(No Model.) 2 Sheets—Sheet 1.

W. H. YATES.

CONVERTIBLE VEHICLE.

No. 381,663. Patented Apr. 24, 1888.

Fig. 1.

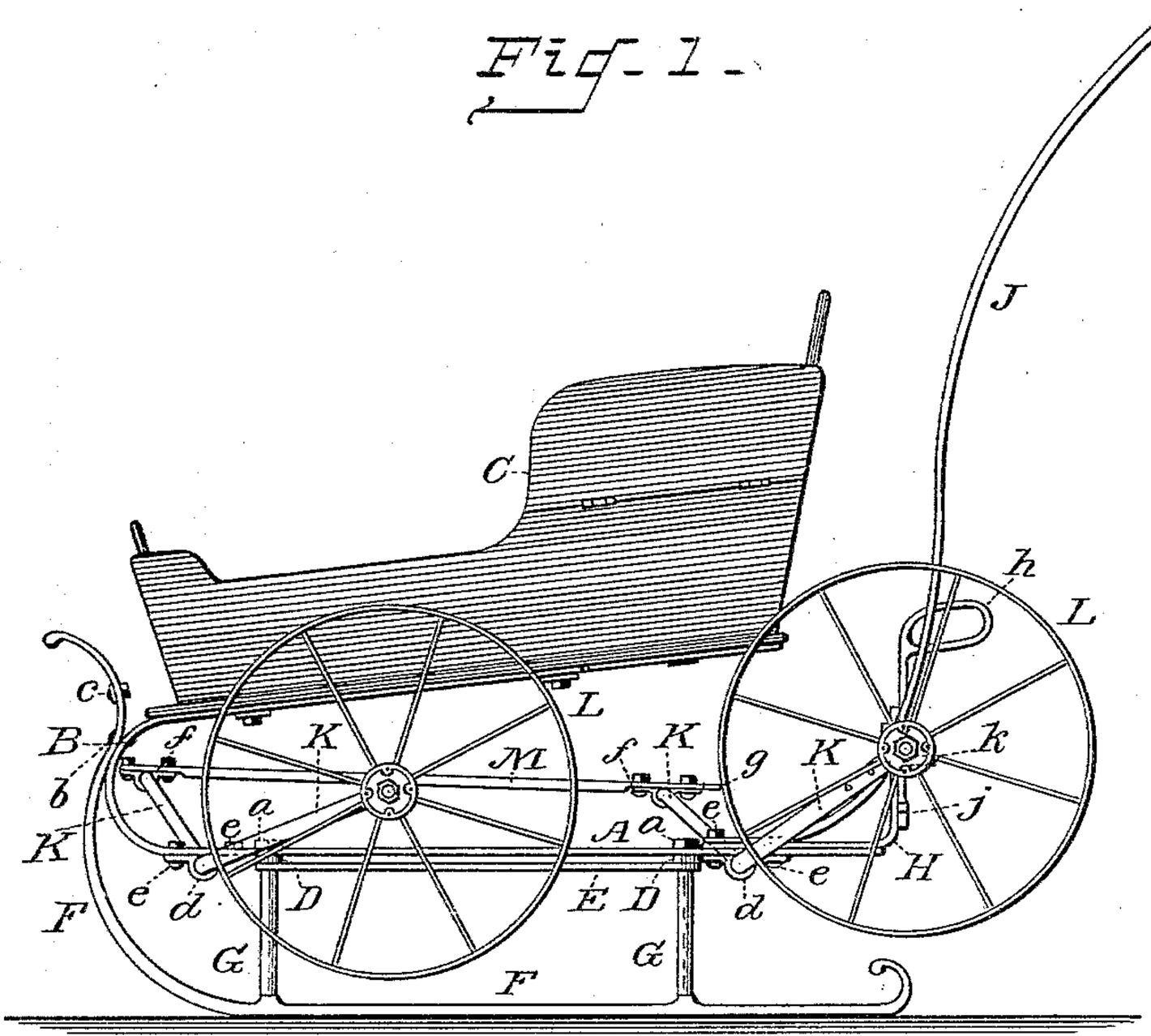
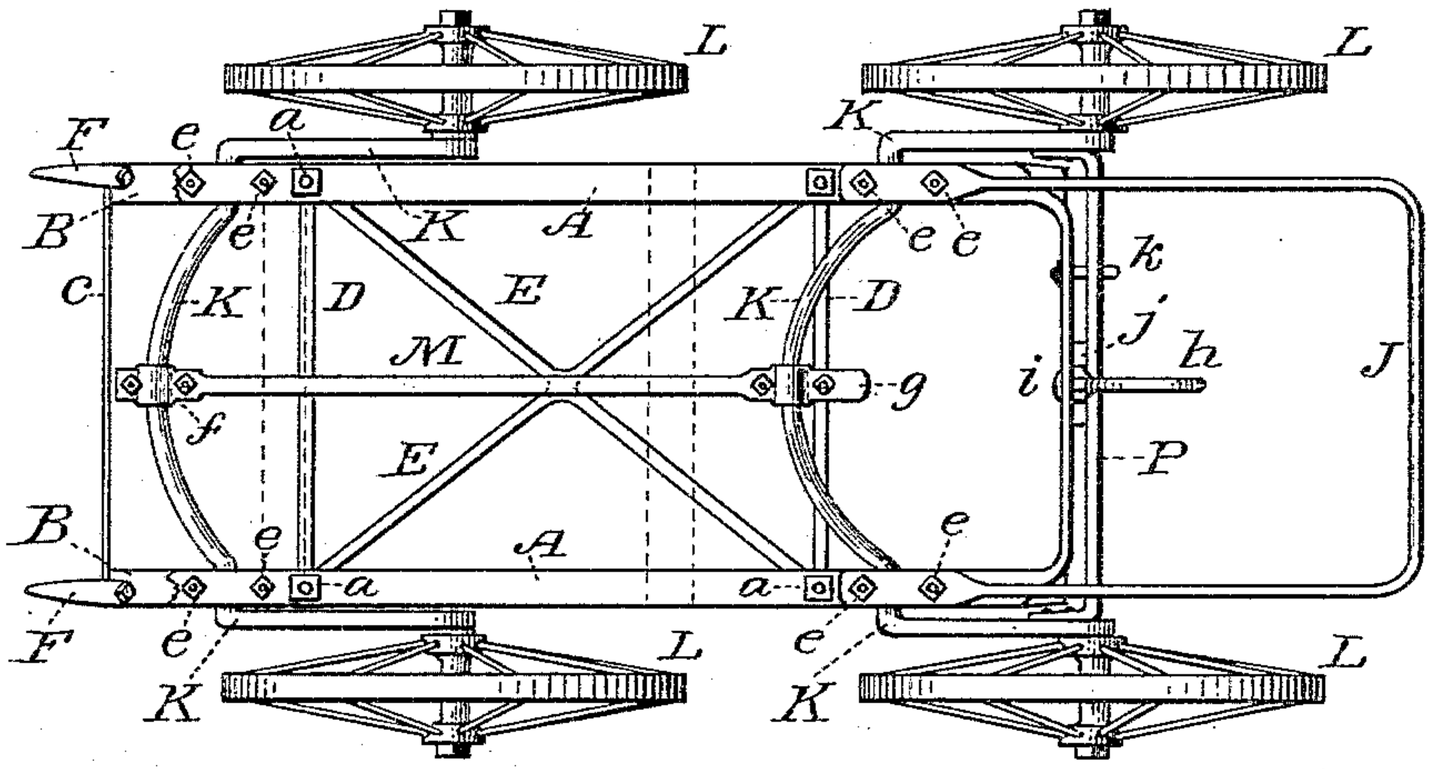


