

(No Model.)

2 Sheets—Sheet 1.

T. BICKFORD.

FOLDING CRIB.

No. 360,556.

Patented Apr. 5, 1887.

Fig. 1;

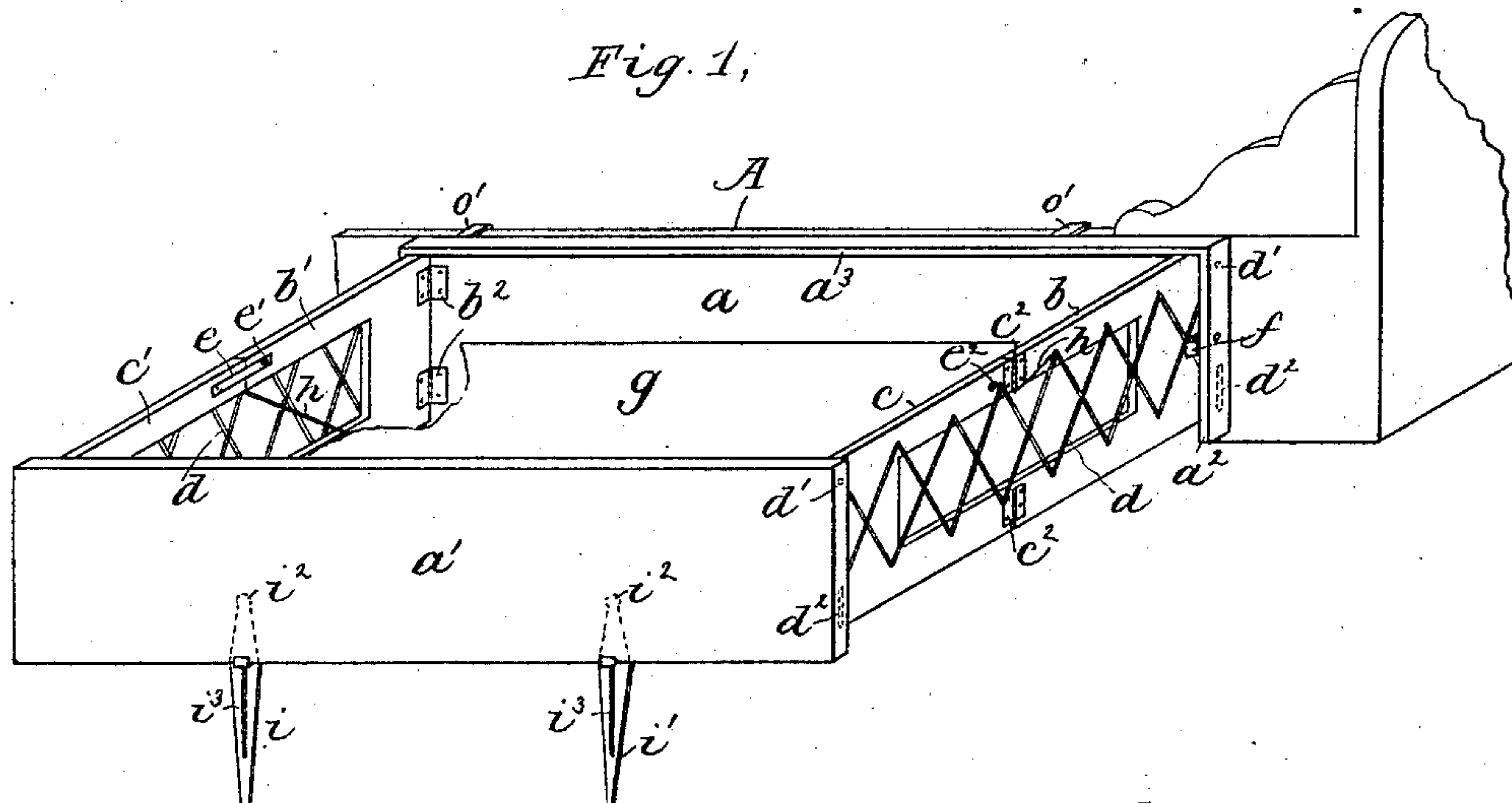


Fig. 4.

