

No. 722,873.

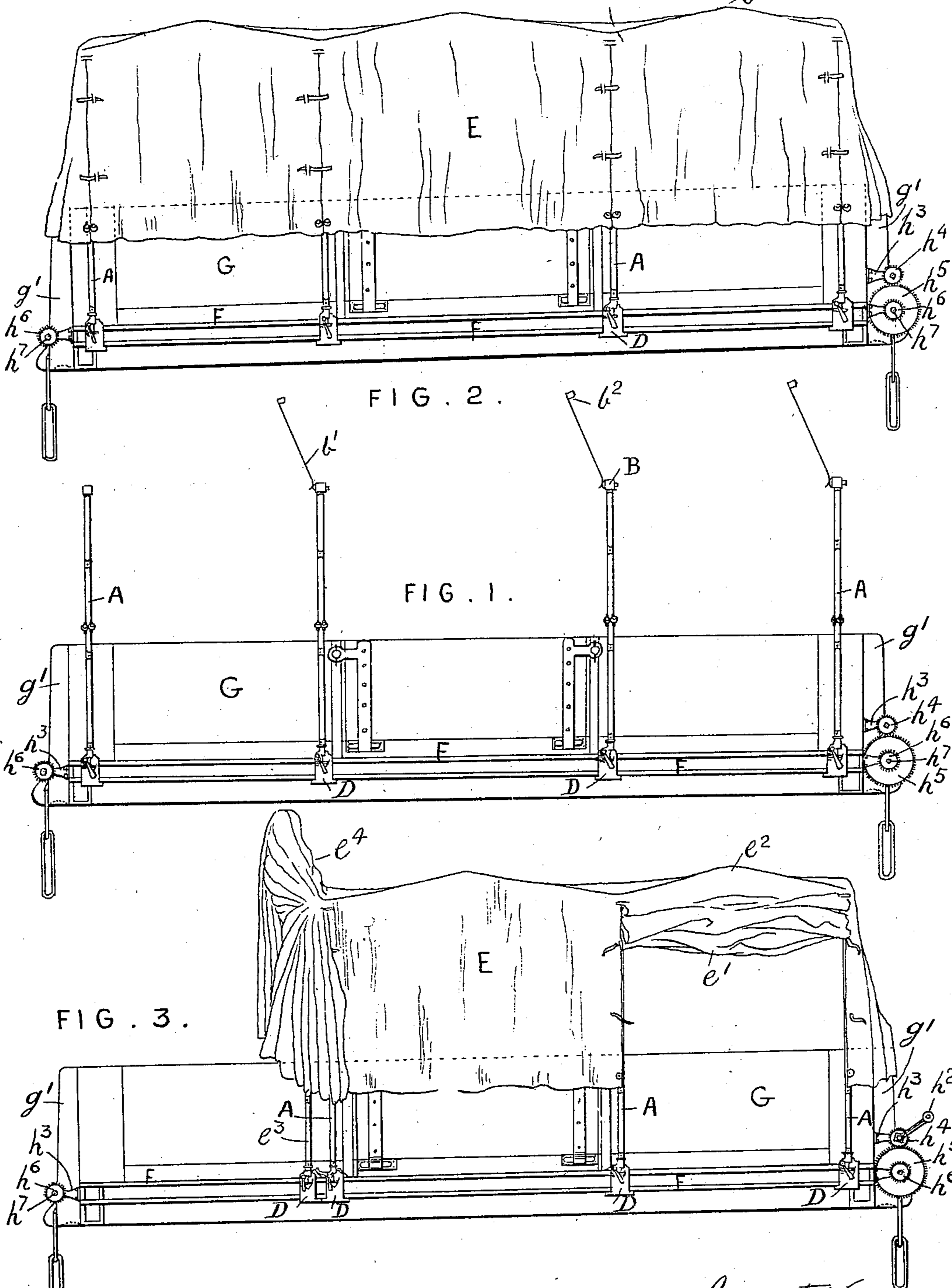
PATENTED MAR. 17, 1903.

J. Mutch.
FOLDABLE HOOD FOR WHEELED VEHICLES.

APPLICATION FILED OCT. 21, 1901.

NO MODEL.

7 SHEETS—SHEET 1.



Witnesses:
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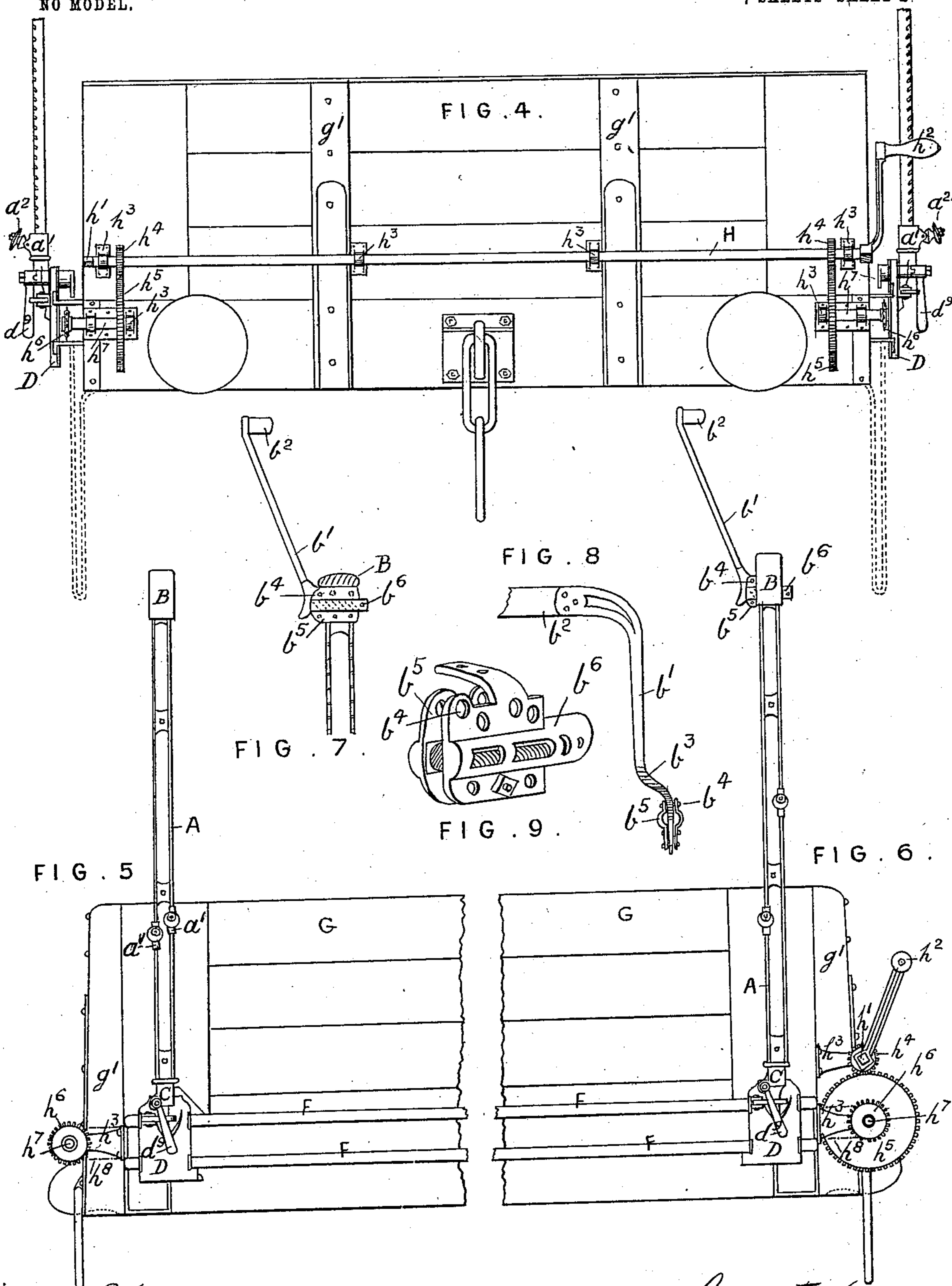
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7 SHEETS—SHEET 2.



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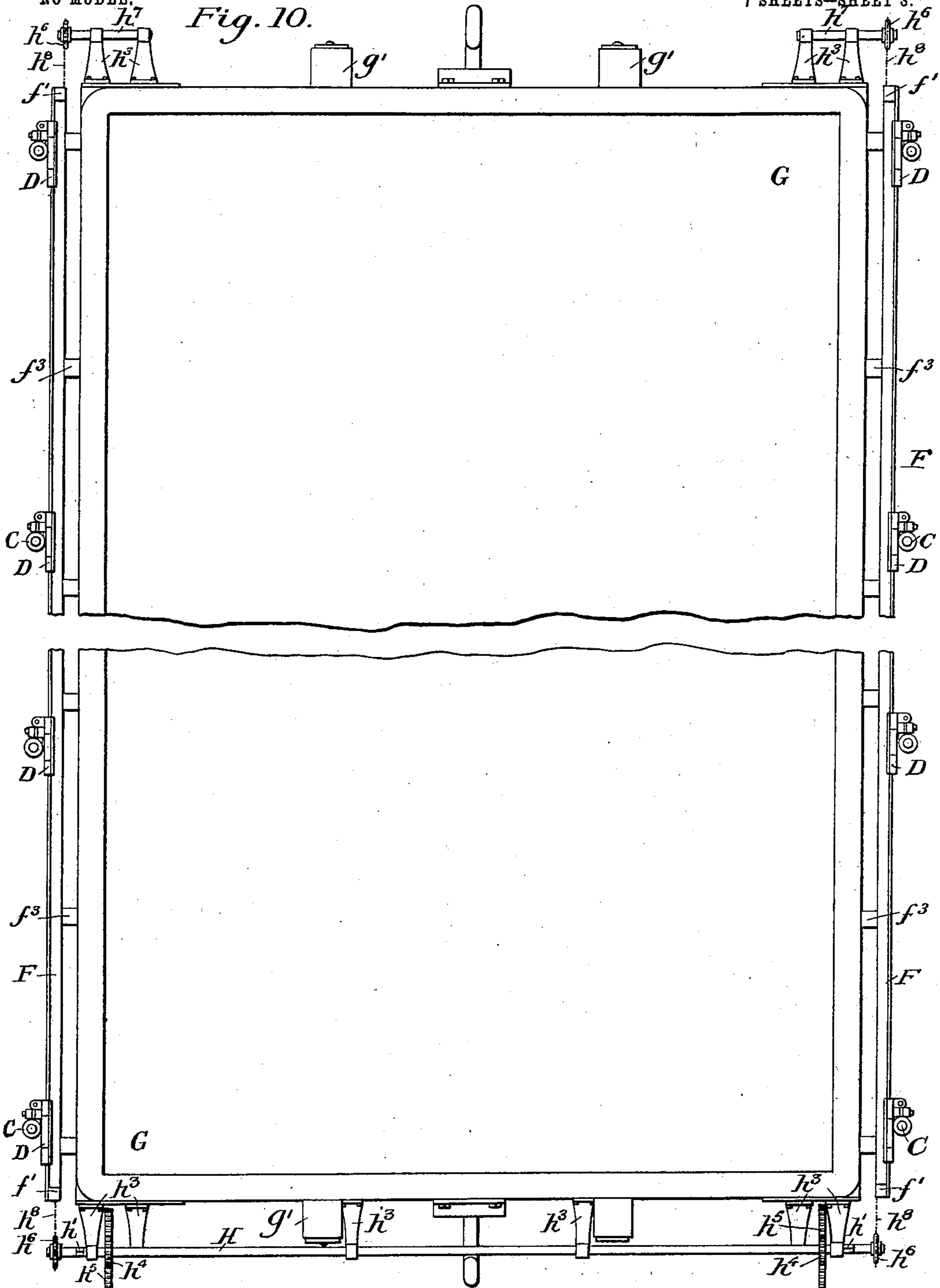
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7 SHEETS—SHEET 3.

