

(No Model.)

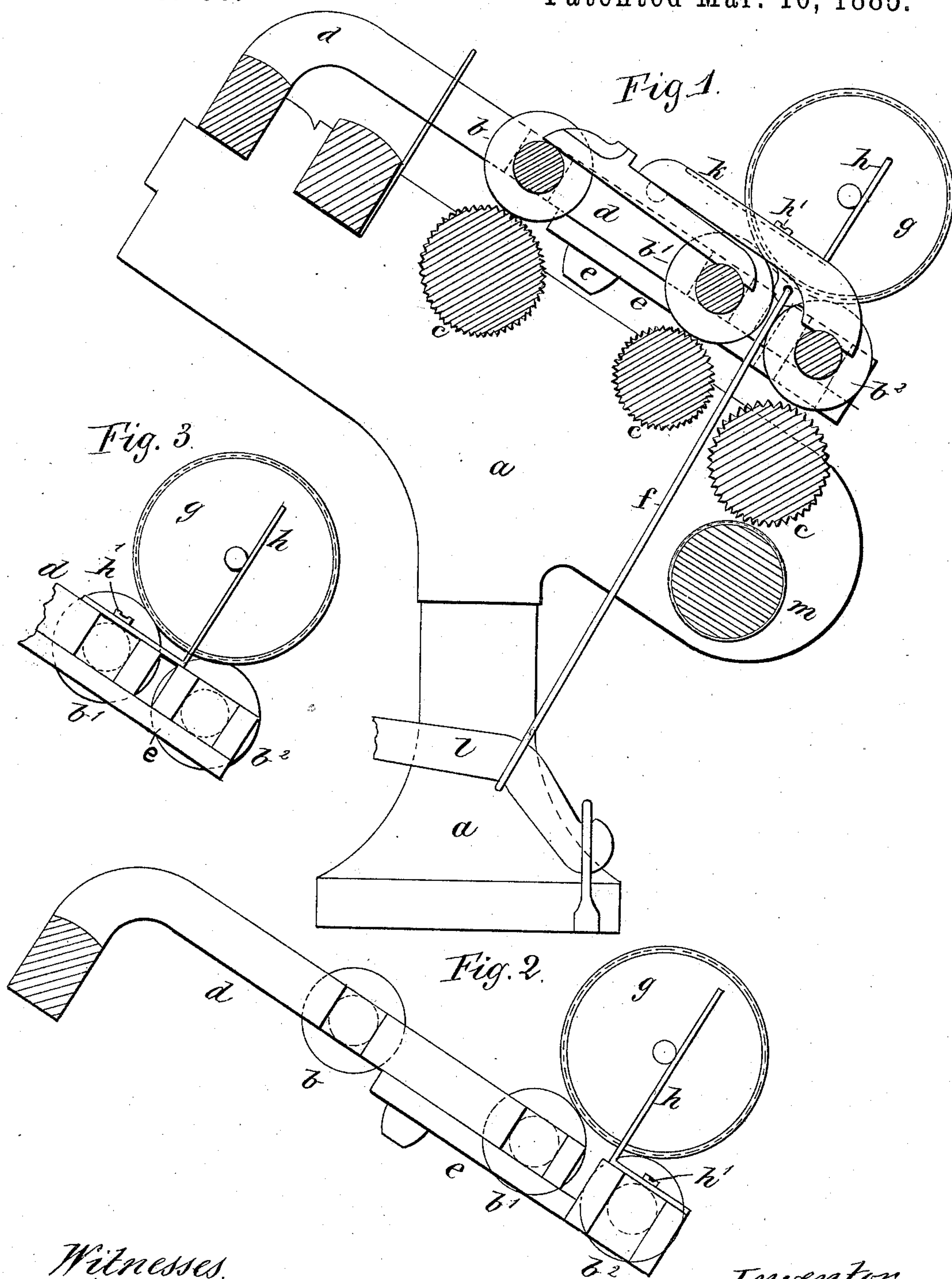
2 Sheets—Sheet 1.

J. WALKER.

CLEARER HOLDER FOR DRAWING FRAMES, &c.

No. 313.790.

Patented Mar. 10, 1885.



Witnesses.
W. E. Goulter.
G. H. Knott.