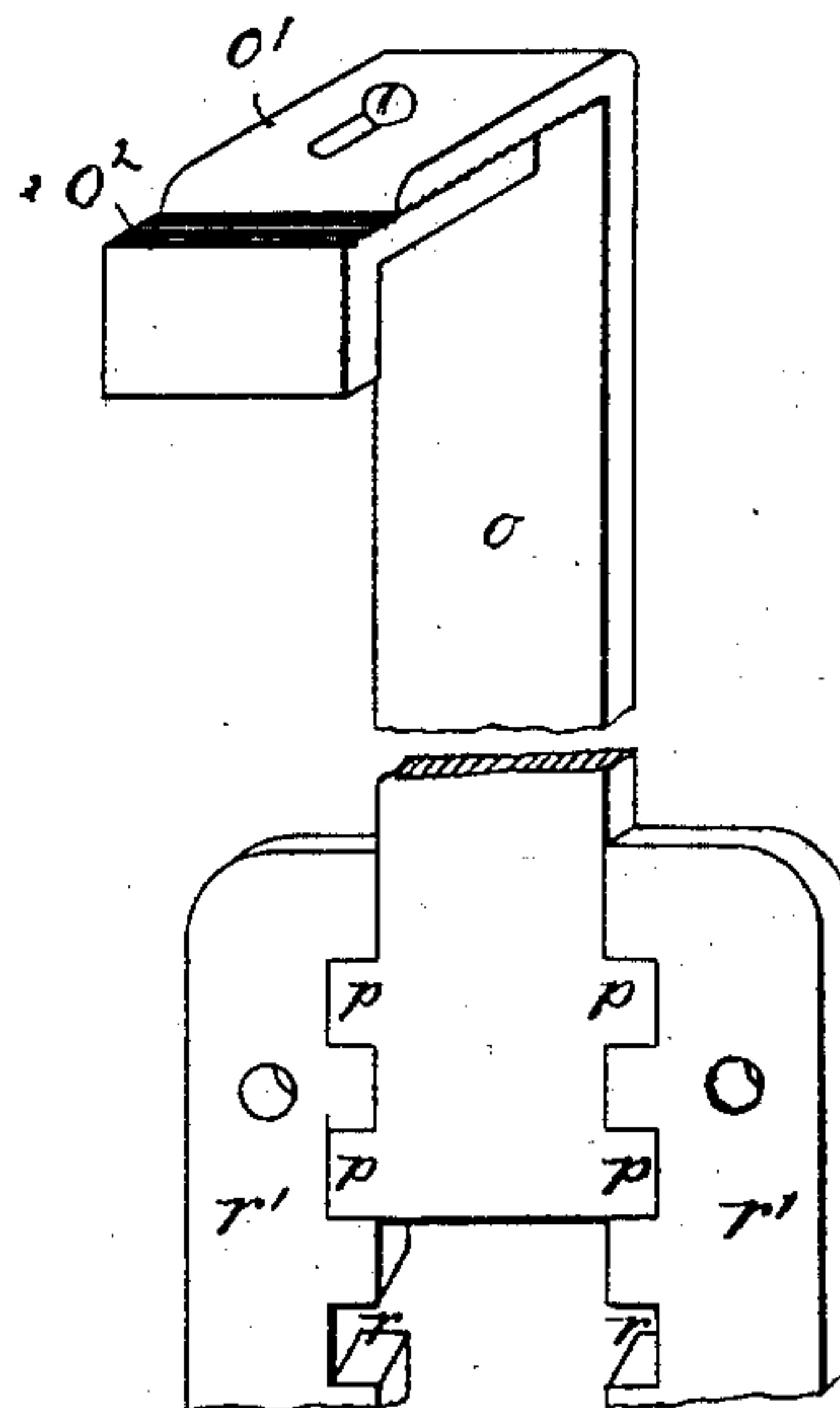
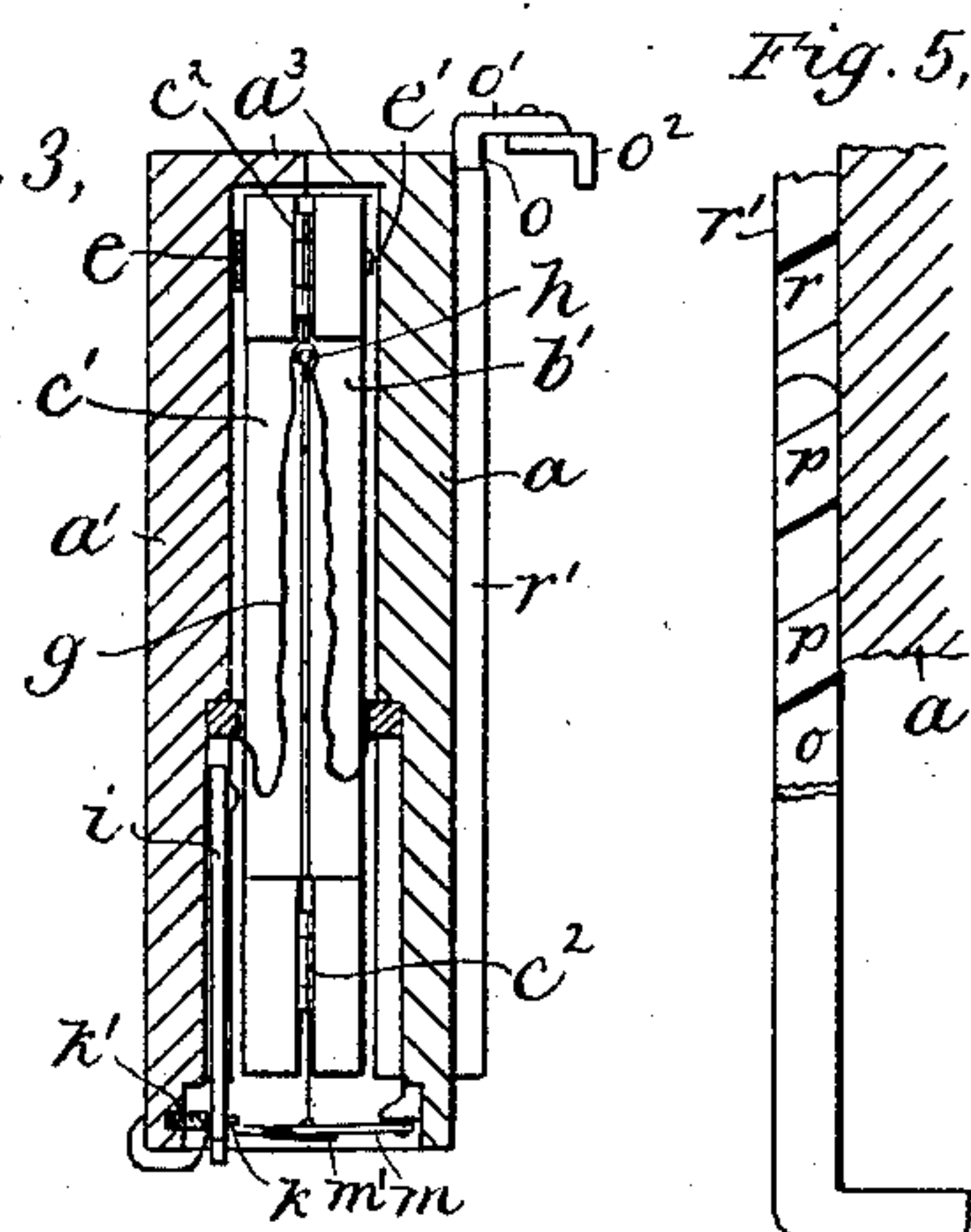
