

No. 697,333.

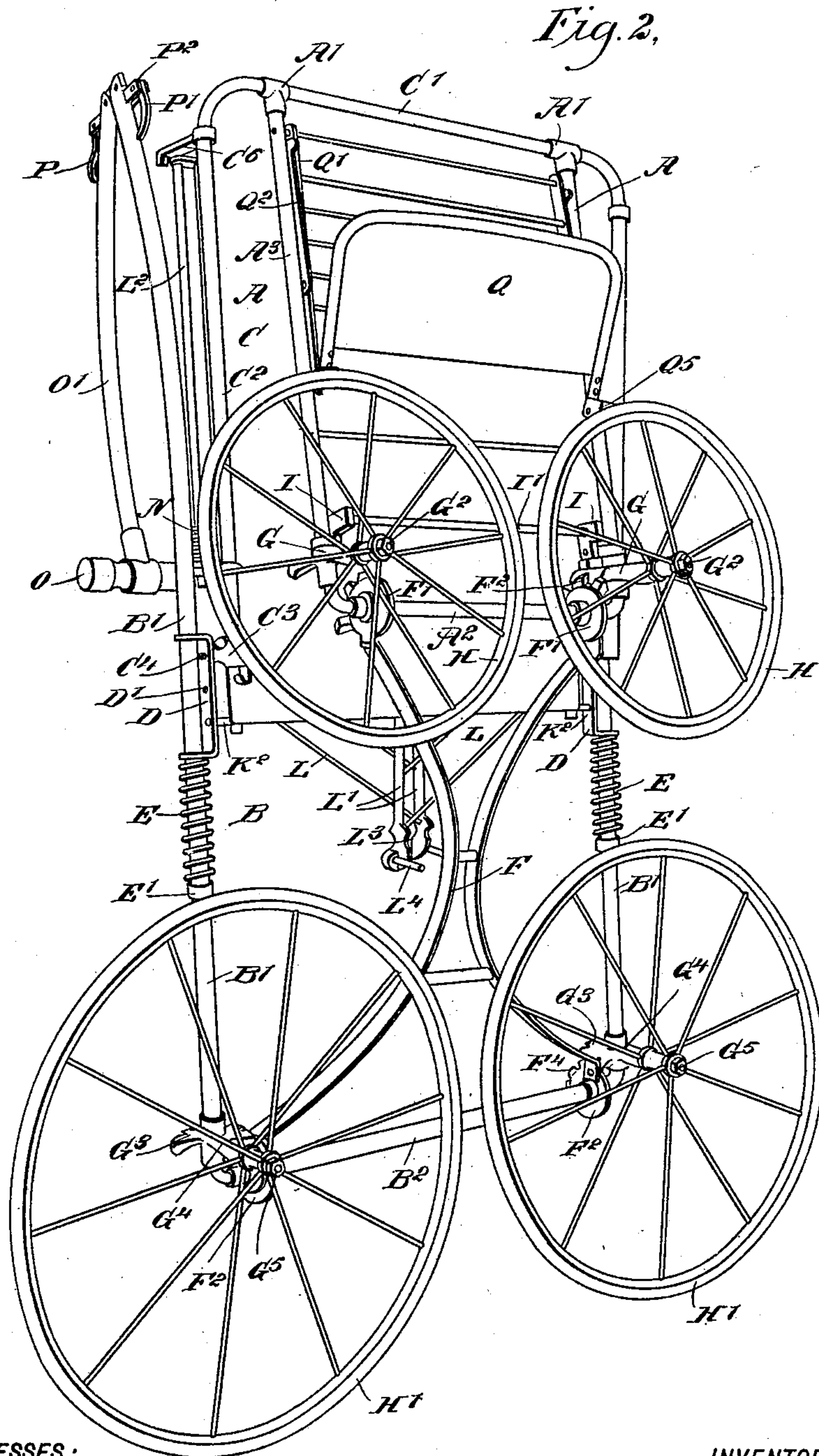
Patented Apr. 8, 1902.

C. E. FANNING.
FOLDING CARRIAGE.

(Application filed June 5, 1901. Renewed Feb. 27, 1902.)

(No Model.)

3 Sheets—Sheet 2.



WITNESSES:

