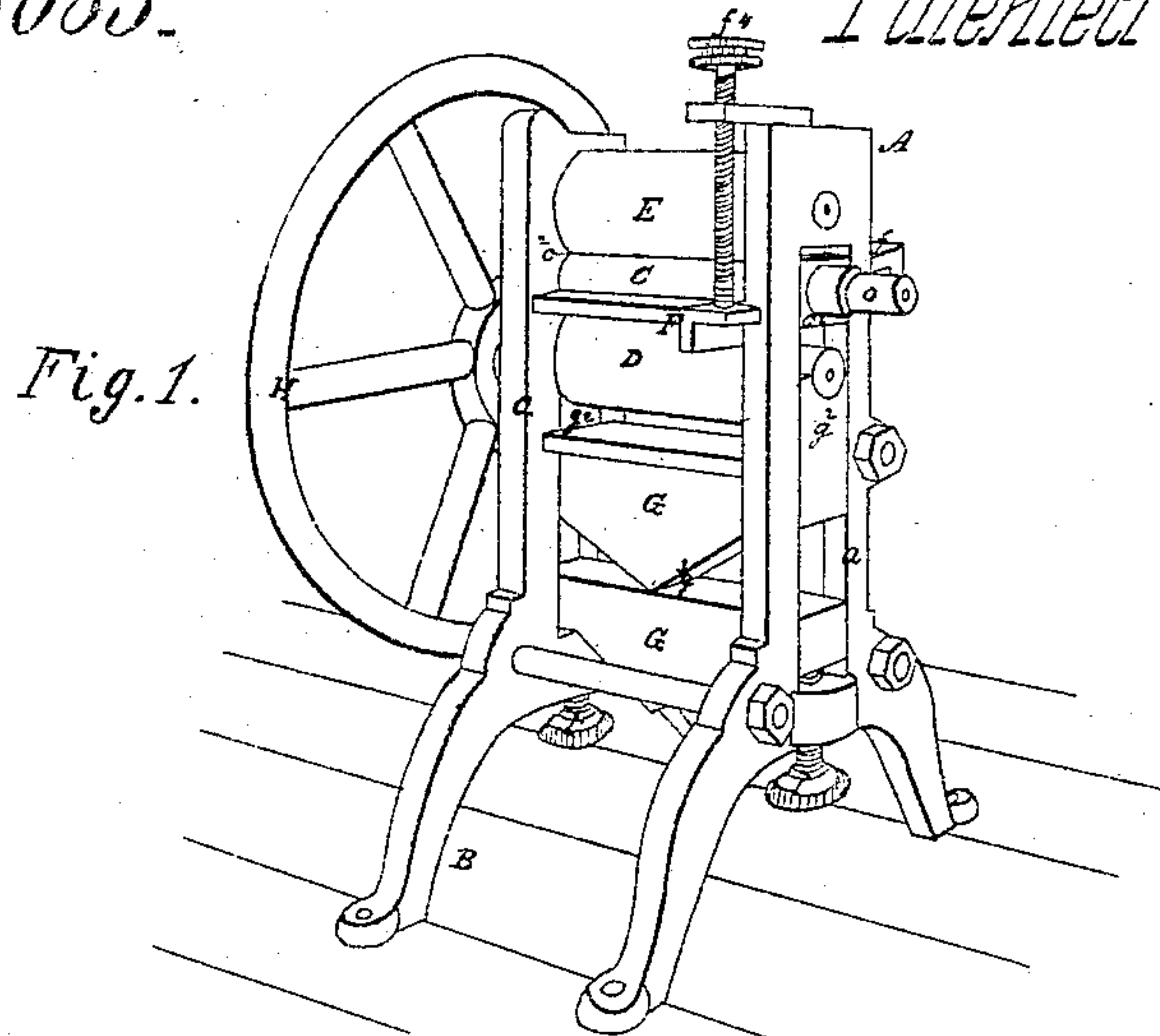


*J. B. Blair,*  
*Photographic Card Press,*  
*N<sup>o</sup> 43083. Patented June 14, 1864.*



*Witnesses.*  
*Amos M. Mason*  
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# UNITED STATES PATENT OFFICE.

J. B. BLAIR, OF PHILADELPHIA, PENNSYLVANIA.

## PHOTOGRAPHIC-CARD PRESS.

Specification forming part of Letters Patent No. 43,083, dated June 14, 1864; antedated May 24, 1864.

*To all whom it may concern:*

Be it known that I, J. B. BLAIR, of the city of Philadelphia, in the State of Pennsylvania, have invented a new and useful Improvement in Photograph-Card Presses; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a perspective view, and Fig. 2 a vertical transverse section, of one of the said improved presses.

Like letters of reference indicate the same parts when in both figures.

The nature of my invention consists, substantially as hereinafter described and specified, first, in the employment, in a photograph-card press, of a polished-metal roller of a small or reduced diameter between two smooth-metal rollers of much larger diameters in such a manner that while the small polishing-roller is in contact with the card under operation, one of the two larger rollers supports the said card, and the other prevents the small roller from springing, for the purpose of polishing the cards in a more perfect and expeditious manner and with the expenditure of much less motive power; second, in the application to photograph-card presses of a deflector constructed to operate substantially as hereinafter described, for the purpose of reducing the curve or straightening cord, flattening the card as the same is delivered by the rollers; third, in sustaining in a self-adjusting manner the supporter of the pillow-blocks of the journals of the card-supporting roller by resting its center brought to an edge or point for the purpose upon an adjustable base, so that it will vibrate thereon, for the purpose of producing and keeping up parallelism of the rollers in relation to each other in a more expeditious and perfect manner; and, fourth, in the employment of a hand-wheel upon the journal of the card-supporting roller, as hereinafter described and specified, for the purpose of dispensing with the use of the gear-wheels heretofore required in roller-presses to compel the card to enter between the rollers.