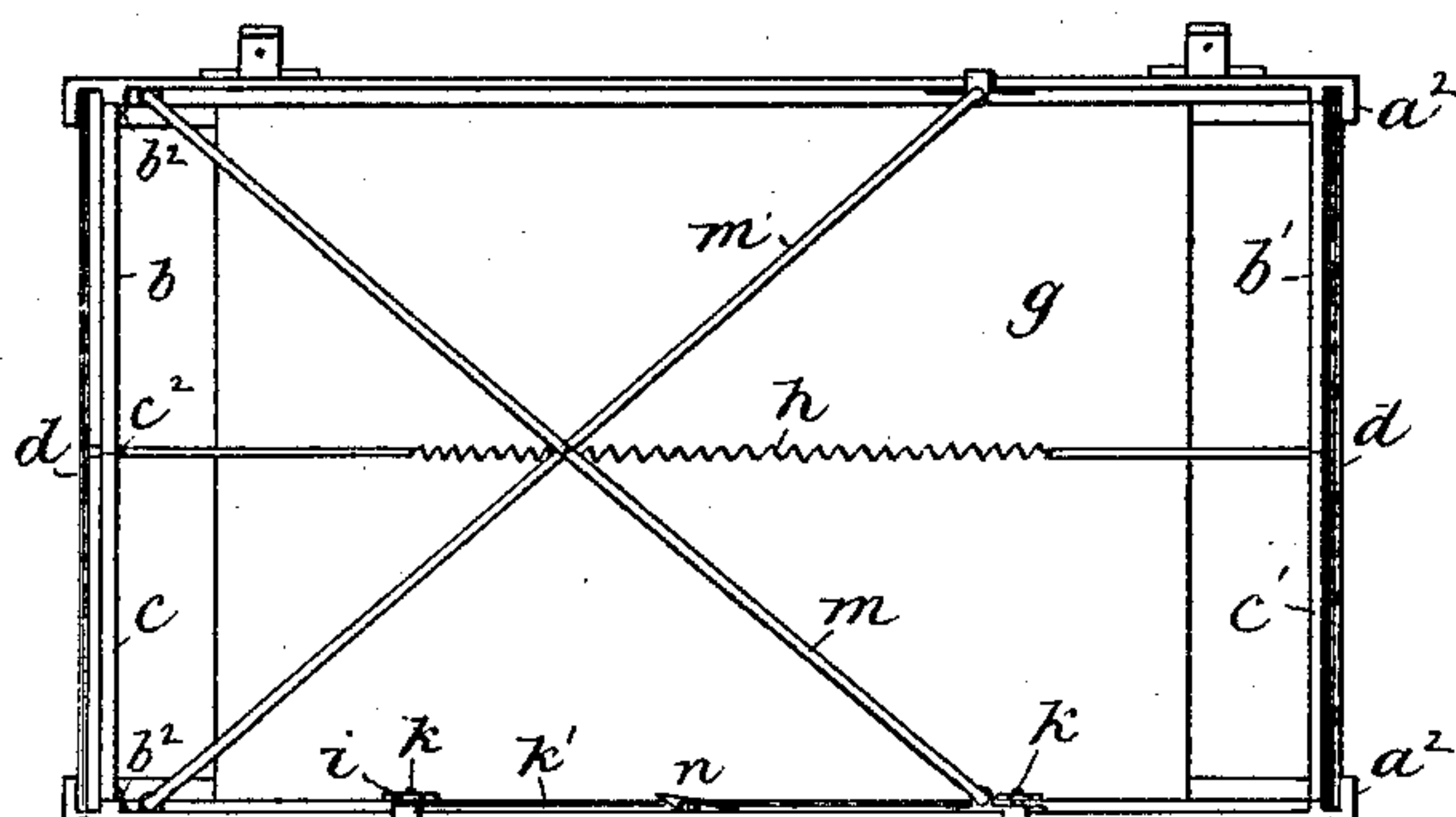


