

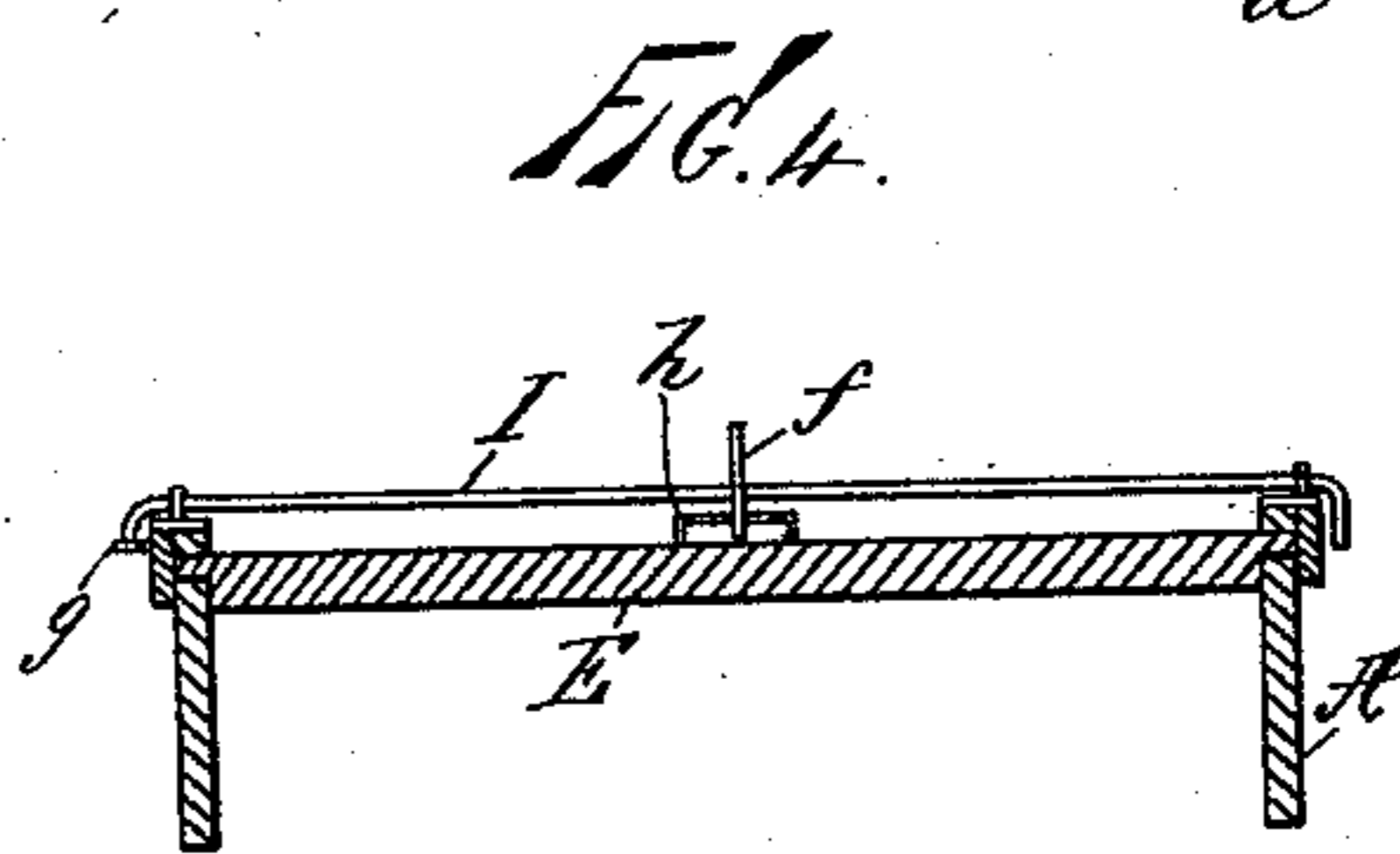