Fig. 2.



Witnesses:
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Jewett M. De Long.

Inventor:
Wm. H. Yates.

(No Model.) 2 Sheets—Sheet 2.

W. H. YATES.

CONVERTIBLE VEHICLE.

No. 381,663. Patented Apr. 24, 1888.

Fig. 3.

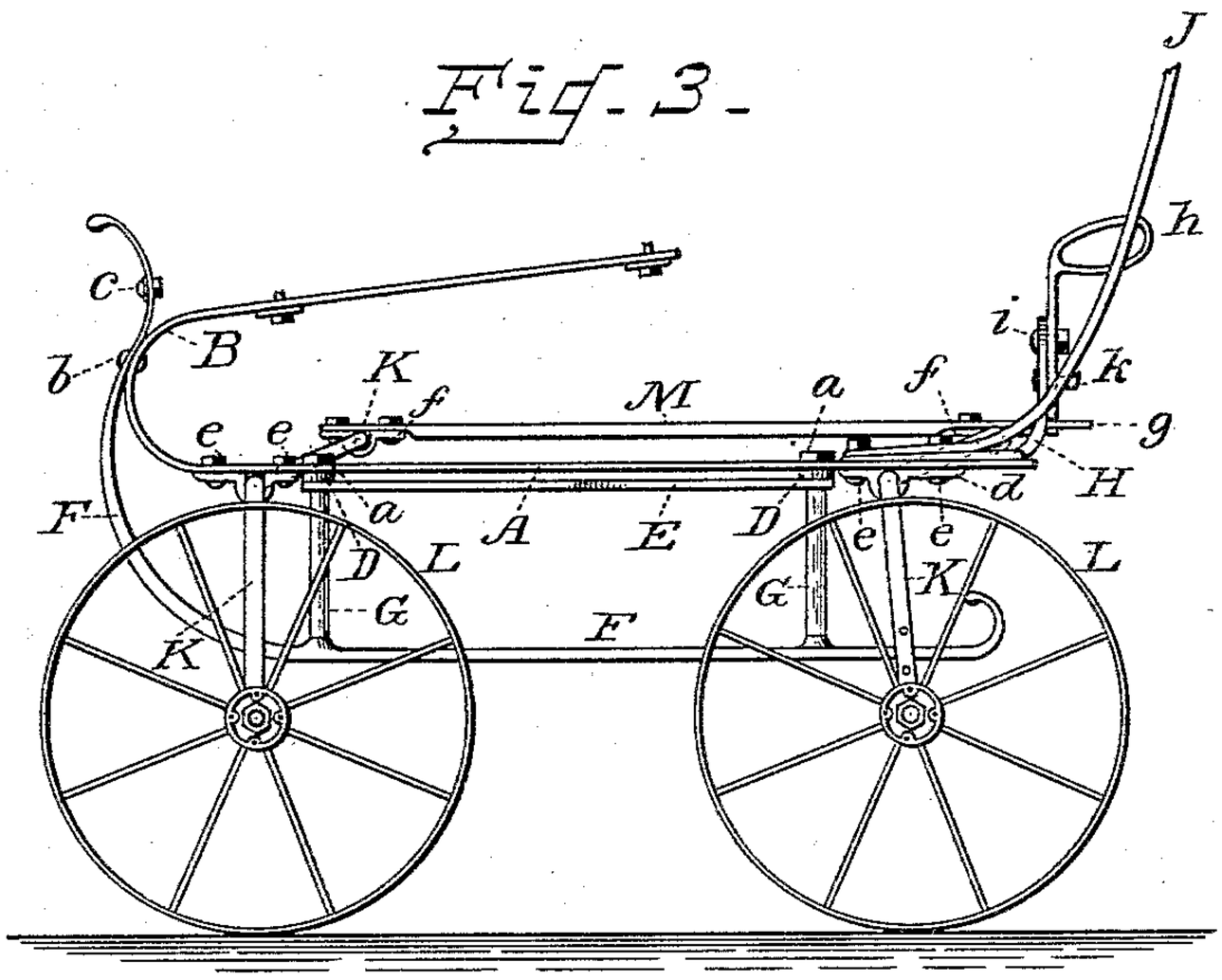
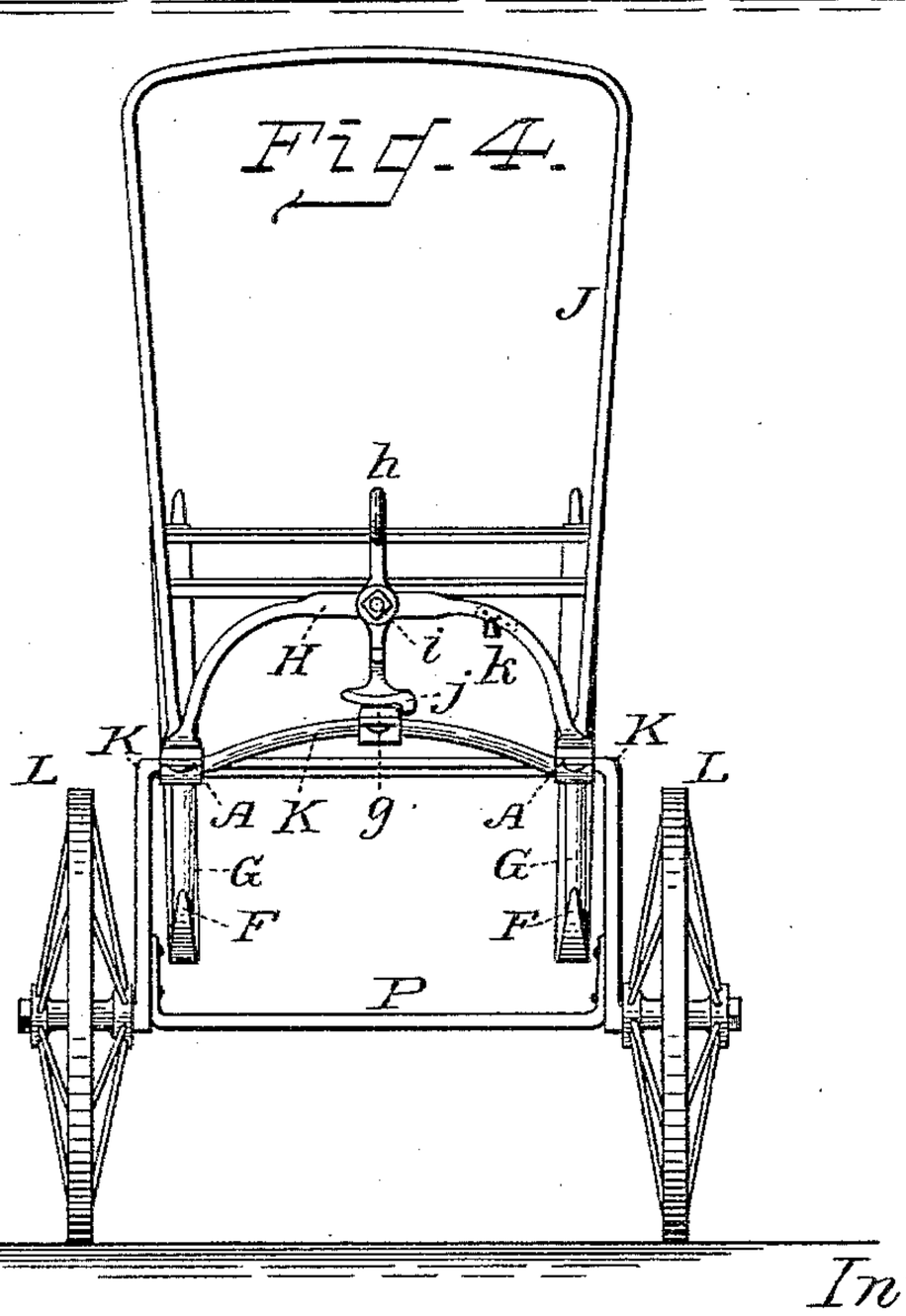