Fig. 2,



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2 Sheets—Sheet 2.

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Fig. 6.

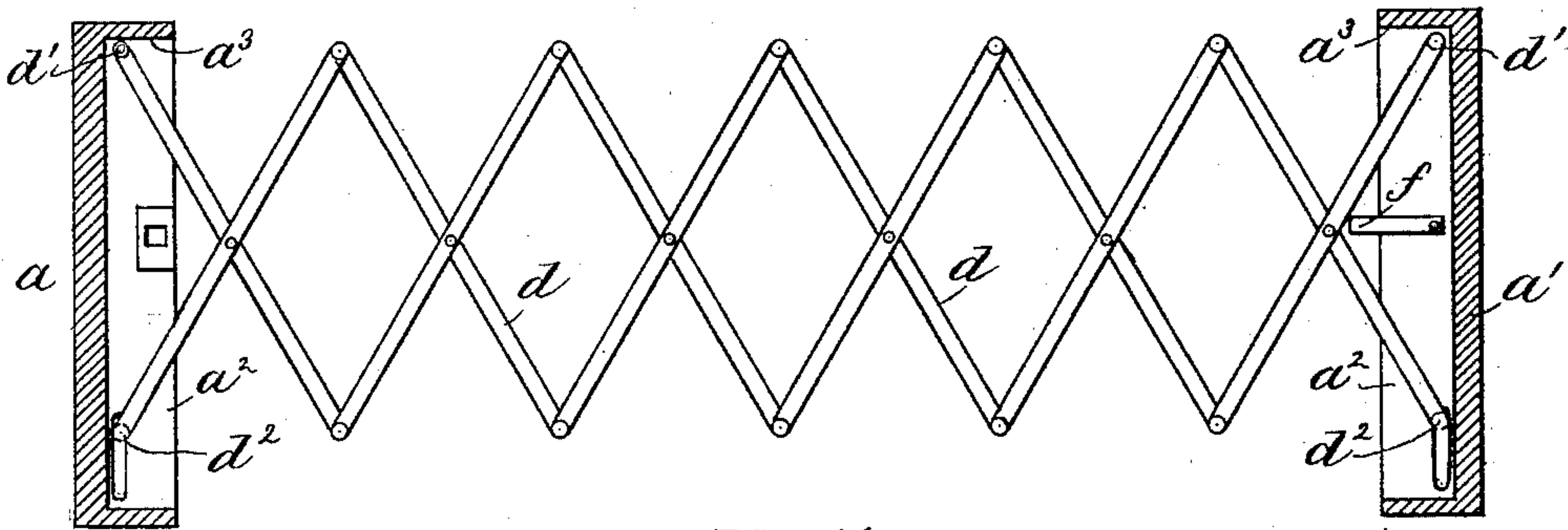


Fig. 7.



Fig. 8.

