R. KRETER.

Children's Folding-Carriages.

No. 203,742. Patented May 14, 1878.

Fig. 1.

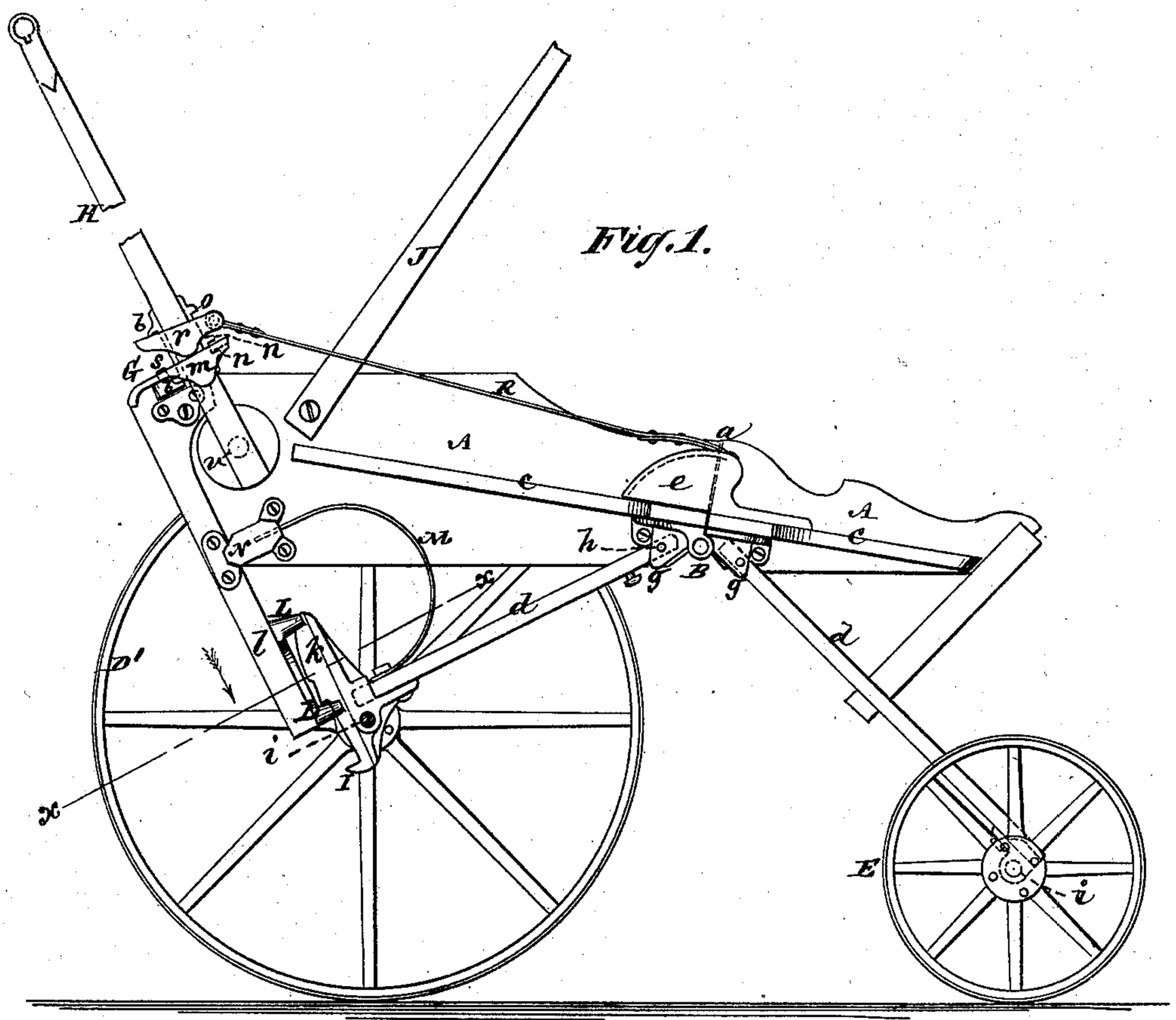

Fig. 2.

