

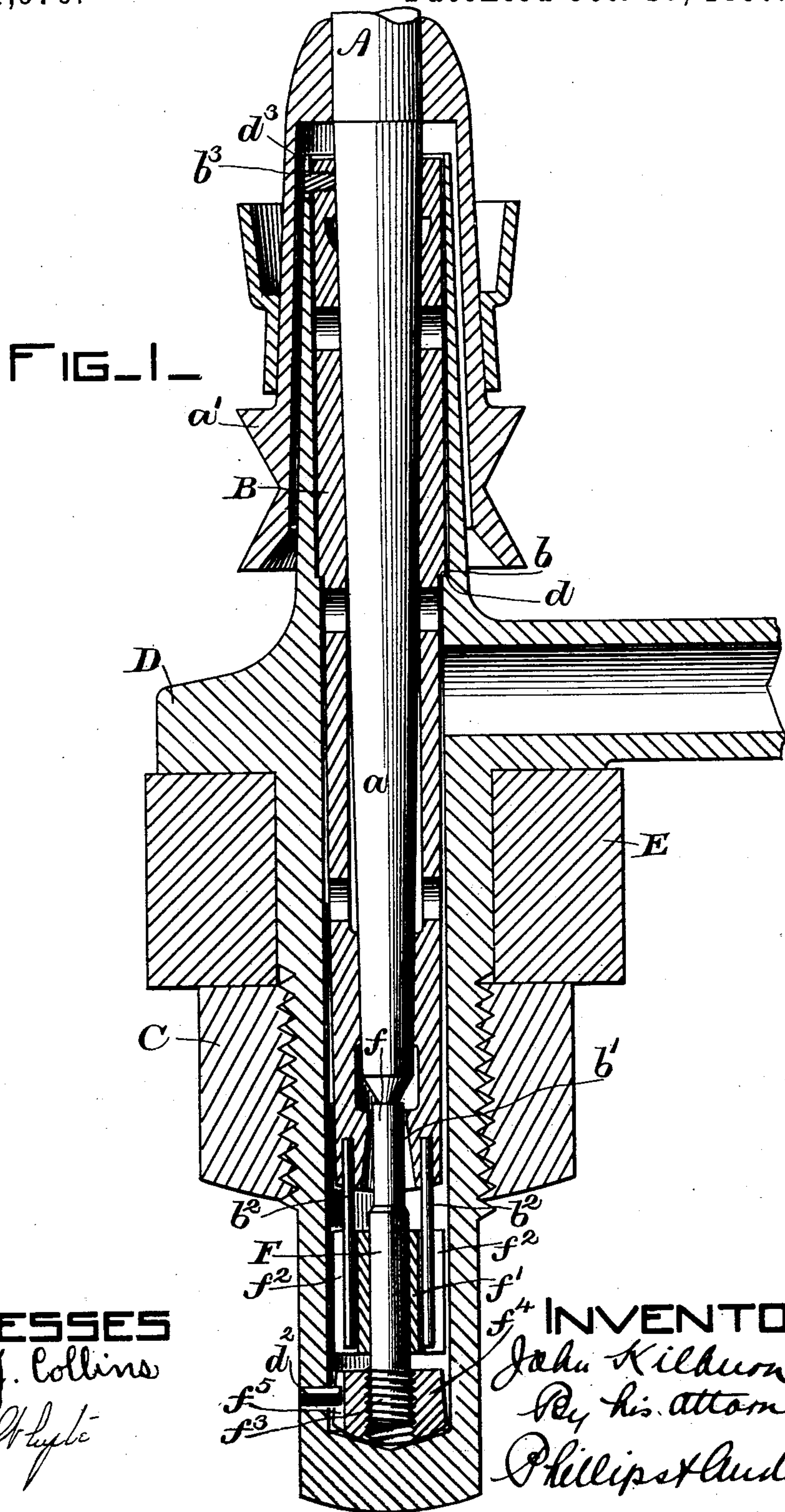
(No Model.)