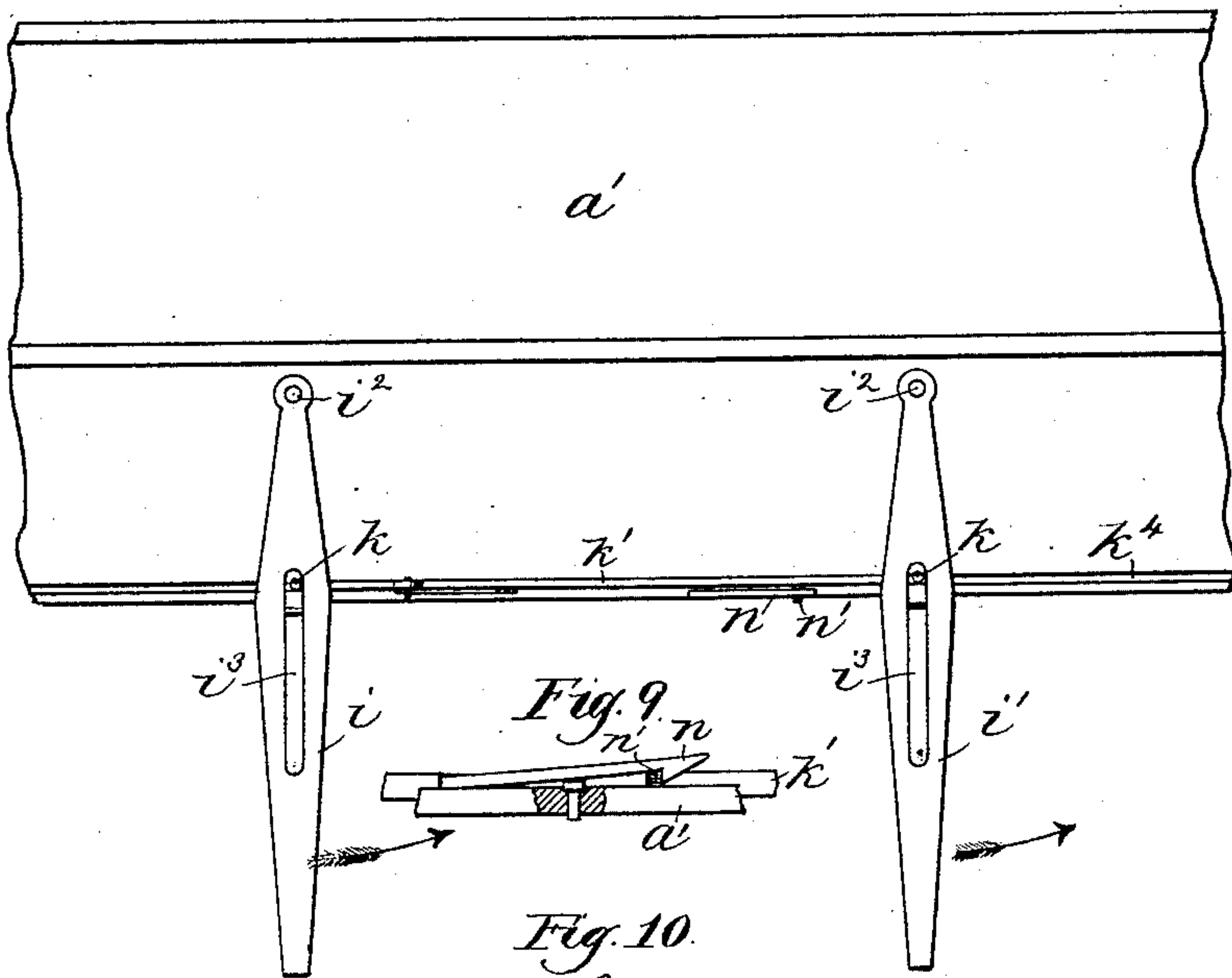
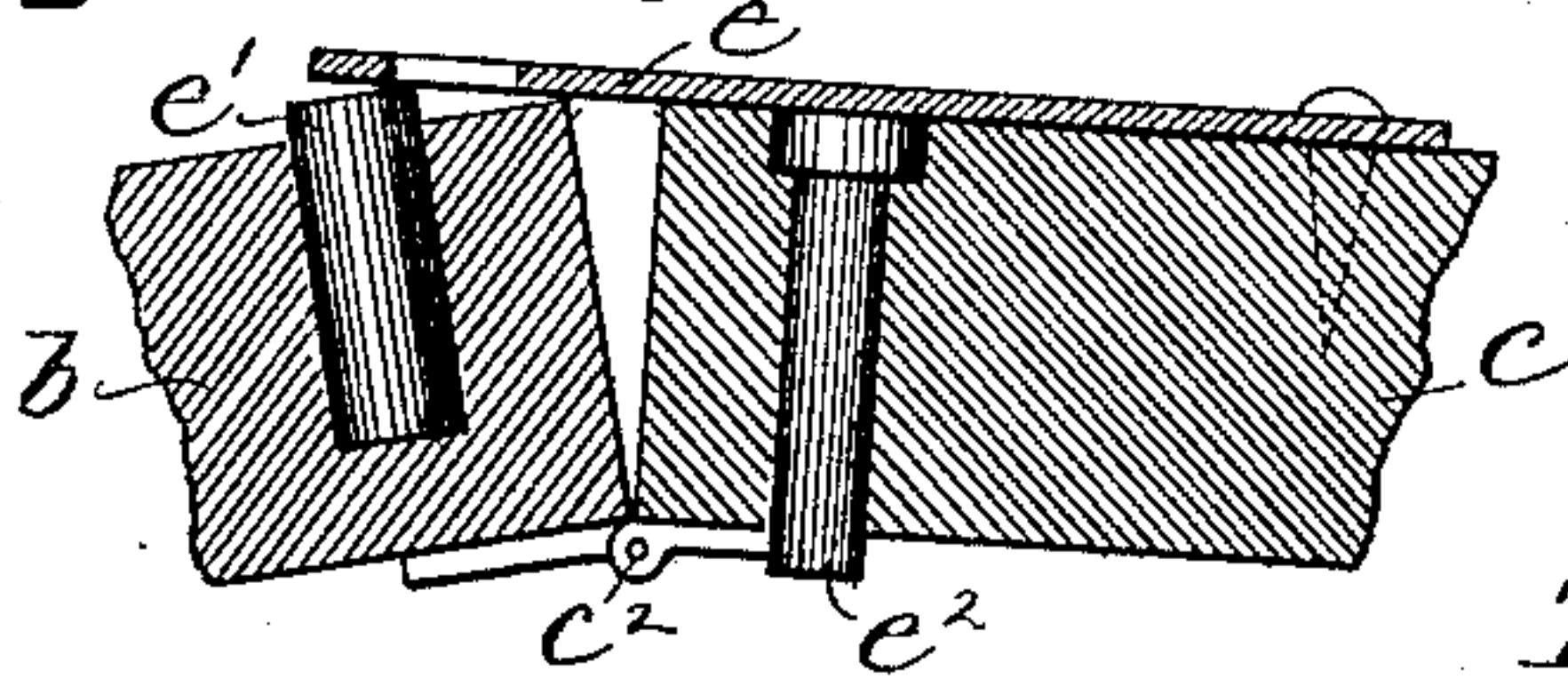