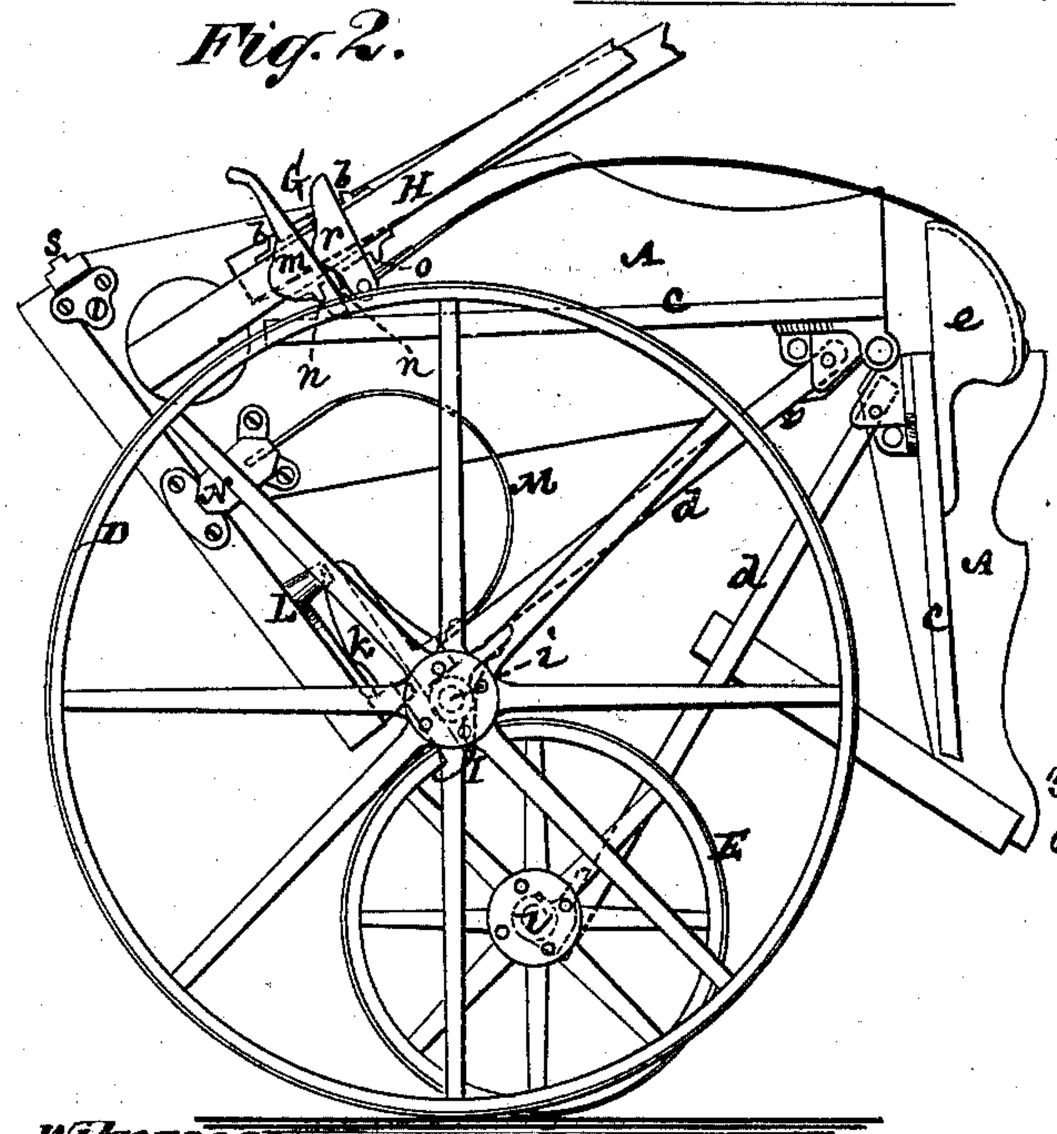

Fig. 3.

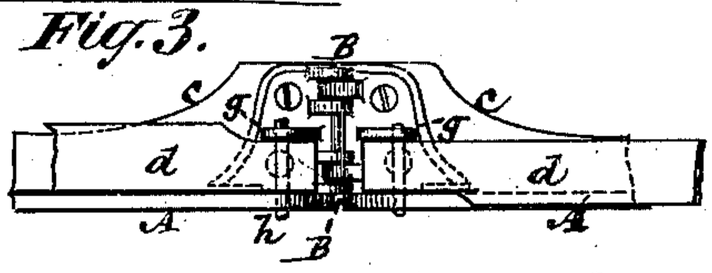

Fig. 4.