2 Sheets—Sheet 1.

J. KILBURN.  
SPINDLE BEARING.

No. 591,976.

Patented Oct. 19, 1897.



WITNESSES  
John J. Collins  
O. E. Stuyt

*J<sup>4</sup>* INVENTOR  
John Kildron.  
By his attorneys.  
Phillips & Anderson

(No Model.)

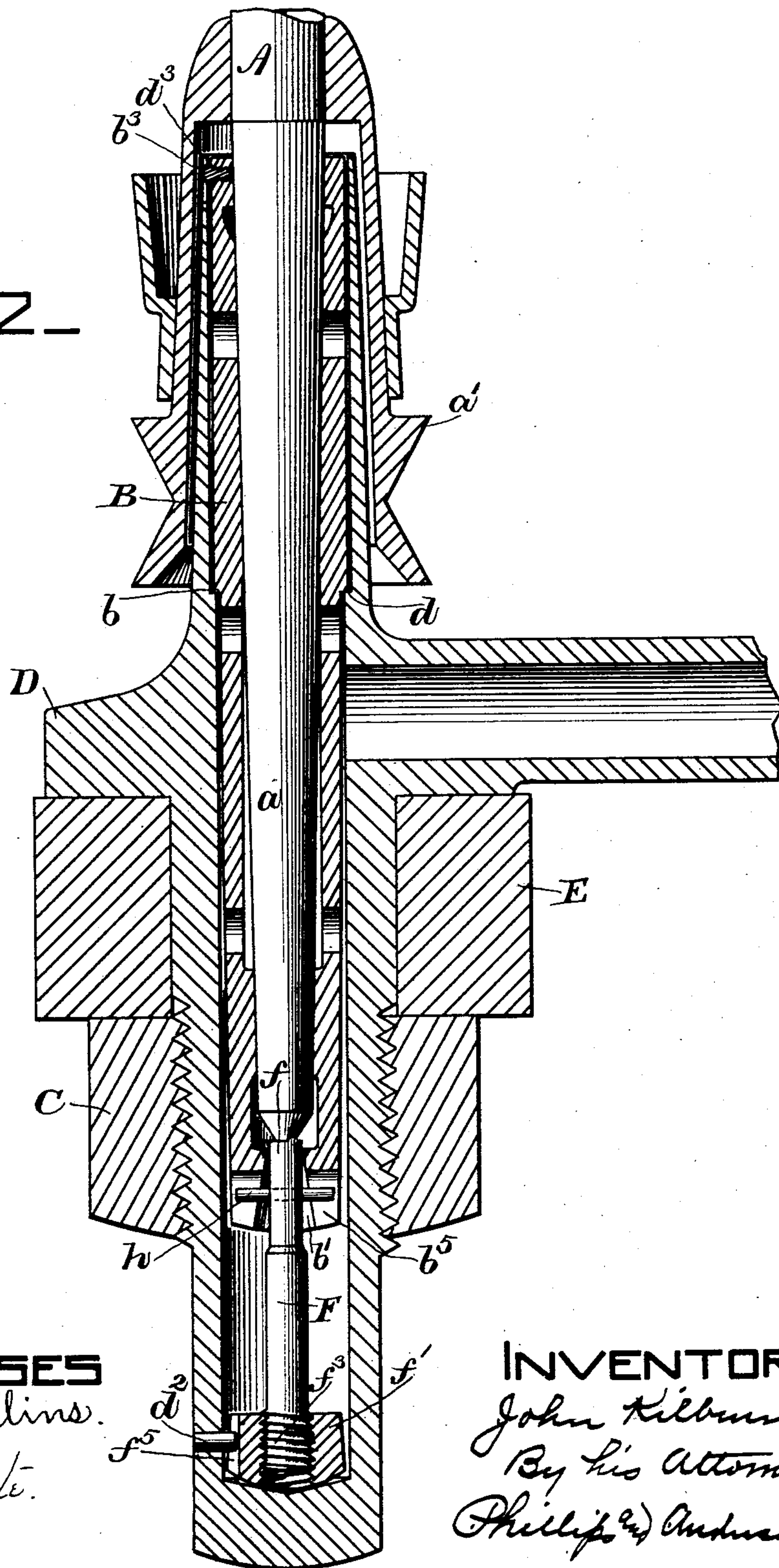
2 Sheets—Sheet 2.

