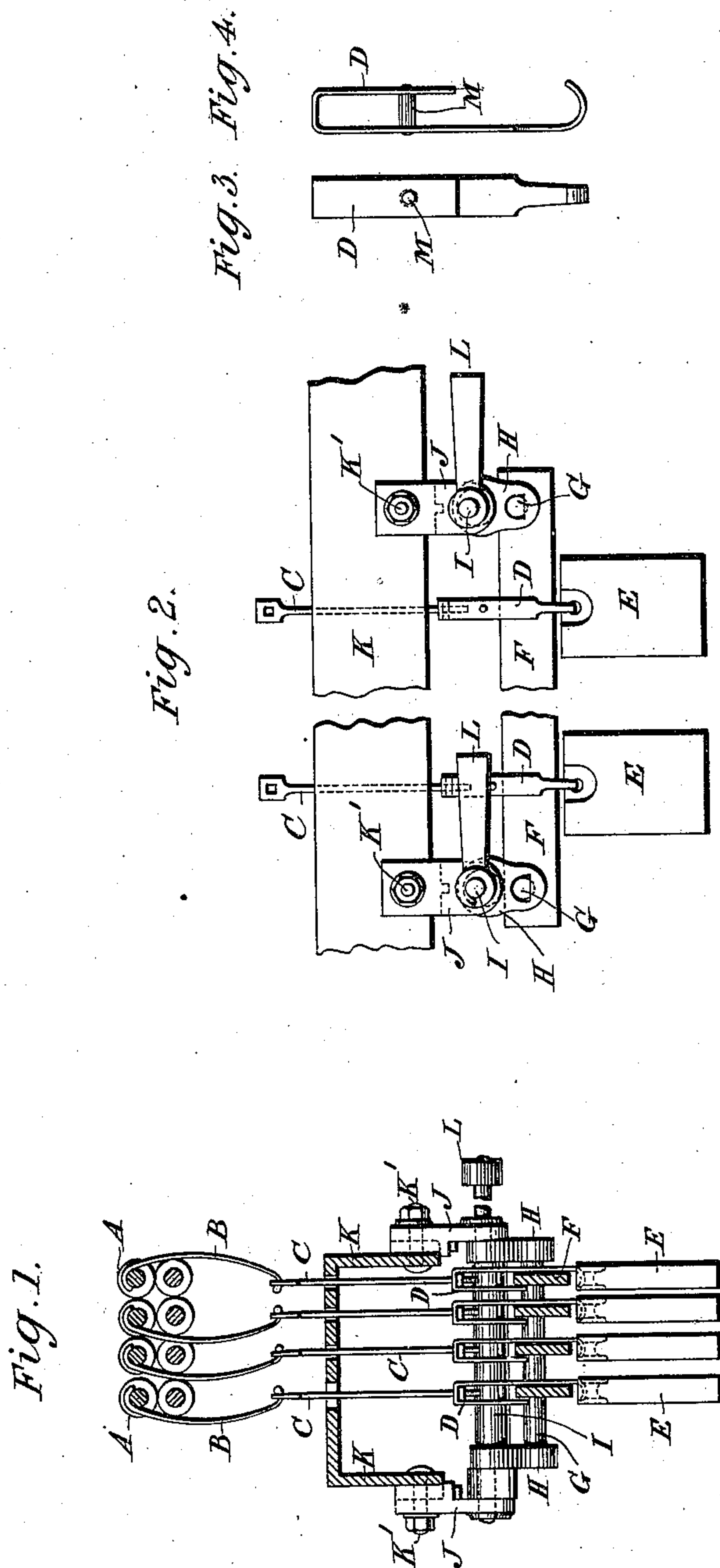


(No Model.)

E. & S. TWEEDALE & J. SMALLEY.
DRAWING FRAME.

No. 575,558.

Patented Jan. 19, 1897.



WITNESSES.
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EDMUND TWEEDALE, SAMUEL TWEEDALE, AND JOSEPH SMALLEY, OF
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DRAWING-FRAME.

SPECIFICATION forming part of Letters Patent No. 575,558, dated January 19, 1897.