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INVENTOR

Charles E. Fanning

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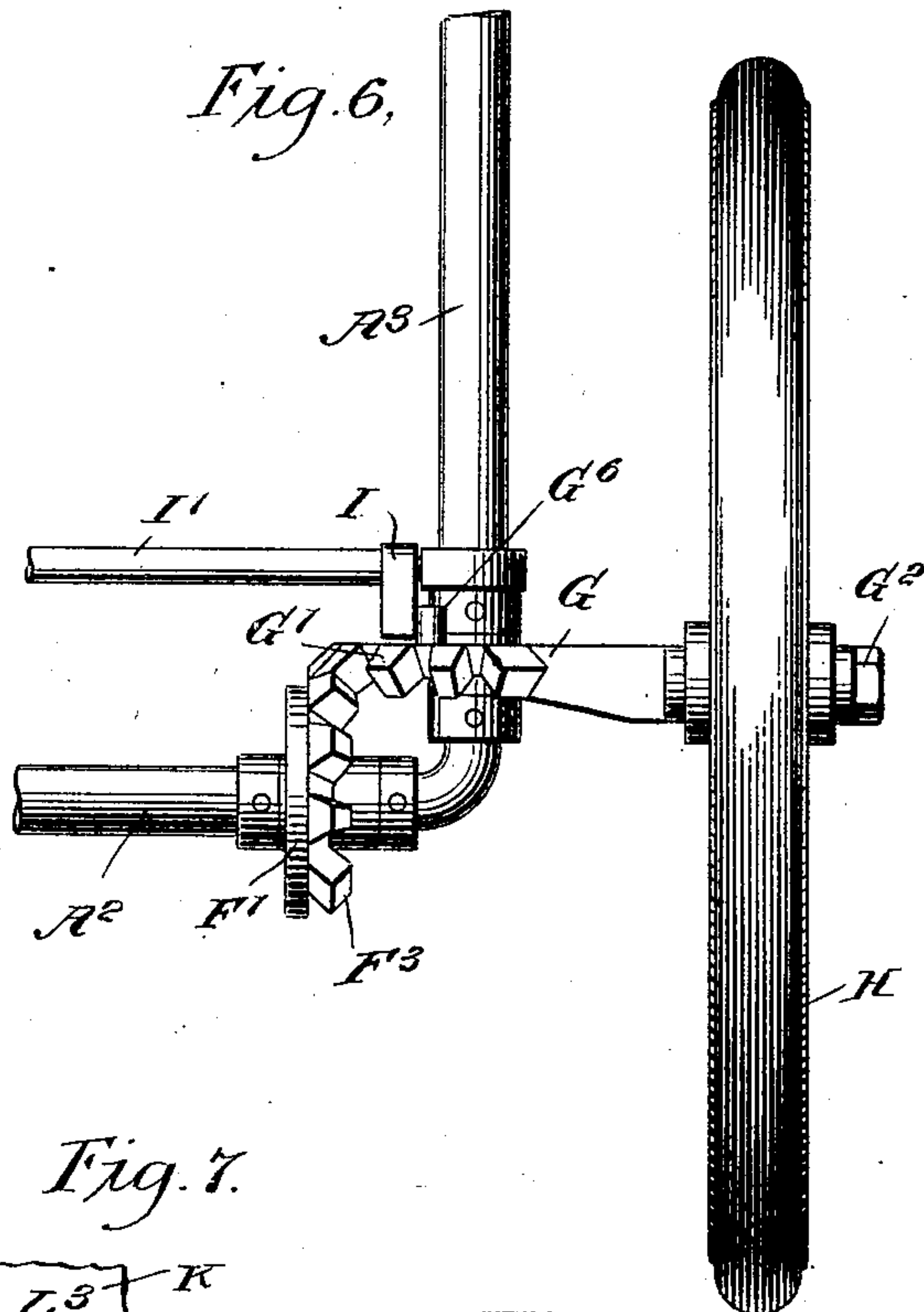
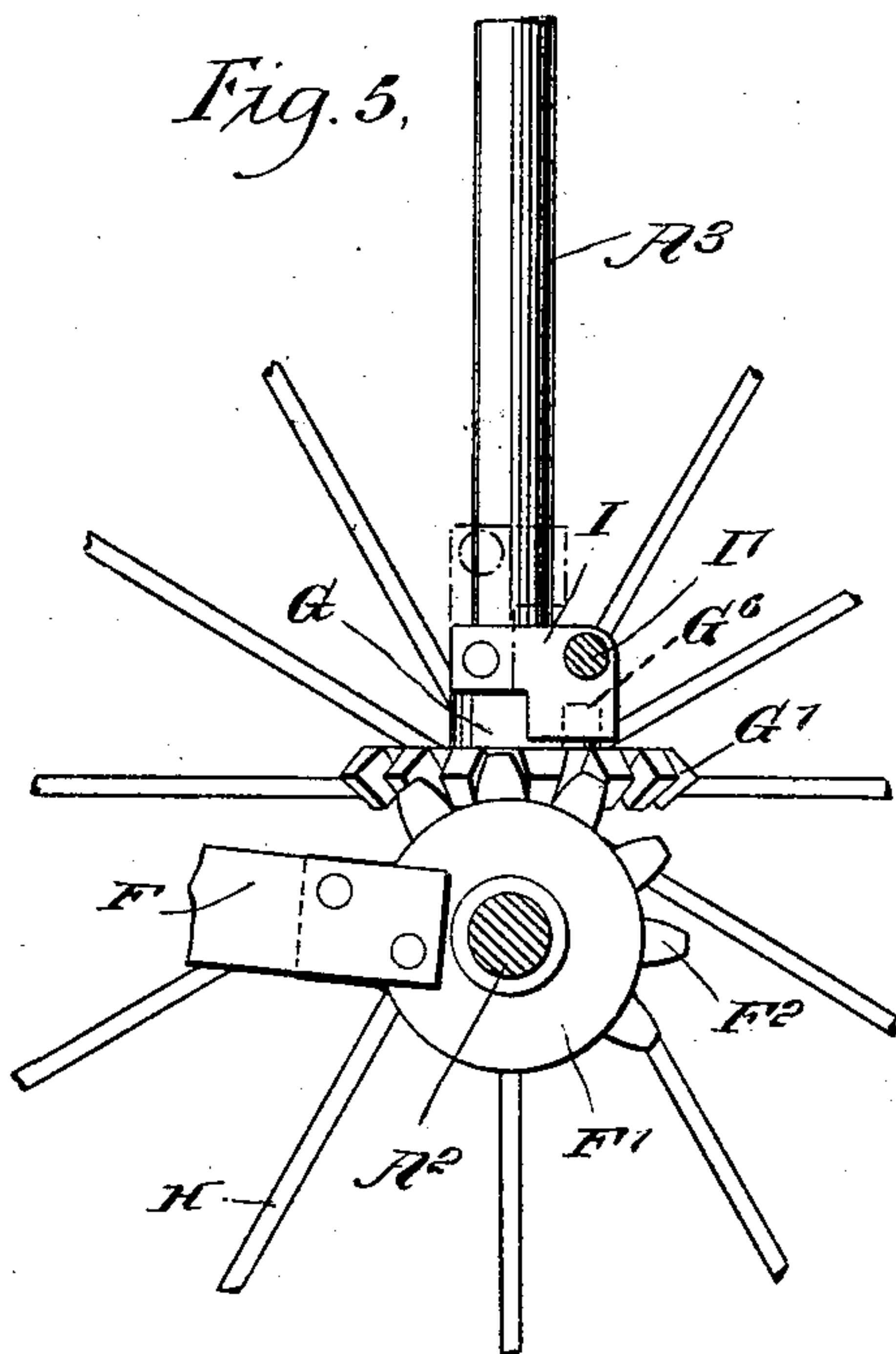