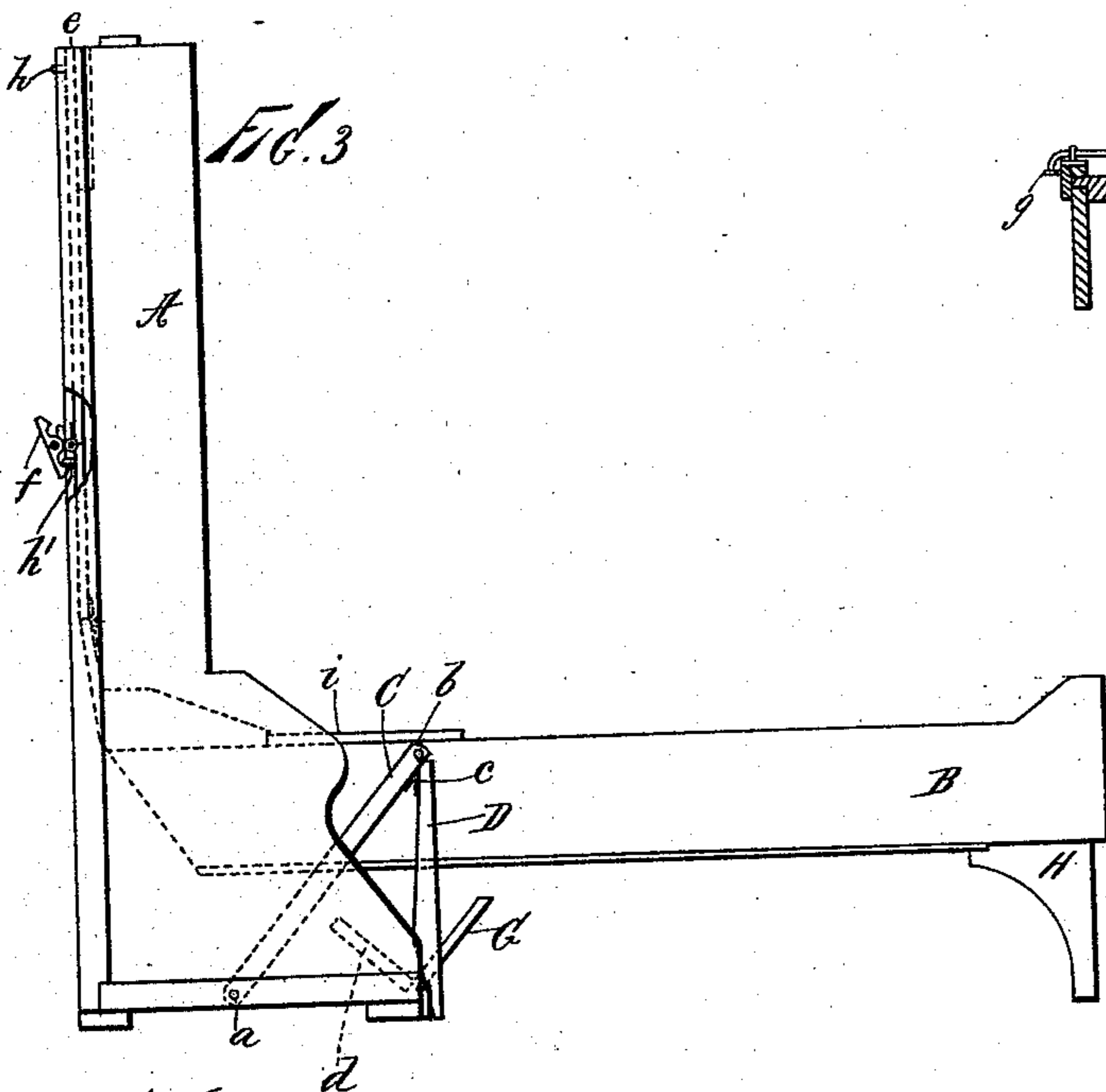