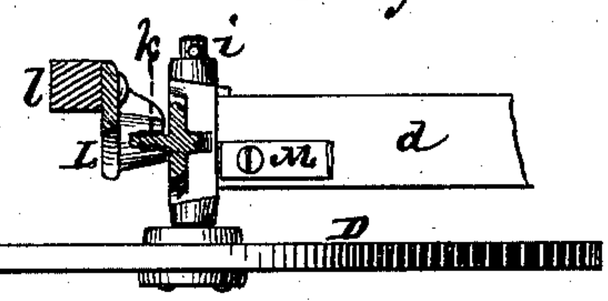

Fig. 5.

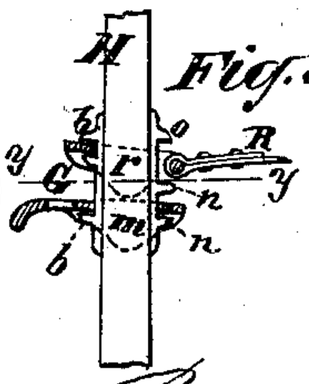

Fig. 6.

Inventor

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UNITED STATES PATENT OFFICE.

RUDOLPH KRETER, OF NEW YORK, N. Y., ASSIGNOR TO KRETER & ANGER, OF SAME PLACE.

IMPROVEMENT IN CHILDREN'S FOLDING CARRIAGES.

Specification forming part of Letters Patent No. **203,742**, dated May 14, 1878; application filed April 23, 1878.

To all whom it may concern:

Be it known that I, RUDOLPH KRETER, of the city, county, and State of New York, have invented certain new and useful Improvements in Folding Carriages, of which the following is a description, reference being had to the accompanying drawing, forming part of this specification.

This invention is more particularly designed as an improvement upon the collapsible carriage for children and invalids for which Letters Patent No. 160,917 were granted to me March 16, 1875, and which is capable of being folded both longitudinally and transversely, the same having a sack-like bottom of soft or flexible material, and flexible or hinged sides, composed of rigid sections, and flexing or hinged ends, also composed of rigid sections.

The invention consists in certain novel constructions and combinations of various details, whereby provision is made for preventing the tipping or tilting of the wheels on their divided axles; for supporting the braces which carry the wheels and are connected with the hinged sides of the carriage, also for giving increased elasticity to or between said braces and the body of the carriage, as well as to keep the wheels from tipping or tilting, and for making the same spring available both to the relaxing of the sides when collapsing the carriage and to the locking of the catch which holds the sides extended.

Figure 1 represents a side view of carriage, in part, with my invention applied, showing one of the sides extended, and with the near rear wheel removed. Fig. 2 is a side view of similar parts when the carriage is folded, and with the near rear wheel in place. Fig. 3 is an under view of one of the sectionally-constructed sides and with the hinge uniting the same and braces secured to the hinge. Fig. 4 is a sectional view on the line *x x* in Fig. 1, in illustration of a certain guide and slide for preventing the tipping or tilting of the wheels on their divided axles. Fig. 5 is a sectional side view of a catch for holding the hinged sections of either side of the carriage extended; and Fig. 6, a section of the same on the line *y y* in Fig. 5.

A is one of the sides of the body of the carriage, made of wood or other rigid material, and formed of two pieces or sections in direction of its length, divided at *a*, and connected by a hinge, B, applied to outside braces *c c* and *d d*. The braces *c c* serve to stiffen the side A, to which they are applied, and, by means of a stop, *e*, fast to the one brace-section and resting on the other section, support the side when unfolded. The other braces, *d d*, carry the rear and front wheels D D′ and E. The hinge B of either side A is constructed so that the sections fold downward. Both the front and rear wheels are distinct from each other on opposite sides of the carriage, and are arranged to turn on or with studs *i i*, carried by or having their bearings in the braces *d d*, said studs forming axle-sections restricted to their respective sides of the carriage. This construction, so far as described, is similar to that shown in my previous patent hereinbefore referred to; but the details of this construction, in the present instance, differ in certain respects, and other improvements are added, as hereinafter described.