Inventor
John Walker
By Henry M. Whittell

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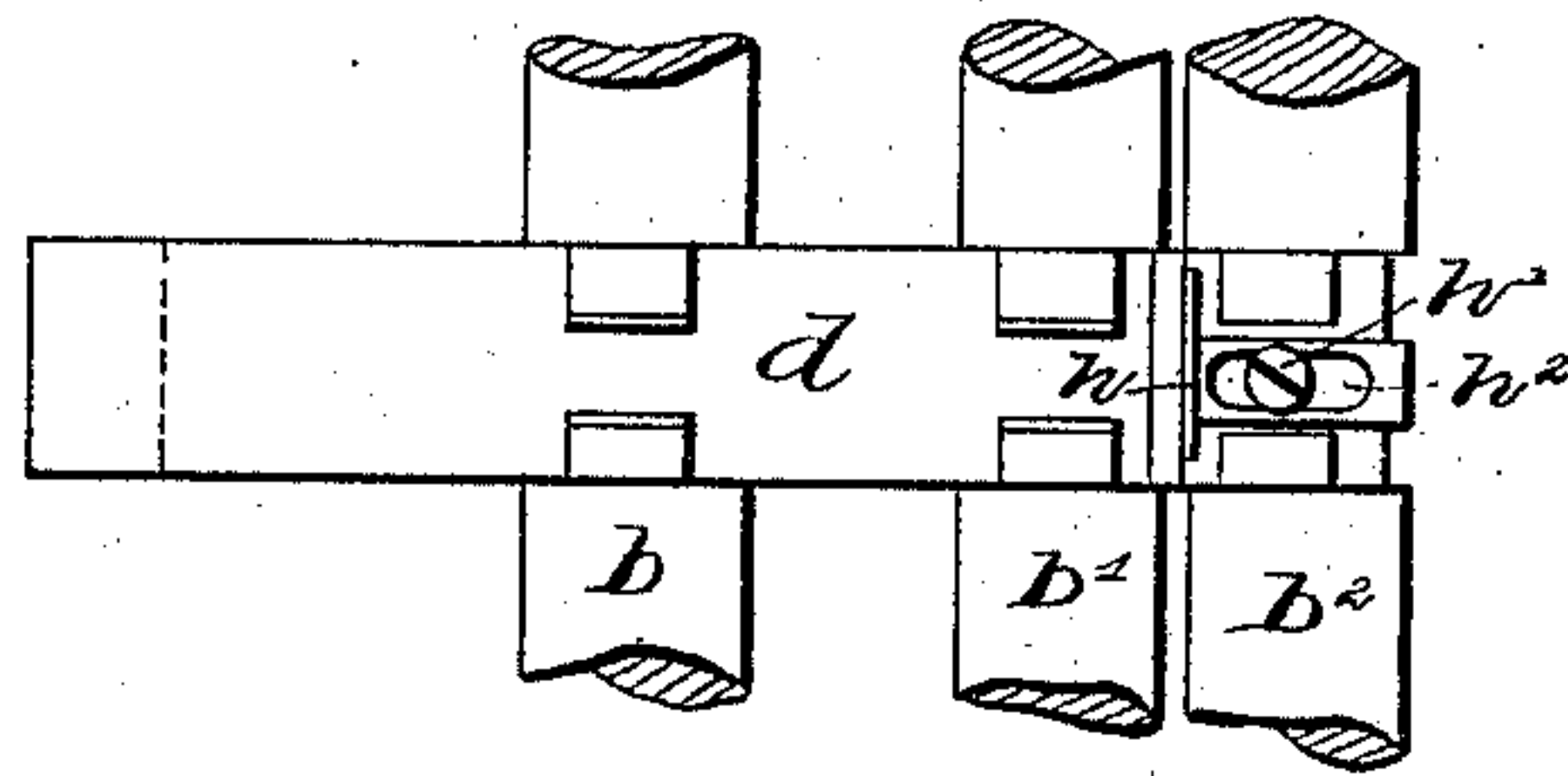