In the drawings, A B is the frame of the press; C, the small polishing roller; D, the card-supporting roller; E, the roller which

supports the polishing-roller during the passage of a card beneath it; F, the deflector; G, the self-adjusting pillow-block supporter; G', an adjustable base for the same, and H the hand-wheel.

The frame A B consists of two slotted cast-iron standards, *a' a'*, provided with feet, and bolted together permanently, so as to be parallel with each other. The rollers D and E are smoothly-turned cylinders of cast-iron, each being about an inch and a quarter in diameter, (more or less,) and having a suitable journal at each of their ends. The polishing-roller C is a smoothly polished cylinder of steel, about half an inch in diameter, and provided with suitable journals, one of which, *c'*, projects sufficiently far through the frame A B to receive upon it a suitable crank-handle. (Not shown in the drawings.) The upper roller, E, in this instance is not adjustable, while the card-supporting roller D rests in pillow-blocks *g<sup>2</sup> g<sup>2</sup>* which are attached to the self adjusting cast-iron supporter G. The under side of this supporter G is in the form of an obtuse angular edge, *g<sup>3</sup>*, and in this instance rests with its said edge directly upon the base-piece G, the latter being supported adjustably upon the ends of the vertical thumb-screws I I. The polishing-roller C rests with its face upon the face of the card-supporting roller D, its pillow-blocks *c<sup>2</sup> c<sup>2</sup>* being fitted to slide up and down freely and accurately in the slots of the standards *a' a'* of the frame A B. The deflector F is made of metal, in the form of a square frame, and supported by and so as to vibrate freely upon the journals of the polishing-roller C. The side upon which the cards are placed to enter between the rollers has a platform, *f'*, for the purpose, while the under and inner portions of its opposite side are rounded and smoothed opposite to the surface of the roller D, (see *f<sup>3</sup>*, Fig. 2,) so that as the card is discharged on that side by the said rollers it will pass in contact with the said rounded, smooth edge or side *f<sup>3</sup>* of the same, substantially as indicated by the faint line in the same figure. This deflector F is adjusted in height by means of the downward pressure of a vertical thumb-screw, *f<sup>4</sup>*, (see Fig. 1,) and the platform *f'*, being the heavier side of the frame, the latter can be instantly fixed by the



screw  $f^1$  so as to give any degree of counter curve to the card as the latter passes under it that may be required. The hand wheel H is fixed upon one of the journals of the card-supporting roller D, (see Fig. 1,) and therefore a slight rotary movement can be given to the latter thereby for the purpose of compelling the card to enter between the rollers C and D. The hand-wheel may be placed upon one of the journals of the polishing-roller C, (as represented in Fig. 2,) thus dispensing with the crank-handle and using gear-wheels to connect the rollers; but the first-described arrangement is cheaper and produces a more uniform or even polish upon the card.

Operation: The rollers C and D having been adjusted for the reception and pressure of the card between them by means of one or both of the thumb-screws I I, and the deflector F also adjusted so that the card will be compelled to pass out in contact with the smooth, rounded under edge,  $f^3$ , of the same, the operator gives motion to the roller C by means of the crank-handle, places the card on the platform of the deflector F, and, pushing it up close between the rollers C and D on that side, he then gives a slight opposite rotary movement to the roller D, and thus causes the card to be instantly taken in between the said rollers, and, passing onward, it comes in contact with and is bent downward by the rounded edge  $f^3$  of the deflector, and if the latter has been properly adjusted, the degree of counter deflection produced thereby will exactly correct the upward curve, (see dotted faint line in Fig. 2,) which the small polishing-roller C tends to produce in the card, and thus deliver the card, evenly polished, in a perfectly straight or flat state.

It will readily be seen that as the polishing-roller C is quite small in comparison with the card-supporting roller D the hand-power necessary to be applied to the crank-handle to produce the requisitely-strong pressure upon the card will be very slight; that the operation of polishing or pressing can therefore be effected with greater ease, facility, and perfection, and without any liability of the polishing-rollers springing away from the

card; that the cards will be delivered by the machine in a perfectly-flat state; that the required parallelism of the rollers will always be maintained during the operation of the machine, and that gear-wheels are entirely dispensed with by the application of the hand-wheel to the card-roller, as described, and shown in Fig. 1.

I wish it to be understood that I do not desire to confine myself to the use of only one small polishing-roller, C, as it is obvious that two such rollers may be supported together for receiving the cards between them, they being, of course, sustained by the larger rollers, D and E; but I find a single small roller, C, quite sufficient for the purpose.

Having thus fully described my improvement and pointed out its utility, what I claim as new therein, of my invention, and desire to secure by Letters Patents, is—

1. The employment, in a photograph-card press, of a small polishing-roller, C, between two larger sustaining-rollers, D and E, the three being arranged so as to operate together substantially in the manner described, for the purposes specified.

2. The application to a photograph-card press of the adjustable deflector F, the same being constructed and applied so as to operate upon the cards substantially in the manner set forth and described, for the purpose specified.

3. Sustaining the pillow-blocks of the rollers of a photograph-card press by means of an angular supporter, G, constructed and applied so as to rest with its angular bottom edge,  $g^3$ , only upon an adjustable base of any suitable kind, which will permit it to vibrate thereon, so as to adapt itself to the rollers, as described and set forth, for the purpose specified.

4. The employment of a hand-wheel, H, applied to the card-supporting roller, as described, and shown in Fig. 1, for the purpose specified.

J. B. BLAIR.

Witnesses:

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B. F. SHATTUCK.