Fig. 10.



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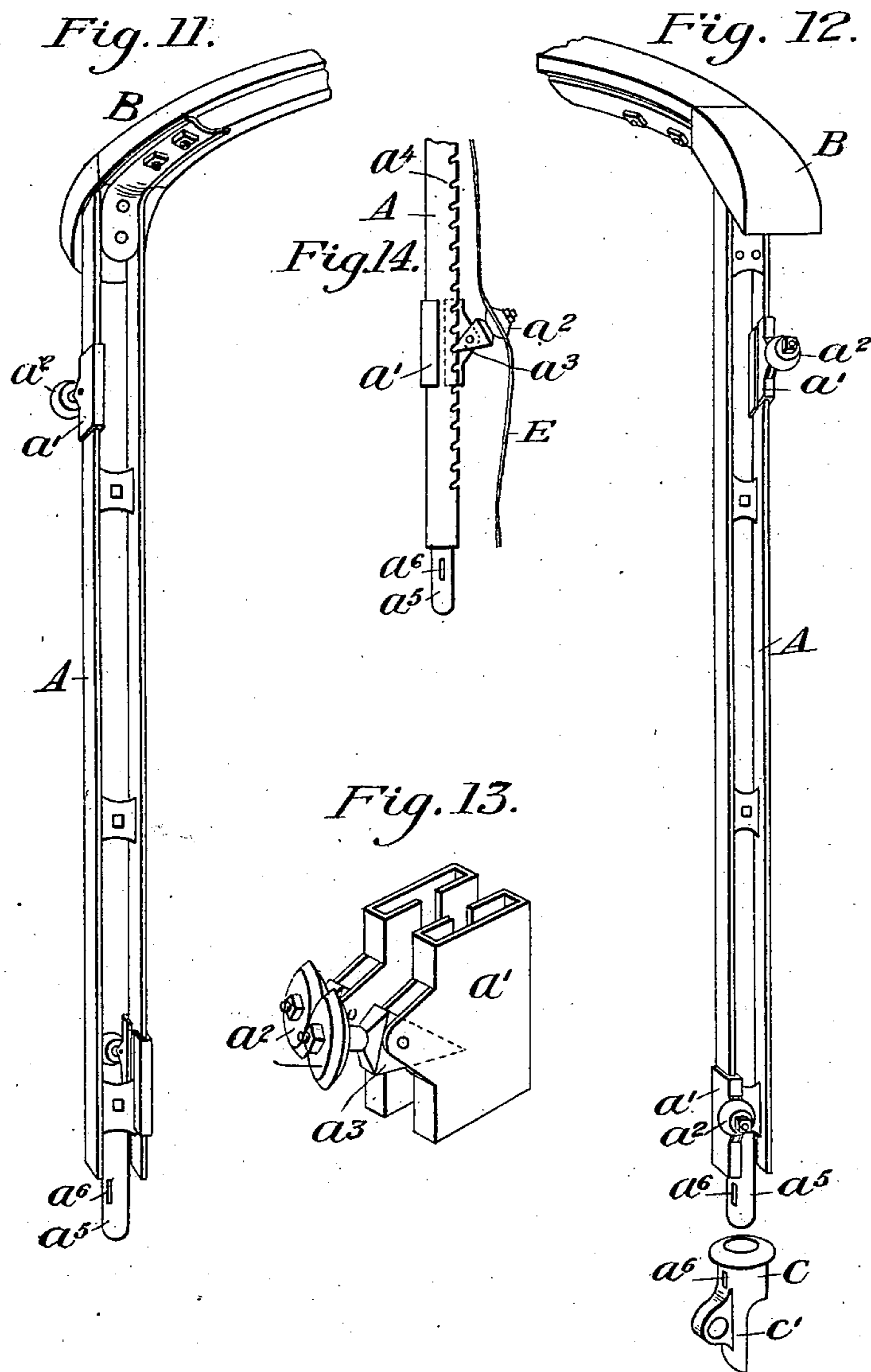
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7 SHEETS—SHEET 4.



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7 SHEETS—SHEET 5.

FIG. 15.

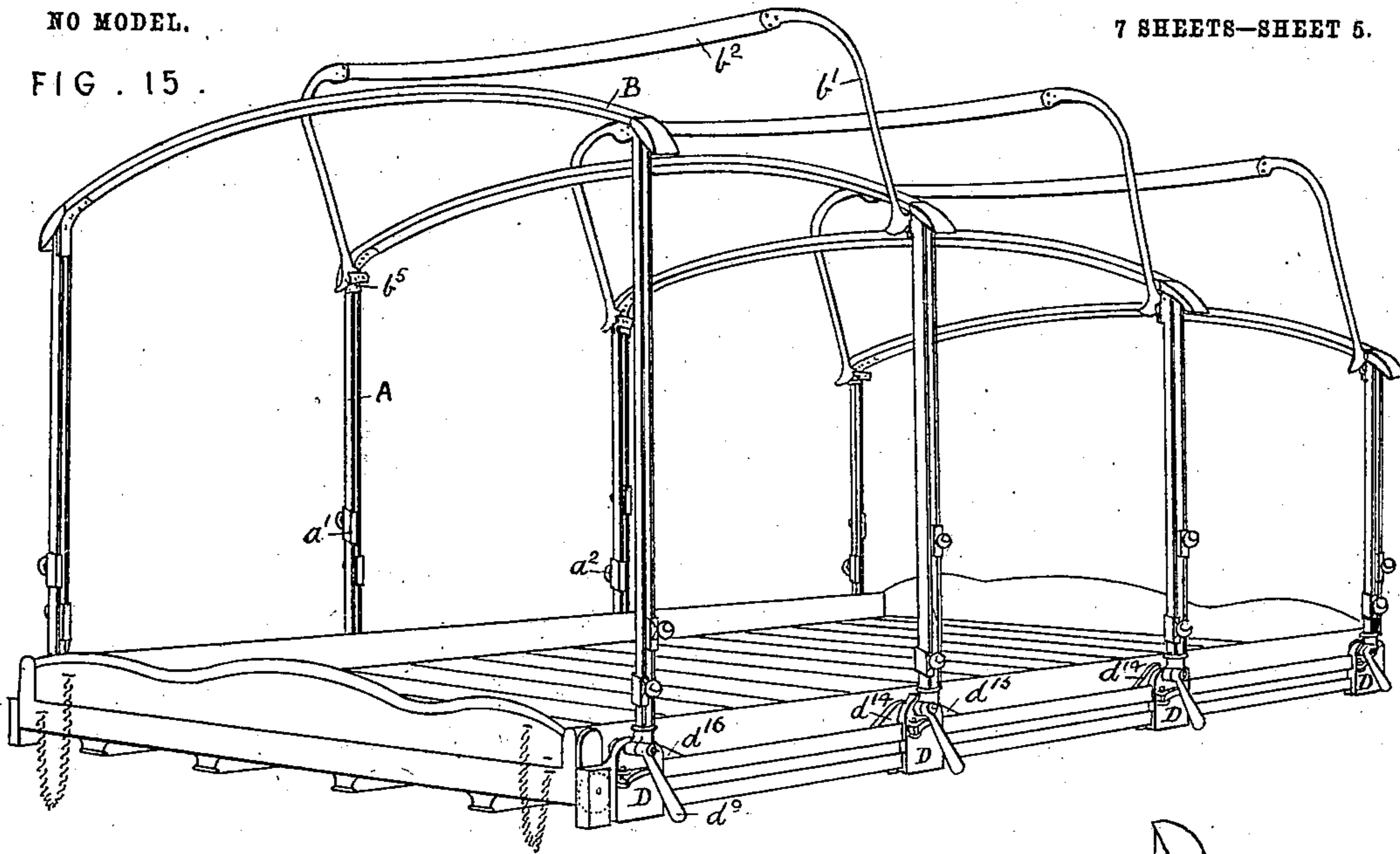


FIG. 33.



FIG. 32.

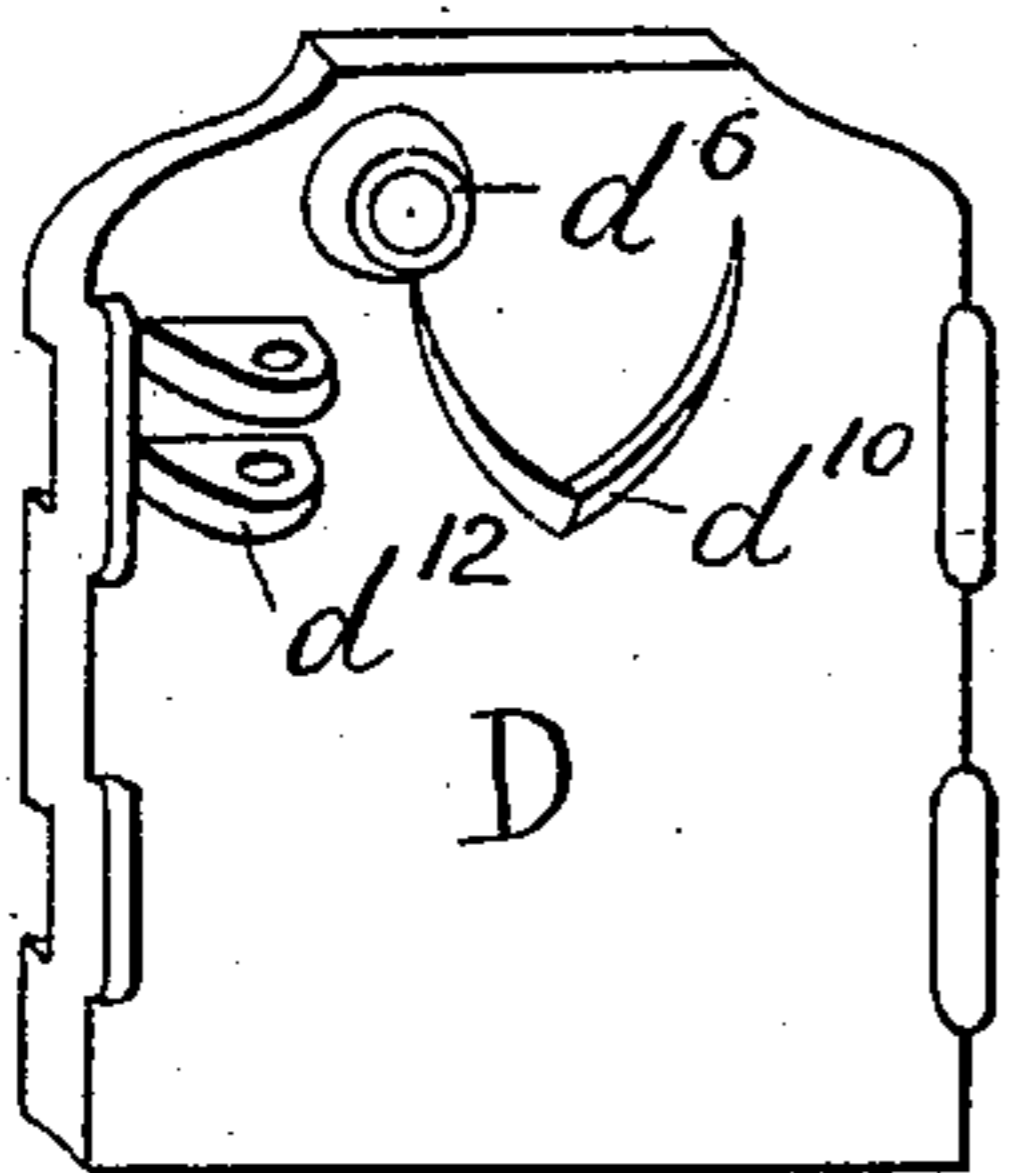


FIG. 31.