Application filed March 7, 1896. Serial No. 582,288. (No model.) Patented in England January 18, 1894, No. 1,098.

To all whom it may concern:

Be it known that we, EDMUND TWEEDALE, SAMUEL TWEEDALE, and JOSEPH SMALLEY, subjects of Her Majesty the Queen of Great Britain, residing at Castleton, Manchester, in the county of Lancaster, England, have invented a certain new and useful Improvement in Drawing-Frames for Fibrous Materials, (for which we have obtained Letters Patent in Great Britain under date of January 18, 1894, No. 1,098 of 1894,) of which the following is a specification.

This invention relates to a new and improved construction and arrangement of parts for raising and supporting the weights suspended from the top rollers of drawing-frames and for facilitating the renewal of different parts.

According to this invention we form holes in each end of the flat bars used for raising the roller-weights. These holes are placed near the top edge of the bar to cause them to hang without tilting sidewise. Through these holes we put a rod, and support each end of this rod by links from an eccentric shaft that is connected to the sides of the roller-beam or rail. Hitherto the holes in the hooks on which the roller-weights are hung have surrounded the flat bar, and when any of the hooks require renewal the bar has had to be removed. To obviate this, we form the hole in the hooks for the reception of the bar with an opening on one side to enable them to be taken off or put on without disturbing the bar from its working position.

Referring to the accompanying drawings, Figure 1 is a sectional elevation of such parts of a drawing-frame as is necessary to illustrate our invention. Fig. 2 is a front elevation of part of Fig. 1. Fig. 3 is a front view of the hook, and Fig. 4 a side view of same, both being on an enlarged scale.

A represents the top rollers of a drawing-frame, on the axles of which are suspended hooks B, connected by screwed rods C to hooks D, to the bottom of which the ordinary weights E are suspended.

F are the flat bars, made with a suitable form of holes at each end for the reception of rods G. The holes in each end of the flat bars are made above the center or near the top

edge, so that more weight of metal is below the holes than above them, by which means the bars will hang vertically without tilting sidewise. Each end of the rods G is supported and carried by links H, which in turn are supported by an eccentric shaft I, mounted in brackets J, bolted to the sides of the roller-beam or rail K at K'. Therefore when it is necessary to remove the pressure of the weights E off the top rollers A the handles L on the eccentric shaft are turned partially around, in doing which the rods G and flat bars F are raised, causing the top edge of the said flat bars to bear on the pins or rollers M, which are secured about midway across the hook D, as shown by Figs. 2 and 4, by which means the weights are for the time being supported upon the top edge of the flat bars F instead of being supported on the top rollers.

Instead of the hook D surrounding the flat bars, as is the case with those hooks at present in use, our improved hook is made with an opening or aperture on one side, which permits any one of the hooks being removed without disturbing the bars from their working position.

The hooks as heretofore made have been of cast metal and clumsy and heavy, in addition to which they occupy considerable space in the frame. To form the open-sided hook required of cast metal would require that the parts should be even heavier and thicker than heretofore, and we therefore form our improved hook of strip metal bent into the form shown, the pin M serving to connect the sides and stiffen same and prevent it opening out under the weights. Such a hook is both lighter and more compact than that heretofore employed.

What we claim is—

In a drawing-frame the combination with the top rollers and their weight-carrying hooks and screwed adjusting-rods, of bent metal hooks D, a pin M in each hook connecting the side of same, an opening in one side of each hook beneath the pins, bars F, one passing through each hook beneath said pins, the opening in said bar being of a size to enable the hook to be drawn out from same, weights carried at the extremities of said hooks, a rod G at either end of the bars F to con-

nect them all and passing through holes near
the upper edge of same, a link H at each end
of each rod G, an eccentric shaft situated over
each rod and passing through the two links of
5 same, means for carrying such shafts and
handles for turning same to raise the rods and
thereby bring the bars F against the pins M to
raise the weights, substantially as described.

In testimony whereof we have hereunto set

our hands in the presence of two subscribing 10
witnesses.

EDMUND TWEEDALE.
SAMUEL TWEEDALE.
JOSEPH SMAILEY.

Witnesses:

FREDERICK A. VERITY,
SAMUEL JACKSON.