Fig 5

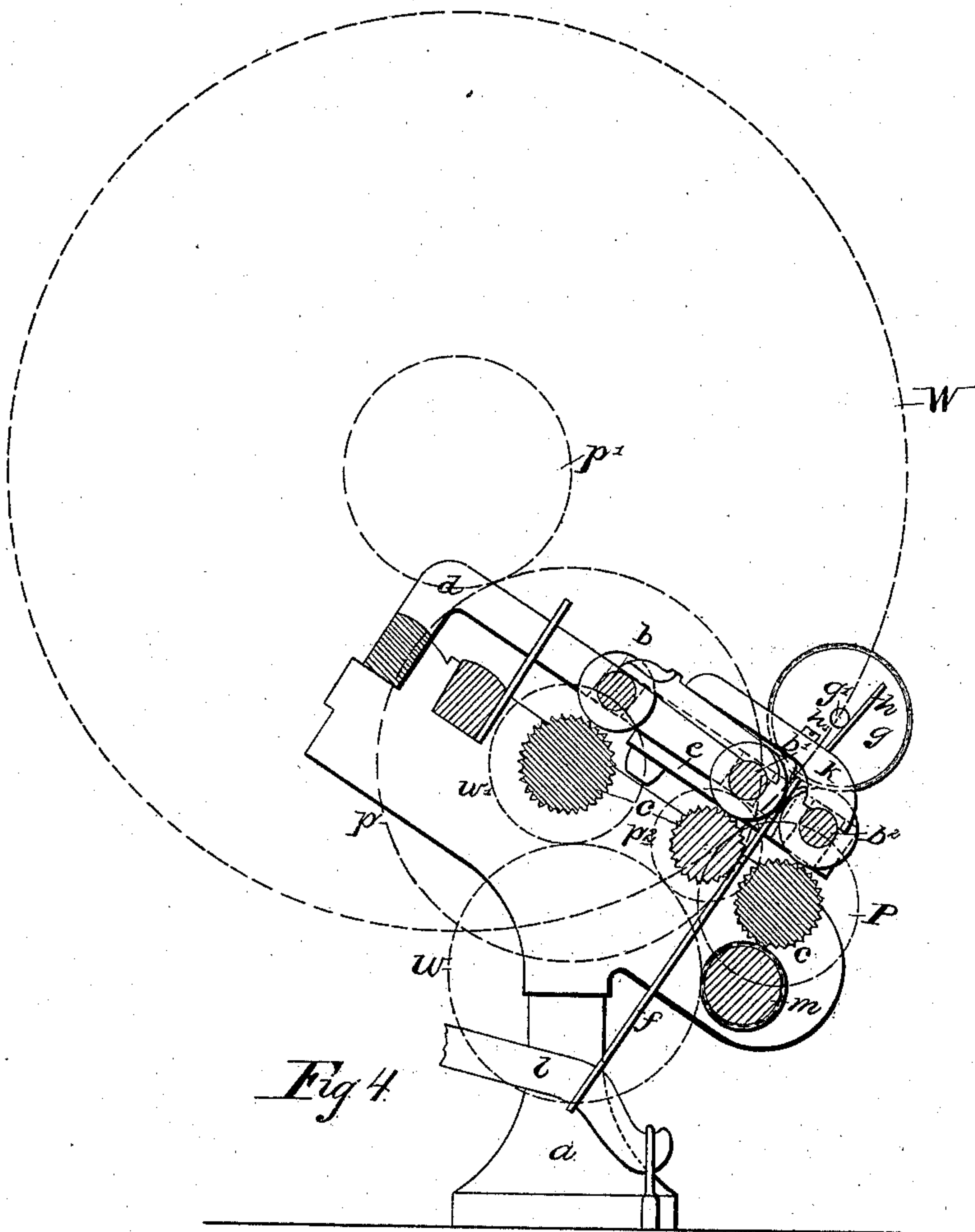


Fig 4

Witnesses:
Samuel Owen Edmonds
W. E. Goulter

Inventor
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UNITED STATES PATENT OFFICE.

JOHN WALKER, OF HYDE, COUNTY OF CHESTER, ENGLAND.

CLEARER-HOLDER FOR DRAWING-FRAMES, &c.

SPECIFICATION forming part of Letters Patent No. 313,790, dated March 10, 1885.

Application filed December 20, 1883. (No model.) Patented in England December 24, 1881, No. 5,645.

To all whom it may concern:

Be it known that I, JOHN WALKER, a citizen of Great Britain, residing at Hyde, in the county of Chester and Kingdom of Great Britain, have invented certain new and useful Improvements in Clearer-Holders for Drawing-Frames, &c.; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

Rollers for drawing fibers used in machines for preparing and spinning fibrous materials are arranged with the axes of the rollers in a horizontal plane according to one system, and with the axes of the rollers in an inclined plane according to another system, the incline descending from the back to the front drawing-rollers. My invention relates to the latter or inclined system of drawing-rollers. In the horizontal system the wood rollers covered with flannel and working in contact with the top drawing-rollers, to take up the loose or waste fiber therefrom and keep them clean, commonly called "clearers," are simply placed to rest between the two rollers; but they cannot be so arranged in the inclined system, as they would roll off the drawing-rollers.

The object of my invention is to provide means for holding and retaining the clearers in their proper positions upon the top rollers, both when the clearers are free from and when covered with an accumulation of fiber. In the common arrangement of clearer on the horizontal system of drawing-rollers the clearer rests equally between both of the upper rollers; but it is driven irregularly and the fiber accumulates in a lumpy condition, which adds further to the irregularity of its rotation.

Another object of my invention is to adjust the clearer so that while touching both upper rollers it will be mainly driven or rotated by resting upon and in contact with the surface of the slowest revolving roller, and though the surface-speed of rotation of the clearer is

not exactly the same as the slow-rotating roller, it needs only to differ sufficiently to rub the loose fibers from it onto the surface of the clearer, and the quick-rotating roller is constantly rubbing more or less upon the surface of the clearer, or the material accumulated upon it, at the same time arresting the rotation of the clearer. When arranged as described, the fiber accumulates upon the clearer in a uniform lap.