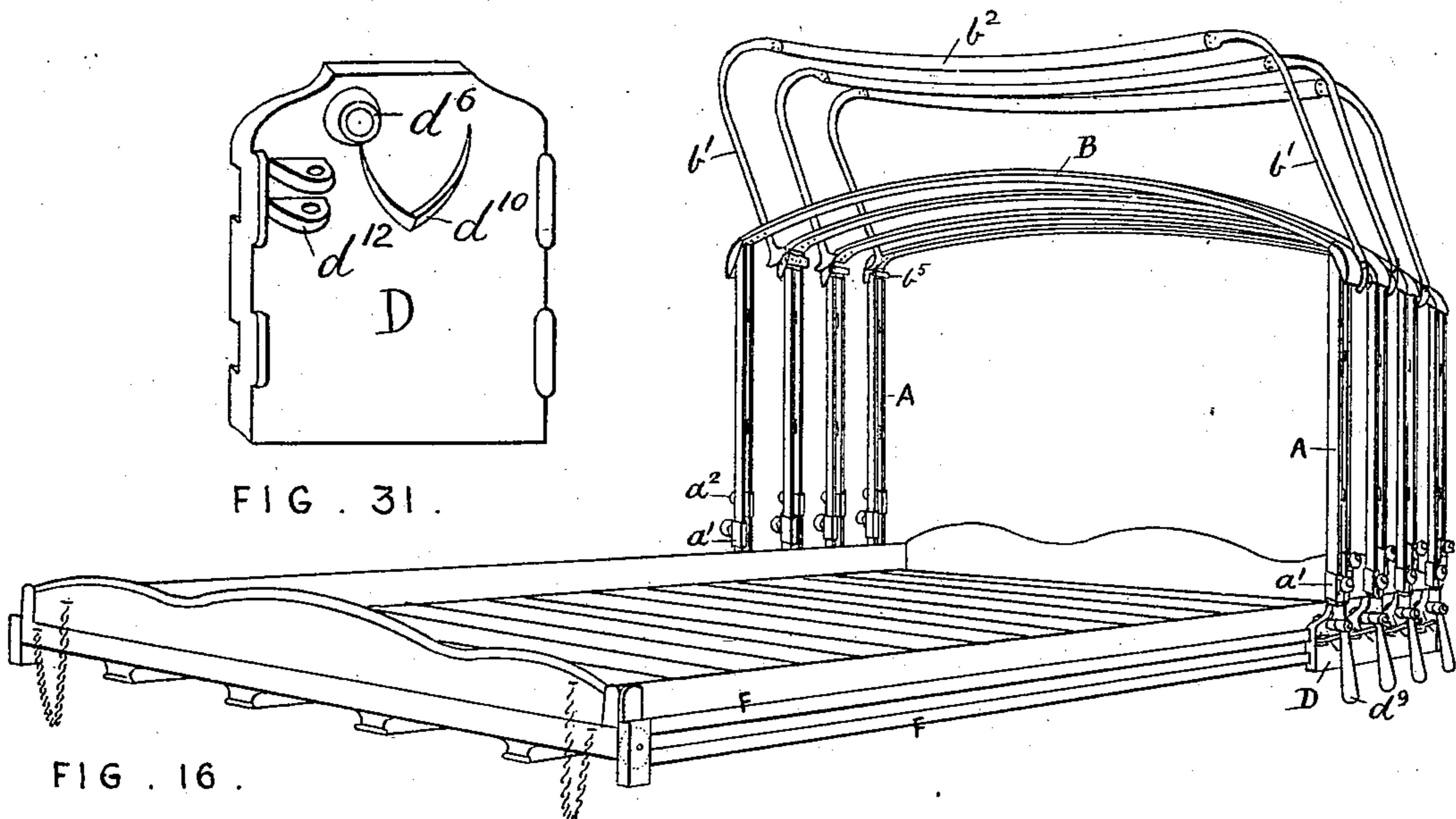


FIG. 16.

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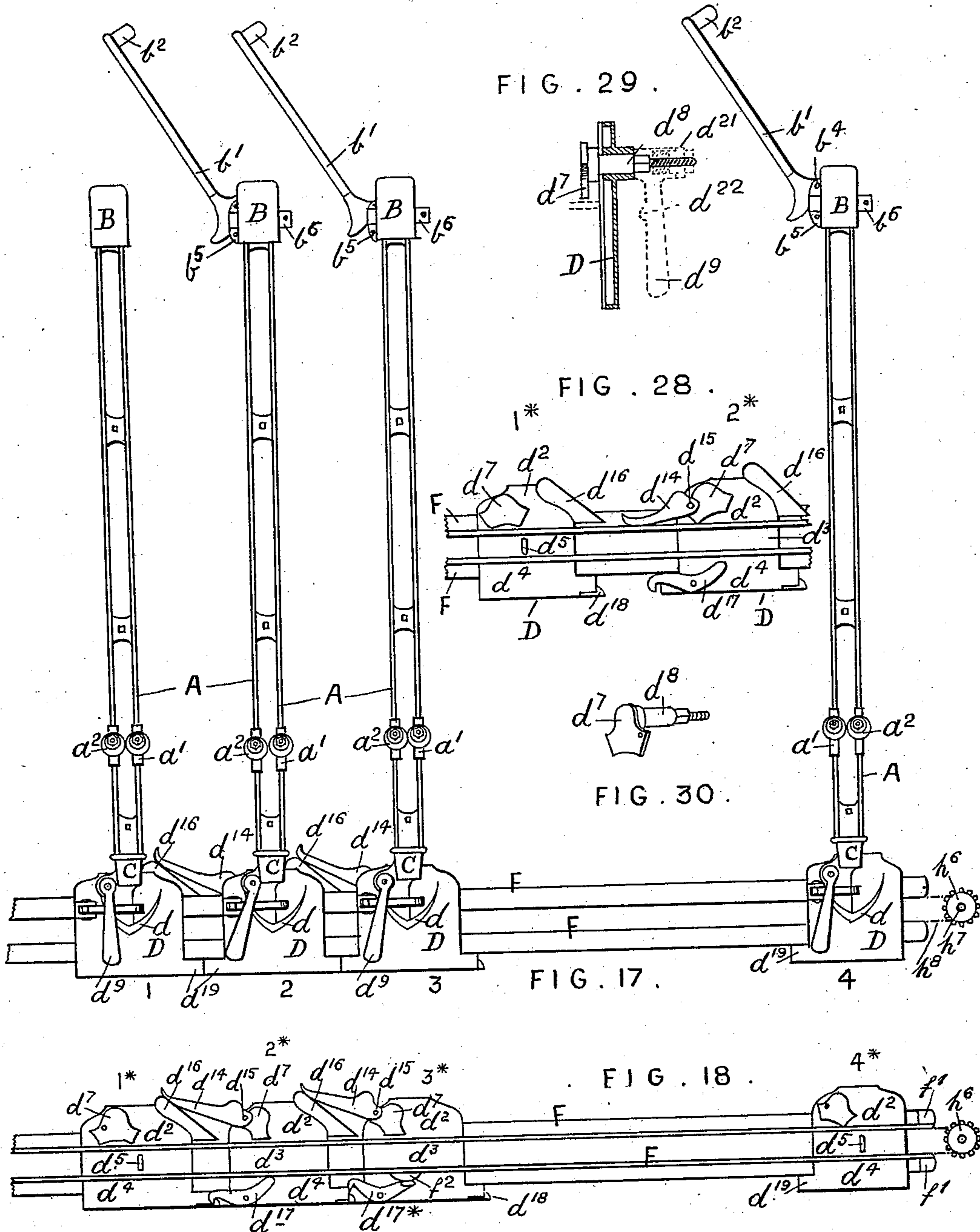
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7 SHEETS—SHEET 6.



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7 SHEETS—SHEET 7.