J. KILBURN.  
SPINDLE BEARING.

No. 591,976.

Patented Oct. 19, 1897.

FIG. 2.



WITNESSES  
John J. Collins.  
O. E. H. Lyle.

INVENTOR  
John Kilburn  
By his Attorney  
Phillips & Anderson



# UNITED STATES PATENT OFFICE.

JOHN KILBURN, OF BELMONT, MASSACHUSETTS.

## SPINDLE-BEARING.

SPECIFICATION forming part of Letters Patent No. 591,976, dated October 19, 1897.

Application filed December 2, 1896. Serial No. 614,261. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN KILBURN, a citizen of the United States, residing at Belmont, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Spindle-Bearings; 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.

The present invention relates generally to spindle-bearings for spindles of the self-centering or "top" type, so called, and more particularly to that type of spindle-bearings in which the bolster is supported at a point above the base, constituting what is commonly termed a "suspended" bolster.

As spindles of the class above designated are commonly constructed, they are provided with a tapered pintle, which is fitted to a correspondingly-shaped bearing in the bolster; and the present invention has for its object to provide an improved means for adjusting the vertical position of the step in the bolster, and thereby taking up the wear of parts, and keeping the spindle at the proper height in the bolster, and preventing the spindle-pintle from binding in its bearings.

To the above end the present invention consists of a suspended bolster having an independently-supported adjustable step, and of means for adjusting said step, as hereinafter described and claimed.

The present invention is illustrated in the accompanying drawings, in which—

Figures 1 and 2 are longitudinal sections through spindle-bearings embodying preferred forms, slightly modified, of the present invention, the lower portion of the spindle and other parts being shown in elevation.

Similar letters of reference refer to similar parts throughout both views.

In the drawings, A represents the spindle, shown as having the usual tapered pintle *a* and the sleeve-whirl *a'*.

B is the bolster, placed loosely in the bolster-case D, and suspended upon the shoulder *b*, which engages the complementary shoulder *d* on the bolster-case D.

C represents the usual nut, which engages the threaded exterior of the bolster-case D

to hold it in position on the rail, and E represents the spindle-rail.

All of the above parts, except as hereinafter specified, may be, and conveniently are, of any usual or convenient construction, and their form and arrangement can be varied without any departure from the essential features of the present invention.

In the form of my invention shown in Fig. 1 I have bored out the base of the bolster B to form an aperture *b'*, which receives the upper portion *f* of a pintle F, which is projected into the bore of the bolster B, and which forms the step, the lower end of the spindle-pintle *a* resting upon the top thereof.

Below the bolster B the pintle F carries a disk or sleeve *f'*, fitted on the pintle F with a driving fit, or otherwise arranged to rotate with the pintle F. In the sleeve *f'* are formed the vertical slots *f<sup>2</sup>*, which are engaged by the rods or pins *b<sup>2</sup>*, projecting from the base of the bolster B, said rods or pins *b<sup>2</sup>* being free to reciprocate vertically, and preferably to have a slight lateral movement, in the slot *f<sup>2</sup>*. The lower portion *f<sup>3</sup>* of the pintle F is threaded, and engages correspondingly-threaded bearings in the sleeve, or other suitable support *f<sup>4</sup>*, which conveniently rests upon the bottom of the bolster-case D, and is held from rotation by any suitable means, conveniently by a pin *d<sup>2</sup>*, which engages the vertical slot *f<sup>5</sup>* in the sleeve *f<sup>4</sup>*.