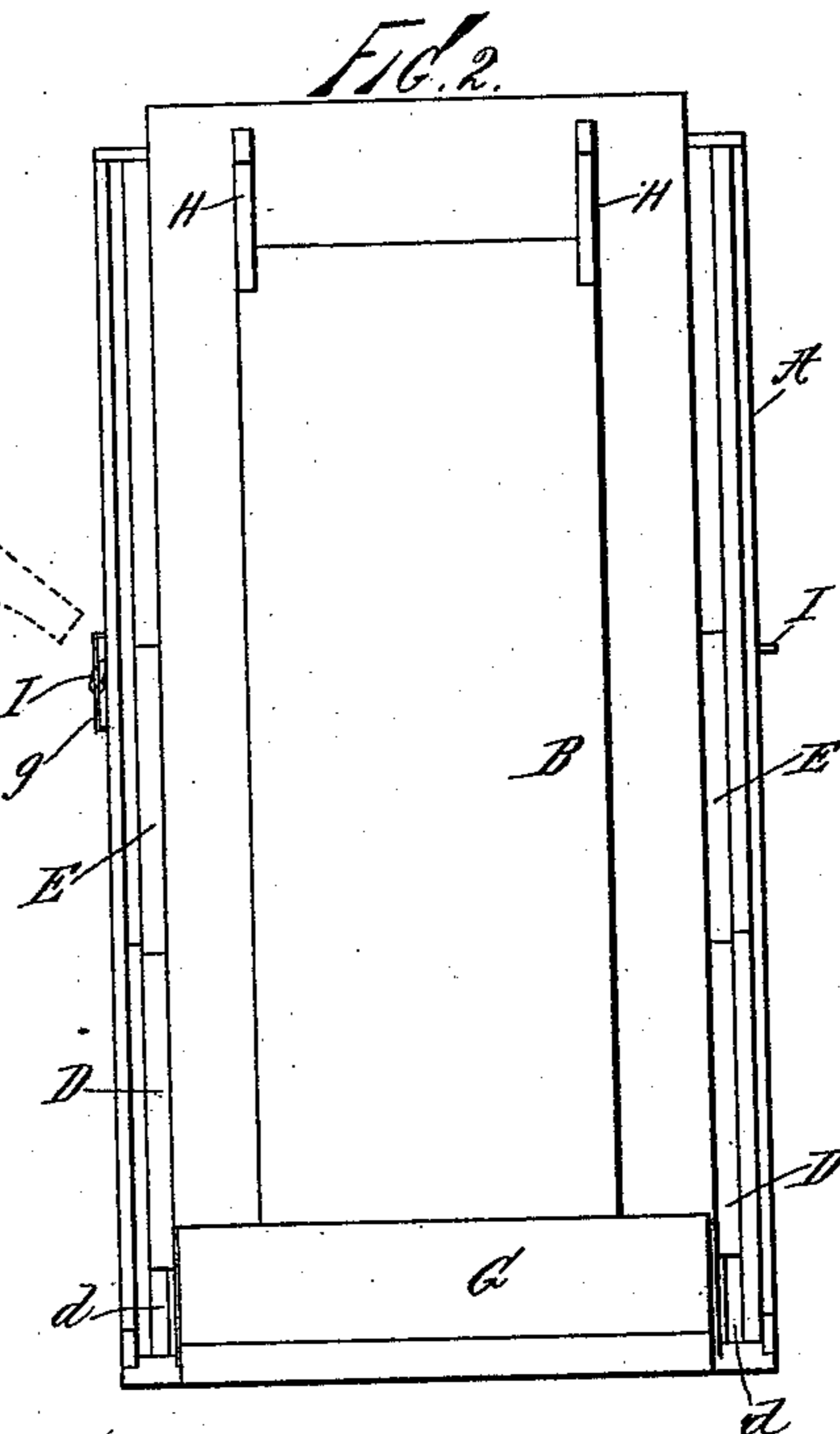
