

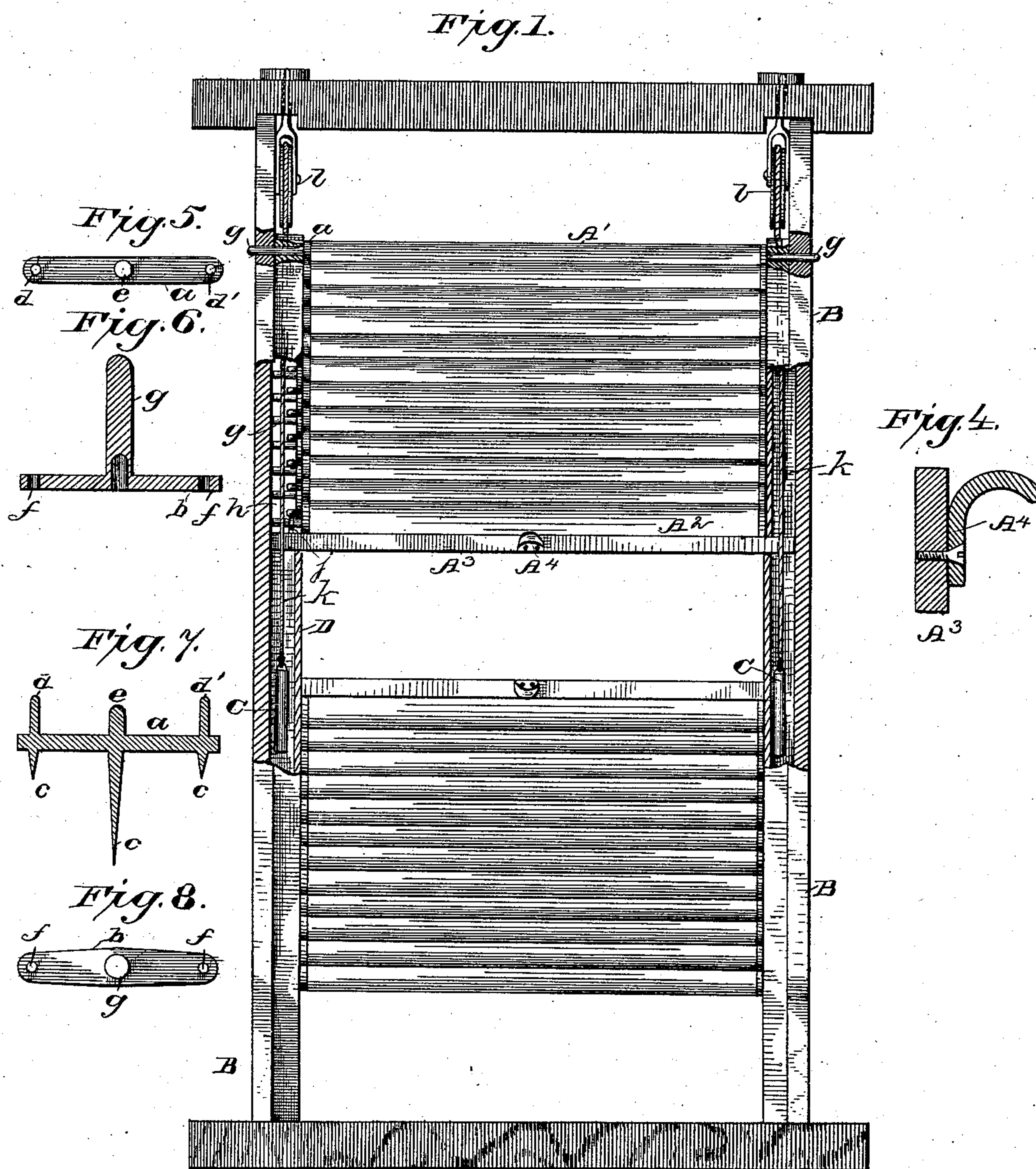
(No Model.)

2 Sheets—Sheet 1.

H. L. PAGE.
BLIND AND SHUTTER.

No. 287,712.

Patented Oct. 30, 1883.