Fig. 4.



Witnesses:
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Inventor:
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UNITED STATES PATENT OFFICE.

WILLIAM H. YATES, OF AUBURN, NEW YORK, ASSIGNOR OF ONE-THIRD TO SAMUEL B. SPILLER, OF SAME PLACE.

CONVERTIBLE VEHICLE.

SPECIFICATION forming part of Letters Patent No. 381,663, dated April 24, 1888.

Application filed February 21, 1888. Serial No. 264,851. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. YATES, a citizen of the United States, residing in the city of Auburn, county of Cayuga, and State of New York, have invented new and useful Improvements in Convertible Vehicles, of which the following is a specification.

My invention relates to improvements in convertible vehicles, in which sleigh-runners and wheels are so combined and arranged together as to be quickly and readily substituted for each other as the exigencies of the season or the condition of the ground may require; and the object of my invention is to so construct the several parts as to preclude any delay in the conversion of the runner to the wheel parts, or vice versa. I attain this end by the mechanism illustrated in the accompanying drawings on two sheets, in which a child's convertible carriage is shown by preference, and in which—

Figure 1 is a side elevation of a child's carriage, showing its runner parts in contact with the ground. Fig. 2 is a plan view of the same, the box being removed in order to afford a clearer view. Fig. 3 is an elevation of Fig. 1, taken from the same point of view, but with the box removed and the wheel parts in contact with the ground; and Fig. 4 is an end elevation of Fig. 3, taken from the rear.

Similar letters refer to similar parts throughout the several views.

In Fig. 1, A is substantially the frame work, and it is forwardly bent upward and extended rearward for a sufficient distance, thus forming a spring-support, B, for the box C.

The frame A is extended on either side of the box and below it into two members, which are suitably held in the required position by means of the ties D, which are placed near either end thereof, and by the compound X-brace E, centrally located thereon.