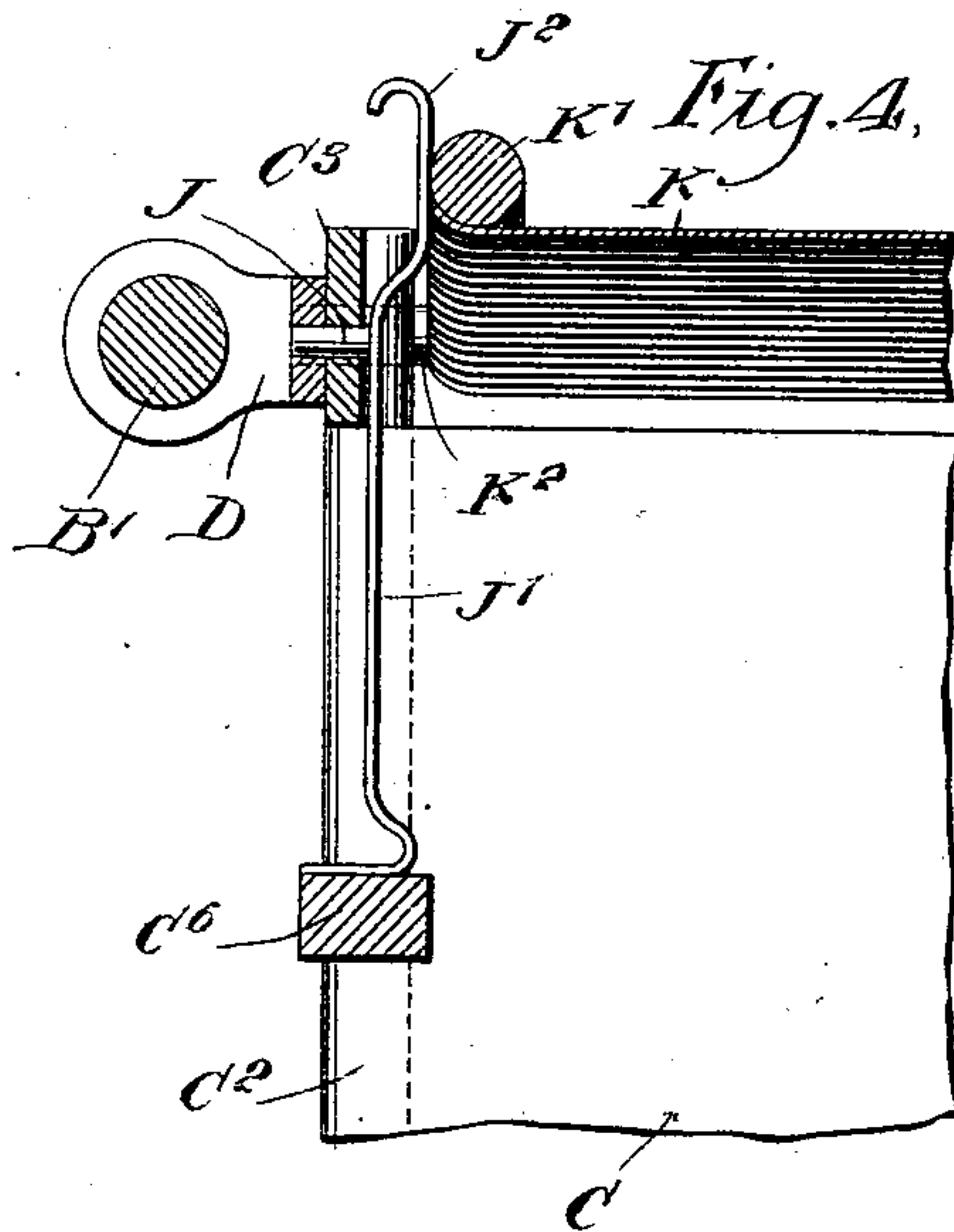
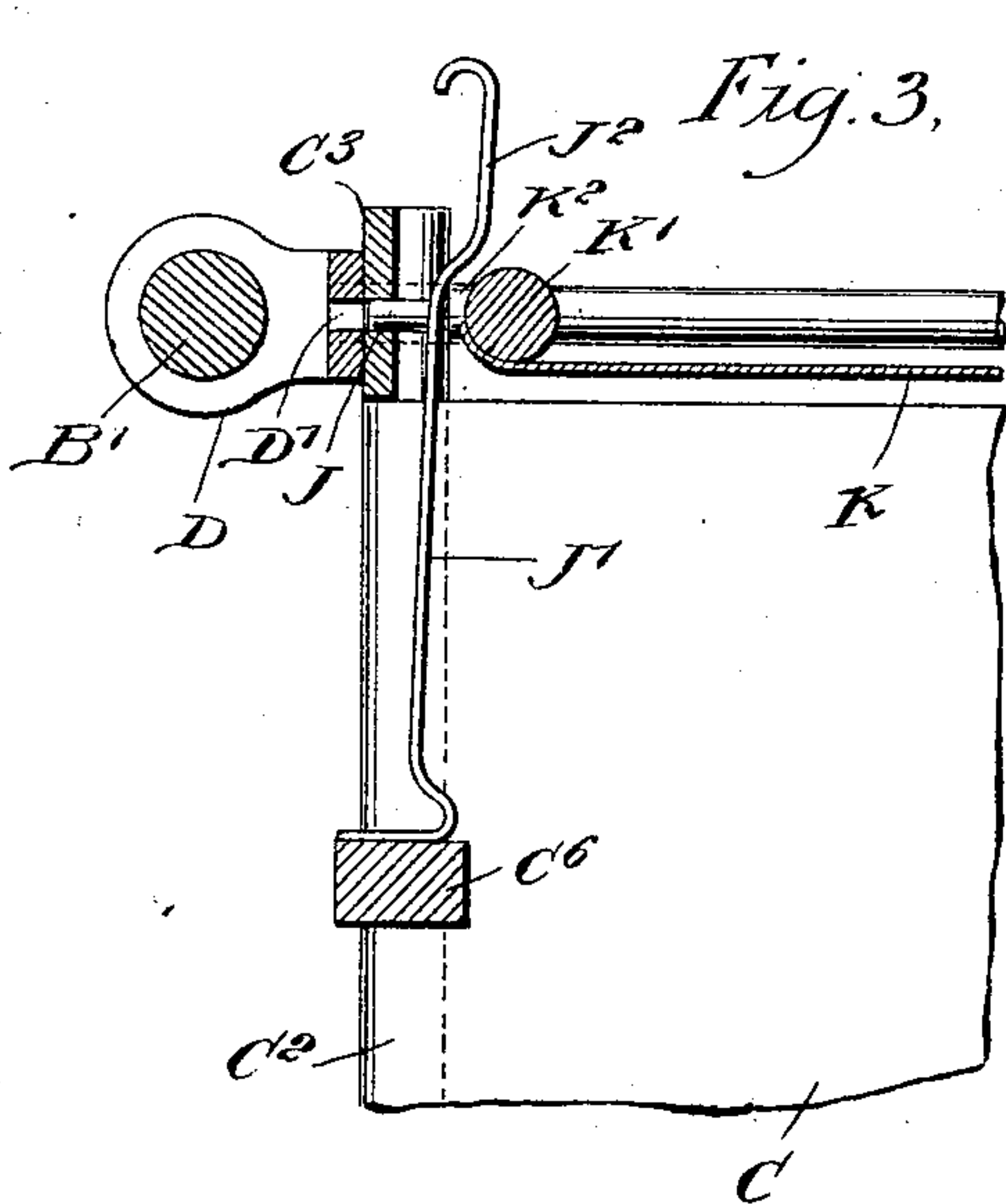
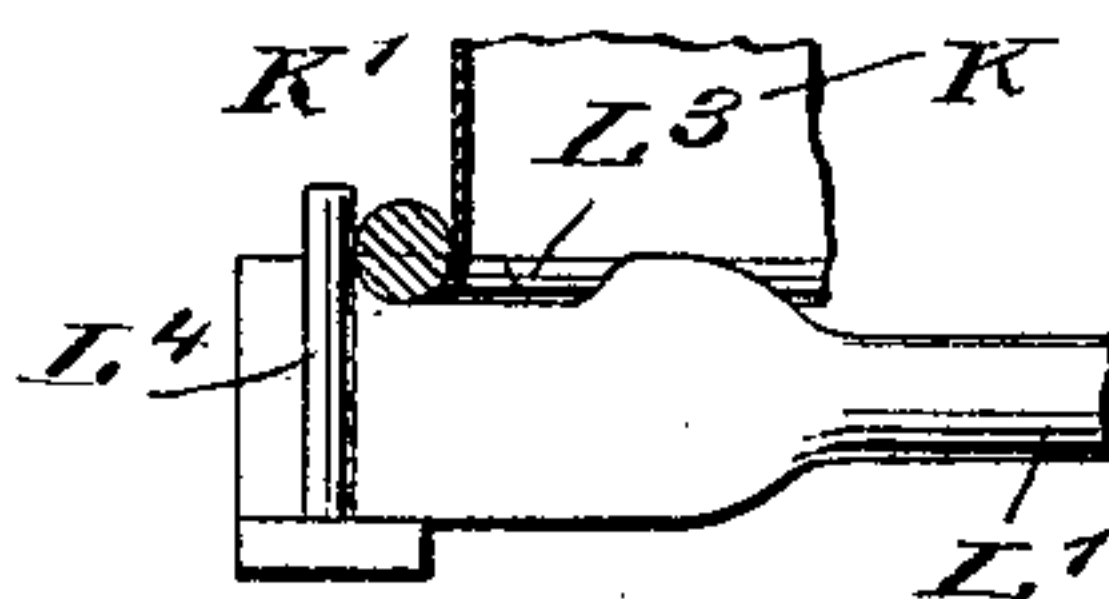