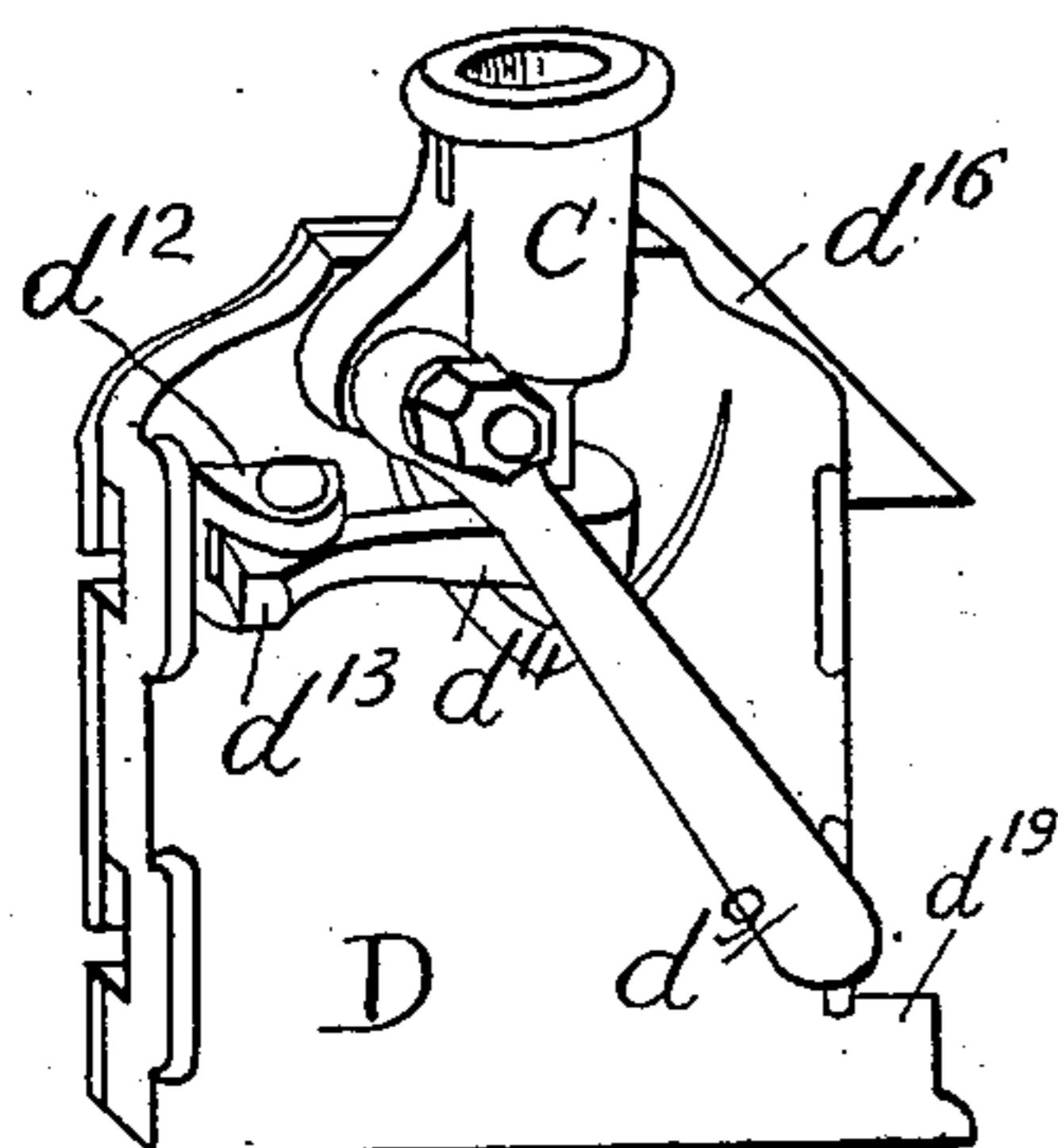


FIG. 22.

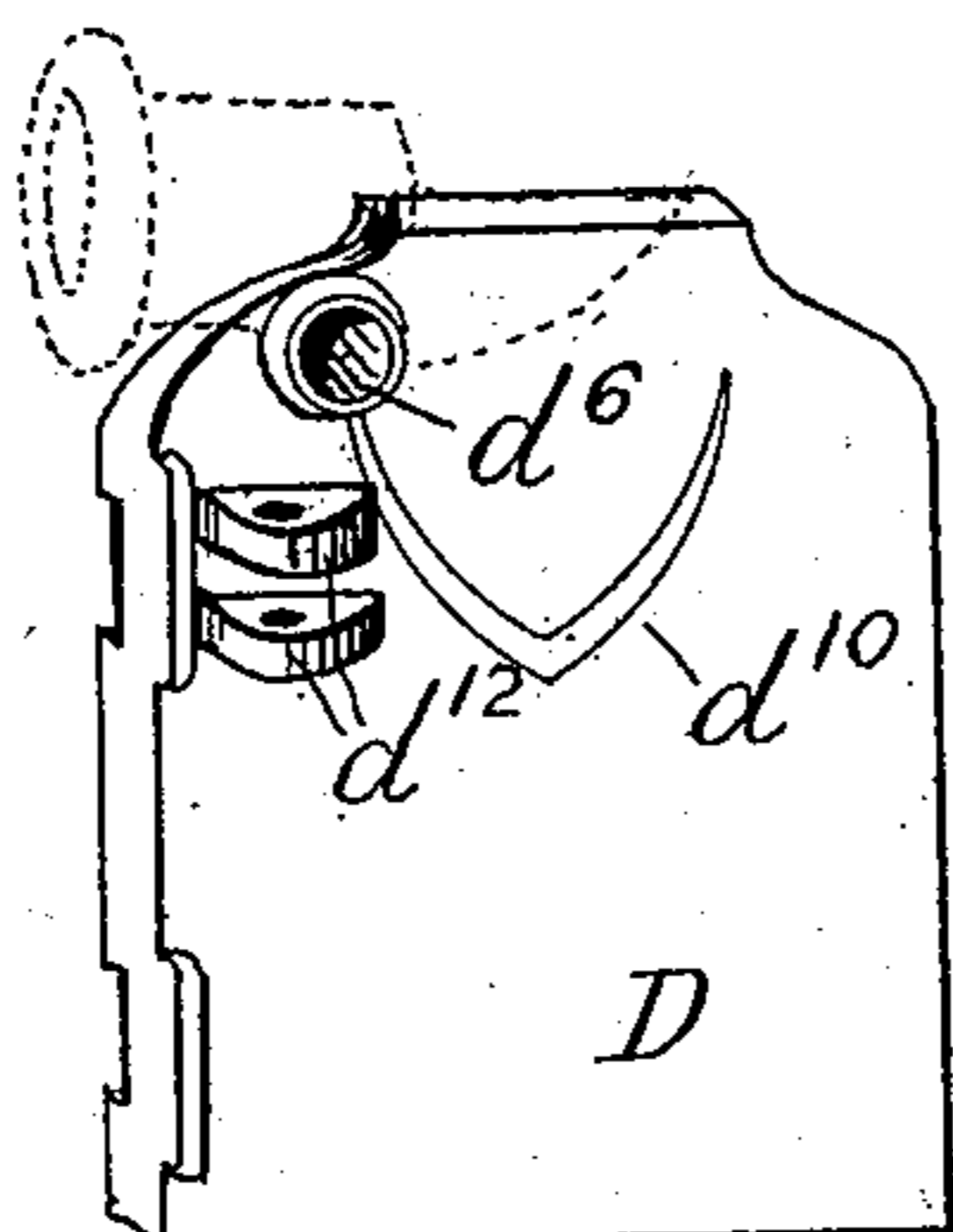


FIG. 24.

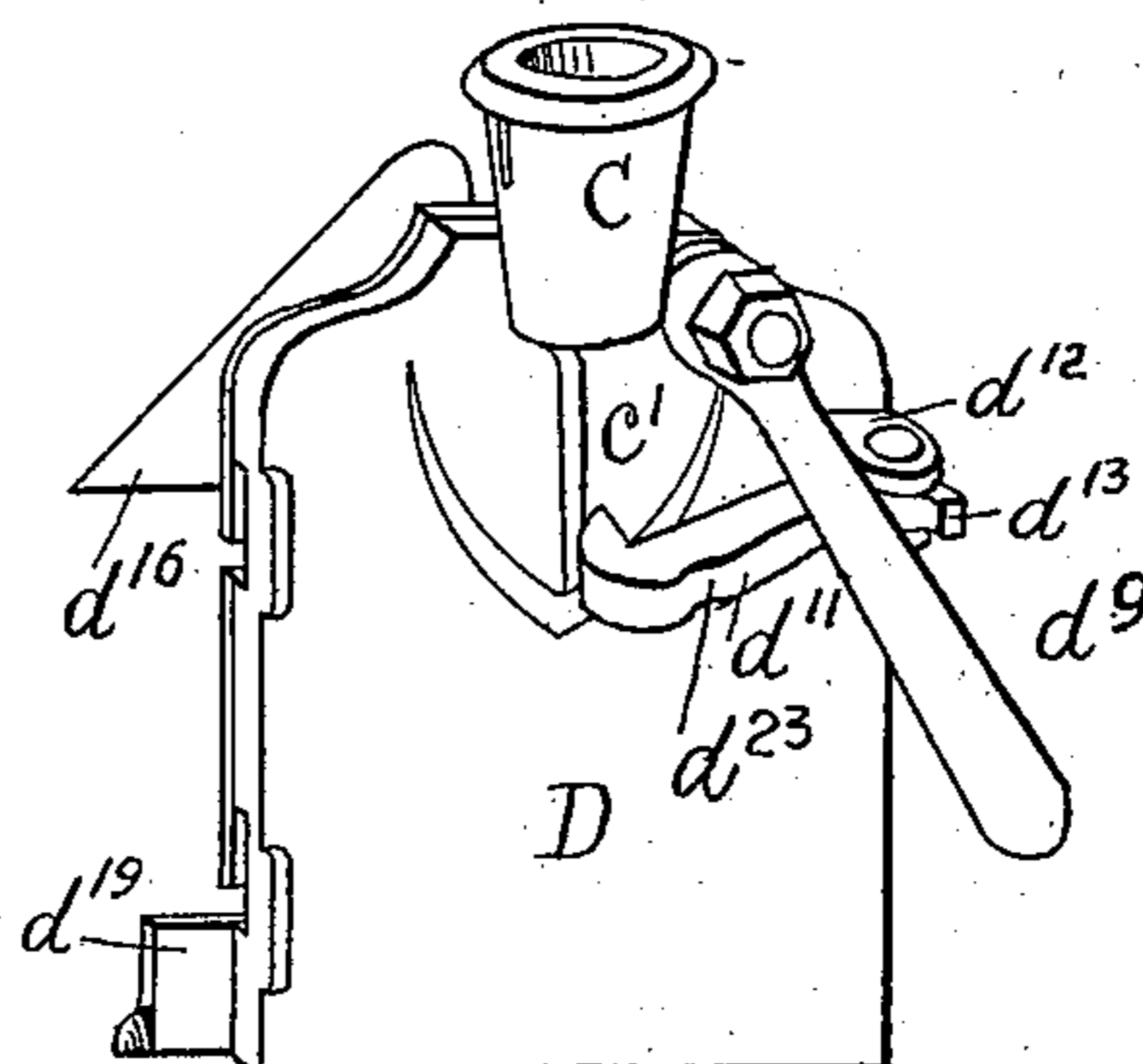


FIG. 23.