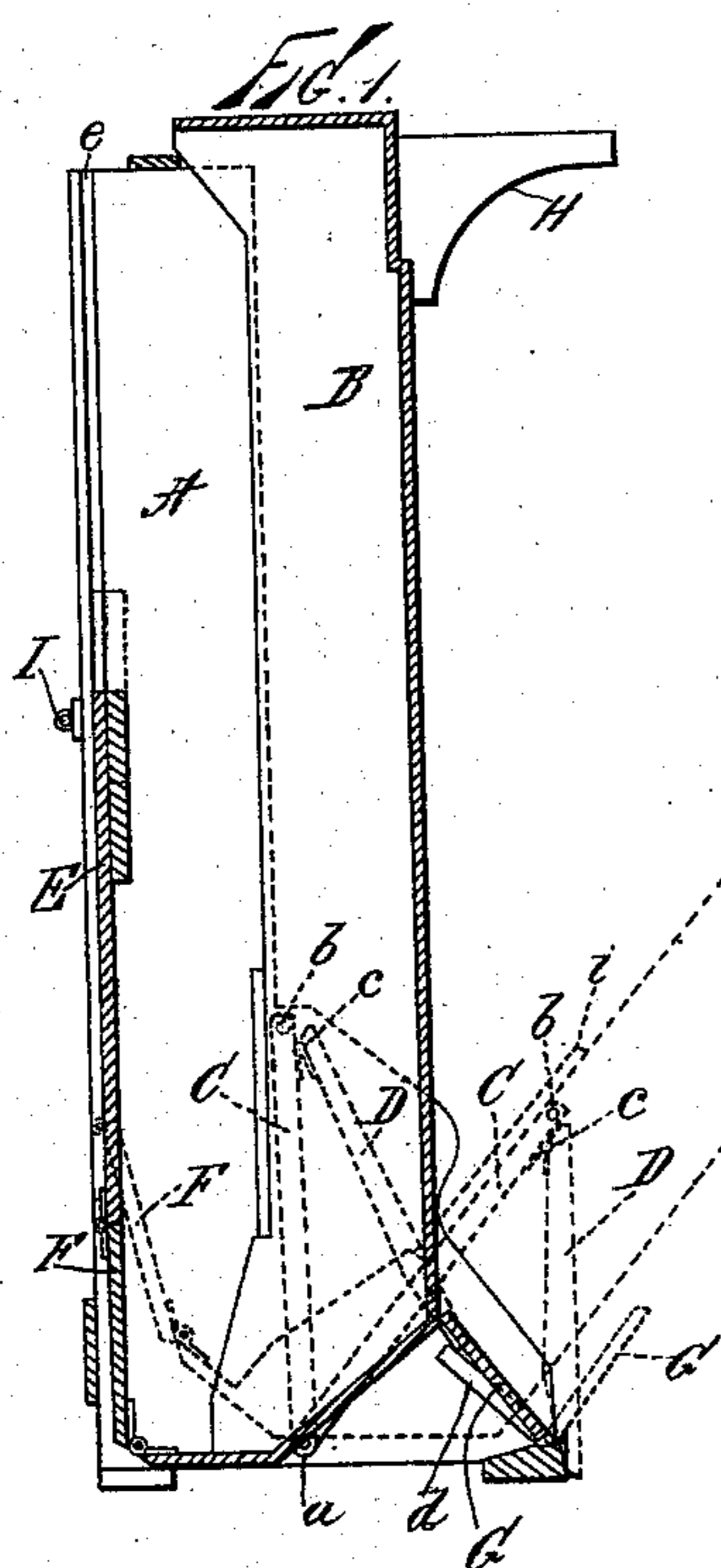
(No Model.)