Fig. 9.



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UNITED STATES PATENT OFFICE.

THOMAS BICKFORD, OF CAMBRIDGE, MASSACHUSETTS.

FOLDING CRIB.

SPECIFICATION forming part of Letters Patent No. 360,556, dated April 5, 1887.

Application filed March 1, 1886. Serial No. 193,568. (No model.)

To all whom it may concern:

Be it known that I, THOMAS BICKFORD, of Cambridge, county of Middlesex, State of Massachusetts, have invented an Improvement in Folding Cribs, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

My invention relates to a folding crib, which may be used in connection with a bedstead, the crib when extended standing at one side of the bedstead and being partially supported thereon, although it may, if desired, be independently supported on the floor.

The crib consists, essentially, of two side rails and hinged end pieces, which fold inward between the side rails, and a lazy-tongs connecting the side rails, which serves to relieve the folding end pieces from strain. One of the side rails, which may be called the "stationary rail," is provided with supporting hooks or clamps to engage the side rail of an ordinary bedstead, which forms the support for one side of the crib when open, and which may support the entire crib when closed, in which condition it will only project a few inches from the side rail of the bedstead. The other or movable side rail of the crib is provided with legs, which are preferably automatically operated, so that when this rail is drawn out from the opposite one, or the crib opened, the legs will be turned down and rest on the floor, thus forming the other support for the crib.

If desired, both side rails of the crib may be provided with legs, so that it will stand independently of the bedstead, and, as herein shown, the same devices that are employed to engage the bedstead may also be used as legs. Besides the general features of construction already mentioned, the invention consists, also, in various details, which will be hereinafter pointed out.