Fig. 7.



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UNITED STATES PATENT OFFICE.

CHARLES EDWARD FANNING, OF DAVENPORT, IOWA, ASSIGNOR TO
FOLDING WHEEL CARRIAGE COMPANY, OF DAVENPORT, IOWA,
A CORPORATION OF IOWA.

FOLDING CARRIAGE.

SPECIFICATION forming part of Letters Patent No. 697,333, dated April 8, 1902.

Application filed June 5, 1901. Renewed February 27, 1902. Serial No. 95,938. (No model.)

To all whom it may concern:

Be it known that I, CHARLES EDWARD FANNING, a citizen of the United States, and a resident of Davenport, in the county of Scott and State of Iowa, have invented a new and Improved Folding Carriage, of which the following is a full, clear, and exact description.

The invention relates to perambulators, such as shown and described in the Letters Patent of the United States No. 651,624, granted to me on June 12, 1900.

The object of the present invention is to provide a new and improved folding baby-carriage, which can be quickly extended for its legitimate use or readily folded into a comparatively small space for conveniently carrying it about, especially up and down narrow stairs or in hallways, street-cars, &c.

The invention consists of novel features and parts and combinations of the same, as will be fully described hereinafter and then pointed out in the claims.

A practical embodiment of the invention is represented in the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a perspective view of the improvement with the parts extended. Fig. 2 is a like view of the same with the parts in a folded position. Fig. 3 is an enlarged sectional plan view of part of the improvement on the line 3 3 in Fig. 1. Fig. 4 is a like view of the same with parts in a different position. Fig. 5 is an enlarged sectional side elevation of the front seat-supporting frame and a locking device for the front axle. Fig. 6 is a front elevation of the same, and Fig. 7 is a section on the line 7 7 in Fig. 1.

The front seat-supporting frame A and the rear seat-supporting frame B are approximately made U-shaped and support a seat C, having its front end C' pivoted in bearings A', formed on the upper ends of the front seat-supporting frame A. The sides C² of the seat C are provided at their rear ends with upwardly-extending lugs C³, having transverse outwardly-extending pivots C⁴, engaging slides D, mounted to move vertically on the side arms B' of the rear seat-supporting frame

B, said slides resting with their lower ends on springs E, coiled on the arms B', and the springs resting on collars E', fixed to said arms B'. By the arrangement described the seat C is free to swing up or down on the rear seat-supporting frame B and the front seat-supporting frame A is free to swing in bearings A' in the seat-frame A and with the same, so that the several parts readily assume the position shown in Fig. 2 when the carriage is to be folded or assume the active position shown in Fig. 1 when the parts are extended and the carriage is to be used. By mounting the rear end of the seat on springs and having the front end of the seat free to swing in the bearings A' it is evident that the seat is free to yield up or down, and thereby prevents jolting of the occupant when the carriage is pushed over rough ground.

