Nov. 12, 1946. E. F. ALLENBAUGH 2,410,797

COLLAPSIBLE BABY BUGGY

Filed March 5, 1945 2 Sheets-Sheet 1

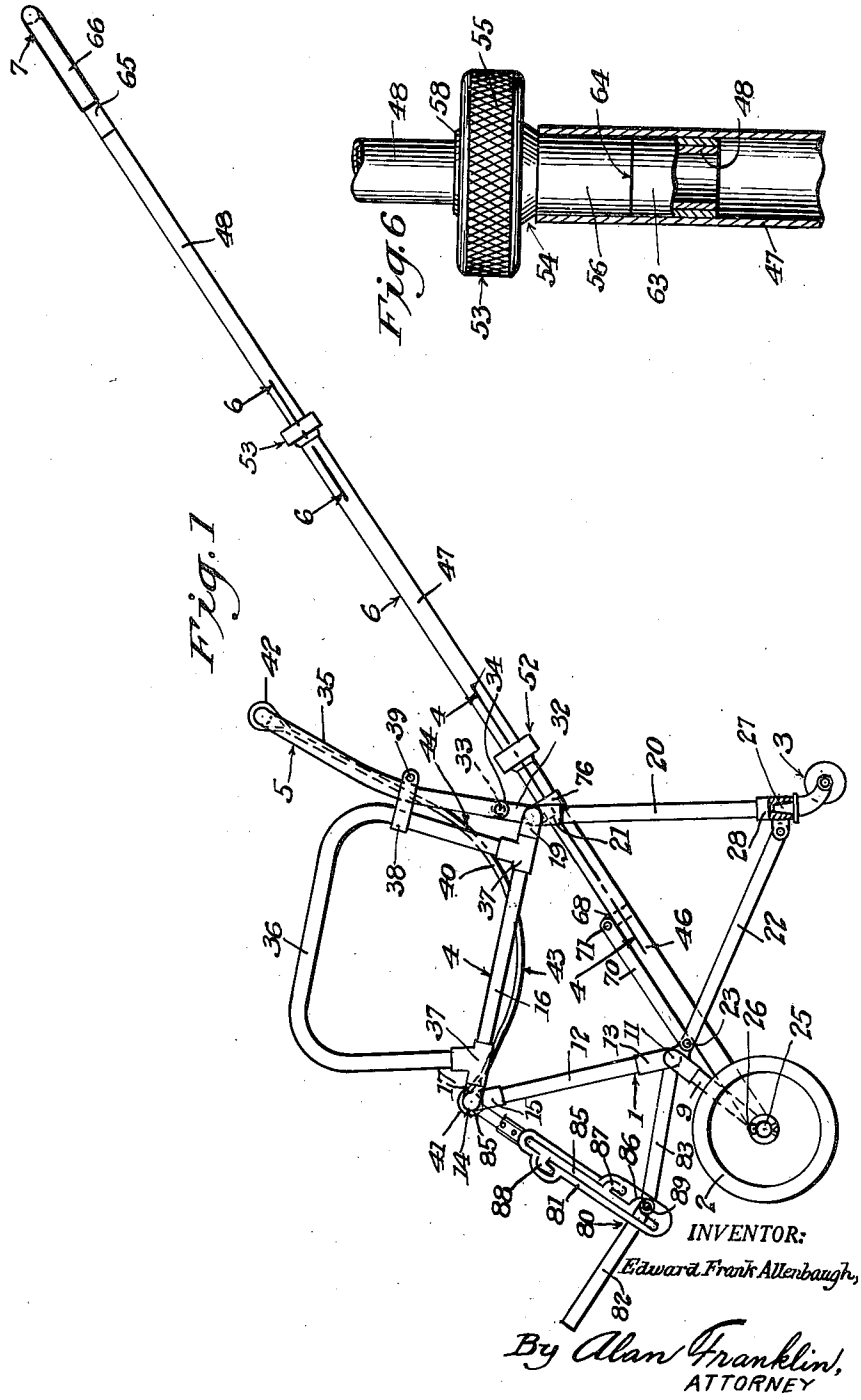


Fig. 1

Fig. 6

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Fig. 2

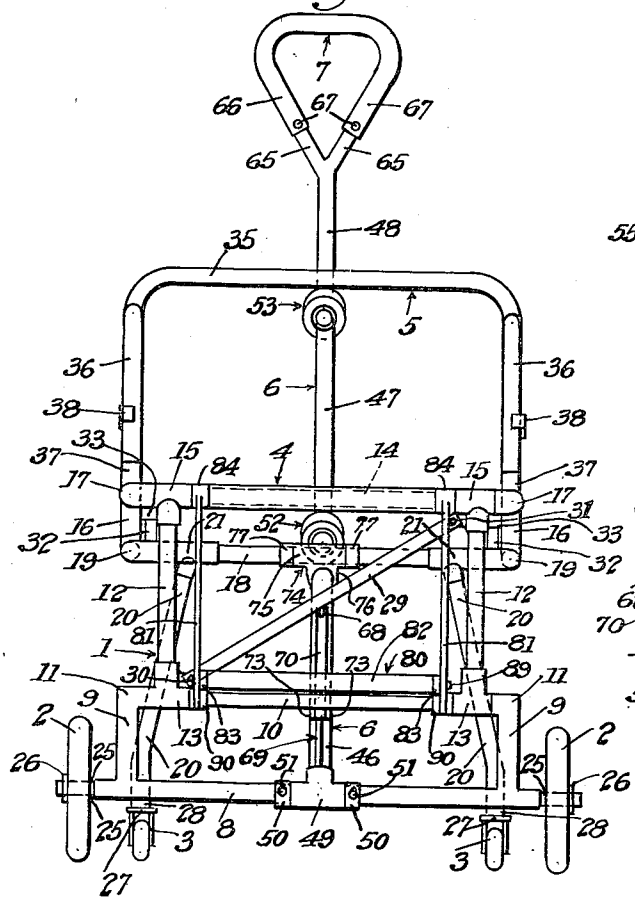


Fig. 4

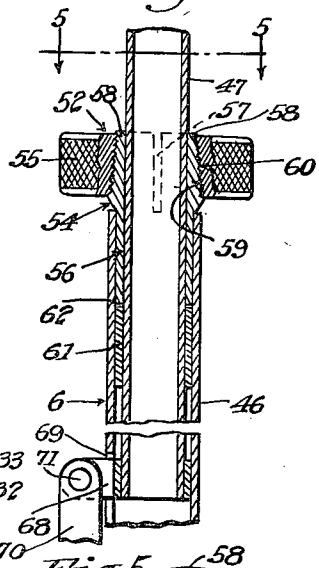


Fig. 5

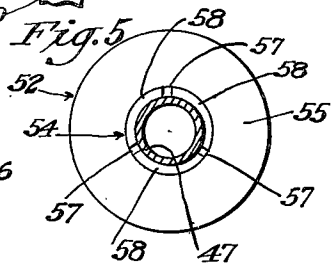
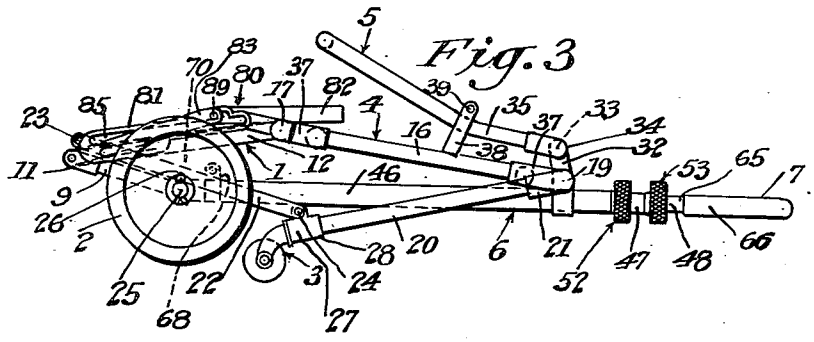


Fig. 3



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COLLAPSIBLE BABY BUGGY

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8 Claims. (Cl. 280—41)

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This invention relates to perambulators, and more particularly to a collapsible baby buggy.

The general object of the invention is to provide a novel and improved collapsible baby buggy, which is light in weight and may be readily and compactly collapsed or set up in an upright position for use.

Other objects and advantages will appear hereinafter as this specification progresses.

The invention is illustrated in the annexed drawings, which form a part of this specification and in which:

Fig. 1 is a side elevation of my invention set up in an upright position for use.

Fig. 2 is a front elevation of my invention as shown on Fig. 1.

Fig. 3 is a side view of my invention shown in its collapsed position.

Fig. 4 is a fragmentary longitudinal section taken on line 4—4 of Fig. 1, showing a detail of construction of the telescopic handle.