2 Sheets—Sheet 1.

J. DAVID.  
FOLDING BED.

No. 412,478.

Patented Oct. 8, 1889.



Witnesses:  
John Buckle,  
L. H. Osgood

Inventor:  
Jacob David,  
By North Osgood  
Attorney.

(No Model.)

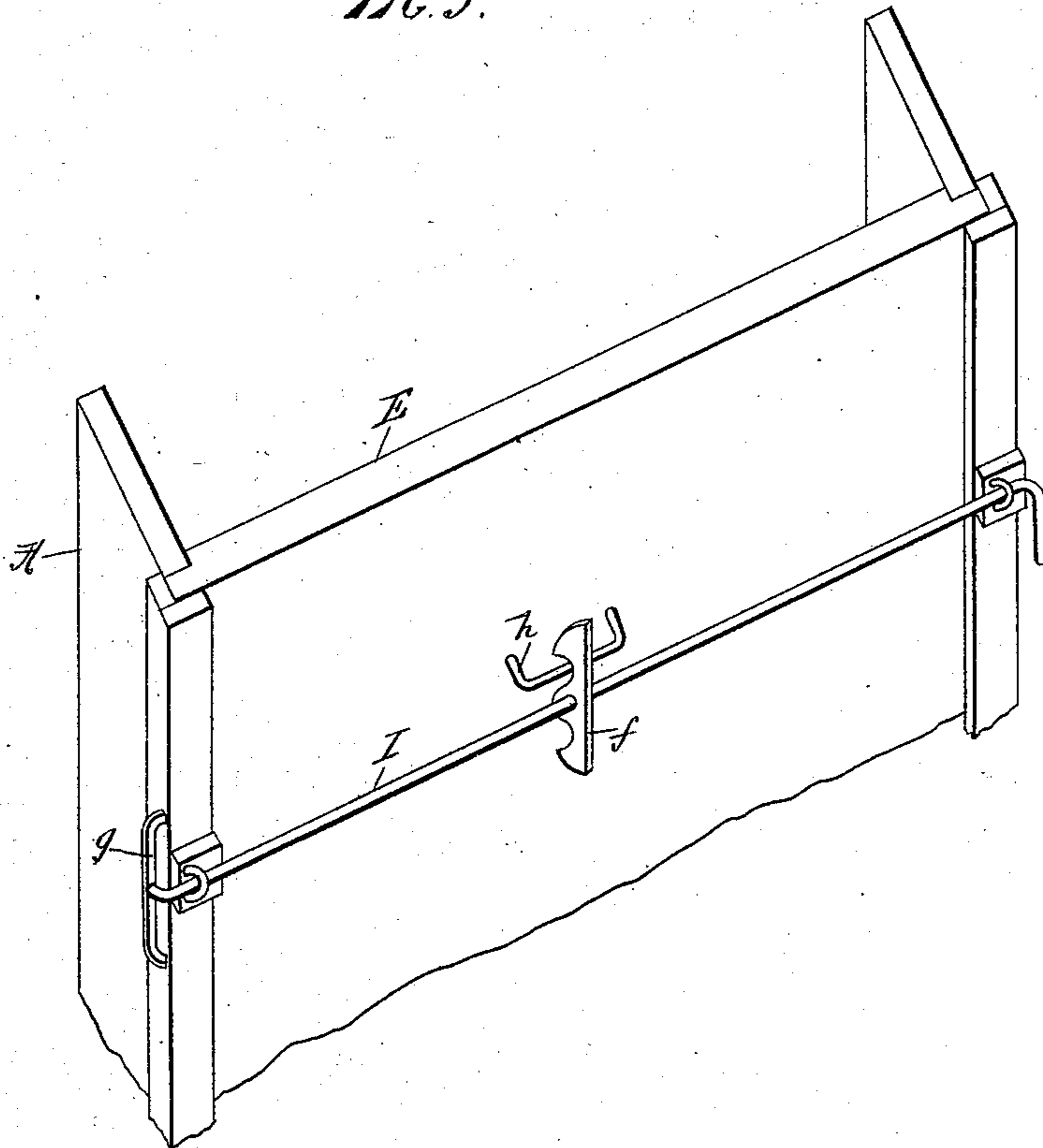
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*Fig. 5.*



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# UNITED STATES PATENT OFFICE.

JACOB DAVID, OF BROOKLYN, NEW YORK.

## FOLDING BED.

SPECIFICATION forming part of Letters Patent No. 412,478, dated October 8, 1889.

Application filed May 22, 1889. Serial No. 311,655. (No model.)

*To all whom it may concern:*

Be it known that I, JACOB DAVID, of Brooklyn, county of Kings, and State of New York, have invented certain new and useful Improvements in Folding Beds, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

10 My invention relates to that class of beds or bedsteads wherein the structure is composed of parts or sections, one or more of which are to be folded or turned up so as to economize floor-space when the bed is not open  
15 for use. These are generally known as "folding beds," and particular varieties sometimes take the name of other articles which they most nearly resemble, as "wardrobe-bedsteads," "mantel-beds," &c.