H represents one of the back supports to which the top of the carriage is or may be attached, and which serve to carry the cross-handle for propelling the carriage. Each of these back supports H is pivoted at *v*, and united with the rear section of the side A by a catch, G.

J is one of the front supports for the carriage-top, separately pivoted to the sides A.

The hinge B differs from an ordinary butt-hinge in being constructed with ears *g g*, to receive the ends of the braces *d d* within them, and to provide for either or both of said braces being pivoted to the hinge, for a purpose which will here be described with reference to the rear wheels D D′ only, but which is also applicable to the front wheels as well. This will be best explained by stating that in folding carriages having divided axles there is a tendency, when the carriage is loaded, of the wheels on opposite sides to tip or tilt inward at their tops. To obviate this, more particularly in the case of the rear and larger wheels, in which the effect is most felt, and in connection with which the improvement is here only shown applied, the brace *d* on either side of the carriage is pivoted at *h* to the ears *g* on one side of either hinge, and has secured to its outer or free end

a casting, I, which may be constructed to form the bearing for the stud or axle section *i* of the wheel D or D′, but which is more especially constructed to form a tongue or slide, *k*, that is free to work up and down within a guide, L, fast to a lower extension, *l*, of the rear section of the side A at the back end of the latter. Said slide *k* and guide L effectually prevent any tipping or tilting of the wheel at its top, and instead of, as in my former patent, depending upon the elasticity of the braces *d* to provide for the elastic support of the body of the carriage on the wheels, said braces have interposed between them and the body or opposite sides a C or other suitably shaped spring, M, which readily yields to or co-operates with any up-and-down movement of the pivoted brace *d*. Said spring may be secured at its one end to a bracket, N, fast to the side of the carriage, and at its opposite end to the pivoted brace *d*.

The catch G, which serves to hold the carriage sides A locked when extended or unfolded, is also of peculiar construction, and is connected with the forward brace *d* or stop *e* thereon by a spring-strap, R, either made elastic in itself or by the interposition of a spring intermediately of its length, and so that the same spring serves to lock the catch, and when released to collapse either side of the carriage when folding the latter, instead of, as in my previously-patented construction, hereinbefore referred to, depending upon one spring to collapse the carriage side and another spring to lock the catch. Thus the catch G is constructed of a lever, *m*, which works loosely or freely at its one end between a divided fulcrum, *n n*, on the advance side of either back support H, and, when closed to keep the sections of the side A extended, locks, by a slot in it, with a tooth or projection, *s*, on the rear section of the side A. Arranged on the same back support H, above the lever *m*, is a cam-lever, *r*, fitted to loosely or freely work at its one end between a divided fulcrum, *o*, on the rear side of the back support H. Lips *b b* may be formed on the faces of the pieces which carry or form the fulcrums *n n* and *o*, to limit the motions of the levers *m r* and support them when the catch is released. By this construction of the catch G either carriage side A is made self-locking when drawing in an opposite direction the back support H against the tension of the spring-strap R, which is attached at its one end to the stop *e* and at its other end to the cam-lever *r*, and whereby the latter is made to bear down on the lever *m*, to cause it to engage with the tooth or projection *s*.

When required to release the catches G on opposite sides of the carriage to provide for folding the latter, it is only necessary to lift the lever *m* from the tooth or projection *n* of each catch.

I claim—

1. In a folding carriage having divided axles or studs on or with which the wheels independently rotate, the combination, with either yielding brace *d* and wheels carried by said brace, of a slide and guide, *k* L, applied to said brace and the side of the carriage, to restrain the wheel from tipping or tilting inward at its top, substantially as specified.

2. The hinge B having ears *g g*, constructed to receive the inner ends of the braces *d d* within them, in combination with the sectionally-constructed side A of the carriage and wheels D, D′, and E carried by said braces, essentially as described.

3. The hinged or pivoted braces *d*, in combination with the springs M, the wheels carried by said braces, the slides and guides *k* L, and the sides A of the carriage, substantially as specified.

4. The spring-strap R, in combination with either sectionally constructed and hinged side A, the pivoted back support H, and the catch G, composed of duplicate levers *m r* and locking tooth or projection *s*, whereby the same elastic force in the strap is made available both to relax the side sections when collapsing the carriage and to lock the catch when the carriage is extended or unfolded, essentially as described.

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Witnesses:

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