Fig. 5 is a cross section taken on line 5—5 of Fig. 4.

Fig. 6 is a view like Fig. 4 taken on line 6—6 of Fig. 1.

Referring more particularly to the drawings, in which the same parts are designated by corresponding reference characters in all of the figures, my invention includes generally a collapsible seat frame 1; a pair of front wheels 2 and a pair of smaller rear wheels in the form of casters 3, on which wheels said seat frame is mounted; a seat 4, a back 5; a telescopic handle post 6; and a handle 7 on the upper end of said handle post.

The seat frame 1 comprises a tubular front wheel axle 8; a pair of tubular lower front legs 9 extending upwardly from said axle at right angles thereto near the ends, respectively, thereof; a tubular connecting rod 10 extending between and connected at its ends, respectively, to the upper ends of said lower front legs 9 by elbows 11; a pair of tubular upper front legs 12 pivotally connected at their lower ends by sleeve T-joints 13 to said connecting rod 10 at the ends, respectively, of said rod and adjacent the inner sides of said lower front legs 9, respectively; an upper front transverse tubular connecting rod 14, near the ends of which are connected, by sleeve T-joints 15, the upper ends of the upper legs 12, respectively, a pair of side tubular connecting rods 16 pivotally connected at their front ends by elbows 17 to the ends, respectively, of the front pivot rod 14; an upper rear transverse tubular connecting rod 18, to the ends of which are connected by elbows 19, the rear ends of the side

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connecting rods 16, respectively; a pair of tubular rear legs 20 pivotally connected at their upper ends by T-joints 21, to the rear transverse connecting rod 18 near the ends, respectively, of said connecting rod; and a pair of tubular links 22, which links are pivotally connected at their forward ends, at 23, to the elbows 11 connecting the upper ends of the lower front legs 9 and the ends respectively, of the transverse connecting rod 10, and which links are pivotally connected at their rear ends at 24, to the rear legs 20, respectively, near the lower ends of said legs. Axle stubs 25 are secured in the ends, respectively, of the front tubular axle 8, on which stubs are journaled the front wheels 2, respectively, there being cotter pins 26 extended through the outer ends of said axle stubs to prevent the wheels 2 from sliding off the ends of said axle stubs. The smaller rear wheels or casters 3, are turnably mounted on the lower ends of the rear legs 20, respectively, by means of the upright caster journals 27 fitted in bearings 28 respectively, on the lower ends of said rear legs. The seat frame 1 is braced transversely at the front thereof by a single angle brace 29 secured at one end, at 30, to one of the T-joints 13 at one side of said frame, and secured at its other end, at 31, to one of the T-joints 15 at the other side of said frame. Near the ends, respectively, of the upper rear connecting rod 18 are secured upstanding arms 32, from the upper ends, respectively, of which extend journals 33 at right angles thereto and outwardly towards the sides, respectively of the seat frame 1, on which journals are turnably fitted sleeve-bearings 34 on the lower ends of an inverted U-shaped back frame 35 of the back 5 of the seat 4. The seat 4 includes inverted U-shaped side arms 36, the lower ends of which arms, respectively, are pivotally connected to the side connecting rods 16 of the seat frame 1 by sleeve T-joints 37. To the side members of the U-shaped back frame 35 are secured clips 38 by screws 39, which clips are constructed and arranged to engage the rear members of the U-shaped side arms 36 for detachably holding said back frame and said side arms in their upright positions when the buggy is set up in position for use.

A sheet 40 of flexible material, such as canvas, is secured at one end to the front connecting rod 14 of the seat frame 1 by looping said end of said sheet over said rod, as indicated at 41, while the other ends of said sheet is secured to the upper member of the inverted U-shaped back frame 35 by looping said other end around said upper member of said back frame, as indicated at 42.

The lower portion 43 of the sheet 40 forms the bottom member of the seat 4. The seat back 5 is formed by the back frame 35 and the upper back portion 44 of the sheet 40.