The bottom bars A² B² of the supporting-frames A and B are connected with each other by a reach F, having eyes or bearings F' F' and F² F², mounted to turn on said bars A² B², respectively. On the bearings F' F' are formed bevel gear-wheels F³, in mesh with bevel gear-wheels G', formed on the front axle-carriers G, mounted to turn on the lower portions of the side arms A³ of the front seat-supporting frame A. The axle-carriers G are provided with outwardly-extending spindles G², on which the front wheels H are mounted to turn. On the rear bearings F² are formed bevel gear-wheels F⁴, in mesh with bevel gear-wheels G³, formed on rear axle-carriers G⁴, mounted to turn on the lower portions of the side arms B' of the rear seat-supporting frame B. On the rear carriers G⁴ are held outwardly-extending axle-spindles G⁵, on which the rear wheels H' are mounted to turn. When the operator swings the front seat-supporting frame upward, then the reach F turns with its bearings on the bars A² B², and consequently the bevel gear-wheels F³ F⁴ turn the bevel gear-wheels G' G³ to impart a turning motion to the axle-carriers G G⁴, so that the axle-spindles G² G⁵, and with them the wheels H H', are swung inward toward each other to the position shown in Fig. 2. In a like manner when the carriage is extended from the folded position shown in Fig. 2 back

into the position shown in Fig. 1, then the downward movement of the front seat-supporting frame A causes the bevel gear-wheels F^3 F^4 of the reach F to turn in a reverse direction, whereby the gear-wheels G^1 G^3 are turned and the axle-spindles G^2 G^5 are swung outward with the wheels H H'.

In order to lock the front axle-carriers G in a normal extended position while the carriage is in use, a locking device is provided consisting, essentially, of two locking-arms I, fulcrumed on the side bars A^3 of the front seat-supporting frame A, (see Figs. 5 and 6,) and the said arms I are rigidly connected with each other by a cross-bar I', adapted to be taken hold of by the operator to swing the locking-arms I down upon the top of the bevel gear-wheels G^1 , alongside studs G^6 , projecting upwardly from the top faces of said bevel gear-wheels. When the arms I are in a lowermost position, as shown in Figs. 5 and 6, the studs G^6 abut against the side arms, and consequently the axle-carriers G cannot swing inward until the arms I are swung into an uppermost position by the operator pulling the cross-bar I' in an opposite direction. (See dotted lines in Fig. 5.) A locking device is also arranged on each side of the seat C at the rear end thereof, as is plainly shown in Figs. 3 and 4, and each of these locking devices consists of a pin J, held on a spring-arm J' and extending through an opening in the corresponding lug C^3 to engage a registering aperture D' in the corresponding slide D at the time the spring-arm J' is pressed by a side bar K' of the back K, pivoted at K^2 on the slides D, as is plainly indicated in Fig. 2. Normally the pin J is out of engagement with the aperture D' in the corresponding slide D, as shown in Fig. 3; but when the back K is swung rearward, as shown in Figs. 1 and 4, then the bar K' presses the outer free end J^2 of the spring-arm J' to cause the pin J to pass into the aperture D', thus locking the seat C to the slide D, and thereby preventing the seat from swinging on the slides, as previously mentioned.

When it is desired to fold the carriage, it is necessary first to unlock the front axle-carriers G by swinging the arms I upward, as previously explained, and by swinging the back K forward, so that the bars K' disengage the free ends J^2 of the spring-arms J', to allow the latter to swing inward by their own resiliency, and thereby withdraw the pins J from the slides D. The forward swinging motion of the back K is limited by stops K^3 , held on the slides D. The sides L for the seat C serve to limit the rearward swinging motion of the back K, as hereinafter more fully described, and said sides are provided with L-shaped top and front bars L^1 and side bars L^2 , mounted to turn in lugs C^6 C^7 , extending from the seat C at the right thereof, as is plainly shown in Fig. 1. A spring N presses on each bottom bar L^2 , so as to cause the corresponding side L to swing inward

upon the rear face of the back K when the several parts of the folding carriage are moved into a folding position, as illustrated in Fig. 2, it being understood that the back K folds upon the top of the seat C. The sides L are held apart against the tension of the springs N by the sides of the back K, said sides L engaging notches L^3 at the rear ends of the top bars L^1 at the time the back K is swung into a rearmost position and abuts against pins L^4 , projecting transversely on the rear ends of said top bars L^1 . (See Fig. 7.) The sides L are prevented from swinging outward when the occupant of the carriage leans against the sides by resting against the side arms B' of the rear seat-supporting frame B, as is plainly shown in Fig. 1.

The handle O for moving the folding carriage about is provided with side arms O', pivoted on the upper ends of the side arms B', so as to form extensions thereof, and on the said handle side arms O' are pivoted loops P, adapted to pass over locking-arms P', hinged on studs P^2 , secured to the upper ends of the side arms B'. The loops P after passing over the locking-arms P' pass upon the studs P^2 , so as to lock the handle side arms O' in position as extensions of the side arms B' of the rear seat-supporting frame B. When it is desired to fold the handle O, as shown in Fig. 2, then the operator swings the locking-arms P' upwardly and the loops P in a like direction to disengage the loops from the studs P^2 and said locking-arms P', after which the handle side arms O' are free to swing downward into the folded position shown in Fig. 2.