My invention consists in the combination, with inclined drawing-rollers, of bearer or bearers attached or secured to some stationary part of the frame or parts near to or connected with the rollers, so as to be in a position perpendicular to a line between the axes of the two front top rollers, or thereabout, the journals of the clearers (one in each end) resting and rotating against the surface of the bearer, (or bearers,) which is made adjustable to the rollers in every position of their adjustment to and from each other, as required, to adapt them to the length of the staple of the fiber to be operated upon.

Figure 1 is a side elevation of the stand and clearer, the drawing-rollers arranged in an inclined position and having my improvements applied thereto, the said rollers being shown in section. Fig. 2 is an end elevation of a "cap-bar," cap-neb, and top rollers detached, illustrating a modification of my invention; and Fig. 3 is an end view of part of the cap-bar and cap-neb and two top-rollers, illustrating another modification of my invention. Fig. 4 is a view similar to Fig. 1, the differential driving-gearing being shown in dotted lines. Fig. 5 is a top plan view of the parts shown in Fig. 2, showing the ends of the drawing-rollers and the bearer for the clearer.

a is the stand; *b*, *b'*, and *b''*, the top rollers; *c*, the bottom rollers; *m*, the under clearer; *d*, the cap-bar; *e*, the cap-neb, and *f* the rod, wire, or strap between the saddle *k* and the weight-lever *l*.

The parts above referred to by letter are ordinary and well-known parts of the inclined system of drawing-rollers used in preparing and spinning-machines for drawing fibrous materials.

g indicates a clearer-roll the same length

as the top rollers, or of any other suitable length, having a journal, g' , at each end, resting against the bearer or bracket h , (one at each end of the clearer,) which is so placed that the vertical portion thereof is at right angles to a line drawn through and joining the axis of the two front rollers, b' b^2 , upon which the clearer is to operate, and such vertical portion, being at right angles to the said line, is thus oblique to the horizon.

The bearing bracket or support h is or may be formed of two arms, one at right angles to the other, and is secured to the saddle k by a screw, h' , passing through a slot, h^2 , Fig. 5, in one arm, so as to make it adjustable. It is adjusted so that the clearer g will rest mainly on the back slow-rotating roller, b' , by preference, but so as to just touch the surface of the more quickly rotating front roller, b^2 . As the waste material accumulates upon the surface of the clearer g its journals will rise, but its surface or that of the material upon it will be kept in the same relative position to the peripheries of the two rollers b' and b^2 . There is or may be a separate bearer or bracket, h , for each journal of the clearer—one at each end; but by preference one bearer, h , is made broad enough to serve as a bearing for contiguous journals of two adjacent clearers.

Fig. 2 illustrates the bearer h secured to the cap-rib e , and Figs. 3 and 5 show the bearer h secured to the cap-bar d and cap-rib e , respectively. In every case there is a slot, h^2 , for the securing-screw h' to pass through, so that the bearer h may be adjusted to its proper position in relation to the two rollers b' and b^2 , the adjustment taking place in a plane at right angles to the axis of the said rollers and clearer, as will be readily understood.

In machines of the class to which my invention pertains the drawing-rolls are usually driven at a differential speed, and any well-known or suitable mechanism may be employed to this end. In Fig. 4 I have shown a well-known driving mechanism. The front

bottom roll is driven by gearing (not shown) from the drum that drives the spindles, and the journal or shaft of said roll carries a pinion, P , that meshes with a gear-wheel, W , secured to a short shaft that is mounted in a suitable bracket. Said short shaft carries a change-pinion, p' , that meshes with a gear-wheel, p , upon the shaft or journal of the rear lower fluted roller. The shaft or journal of the latter roller also carries a pinion, w' , that meshes with a gear-wheel, w , which latter drives the lower center fluted roller through the pinion p^2 on the shaft or journal of said roller, the gearing being the differential gear usually employed.

Having now described my invention, what I claim is—

1. The combination, substantially as herein described, with the top rollers, b' b^2 , arranged in an inclined position, of a self-adjusting clearer arranged to bear chiefly on the slow roll b' and merely contact with the periphery of the fast roll b^2 , and a bearing for the journals of said clearer, along which said journals are free to move vertically, for the purposes specified.

2. The combination, substantially as herein described, with the rolls b' b^2 and the clearer g , of a bearer on which the journals of the clearer rest, said bearer being adjustable relatively to the rolls and clearer in a plane at right angles to their axes, for the purpose specified.

3. The combination, substantially as herein described, with the rolls b' b^2 , the clearer g , stand a , and the saddle k , of the bearer h , adjustable on said saddle in a plane at right angles to the axis of the rolls and clearer, for the purpose specified.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN WALKER.

Witnesses:

PETER J. LIVSEY,
JAMES WOOD.