20 My improvements are chiefly applicable to the variety known as "wardrobe-beds," though they may be applied to other forms, as will be readily understood.

25 Among the objects of my invention are the provision of simple and efficient means for hinging the movable part upon the stationary part or casing in such manner that all the desired adjustments may be easily made, so that the bed will move or swing close to the  
30 base and rest close to the casing, (thus economizing in height and width from back to front of the structure,) and so that when the hinged section is down it shall rest firmly and securely upon the floor without regard to the  
35 weight of the casing, and to provide automatic means for locking the hinged section in either the opened or closed position.

To accomplish all of this and to secure other and further advantages in the matters of construction, operation, and use my improvements involve certain new and useful arrangements or combinations of parts, peculiarities of construction, and principles of operation, which will be herein first fully described, and then pointed out in the claims.

40 In the accompanying drawings, forming part of this specification, Figure 1 is a sectional elevation of a folding bed constructed and arranged for operation in accordance  
50 with my invention and involving my improvements, the bed being shown in full lines as

elevated or closed and in dotted lines as partly lowered or opened. Fig. 2 is a front elevation. Fig. 3 is a side elevation showing the bed down. Fig. 4 is a cross-section of the casing, showing a locking device applied thereto in accordance with my invention. Fig. 5 is an isometric view from the rear, showing the locking-rod and spring-bearing thereon.

60 In all these figures like letters of reference wherever they occur indicate corresponding parts.

The form of bed chosen for illustration herein is that known as a "wardrobe-bed," but, as previously indicated, other forms may be employed.

A is the casing or stationary part. It may or may not be mounted upon casters or rollers. It is usually made of wood in any style, preferably as light as is consistent with its required durability.

B is the bed or movable part which is hinged to the casing. This bed is of less width than the casing, so that the hinged levers and legs may move in the spaces between the sides of the bed and casing if it be desired to conceal or cover them, and this is preferred, for obvious reasons.

C C are hinge arms or levers. These are substantially connected at their lower ends with the casing, as by hinge-pins or axes *a a*, upon which they may turn as the bed moves, but may not be otherwise displaced. The upper ends of the hinge-arms are pivoted or connected with the sides of the bed, as by hinge-pins or axes *b b*. Upon these hinge-arms the bed swings or moves, the outer or upper ends of the arms being free to move with the bed until the position indicated by dotted lines in Fig. 1 is reached. The lower end of the bed is cut away, as indicated, so that it may swing close to the bottom of the casing or the floor, and the hinge-axes *b b* are so located that when the bed is up they will be in vertical lines a little back of the axes *a a*. (See Fig. 1.) The purpose of this arrangement is to make the weight of the bed tend to keep it closed, the locking arrangement hereinafter to be described being applied only to prevent the bed from being accidentally moved.

D D are legs or props which, for convenience, are hinged upon the hinge-arms C C, as at *c c*, but which might be mounted upon the sides of the bed, in close proximity to the axes *b b*. These are of length to correspond with the height of the bed when down, and they touch the floor outside the casing as soon as the bed is sufficiently lowered from its elevated position, riding back with the hinge-arms into the spaces between the casing and bed when the latter is closed. At the bottom of the spaces referred to are inclined ways *d d*, which direct the lower ends of legs D outwardly and to the floor as the bed is moved down. The hinge-arms are of length equal to about one-third of the bed, so that when the bed swings or moves upon them the pivots *b* being located at the ends of the arms and about one-third of the length of the bed from the head thereof, about one-third of its weight is opposed on one side of the movable hinge to two-thirds on the other, leaving but one-third to be balanced or counterbalanced. This balancing or counterbalancing is effected by weights, preferably in the form of a movable back E, which rides up and down in grooves *e e*, suitably formed in the sides of the casing. This back is hinged at its lower end upon the inner end of the bed through the medium of an intervening piece F, which allows the bed to advance and recede as required during any of its movements. The back is of weight, or is weighted to balance that portion of the bed not balanced by the part in rear of the hinge-axes *b*.