Sleigh-runners F are substantially secured to the under side of the frame-work A by means of suitable posts, G, which are secured thereto at their bottom ends, their upper ends being provided with shoulders, upon which rest the ends of the ties D and the ends of the compound X-brace E, and with threaded ends passing through the ends of the said ties and compound brace and through the frame-work A, when the whole is substantially held in working position by means of the nuts *a a a a*.

The forward ends of the runners F are upwardly curved and riveted to the frame-work A at *b*, and tied together by the tie-rod *c*. On the under side of the members of the frame-work A, I provide, in a suitable position at the forward and rearward ends of the same, bearings *d d*, the same being secured to the frame-work A by nuts and bolt *e e e e*, &c. At the rear end of the frame-work I provide an arch-piece, H, (the office of which I will presently describe,) and the upwardly-extended driving-handle J. The lower ends of the said arch-piece H and of the driving-handle J are secured to the rear of the frame-work A by the same rearward nuts and bolts, *e e*, that secure the rearward boxes, *d*, to said frame-work A.

Forward and rearward axles K K are provided and hung in the boxes *d d*. Inside of the frame-work A the said axles K K have a curved form, as well shown in Fig. 2. Outside the frame-work A the said axles K K are extended at nearly right angles to the curved inside portions thereof, and terminate in suitable bearings for the wheels L L L L.

A reach, M, is provided and hinged to the central curved portions of the axles K K by the boxes *f f*, provided for that purpose. The reach M serves to assure uniformity of position between the forward and rearward axles during the operation of convertibility. The said reach M is extended at its rearward end into a seat, *g*, the object of which will be presently described.

At the center of the arch-piece H, at the rear end of the frame work A, is pivoted a locking-piece, *h*, at *i*. This locking-piece *h* is extended at its upper end into a hand-loop, and at its lower end into a notched circular or cam bearing, which in operation, when the wheels are on the ground, is brought to bear on the seat *g* of the reach M, thus securing the wheels and their axles in working position when so desired.

At a convenient point on the arch-piece H,

I substantially secure a spring catch-piece, *k*, which serves to hold the wheels off the ground when the sleigh-runners are desired for use. This is accomplished by connecting the ends of the rear axle, K, by means of a connecting-piece, P, which is suitably riveted thereto at either end. It will thus be seen that when the wheels are thrown off the ground and upward that the spring catch-piece *k* may be brought into action with the connecting-piece P, and thus serve to hold the wheels up and off the ground. When it is desired to reverse this action, (bringing the wheels to the ground and the sleigh-runners off the same,) the foot of the operator may release the spring catch-piece from its engagement with the connecting-piece P, and by simply pressing downward with the hands on the driving-handle J thus convert the vehicle from runner into wheeled parts, and assure this position by means of the pivoted locking-piece *h* on the arch H.

Having thus described the construction and the operation of the several parts of my improvements, what I claim, and desire to secure by Letters Patent, is—

1. The runner-supported frame carrying a child's-carriage body supported on springs, in combination with the wheels pivoted to the arms of overhanging cranked rock-shafts, substantially as and for the purposes stated.

2. The runner-supported frame carrying a child's-carriage body supported on springs, two cranked rock-shafts supported in bearings under the frame, and projecting on either side beyond the same, and carrying on their outer ends arms to which wheels are pivoted, the whole being so arranged and combined that by the partial rotation of the rock-shafts in one direction the whole will be supported and carried on the wheels, and by rotating in the opposite direction the whole will be supported on the runners, substantially as shown and described.

3. The runner-supported frame carrying a child's-carriage body supported on springs, in combination with cranked rock-shafts having arms carrying wheels, the whole being so arranged and combined that the arms with the wheels will swing backward and upward to bring the runners into working position, and downward and forward to bring the wheels in working position, substantially as described and shown.

4. The runner-supported frame carrying a child's-carriage body supported on springs, the cranked rock-shafts having arms at their outer ends, to which wheels are pivoted, said rock-shafts being supported by bearings, and having a link-piece connecting the cranked parts of said shafts together above their axis of rotation, substantially in the manner described and shown.

5. The runner supported frame carrying a child's-carriage body supported on springs, the cranked rock-shafts, the link-piece M, connecting the same together, in combination with the locking mechanism for holding the same in the several adjusted positions, substantially as and for the purpose stated.

6. The combination of the connecting-piece P with the arms of the rear axles, the arch-piece H, and the catch K, as and for the purpose stated.

In testimony whereof I have hereunto set my hand this 11th day of February, 1888.

WM. H. YATES.

Witnesses:
MARIAN G. CULVER,
JEWETT M. DE LONG.