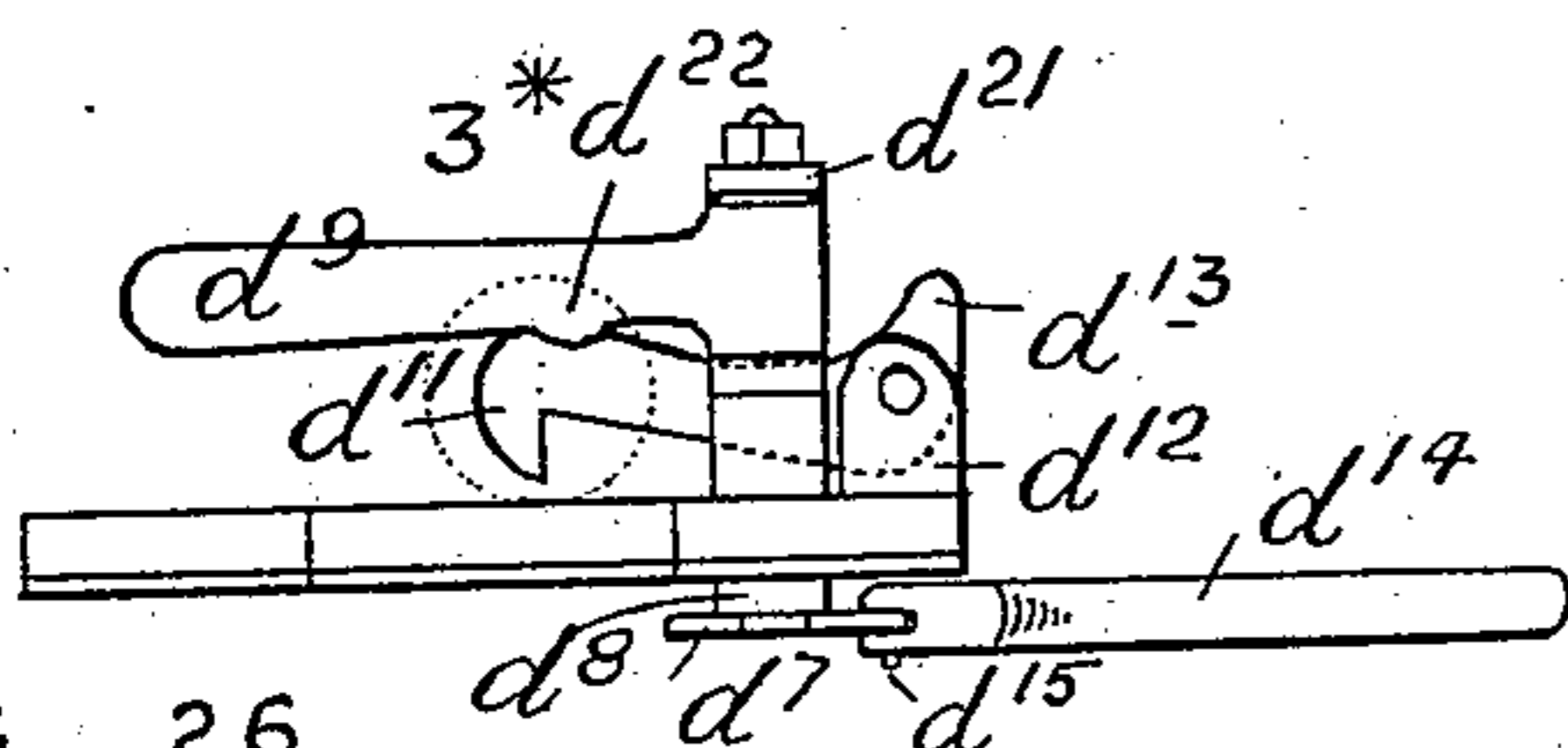


FIG. 26.

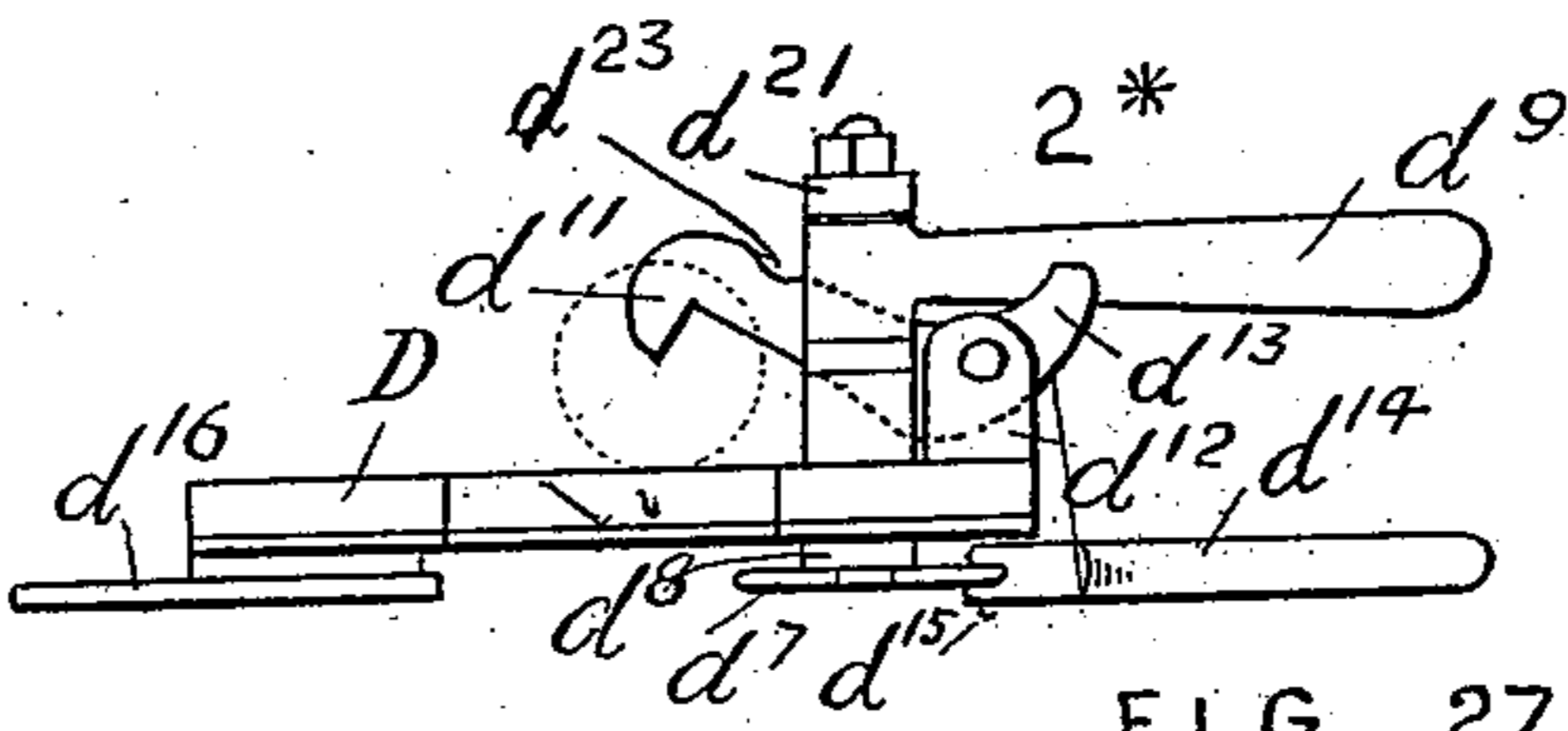


FIG. 27.

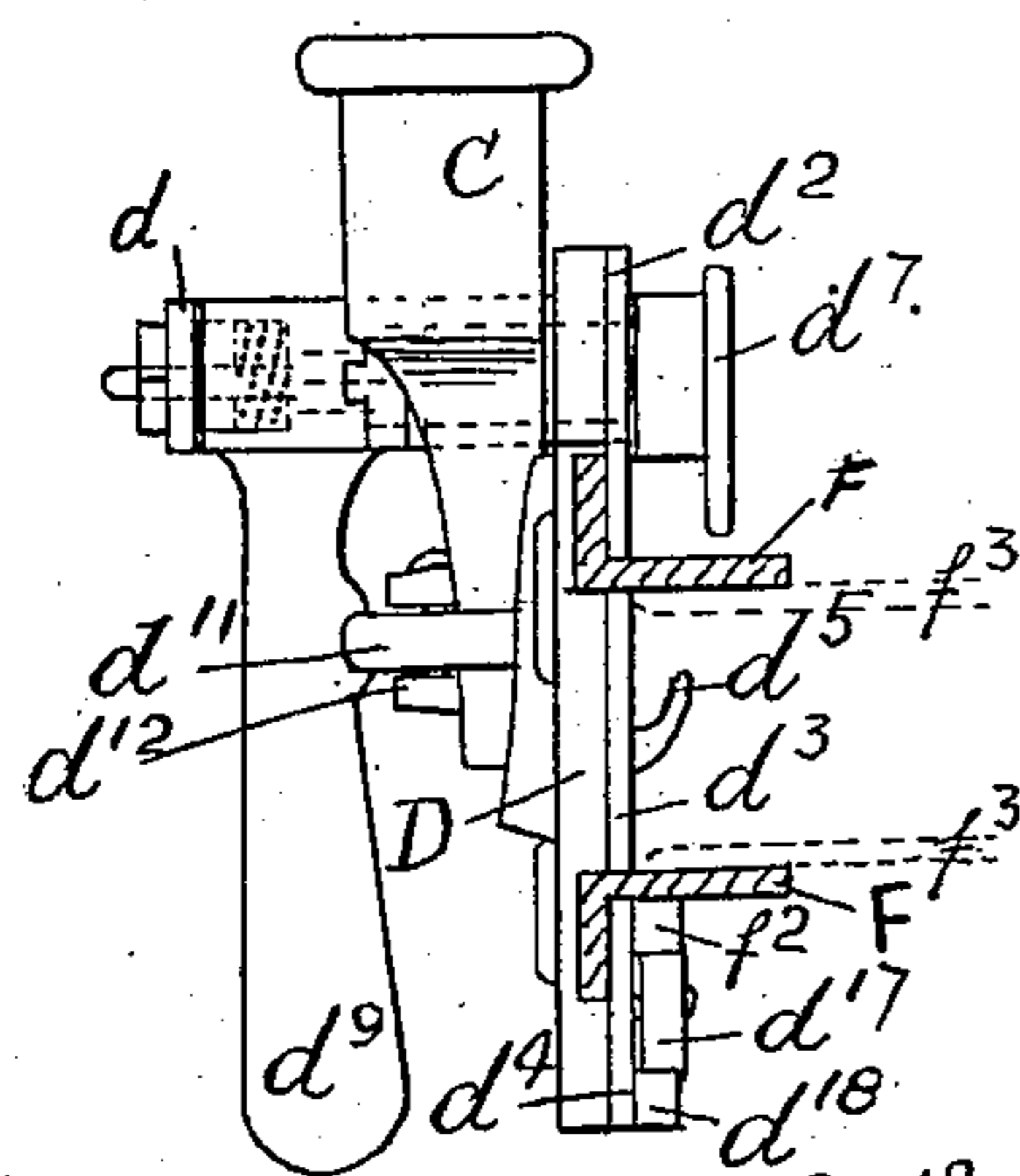


FIG. 20.