A foot-rest Q is pivoted on arms Q', fulcrumed on the side arms A^3 of the front seat-supporting frame A, and on said arms Q' are pivoted braces Q^2 , having elongated slots Q^3 for engagement with pins Q^4 , projecting inwardly from the side arms A^3 , so as to hold the arms Q' in an angular position relatively to the side arms A^3 when it is desired to hold the foot-rest Q in an uppermost position. The foot-rest Q is provided at its pivotal end with lugs Q^5 , abutting against the arms Q', so as to hold the foot-rest at right angles to the side arms Q' and to allow of folding the foot-rest upon the side arms, as indicated in Fig. 2.

In order to conveniently close or fold the carriage, the operator takes hold with the thumb of one hand of one of the side arms B' somewhat above the top bar L^1 of the seat side L, and takes hold with the other fingers the back K of the seat C and moves the said back forward out of engagement with the notches L^3 until the back stands about in alinement with the side arms B'. At the same time the operator takes hold with the other hand of the cross-bar I' and pulls the same in an upward direction to unlock the axle-carriers G, as previously explained, and by then pulling further upward and rearward on the cross-bar I' the reach F swings up-

ward and rearward on the bar B² as a fulcrum, causing a like upward and rearward swinging of the seat C. When the seat reaches an almost vertical position, the sides L have
 5 passed the back K, held stationary by the operator, so that finally the said sides swing inward onto the rear face of the back K by the action of their springs N. During the upward and rearward swinging of the reach the
 10 front and rear axle-carriers and their wheels H H' are caused to swing inward, as previously explained. When the several parts have been folded as described, the operator unlocks the handle O and allows the same to
 15 swing downward into the folded position shown in Fig. 2. The carriage is now folded into a flat bundle and can be conveniently carried about.

In order to extend the carriage, the handle
 20 O is first moved and locked in an extended position, after which the reach F is swung downward by the operator holding the back K and rear seat-supporting frame stationary and taking hold of the cross-bar I' and pushing the same downward and forward to cause
 25 the seat to move into a horizontal position, and to cause the axle-carriers and their wheels H H' to swing outward into a normal active position, at the same time causing the sides
 30 L to swing outward by contact with the side bars of the back K. When the lugs G⁶ have passed from under the locking-arms I to the outside thereof, then the said arms swing downward upon further pressure of the cross-bar I' to lock the front axle-carriers in place.
 35 The back K is now swung into a rearmost position, thereby causing the locking-pins J to engage the slides D, as previously explained, to lock the rear part of the seat in
 40 place on the slides D, but to allow the seat to yield, as the slides are supported on the springs E.

Having thus fully described my invention, I claim as new and desire to secure by Letters
 45 Patent—

1. A folding vehicle, comprising a front seat-supporting frame, a rear seat-supporting frame, a reach pivotally connecting said frames with each other, front and rear axle-carriers mounted to swing on said frames and controlled by said reach, wheels journaled on said axle-carriers, a seat fulcrumed on the front seat-supporting frame, spring-supported slides movable on the rear seat-supporting
 55 frame and on which the rear part of the seat is fulcrumed, and a seat-back fulcrumed on said slides and arranged to swing rearward into an inclined position relatively to its seat, as set forth.

60 2. A folding vehicle, comprising a front seat-supporting frame, a rear seat-supporting frame, a reach pivotally connecting said frames with each other, front and rear axle-carriers mounted to swing on said frames and controlled by said reach, wheels journaled on said axle-carriers, a seat fulcrumed on the

front seat-supporting frame, spring-supported slides movable on the rear seat-supporting frame and on which the rear part of the seat is fulcrumed, and spring-controlled pivoted
 70 seat sides and a seat-back fulcrumed on said slides and arranged to rest on the rear ends of said seat sides, as set forth.

3. A folding vehicle, comprising a front seat-supporting frame, a rear seat-supporting
 75 frame, a reach pivotally connecting said frames with each other, front and rear axle-carriers mounted to swing on said frames and controlled by said reach, wheels journaled on said axle-carriers, a seat fulcrumed on the
 80 front seat-supporting frame, spring-supported slides movable on the rear seat-supporting frame and on which the rear part of the seat is fulcrumed, a seat-back fulcrumed on said slides and arranged to swing rearward into an
 85 inclined position relatively to its seat, and a locking device controlled by said seat-back for locking the seat to said slides, as set forth.

4. A folding vehicle, comprising a front seat-supporting frame, a rear seat-supporting
 90 frame, a reach pivotally connecting said frames with each other, front and rear axle-carriers mounted to swing on said frames and controlled by said reach, wheels journaled on said axle-carriers, a seat fulcrumed on the
 95 front seat-supporting frame, spring-supported slides movable on the rear seat-supporting frame and on which the rear part of the seat is fulcrumed, and a locking device under the control of the operator, for locking the front
 100 axle-carriers in an extended position, said locking device, comprising pivoted arms and lugs on the front axle-carriers, as set forth.