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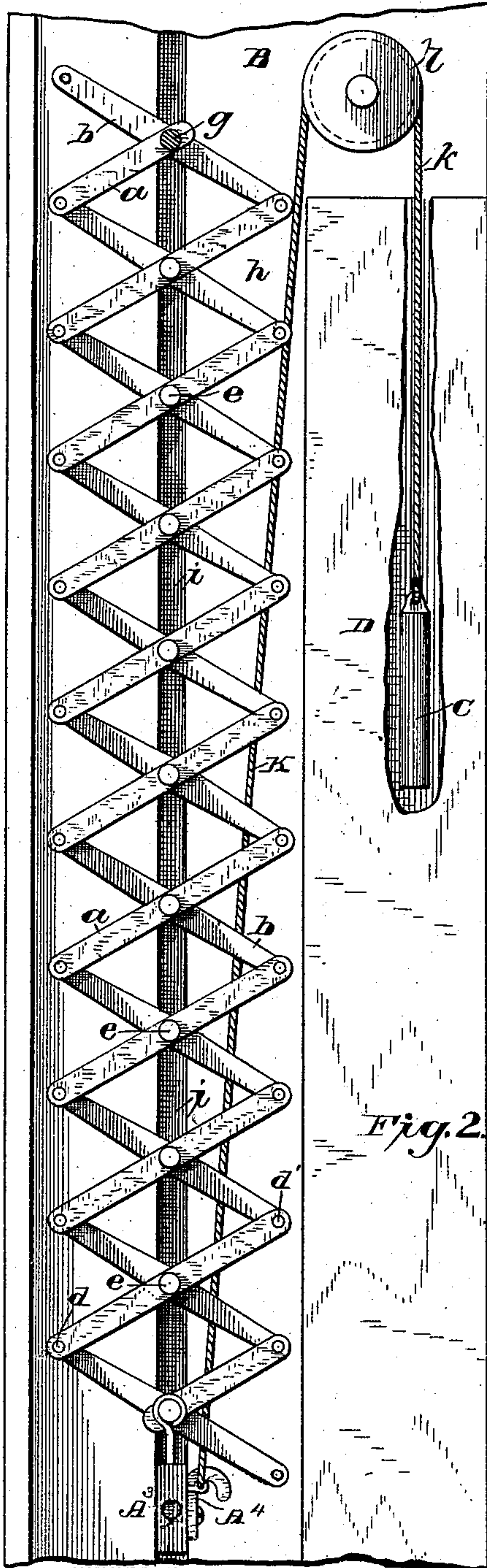


Fig. 2.