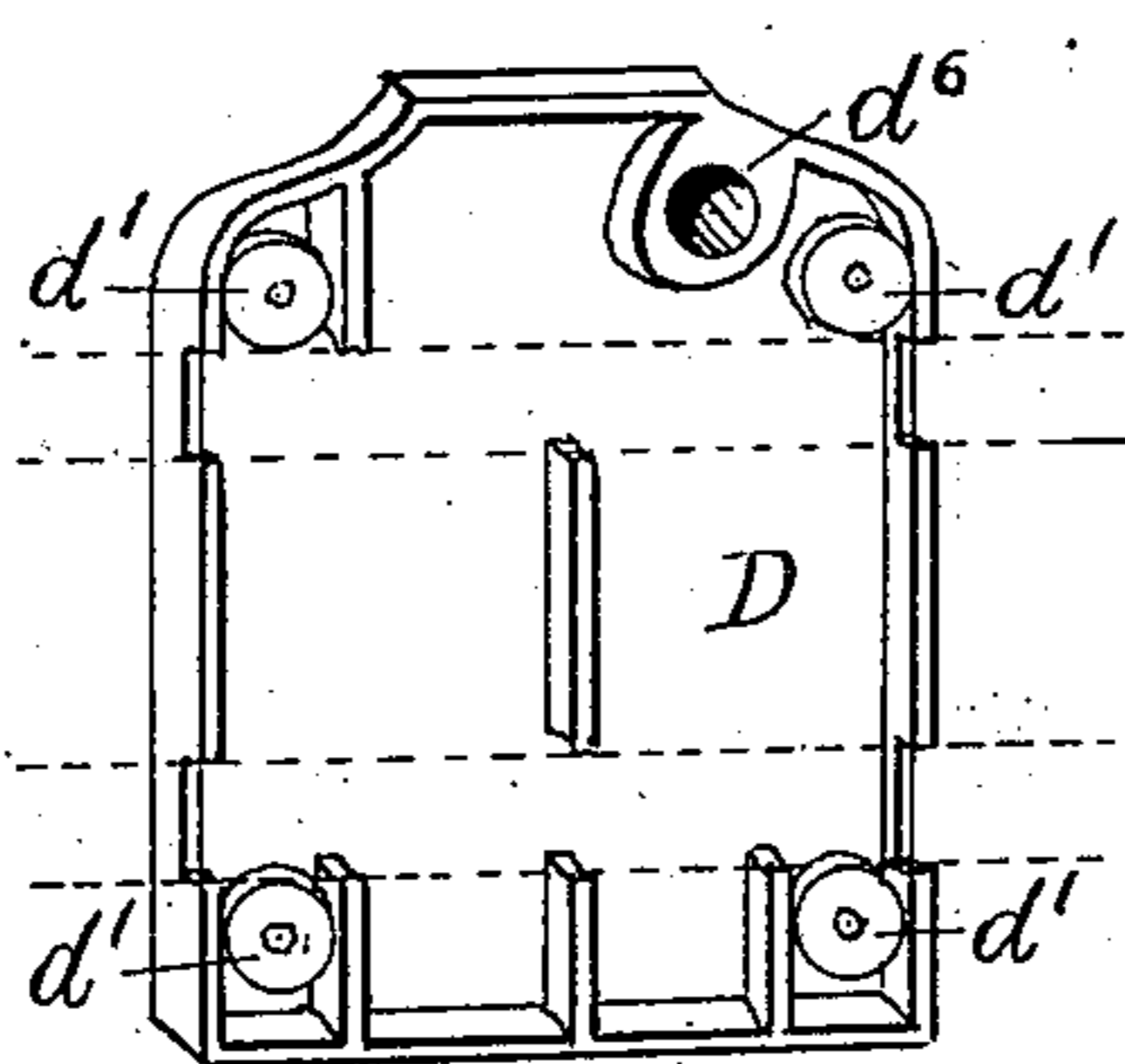


FIG. 25.

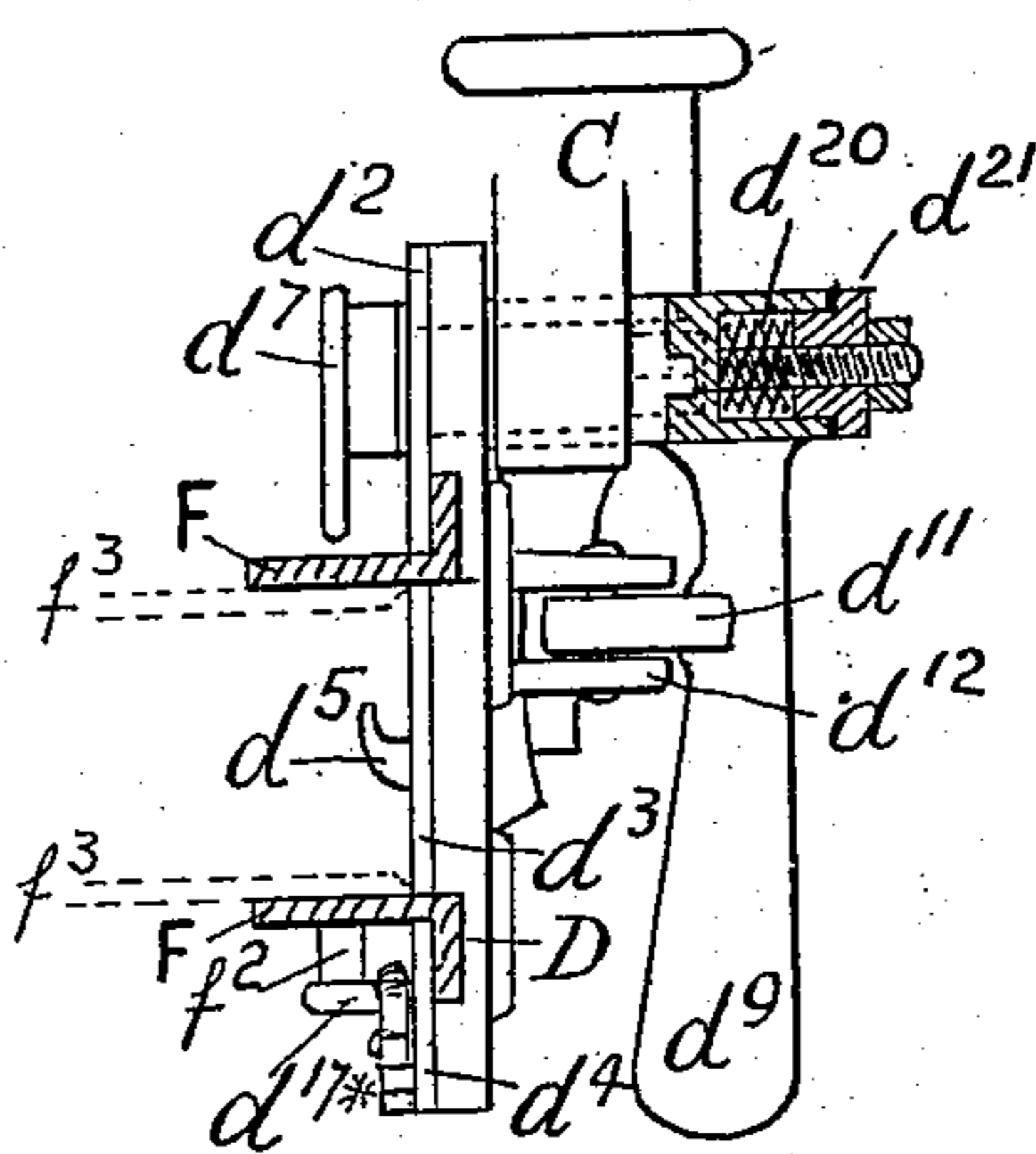


FIG. 21.

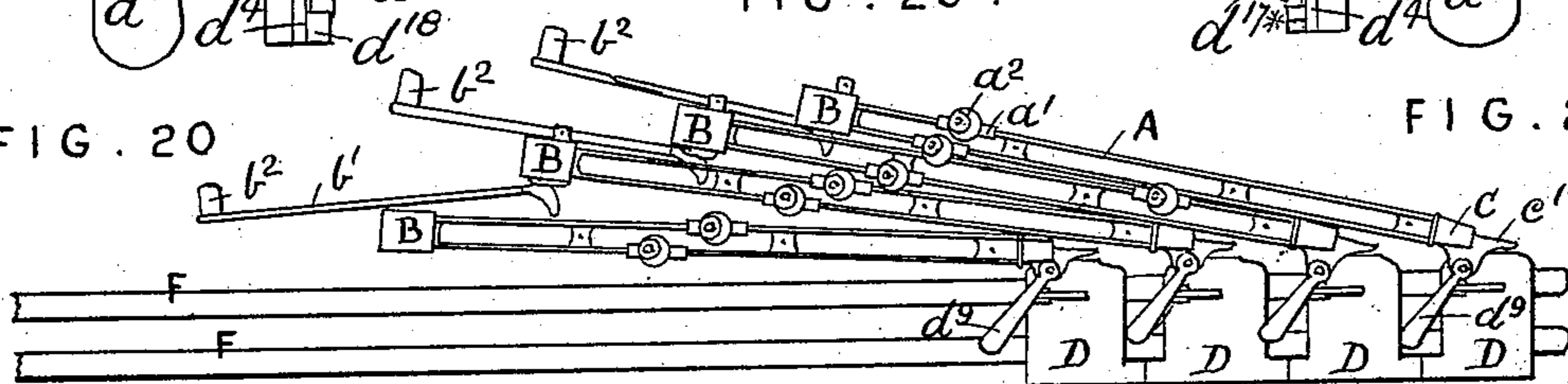


FIG. 19.

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UNITED STATES PATENT OFFICE.

JAMES MUTCH, OF ELGIN, SCOTLAND.

FOLDABLE HOOD FOR WHEELED VEHICLES.

SPECIFICATION forming part of Letters Patent No. 722,873, dated March 17, 1903.

Application filed October 21, 1901. Serial No. 79,486. (No model.)

To all whom it may concern:

Be it known that I, JAMES MUTCH, provision merchant, a subject of His Britannic Majesty King Edward VII, residing at 25 South street, in the city and county of Elgin, Scotland, have invented certain new and useful Improvements in and Relating to Foldable Hoods for Wheeled Vehicles, of which the following is a specification.

The new and useful improvements in and relating to foldable and slidable hoods which have canvas or waterproof covers for wheeled vehicles herein described have for their principal objects to adapt any or all of the members comprising the supporting-framework of such a hood for being moved back and forward (either with or without the cover-sheet attached) along slide-rails fixed to the vehicle and folded down, when required, upon it; also, to adapt any divisional side part of the flexible cover-sheet of such a hood for a wheeled vehicle for being easily, rapidly, and repeatedly opened and closed for the insertion of goods within or removal of them from the vehicle.