5. A folding vehicle, comprising a front seat-supporting frame, a rear seat-supporting
 105 frame, a reach pivotally connecting said frames with each other, front and rear axle-carriers mounted to swing on said frames and controlled by said reach, wheels journaled on said axle-carriers, a seat fulcrumed on the
 110 front seat-supporting frame, spring-supported slides movable on the rear seat-supporting frame and on which the rear part of the seat is fulcrumed, a locking device under the control of the operator, for locking the front axle-carriers in an extended position, said locking device comprising locking-arms pivoted on said front seat-supporting frame, a cross-bar connecting the locking-arms with each other, and lugs on said front axle-carriers and adapted
 120 to be engaged by said locking-arms, as set forth.

6. A folding vehicle having a locking device for the front axle-carriers, comprising locking-arms pivoted on the front seat-supporting
 125 frame, a cross-bar connecting said arms with each other, and lugs on said axle-carriers and adapted to be engaged by said locking-arms, as set forth.

7. A folding vehicle having a rear seat-supporting frame, slides spring-supported on said
 130 frame, a seat pivoted on said slides, a seat-

back fulcrumed on said slides, and a locking device controlled by said back for automatically locking the seat to the slides, as set forth.

8. A folding vehicle having a rear seat-supporting frame, slides spring-supported on said frame, a seat pivoted on said slides, a seat-back fulcrumed on said slides, a locking device controlled by said back for automatically locking the seat to the slides, said locking device comprising spring-arms on the seat and adapted to be engaged by said back, and pins carried by said spring-arms and adapted to pass into registering apertures in the seat and the slides, as set forth.

9. A folding vehicle having a seat, a seat-back hinged to the seat, seat sides fulcrumed on the seat and extending rearwardly beyond the seat, and supports on the rear ends of the sides for the seat-back to rest against and extend in an inclined position relatively to the seat, as set forth.

10. A folding vehicle having a seat, a seat-back hinged to the seat, seat sides fulcrumed on the seat and extending rearwardly beyond the seat, supports on the rear ends of the sides for the seat-back to rest against and extend in an inclined position relatively to the seat, and means on the rear ends of the seat sides, for locking the back in a rearmost position, as set forth.

11. In a folding vehicle, the combination with front and rear frames, of wheel-carriers mounted to swing on said frames and each provided with a gear-wheel, and a reach having at each end bearings mounted on the cross-bars of the frames and each provided with a gear-wheel, the said gear-wheels meshing with the gear-wheels of the wheel-carriers, as set forth.

12. In a folding vehicle, the combination with front and rear frames, of wheel-carriers mounted to swing on said frames and each provided with a gear-wheel, the gear-wheels on the front-wheel carriers being provided with projections on their upper faces, a reach having at each end bearings mounted on the cross-bars of the frames and each provided with a gear-wheel, the said gear-wheels meshing with the gear-wheels of the wheel-carriers, and pivoted locking-arms for engaging the projections of the said gear-wheels, as set forth.

13. In a folding carriage, the combination of front and rear frames, the rear frame being provided with spring-pressed slides, a reach

pivotally connecting said frames, wheel-carriers mounted to swing on said frames and controlled by the reach, a seat having its forward end pivoted to the front frame and its rear end to the spring-pressed slides of the rear frame, a seat-back pivoted to the said spring-pressed slides, and seat sides pivoted to the seat and adapted to fold on the rear side of the seat-back when the vehicle is folded, as set forth.

14. In a folding vehicle, the combination with front and rear frames, of a seat pivotally connected with the said frames, a pivoted seat-back, seat sides pivoted to the seat and extending rearwardly beyond the seat, said sides being adapted to fold on the rear face of the back when the vehicle is folded, and means for securing the back to the sides to hold it in a rearmost position, as set forth.

15. In a folding vehicle, the combination with front and rear frames, of a seat pivoted to the front frame, spring-pressed slides on the rear frame and to which the rear portion of the seat is pivoted, and a locking device for engaging one of the slides to lock the seat thereto, as set forth.

16. In a folding vehicle, the combination with front and rear frames, of a seat pivoted to the front frame, spring-pressed slides on the rear frame and to which the rear portion of the seat is pivoted, a pivoted back, and a spring-pressed locking device for engaging one of the slides to lock the seat thereto, said locking device being controlled by the back, as set forth.

17. A folding vehicle comprising front and rear frames having upright side arms, a reach pivotally connecting said frames, wheel-carriers mounted to swing on the said frames and controlled by the reach, a seat pivotally connected with the frames, seat sides pivoted to the seat, a pivoted seat-back normally held in locking engagement with the rear portions of the seat sides, a handle having its side arms hinged to the side arms of the frame, and a locking device for locking the handle side arms to the frame side arms, as set forth.

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

CHARLES EDWARD FANNING.

Witnesses:

AUG. E. STEFFEN,
W. II. CORNELIUS.