Figure 1 is a perspective view of a crib made in accordance with this invention and a portion of the bedstead with which it is used; Fig. 2, an under side view of the crib when open; Fig. 3, a transverse section of the crib when closed, on a larger scale; Fig. 4, an enlarged perspective view of the hook or supporting device by which the crib is connected with the bedstead; Fig. 5, a detail showing the

said supporting device in position to operate as a leg; Fig. 6, a sectional detail, on a larger scale, showing the lazy-tongs in side elevation; Fig. 7, a horizontal sectional detail, showing the fastening devices for the side rails; Fig. 8, a detail showing a portion of the front rail and supporting-legs connected therewith in elevation, as seen looking from the inside of the crib; Fig. 9, a horizontal sectional detail, showing the fastening devices by which the legs are retained in position to support the rails of the crib, and Fig. 10 an enlarged sectional detail of the fastening device for the folding end pieces of the crib.

The crib consists, essentially, of two side rails, $a a'$, and folding end pieces, $b c b' c'$, which consist of two pieces hinged together, as shown at c^2 , and hinged to the inner side of the side rails, $a a'$, as shown at b^2 , so that they will fold inward between the side rails, $a a'$, when the latter are moved toward one another; and in order to support the rail a' while being drawn out from the rail a in opening the crib, the said rails are also connected by lazy-tongs d , having one extremity of each member pivoted to the corresponding side rail, as indicated at d' , and the extremities of the other members working in slots, as best shown in Fig. 6, thus causing the side rails to move parallel with one another, as will be readily understood, and relieving the folding end pieces, $b c b' c'$, from lateral pressure in the operation of opening and closing the crib. The folding end pieces and the lazy-tongs thus constitute extensible end portions that connect the side rails at their end, so that the said side rails may be moved up close together, as shown in Fig. 3, or drawn apart, as shown in Figs. 1, 2, and 6, remaining always parallel with one another, and either the folding end pieces, $b c b' c'$, or the lazy-tongs d would be sufficient in connection with the side rails and bottom to make a complete folding-crib, although it is preferable to use both lazy-tongs and folding end pieces, as shown, as this construction makes the crib stronger and affords a better finish. The folding end pieces are provided with locking devices, shown as a spring-catch, e , connected with one member and engaging a corresponding projection, e' , on the other member, the said catch coming into engagement with the projection e' as the two

portions of the end piece come in line with one another, and being disengaged from the projection or unfastened by a suitable push-button, e^2 , as will be understood from Fig. 10.

5 The side rails, $a a'$, are provided with projections or ledges $a^2 a^3$ at their ends and tops, which are about equal to the thickness of the end pieces when folded together, and they are also provided with locking devices, shown as
10 spring-catches, f , operating in a similar manner to the ones e , although it is obvious that any other devices might be used to fasten the rails together when the crib is not in use. The side rails, $a a'$, have connected with them
15 a folding bottom, g , which may be of canvas or other suitable fabric, and the lazy-tongs have connected with them a contractile strip, h , which passes lengthwise beneath the folding bottom g , constituting a folding device,
20 which causes the bottom to fold properly between the side rails when the latter are closed together, as shown in Fig. 3. The end pieces, $b c b' c'$, are made as open frames, so that when folded together the opening receives within it
25 the folding bottom g , as shown in Fig. 3. The flexible bottom g limits the distance that the side rails can be drawn apart, and the folding end pieces, $b c b' c'$, act as toggle-levers to force the side rails apart and stretch the bottom
30 tightly, and act as a brace to retain the side rails the proper distance apart, which could not be effected if the lazy-tongs alone were used to connect the side rails.

The outer part of the movable rail a' is provided with one or more supporting-legs, $i i'$,
35 shown as pivoted at i^2 on the inner surface of the rail, and engaged by projections k of a slide-bar, k' , movable in suitable guides, shown as grooves, k^1 , (see Fig. 8,) on the said rail,
40 and operated by one end of a pair of pivoted cross bars or levers, $m m'$, each having one end pivoted, as at m^2 , to one of the side rails, and its other end working in a guide in the opposite side rail, so that they also serve to
15 stiffen the crib or retain the side rails parallel in their movement toward and from one another.

The slide-bar k' forms the guide-piece for the lever m , and the projections k are shown
50 as engaging longitudinal slots i^3 in the legs $i i'$, so that when the slide-bar is moved along the rail a' by the action of the levers $m m'$, in closing the crib, the legs $i i'$ are turned upward parallel with the side rail and finally lie
55 inclosed in the space between the two side rails, and in drawing out the said rail a' the reverse operation takes place, the legs $i i'$ being turned downward and reaching the floor by the time the rail a' is moved out the proper
60 distance.

If desired the slide-bar k' may be provided with a locking device, n , (best shown in Fig. 9,) consisting of a spring-catch fastened to the rail
65 a' , which catch engages a projection, n' , on the slide-bar k' when the legs $i i'$ are turned down, and thus holds the legs more rigidly than by

the action of the levers $m m'$ alone; or the locking device might engage the leg itself.