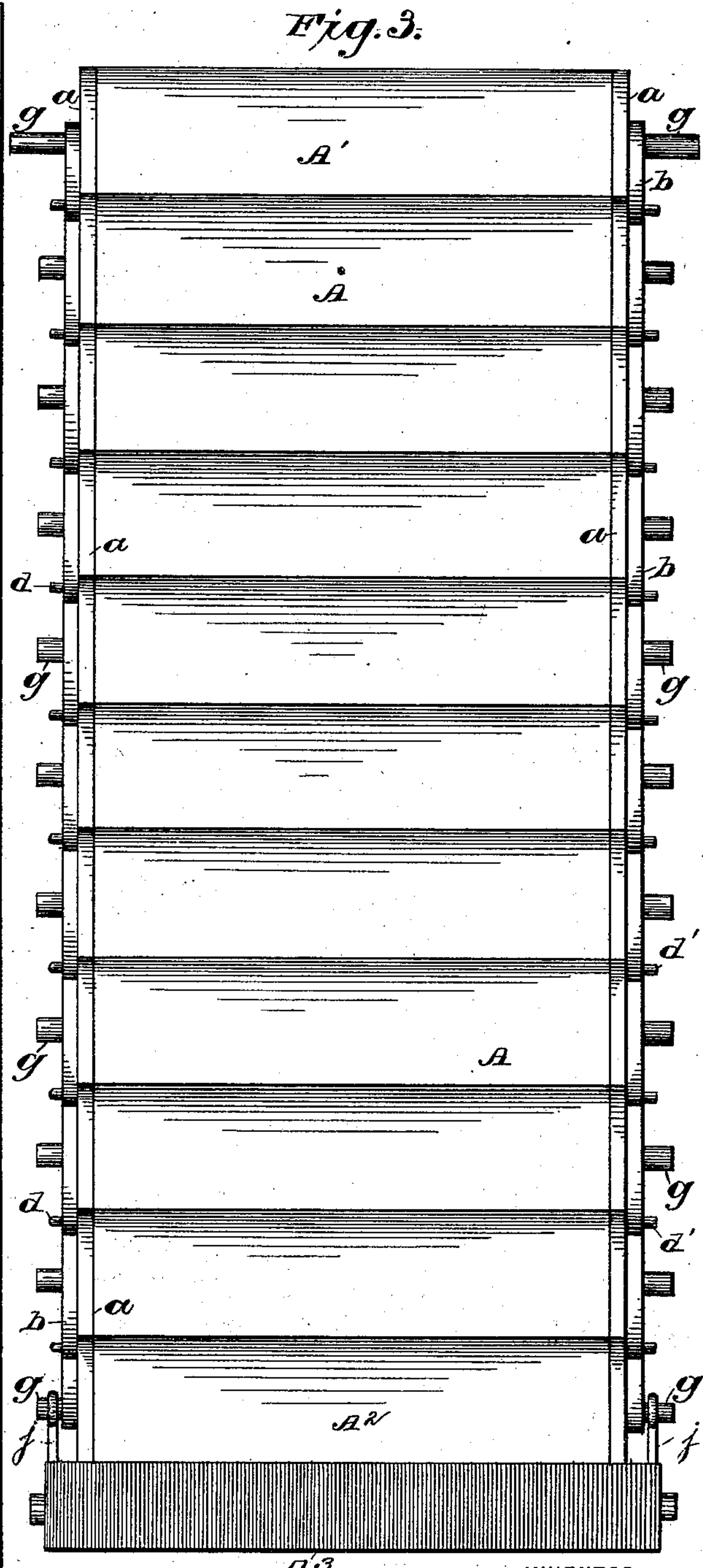


Fig. 3.

WITNESSES

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A³

INVENTOR

Harvey L. Page
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UNITED STATES PATENT OFFICE.

HARVEY L. PAGE, OF WASHINGTON, DISTRICT OF COLUMBIA.

BLIND AND SHUTTER.

SPECIFICATION forming part of Letters Patent No. 287,712, dated October 30, 1883.

Application filed August 9, 1883. (No model.)

To all whom it may concern:

Be it known that I, HARVEY L. PAGE, of the city of Washington, in the District of Columbia, have invented certain new and useful
5 Improvements in Blinds and Shutters, of which the following is a specification.

In making my improvements I have had mainly in view inside window-blinds for houses; but the invention is applicable to
10 shutters, screens, &c., for any use.

It has been my object to make a screen, blind, or the like which, when open or drawn up, will be put into small compass, something like a Venetian blind. This result I find I can
15 attain by combining with the blind or screen slats lazy-tongs, by which they are held and with which they move, whereby the slats will lie flat and close together when the blind is open, and will be drawn apart, and at the same
20 time inclined or slanted, when the blind is closed or extended, the degree of inclination of the slats, and consequently the extent of opening between the slats for the admission of light, being determined by the extent to which
25 the blind is drawn out. It is this combination of blind or screen with lazy-tongs, to which the slats are attached and with which they move, that mainly characterizes my invention.

The nature of my invention and the manner
30 in which the same is or may be carried into effect will be readily understood by reference to the accompanying drawings, in which I have represented my improvements in their preferred form.

35 Figure 1 is a front view, partly in section, of a window-blind made in accordance with my invention. Fig. 2 is a side view of the same, showing the lazy-tongs arrangement. Fig. 3 is a front view of the same. Figs. 4, 5,
40 6, 7, and 8 are detail views, which will be hereinafter more fully described.

A are the slats, and *a b* are the two sets of metallic arms constituting the lazy-tongs. There are two lazy-tongs, one at each side of
45 the blind. Arms *a* are firmly fixed to the ends of the slats A, so that the latter in reality form part of the lazy-tongs. Indeed, arms *a* could be dispensed with, and the slats A and arms *b* pivoted directly together. The arms
50 *a* are preferred, because they serve to increase materially the durability of the blind, and to

render less likely the splitting of the slats or the working loose of the pins.

The arms *a* are of metal, and can be made—as, for instance, by casting—easily, quickly, 55 and at small cost. Each consists of a plate or strip of the size and shape of the end of the slat, provided on its inner or rear face with three spurs, *c*, by which it is held firmly to the slat, and on its outer face with two pivot- 60 pins, *d d'*, one at each end, and a central pivot pintle or pin, *e*. The arm is readily attached to the slat by fitting it on the end of the latter and then hammering it up into place, with the effect of course of driving the holding-spurs *c* 65 into the slat. The arms *b*, which also are of metal, and preferably are cast, are provided each with end holes, *f*, to fit on the end pivots, *d d'*, of arms *a*, and with a central guide-pin, *g*, made tubular, or provided with a socket, so 70 as to fit upon the central pintle, *e*, of arms *a*.