The invention will be better understood if reference is made to the accompanying drawings, in which—

Figure 1 is a broadside view in elevation, representing the supporting-framework of my improved hood as attached to slide-rails upon a deep-sided railway-truck, also the devices for moving them back and forward along the said slide-rails. Fig. 2 is a broadside view in elevation, representing my improved hood complete with its supporting-frame and cover-sheet applied to the carriage-body of a deep-sided railway-truck, also the operating devices, as shown in Fig. 1. Fig. 3 is a broadside view in elevation, representing the aforesaid hood—namely, the frame and covering-sheet complete—with devices for operating them attached to the carriage of a deep-sided railway-truck, also one divisional part only of the pendent cover-sheet raised and fixed similarly to a blind, leaving an opening for the insertion of goods within the truck or removal from it, while a part of the hood-frame is shown (with one-third of the cover-sheet attached) moved upon the slide-rails of the truck to a distance from its end, leaving part of the carriage completely

uncovered in readiness for packing or removing goods. Fig. 4 is an end view in elevation, on a larger scale, of the railway-truck represented in Fig. 1, together with certain parts of the cover-frame and of the devices for moving the frame along the slide-rails. Figs. 5 and 6 are enlarged views of the two extreme (left and right) ends of the railway-wagon and its cover-frame with the operating devices, which are shown in Fig. 1. Figs. 7, 8, and 9 are views representing details of the spring-arm b' , which forms part of certain supports shown in Figs. 1 and 6. Fig. 10 is a fractured plan view representing the sides and ends of a railway-wagon, such as those shown in Figs. 1 to 6, with slide-rails F affixed thereto and portions of the cover-frame attached to the rails and the devices for propelling the whole hood. Figs. 11, 12, and 13 are enlarged views in perspective, representing details of the upright support A and movable clasps a' shown in Fig. 5; and Fig. 14 is a fragmentary view in elevation, showing how the canvas or other covering sheet E of the hood is connected to the clasps a' . Fig. 15 is a perspective view representing the pivoted and arched supports $A B$ and spring-elevators $b' b^2$ for the hood of a vehicle attached to and spaced apart upon slide-rails on the body of a lorry or road-vehicle in readiness for receiving the canvas or other covering sheet E . Fig. 16 is a perspective view representing the same pivoted and arched support $A B$ with spring-elevators $b' b^2$, also the carriage-body with slide-rails F , as contained in the preceding figure. This view shows the supports $A B$ as they appear when they have been moved along the rails and all collected at one end of the vehicle. Fig. 17 is an enlarged side view in elevation, representing the four cover-supports of Figs. 15 and 16 upon slide-rails and the positions of certain cam-releasing devices when two of the said supports have been moved up to the third one preparatory to the three being propelled to the end of the vehicle, as shown in Fig. 16; and Fig. 18 is a similar side view in elevation, representing the slide-rails and the backs of the four trolleys which connect the opposite ends of the cover-supports shown in the previous figure to the rails which are on the side of the vehicle opposite to those shown in Fig.

17. Fig. 19 is a fragmentary side view in elevation, representing four hood or cover supports as they appear when folded down upon the body of a low-sided lorry, such as shown in Figs. 15 and 16. Figs. 20 and 21 are views in elevation of a support-trolley, such as represented in Figs. 17 and 18, showing the front and rear ends with double fastening devices, pivoted sockets, also oscillating latches, with their catches and tappets, for connecting and disconnecting the trolleys to and from each other. Figs. 22 and 23 are broadside views in perspective, showing one pair of trolleys (right and left hand) for an arched cover-support A B. Fig. 22 shows the devices closed which fix the supports A B in an upright position, and the other view shows them open. Fig. 24 is a view in perspective, representing the outside of a front trolley-plate; and Fig. 25 is a similar perspective view showing the inside of the said plate fitted with rollers for moving upon slide-rails, as shown in Fig. 17. (Here indicated by dotted lines.) Figs. 26 and 27 are plan views of two trolleys for connecting the arched cover or hood supports to the slide-rails. Fig. 26 represents the front binding-latch d'' closed, and Fig. 27 shows it open. Fig. 28 is a fragmentary view in elevation, illustrating certain rear latching and releasing devices upon and behind the trolley-boxes D. Fig. 29 is an edge view in section of the trolley-case, showing the hollow trunnion d^6 (for the swiveling socket-piece C) occupied by the cam-spindle d^8 . Fig. 30 is a perspective view of a cam $d^7 d^8$ for fixing the trolleys immovably upon the slide-rails, as shown at 2*, Fig. 28, and 4*, Fig. 18. Fig. 31 is a view in perspective, showing the front plate of a trolley D with V-shaped stop for the point c' of the socket-piece to repose in, the hollow trunnion d^6 , and other details. Fig. 32 is a perspective view of a frontal catch for confining the point c' of the swiveling socket-piece C in the V-shaped stop d^{10} . Fig. 33 is a perspective view representing the two (rear) oscillating latches for connecting one trolley to another.

Similar letters of reference and numerals throughout the illustrations indicate corresponding parts.

The improvements in and relating to hoods for covering wheeled vehicles hereinafter described have reference both to the cover-sheets of the hoods, with their accessories, and to the ribs for supporting them, as well as the devices by means of which the ribs are moved from either end of a vehicle to the other upon slide-rails, also to those for adjusting and fixing the ribs in any given position upon the said rails, and to those which adapt them for being folded down upon the body of the vehicle and for being removed altogether therefrom when required.

The hood or cover frame described and illustrated herein comprises several pairs of upright supports, (numbered A to a^6 , Figs. 11 to 15 of the drawings,) wherein each pair is united

together at the upper ends thereof by means of the spars B, and the lower ends a^5 repose in socket-pieces C, which are pivoted upon trunnions d^6 , Figs. 29 and 31, which form parts of the trolleys D and are adapted and designed for being moved back and forward along slide-rails, such as those marked F in the drawings, which are fixed upon the sides of the vehicle. The trolleys D are moved back and forward upon the slide-rails F (which are fixed to the sides of the vehicle with bracket-pieces, such as f^3 , Fig. 10) by means of chains h^8 and chain-wheels h^6 , combined with pinion and other toothed wheels $h^4 h^5$, which are carried by shafts H h^7 , bracketed at and to the ends of the vehicle. (See Figs. 1 to 10.) The driving-shaft H, Figs. 4 and 10, (squared at each end h' for receiving a handle h^2 , Figs. 3 and 4,) is mounted in pillar-brackets h^3 upon the end of the railway-truck G and beyond the strengthening-battens g' . Two small toothed pinion-wheels h^4 , Figs. 1 to 6, are fitted upon the aforesaid driving-shaft H and geared into the toothed wheels h^5 , Figs. 1 to 10. These wheels h^5 and chain-wheels h^6 , Fig. 4, are carried upon short shafts h^7 , mounted in pillar-brackets h^3 at one end of the truck G, and an endless chain h^8 connects these wheels h^6 with corresponding chain-wheels h^6 , carried by the shafts h^7 , mounted in brackets h^3 , which are fixed at the other or opposite end of the truck G, Figs. 1 to 4, 5, 6, and 10. These chains h^8 lie and pass longitudinally along, above, beneath, or between the slide-rails F. When the chains h^8 are connected to any two end trolleys D (at either end) of a vehicle and the shaft H is suitably revolved, those two end trolleys can be drawn by the chains along the rails F to the opposite end thereof, collapsing the cover-sheet E, as shown in Fig. 3, pushing together each blind e^3 and each pair of trolleys D until they are all compactly gathered together at the opposite end of the vehicle. Before revolving the shaft H the chains h^8 are fixed to the catches d^5 , Figs. 20, 21, and 28, upon the back plates of the two extreme end trolleys D on opposite sides of the vehicle.

The canvas, tarpaulin, or other covering sheet E, Figs. 2, 3, and 14, is fixed with tapes, straps, or other simple devices removably to the spars B of the cover-frame, and each broadside of the cover-sheet E is adapted for being moved up and down the supports A (by means of traveling clasps) similarly to certain blinds. The number of supports A upon a vehicle for receiving the cover-sheet E is regulated by the length of the vehicle. Upon an ordinary four-wheeled railway-truck or grocer's dray each side is usually divided by four supports A, and each broadside of the canvas cover is divided into three blinds or sections, (see Figs. 2 and 3,) each blind being connected by means of clasps a' and studs a^2 to the supports A, Figs. 11 to 14. Each of these clasps a' is fitted with a pawl a^3 for engaging with notches a^4 , Fig. 14, or equivalent

irregularities upon the front edges of the supports A. When the cover-sheet E is fixed by the studs a^2 to these pawls and clasps, as shown in Fig. 14, any side division e^3 of the cover-sheet may be raised (and fixed by these pawls and notches $a^3 a^4$) in any required position, such as that shown at e' , Fig. 3. On disengaging the two side pawls a^3 , which hold up a blind—such as e' , Fig. 3—the blind and its clasps slip down by their own weight into the position shown in Fig. 2. These pawls A^3 are also designed to prevent the wind blowing up the sides of the cover-sheet. The clasps a' , Fig. 13, are fitted very loosely upon the supports A and are adapted for being moved up and down upon them with ease. Three of the four (double) supports A D (shown in Figs. 1, 15, and 16) are provided with spring brackets or arms b' , united together by means of curved spars b^2 . These spring-brackets b' and spars b^2 are not fastened in any way to the cover-sheet E. When the cover-sheet is fixed to the spars B and the latter are extended upon the rails F by means of the uprights A and trolleys D, as shown in Figs. 1 and 2, these three spring-arms and spars $b' b^2$ become depressed considerably by the force with which the supports A are extended. The spars b^2 are constantly pressed upward by the spring-arms b' against the under side of the cover-sheet and form it into ridges e^2 , Fig. 2, for throwing off the rain in wet weather, and as the supports A are drawn close together, as shown at e^3 , Fig. 3, these spars b^2 are raised automatically by the springs and act as elevators, lifting the spare part of the roof-sheet as it becomes slack between each pair of spars B, and allow the supports A B to be drawn close together, as shown in Figs. 16 and 17. All the spars B and b^2 are curved, as shown at B, Figs. 15 and 16, for throwing off water from the sheet E in wet weather, and when the spars b^2 are pressed down, as shown in Figs. 2 and 3, they assume the same curved line as the curve of the spars B; but when the spars b^2 rise erect their uppermost outline changes and has the concave appearance shown in Figs. 15 and 16. When these cover-supports A B are all folded down, as shown in Fig. 19, they lie compactly together. Each bracket b' is slightly curved inward at b^3 , as shown in Fig. 8, and folds down clear of the projections upon the underlying support. Each bracket b' is pivoted at b^4 to a frame b^5 , Figs. 6 to 9, having a barrel b^6 , which contains a spiral spring and central spike for actuating the cam-shaped lower ends of the part b' . The frames b^5 are fixed to the upper ends of the supports A where the latter are united to the spars B, as shown in Figs. 6, 7, 15 to 17. Certain of the supports A B do not require the spring-spar b^2 , such as the first, left, or end supports in Figs. 1, 5, 15, 16, 17, and 19. These are shown in greater detail in Figs. 11 and 12. The bottom end a^5 of each support A, Figs. 11, 12, and 14, is adjusted to fit with precision into

a socket-piece C, and these parts a^5 and C are then cottered together through the slots a^6 . When the cover-sheet E and the aforesaid 7c
cotters are removed from the hood-frame, the supports A B can be lifted out of the sockets C, and the vehicle can then be used without the cover-sheet or its supports. The sockets and trolleys C D can also be removed, if required, from the slide-rails F upon the vehicle by removing the buffer-blocks f' , Fig. 10, from the said rails. 75

In applying the framework of this hood to a deep-sided railway-truck G, as represented 80
in the drawings, two L-shaped angle-bars F are fitted upon the sides of the vehicle by suitable throw-out brackets f^3 , Figs. 10, 20, and 21, and the trolleys D, Figs. 17 to 30, are adjusted upon the said rails, and stop-pieces 85
 f' are fixed at the ends of each rail to prevent them getting off the rails.