G is a foot-board hinged to the base and arranged to cover the lower end of the bed when up.

At the upper or outer end of the bed are legs H H, intended to rest upon the floor when the bed is down. These may be hinged or otherwise mounted in place, and may constitute one of the ornamental trimmings, as is usual in this class of beds.

Very little exertion is required to move the bed from either position, and to prevent its being accidentally moved either when up or down I supply a lock or catch, which must be purposely turned before the bed can move. This lock is of very simple form, its principle of operation being of more importance than any peculiar construction, location, or arrangement. In the form shown, I is a rod located upon the back of the casing carrying a double catch or hook *f*, and *g* is any form of spring bearing upon the rod in such manner as to hold the rod and thus the hook in either one of two positions, from which it may be turned to the other. Upon the vertically-moving head-board are two projections *h h'*, with which the hook *f* may engage. Being in engagement with the lower one, the bed cannot be elevated until the hook is turned. The turning of it allows the spring to hold it in position, so that when the upper projection is brought down far enough it will automatically lock or catch. Then the bed cannot be

lowered until the hook is again turned, and when the bed is fully lowered it is automatically locked in that position. The rod need not project beyond the sides of the casing, but may be wholly concealed behind it.

The bed being mounted and arranged, as above explained, when it is to be lowered only sufficient exertion is required to carry it forward enough so that the point *b* will pass the vertical line through *a*. Then, if correctly balanced, it has only to be steadied down to its final position. In moving down, the points *b* are carried forward until legs D touch the floor, when the weight is transferred to the floor through the legs D. The points *b* cannot move farther, and the bed must then turn upon the pivots *b* as upon a fulcrum. All the weight of the bed when the bed is down rests upon the floor the same as an ordinary bed and independent of the casing. This affords stability and obviates the necessity of weighting the casing (as is usually done in these beds) or of securing the casing to the floor, as is sometimes necessary. The strip *i* is simply to cover the levers or legs to prevent bedding from touching them; but it may be omitted.

The improved bed is simple, easily operated, compact, and well calculated to answer the purposes or objects of the invention previously indicated.

Having now fully described my invention, what I claim as new herein, and desire to secure by Letters Patent, is—

1. In a folding bed, the combination of a stationary casing, a movable bed, hinge-arms connected with the bed and casing, and legs or props hinged near the upper or outer pivotal points of the hinge-arms, the same being arranged to touch the floor and transfer the weight of the bed from the casing to the floor, substantially as and for the purposes set forth.

2. In a folding bed, the combination of a stationary casing, a movable bed, hinge-arms connected with the bed and casing, and legs or props hinged upon said arms and arranged to touch the floor and transfer the weight of the bed thereto, substantially as and for the purposes set forth.

3. In a folding bed, the combination of a stationary casing, a movable bed, hinge-arms connected with the bed and casing, legs or props hinged near the upper or outer pivotal points of the hinge-arms, and guides or directors for said legs located in the spaces between the bed and casing, substantially as and for the purposes set forth.

4. In a folding bed, the combination of a stationary casing, a movable bed, hinge-arms connected with the bed and casing, legs or props hinged near the upper or outer pivotal points of the hinge-arms, the said legs or props arranged to touch the floor and transfer the weight of the bed thereto, and the vertically-moving back-board hinged upon the bed, substantially as shown and described.

5. In a folding bed, the combination of the casing A, bed B, pivoted thereto, the head-

board pivoted to the head of the bed and provided with projections *h h'*, a rod I, revolvably attached across the back of the casing and provided with a doubly-notched catch adapted  
5 to engage the projections *h h'*, said rod having also one end bent at an angle, and a spring-plate attached to the side of the casing, adapted to engage with the angle end of the rod, substantially as shown and described.

In testimony that I claim the foregoing I do have hereunto set my hand in the presence of two witnesses.

JACOB DAVID.

Witnesses:

JOHN BUCKLER,  
WORTH OSGOOD.