The clamps for connecting the stationary rail a with the side rail A of the bedstead may
70 be made as shown in Figs. 4 and 5, consisting of shanks o , provided with lateral projections p , engaging corresponding recesses, r , in plates r' , fastened to the side rail a^3 . The engaging-faces of the projections p and the corresponding
75 projections between the recesses r of the plates r' are preferably inclined, as shown, so that the strain on the shanks o from the weight of the crib tends to keep the said projections in engagement, and by placing the projections
80 p in different recesses the height of the hook $o' o^2$ of the shank o may be adjusted so as to bring the rail a of the crib at the proper height above the floor for the legs $i i'$ to reach the floor when the crib is extended. 85

As the rails A of the bedstead may be of different thickness, the hooked end of the rail-engaging clamp may be made in two parts, $o' o^2$, adjustable with relation to one another, as shown. 90

When desired, the supporting devices or clamps $o o' o^2$ may be reversed with relation to the crib and placed with the projections p in the recess r , with the shank o extending downward from the rail a , as shown in Fig. 5, so
95 that they will form supporting-legs for the said rail, thus enabling the crib to be used independently of the bed, if desired.

A crib of the herein-described construction is very strong and rigid when open, and closes
100 into a very compact space, so that it may be left hanging when closed upon the side rail of the bedstead without inconvenience, or may be removed and set aside until again used.

Cribs have been previously devised that
105 were intended to be wholly or partially supported on the side rail of the bed when in use, and which may be folded into a somewhat smaller space than that occupied by them when in use, being intended to be removed
110 from the bed or placed beneath the bed when not in use; but I do not know of any crib having a folding bottom in which the side rails are connected by extensible end portions, and are capable of closing upon one another
115 when not in use, so that they may remain suspended upon the side rail of the bed without inconvenience. A folding bed has also been devised previous to my invention in which the head and foot boards are connected at their
120 ends by lazy-tongs; but in such construction no other means, like the folding end pieces of the present device, were employed to hold the head and foot boards apart, and they were not, like the side rails of the present crib, sub-
125 jected to the strain or tension of the bottom, tending to draw them together.

I claim—

1. In a folding crib, the combination of the rails with lazy-tongs connected with the said
130 rails at either end thereof and permitting them to be moved into contact with one an-

other when not in use, or to be drawn apart when the crib is to be used, and braces that prevent the lazy-tongs from closing after the rails are drawn apart and the bottom supported on the said rails, substantially as described.

2. A folding crib consisting of side rails and extensible end portions and a folding bottom connected with said side rails, combined with supporting devices connected with one of the side rails, whereby the crib may be connected with and supported on the side rail of the bedstead, and a supporting-leg connected with the other side rail of the crib, and actuating mechanism for the said legs, whereby they are automatically lowered and raised as the side rails of the crib are drawn apart or closed together, substantially as described.

3. The combination of the side rails and means for supporting one of them with lazy-tongs connecting the side rails at their ends, and a pair of crossed levers connected with the side rails, and a leg pivoted to one of the said side rails and connected with the said crossed levers and operated by the movement of the said levers produced by separating and closing together the side rails, substantially as described.

4. The combination of the side rails and means for supporting the same with the lazy-tongs connected with the said rails at their ends, the folding bottom connected with the said side rails, and the end pieces made in two parts hinged together at their middle and hinged at their ends upon the side rails, substantially as described.

5. The combination of the side rails, the crossed levers connected therewith, and the guide-piece for one end of the said crossed levers with a leg pivoted to one of the side rails and engaged with the guide-piece for the crossed levers and a locking device co-operating with the said leg, substantially as described.

6. The combination of the side rails and end pieces connecting the same with a supporting device connected with one of the side rails, which supporting device, when in one position, forms a leg to rest on the floor, and in another position forms a hook to engage the side rail of the bedstead, substantially as described.

7. The combination of the side rails and folding bottom connected therewith with the folding end pieces made in two parts hinged together at their middle and hinged at their ends upon the side rails, the said end pieces having an opening which receives the folding bottom when the crib is closed, substantially as described.

8. The combination of a folding crib with supporting-hooks connected with said crib and having their hooked ends made in two parts, adjustable laterally with relation to one another for varying the width of the part embraced by the hook, the said hooks being intended to engage the side rail of a bedstead for the purpose of supporting the crib thereon, substantially as described.

9. The combination of the side rails movable toward and from one another and extensible end portions connected with and supporting said side rails in their movement with a pair of crossed levers connected with the said side rails, by which the said side rails are steadied and retained parallel with one another in their movement toward and from one another, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

THOMAS BICKFORD.

Witnesses:

JOS. P. LIVERMORE,
JAS. J. MALONEY.