The trolleys D are in duplicates, right and left, (see Figs. 22 and 23,) and in Figs. 17 a set of four (numbered 1 to 4) are shown, (outside view,) and in Fig. 18 the inside view of the companion or opposite set of four trolleys is shown and numbered 1* to 4*. There are four varieties of trolleys (with other four duplicates) required to make up (and shown in) 95
this set. The two numbered 1 and 1* are alike; the two numbered 2 2* are alike, also 3 3* are alike, and the two numbered 4 4* are both alike; but each pair differs in certain details from the others. 100

The supports A, Fig. 1, (and their duplicates on the opposite side of the truck,) are united to the movable trolleys D by means of the ends a^5 and sockets C, which are shown in detail in Fig. 12, the ends a^5 and sockets C 105
being cottered together through the slots a^6 when required, and the trolleys, with their arched supports, can then be moved back and forward from end to end along the slide-rails F. 110

Each trolley D is a hollow box fitted to and adapted for being moved along the rails F, having a socket-piece C c' pivoted upon a trunnion d^6 for receiving the end a^5 of the support A, and is internally fitted with small 115
wheels d' , Fig. 25, mounted upon axles, for facilitating its movement along the rails. The front plate of each trolley-box is in one piece, as shown in Figs. 24, 25, and 31; but the back of it is covered by several plates, 120
such as d^2 to d^4 , with spaces left between each two plates for receiving parts of the rails F. (See Figs. 18, 20, 21, and 28.) The projecting piece d^5 , Figs. 20 and 21, is for engaging with a driving-chain h^8 , Figs. 5 and 10. All the 125
back plates d^4 of the trolleys D are longer than those marked $d^2 d^3$, each plate d^4 having an extension or distance piece d^{19} where it has contact (on either or both sides) with an adjacent trolley. The front plate of each 130
trolley has a hollow trunnion-piece d^6 , Figs. 29 and 31, upon which the socket-piece C c' is fitted and rotated, and the hollow root of this trunnion is extended through the inte-

rior of the trolley-box, as shown at d^6 , Figs. 25 and 29. A raised flange d^{10} , V-shaped, is formed on the face of the trolley-plate D, Figs. 24 and 31, as a stop for the tapered end c' of each socket-piece C, and a frontal latch d^{11} , with projecting heel d^{13} , Fig. 32, is permanently united by a vertical pin to the horizontal brackets d^{12} where it is controlled by the handle d^9 . When the back plate d^2 of a trolley-box is fitted in its place, the spindle d^8 of the locking-cam d^7 , Figs. 29 and 30, is put through the hollow trunnion d^6 , Fig. 29, from behind the box. The socket-piece C c' is then fitted in an upright position upon the trunnion d^6 and the frontal latch d^{11} is closed over the end c' . The handle d^9 , Figs. 20 to 31, is then fitted upon a squared portion of the spindle d^8 and secured with a nut. This handle d^9 of the trolley D is designed to serve a fourfold purpose—namely, to bind by pressure the trolley to one of the rails F in any required place by means of the cam d^7 (see 2* and 4*, Figs. 18 and 28) and to release it therefrom. It is also designed for use as a binding device in pressing the frontal latch d^{11} into an immovable position (see Fig. 26) upon the point c' of the socket-piece C, so that the socket-piece cannot be rotated upon the trunnion d^6 until it is set free by the reversal of this handle. It also releases the point c' when it is pressed back against the heel d^{13} of the frontal latch, Figs. 23, 27, and 32, rotating it out of the path of the point c' . The fixing and releasing of this frontal latch d^{11} can only be effected by a manual operation of the handle d^9 ; but the four trolley-cams of 2 2* 3 3*, Figs. 17 and 18, are designed and adapted for being released by either manual or mechanical means and by both. For mechanically unbinding the four last-named cams d^7 from the rail F a hollow "skid" d^{14} is pin-jointed loosely at d^{15} upon the cam d^7 and rests upon the said rail directly in the path of a sloping pointed "share" d^{16} , Figs. 26 to 28, which forms a rigid and immovable part of the back (trolley) plate d^2 . As the trolley 1*, Figs. 18 and 28, is moved close up to the one marked 2* the point of the share d^{16} upon 1* passes under the open end of the adjacent skid d^{14} (upon 2*) and raises the latter until its heel abuts against the cam d^7 , and as the onward movement is continued the share d^{16} gradually raises the skid d^{14} , which then acts as a lever to rotate the cam d^7 and relax its impact upon the rail F. If the forward movement of these two trolleys 1* 2* is then continued, the share d^{16} upon 2* raises the skid upon 3* until the cam of 3* is similarly relaxed. (See Fig. 18.) The trolleys 1* 2* 3* may then be slid along the rails F until they abut against the projecting part d^{19} upon the trolley 4*, as shown in Fig. 16. There are neither skids nor shares d^{14} d^{16} combined with the end trolleys 4 4*.

If it is desired to fold down this hood or cover when the trolleys D and supports A B have been drawn to one end of the rails, as

shown in Fig. 16, (or in any intermediate position,) each of the eight handles d^9 must be pressed against (the points d^{13} of) the frontal latches d^{11} , as shown in Figs. 23 and 27, which has the effect of drawing back the said latches from the points c' and allows each and every pocket C and support A to be folded down upon the vehicle. (See Figs. 19 and 29.) This latch-releasing motion reflexes the cams upon the rails. When the six trolleys 1 1* 2 2* 3 3*, Figs. 17 and 18, are moved up to each other and toward those numbered 4 4*, these six trolleys become successively and automatically united together by means of the rear oscillating latches d^{17} d^{17*} , Figs. 18, 28, and 33, and catches d^{18} , Fig. 28, upon the back plates d^4 , so that when the trolleys 1 1* are drawn back again from 4 4* along the rails they draw the trolleys 2 and 3 with them until No. 3 3* latches (d^{17*} , Figs. 21 and 33) pass underneath stop-pieces or tappets f^2 , Figs. 18 and 21, which are fixed to the rails F, and the bent tails of the said latches are depressed by the tappets and the beaks of the latches d^{17*} are thereby simultaneously raised out of and above the catches d^{18} . (See Fig. 18.) The trolleys 3 3* then remain stationary (with their latches d^{17*} raised by and) at the tappets f^2 , and the trolleys 1 and 2 are moved on without them until the rear latches (d^{17}) of 2 2* reach and engage with the next pair of tappets f^2 upon the rail F, when the said latches are similarly disengaged by the tappets from the catches d^{18} upon the trolleys 1 1*, and Nos. 2 2* remain stationary, with their latches pressed beneath the tappets, (see Fig. 20,) while the trolleys 1 1* are moved on to the end of the rails. Two of the tappets f^2 (right and left) are fixed directly in the path of the latches d^{17} , Figs. 20 and 33, which lie close to the back plate d^4 , and other two tappets are fixed in positions somewhat removed from the plate d^4 , and the tails of the latches d^{17*} are bent outwardly (see Figs. 21 and 33) in order to engage with them. As the trolleys 1 1* are made to press and force those numbered 2 2* onward toward 3 3*, the latches d^{17} move away from beneath the tappets f^2 and the latches again drop into the catches d^{18} and unite the trolleys together again. By adding the latches d^{17} to the plates d^4 of No. 4 4* trolleys, also tappets near Nos. 1 and 4 end trolleys, the hood may be moved from either end to the other if the cams d^7 are first relaxed from their impact upon the rails F. The spring d^{20} , (fitted against the gland-nut d^{21}), which is shown in the handles d^9 , Figs. 20, 21, and 29, is compressed when the swelled part d^{22} of the handle is forced into the indentation d^{23} , contained in the latch d^{11} , as shown in Figs. 23, 26, 27, and 32, and prevents any involuntary slackening of the cams d^7 by the vibration of a vehicle when in motion.

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

1. An improved hood for a wheeled vehicle comprising a series of notched supports pivotally fitted in pairs upon rails by means of slidable box-trolleys and adapted for being
5 folded upon the carriage-body, having frontal and rear latches upon the trolleys, also spring-handled cams for binding the trolleys to the rails; and tappeted rails, spring roof-sheet elevators and blind-runners, in combination
10 with a cover-sheet which is divided on two sides into blinds; and chain propelling mechanism for moving the hood back and forward upon the slide-rails and compressing it together at either end of a vehicle substantially
15 as and for the purposes herein set forth.

2. In a hood for a wheeled vehicle the combination therewith of notched supports having blind-runners and spring roof-sheet elevating-brackets, united pivotally to slidable
20 box-trolleys with frontal and rear latches and spring-handled cams, skids and shares; adapted for union with angled and tappeted slide-rails and for being moved thereon substantially as and for the purposes herein set forth.

3. In a hood for a wheeled vehicle, the combination of a canvas or other flexible sheet wherein the portions are subdivided into blinds which comprise the two pendent broad
25 side coverings, and independently-movable supports for the sheet, whereby said sheet may be collapsed in sections, substantially as set forth.

4. In a hood for a wheeled vehicle, the combination with the upright supports and slide-
35 rails thereof of slidable box-trolleys having pivoted socket-pieces thereon for receiving the said supports, also latches and cam-fixing devices, adapted for being moved back and forward along rails upon the sides of the
40 vehicle, substantially as and for the purposes herein set forth.

5. In a wheeled vehicle, the combination of a series of vertical notched supports, and slidable blind clasps or runners fitted thereto and
45 adapted to be fixed at any elevation upon the supports, with a sectionally-collapsible hood, substantially as and for the purposes herein set forth.

6. In a hood for a wheeled vehicle the combination with the upright supports thereof of
50 spring-brackets adapted for automatically pressing the roof of the cover-sheet upward substantially as and for the purposes specified.

55 7. In a hood for a wheeled vehicle the com-

bination with the upright supports and slide-rails thereof of slidable box-trolleys having socket-pieces pivoted thereon, also having front and rear latches and cam fixing and releasing devices; adapted for being moved
60 back and forward along rails upon the sides of a vehicle and operated substantially as and for the purposes herein set forth.

8. In a hood for a wheeled vehicle the combination with the upright supports thereof of
65 slidable box-trolleys having socket-pieces for the supports pivoted thereto and frontal latches and stops also fixing cams, with spring-handles therefor substantially as and for the purposes herein described. 70

9. In a hood for a wheeled vehicle the combination with the slidable box-trolleys for the upright supports of frontal trunnions and pivoted socket-pieces substantially as and for
75 the purposes herein set forth.

10. In a hood for a wheeled vehicle the combination with the slidable box-trolleys for the upright supports of rear oscillating latches and their catches which latches are adapted
80 for being operated by tappet projections upon slide-rails on the vehicle when the said latches are moved up to them, substantially as and for the purposes herein described.

11. The combination with the slide-rails on a wheeled vehicle upon which a collapsible
85 hood is designed to travel, of tappet projections adapted for use in raising and keeping raised the latches which otherwise connect the slidable trolley-boxes of the hood together, substantially as and for the purposes herein
90 set forth.

12. In a hood for a wheeled vehicle the combination with the binding-cam upon a box-trolley of an arm or skid loosely pivoted there-
95 to substantially as and for the purposes herein specified.

13. In a hood for a wheeled vehicle the combination with a box-trolley designed for being moved along the slide-rails thereof of a
100 sloping and pointed "share" adapted for engaging with and raising an arm or "skid" which is pin-jointed loosely upon a binding-cam adapted for fixing the trolley in various positions upon the slide-rails substantially as and for the purposes herein set forth.

JAMES MUTCH.

Witnesses:

WILLIAM MENZIES,
JAMES CRAIL.