The upper portion *f* of the pintle F is free to reciprocate vertically in the aperture *b'*, and the hereinbefore-described arrangement is such that a rotation of the bolster B, by means of the pins *b<sup>2</sup>*, rotates the sleeve *f'*, and turns the pintle F in its threaded bearings in the sleeve *f<sup>4</sup>*, causing it to be elevated or depressed, and raising or lowering the step in the bolster B.

The bolster B may be conveniently held from rotation by the usual pin *b<sup>3</sup>*, which engages a slot or series of slots *d<sup>3</sup>* in the bolster-case D. The slots *d<sup>3</sup>* may be arranged to lock the bolster B at any desired portion of a revolution.

In the form of my invention shown in Fig. 1 of the drawings to adjust the height of the step in the bolster B, the bolster B is first raised in the bolster-case D until the pin *b<sup>3</sup>* clears the slot *d<sup>3</sup>*, the rods or pins *b<sup>2</sup>* being



raised in, but not disengaged from, the slots  $f^2$ , and the bolster B is turned to effect the required adjustment, as before stated, after which the bolster B is lowered into position, 5 and the pin  $b^3$  engaged with the next adjacent slot  $d^3$ .

To allow the bolster B to move with the spindle A to adjust itself under an unbalanced load, I find it convenient in practice to 10 make the aperture  $b'$  slightly flaring toward its base, to arrange the rods or pins  $b^2$  to have a slight lateral play in the slots  $f^2$  to fit the sleeves  $f'$  and  $f^4$  loosely to the bore of the bolster-case D, and to slightly curve the base 15 of the sleeve  $f^4$ , but the same result may be secured by other suitable means without any departure from the present invention.

The modified form of my invention shown in Fig. 2 of the drawings is essentially similar to that hereinbefore described, the difference in details of construction consisting in the omission of the sleeve  $f'$  and rods or pins  $b^2$ , and the substitution therefor, as means for rotating the pintle F, of the pin  $h$ , which is 25 firmly held, preferably by a driving fit, in the pintle F. The pin  $h$  is projected upon both sides of the pintle F and engages a vertical slot  $b^5$  in the base of the bolster B, and passing through the aperture  $b'$ . The arrangement shown in Fig. 2 is such that the pintle 30 F is turned in its threaded bearings in the sleeve  $f^4$  by a rotation of the bolster B by means of the pin  $h$ , and the slot  $b^5$  is formed and arranged to permit the bolster B to be 35 raised to disengage the pin  $b^3$  from the slot  $d^3$  without disengaging the pin  $h$  from the slot  $b^5$ .

Having thus described my invention, I desire to say that in another application filed 40 herewith, Serial No. 614,260, I have shown and claimed a suspended bolster carrying an adjustable step, while in another application

filed herewith, Serial No. 614,258, I have shown a suspended bolster and an adjustable step supported independently thereof, but have 45 not therein claimed the same, the claims in said last-named application being drawn to other novel devices.

I therefore claim as novel and desire to secure by Letters Patent of the United States— 50

1. The bolster-case, the bolster suspended loosely therein and having a recess in its lower end, a step-pintle projected into the recess, a sleeve mounted on the step-pintle and held to 55 rotate therewith, a sliding connection between said sleeve and the bolster, arranged to rotate the sleeve and step-pintle with the bolster, substantially as described.

2. The bolster-case and bolster, a step-pintle projected into the bolster, and a support 60 for the step-pintle loosely fitted in the bolster-case, a threaded connection between the pintle and its support and means to restrain the support from rotation, substantially as described. 65

3. The bolster-case, the bolster suspended loosely therein and having a recess in its lower end, a step-pintle projected into the recess, a lateral projection on the step-pintle below the 70 bolster, a vertical pin projected from the bottom of the bolster, a bearing for said pin in said projection arranged to permit a lateral movement and vertical reciprocation of said pin, whereby the bolster is adapted to rotate 75 the step-pintle and is free to move longitudinally and to have a slight gyrating movement, substantially as described.

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

JOHN KILBURN.

Witnesses:

A. O. ORNE,  
A. E. WHYTE.