To secure the parts together the slats A, provided at their ends with arms *a*, are laid flat one upon the other. The other arms, *b*, are now applied to arms *a*, as indicated in the 75 drawings, each arm *b* being fitted at one end upon the pivot-pin *d* of one slat and at the other end upon the pivot-pin *d'* of the second slat above, and at the center upon the pintle *e* of the intermediate slat, which pintle enters 80 the socket in the guide-pin *g*.

One way of applying the blind to a window is indicated in the drawings. In the sides of the window-frame B are formed vertical grooves *h*, of a width equal to or a little ex- 85 ceeding that of the slats. These grooves are to receive the ends of the blind, and to hide the lazy-tongs arrangement. Extending lengthwise and midway of each groove *h* is a narrow groove, *i*, which is the guide-groove into which 90 the center guide-pins, *g*, enter. The top slat, A', of the blind necessarily can have no vertical movement. It is therefore pivoted by its pin *g* in holes or sockets in the window-frame, so that it can turn, but not move up or down. 95 The bottom slat, A², is connected to a cross-rail, A³, by eyes *j*, which encircle the guide-pins *g* on the center pintles of A². Cross-rail A³ has also guide-pins, which move in grooves *i*, and is provided with a thumb or finger piece, 100 A⁴. By taking hold of the latter the blind can be raised or pulled down without trouble.

In order to facilitate the operation, and to hold the blind in any position to which it may be moved, I employ counter-weights C, which run in boxes D in the window-frame, and are connected to the blind by cords *k*, which pass up from the counter-weights over pulleys *l*, and thence down to the bottom rail, to which they are fastened. The weight of the blind is thus counterbalanced, so that the blind will remain in any position to which it may be moved. When the blind is raised, the slats lie flat and closely packed together. When it is fully drawn down, the slats are slanted to their full extent, and are closed against the admission of light. In proportion to the extent to which the blind is drawn down or extended the slats will be correspondingly drawn apart and slanted.

In some cases, particularly for windows of considerable length, I have one blind at the top to draw down and another blind at the bottom to draw up, arranging them so that when extended, or nearly extended, they will meet at about the longitudinal center of the window. They may be independent of each other, if desired, and this generally will be the arrangement; but the two can readily be so connected that a movement of one in either direction will induce a corresponding movement of the other.

I have indicated what I now believe to be on the whole the best way of carrying my invention into practical effect; but I desire it to be understood that I do not restrict myself to the mechanical devices herein described, for the details of construction, without departure from my invention, can be varied in many particulars, depending upon the place where the blind is to be used and the use to which it is to be put.

What I claim as new and of my own invention is—

1. The combination, in a blind or screen, of lazy-tongs, and slats connected thereto, substantially as hereinbefore described, so as to be integral with or to virtually constitute one limb of the lazy-tongs system, as set forth.

2. In a blind or screen, the combination, with slats, of connecting-arms pivoted to said slats in the manner of lazy-tongs, and provided with central guide-pins adapted to move in guide grooves or ways when the blind is being extended or contracted, substantially as and for the purposes hereinbefore set forth.

3. In a blind or screen, the combination, with the slats and the lazy-tongs connections for the same, of counter-weights connected to the outer or moving end of the blind, substantially as and for the purposes hereinbefore set forth.

4. The arm *a b*, made as hereinbefore described, in combination with the slats connected thereto, substantially in the manner and for the purposes set forth.

5. The combination of the arms *a b*, the slats connected thereto, as herein described, and the blind or screen frame provided with guide grooves or ways, to receive the central guide-pins of arms *b*, substantially as and for the purposes set forth.

6. The combination, with the blind or screen frame and guide grooves or ways formed in the same, of the blind-slats, their lazy-tongs connections, as described, and the hand or cross rail connected by eyes, hooks, or their equivalents to the moving end of the blind, substantially as and for the purposes hereinbefore set forth.

In testimony whereof I have hereunto set my hand this 28th day of July, A. D. 1883.

HARVEY L. PAGE.

Witnesses:

EWELL A. DICK,
J. WALTER BLANDFORD.