The handle post 6 is formed in three telescopic tubular sections 46, 47 and 48, the section 46 being the lowermost section, the section 47 being the intermediate section and telescoping in the lowermost section 46, and the section 48 being the uppermost section and telescoping in said intermediate section 47. The lower end of the section 46 is pivotally connected to the front-wheel axle 8 by a sleeve T-joint 49 midway between the ends of said axle and centrally of the buggy, and collars 50 are secured by screws 51 on said axle 8 adjacent the ends, respectively, of said T-joint to prevent said T-joint from sliding on said axle out of its predetermined central position on said axle, whereby the handle post 6, is maintained in its central position on the buggy. The intermediate section 47 is locked in any position to which it is telescoped in the lower section 46 of the handle post 6 by a screw clamp 52 on the upper end of said section 46, and the upper section 48 of the handle post is locked in any position to which it is telescoped in the intermediate section 47 by a screw clamp 53. Each screw clamp 52 and 53 includes a clamp sleeve member 54 and a clamp nut 55. Said clamp sleeve member comprises a sleeve 56 which is slotted from its upper end a portion of its length, as indicated at 57, and formed with a plurality of jaws 58, the outer surfaces of which are conical and formed with an external thread as indicated at 59, the conical surfaces of said jaws tapering to the upper end of the jaws. The clamp nut 55 is formed with a conical internally threaded bore 60 which receives said conical jaws 58, while the thread in said bore engages the thread on the conical surfaces of said jaws. The sleeve 56 of the clamp member 54 of the clamp 52 is swaged or welded in the upper end of the lower section 46 of the telescopic handle post 6, with the jaws 58 of said clamp member extending beyond the upper end of said lower section. The intermediate section 47 of the telescopic handle post 6 slidably extends through the sleeve clamp member 54 of the clamp 52 into the lower section 46 of said handle post, and a stop collar 61 is secured on the lower part of said intermediate section for engaging the lower inner end 62 of said sleeve clamp member for limiting the outward movement of said intermediate section 47 in said lower section 46 and said sleeve clamp member. The sleeve 56 of the clamp member 54 of the clamp 53 is swaged or welded in the upper end of the intermediate section 47 of the telescopic handle post 6, with the jaws 58 of said clamp member extending beyond the upper end of said intermediate section. The upper section 48 of the telescopic handle post 6 slidably extends through the sleeve clamp member 54 of the clamp 53 into the intermediate section 47 of said handle post, and a stop collar 63 is secured on the lower end of said upper section 48 for engaging the lower inner end 64 of said sleeve clamp member 54 for limiting the outward movement of said upper section in said intermediate section 47 and said sleeve clamp member 54.

The upper end of the upper section 48 of the handle post 6 is formed with a pair of upwardly diverging studs 65 over the ends of which are fitted the ends 66 of the handle 7 which is tubular and bent into triangular form, and said ends of said handle are secured by pins 67 to said studs 65.

On the lower end of the intermediate section 47 of the handle post 6 is secured a lug 68, which extends laterally and upwardly from said intermediate section through a slot 69, extending longitudinally in the upper side wall of the lower section 46 of said handle post from the lower end of said lower section, and a link 70 is pivotally connected at its upper rear end at 71 to said lug 68, while the lower forward end of said link is pivotally connected to a lug 73 on the rear of the connecting rod 10 midway between the ends of said rod.

The rear connecting rod 18 of the supporting frame 1 is pivotally connected intermediate its ends to the lower section 46 of the telescopic handle post 6 near the upper end of said section, by means of a sleeve joint 74 formed with sleeves 75 and 76 disposed at right angles to each other, the connecting rod 18 turnably extending through the sleeve 75 and the section 46 of the handle post 6 extending through the sleeve 76 and being secured therein. Collars 77 are secured on the connecting rod 18 adjacent the ends, respectively, of the sleeve 75 to prevent shifting of said sleeve on said connecting rod and lateral displacement of the handle post 6.

A collapsible foot rest 80 is mounted on the front of the collapsible seat frame 1, which foot rest includes a pair of supporting arms 81, a foot plate 82 and a pair of braces 83 for said supporting arms. The supporting arms 81 are pivotally suspended at their upper ends by sleeves 84 on the upper front connecting rod 14 between the T-joints 15 of the upper legs 12. Each of the supporting arms 81 is formed with a longitudinal slot 85, two lower undercut notches 86 and 87, and an upper undercut notch 88, the notches 86 and 87 leading downwardly from the rear edge of the slot 85 near the lower end of said slot. with the notch 87 arranged above the notch 86, and the notch 88 leading downwardly from the forward edge of the slot 85 near the upper end thereof. The foot plate 82 is formed with trunnions 89 extending from the side edges, respectively, at the rear edge of said foot plate, which trunnions are extended through the slots 85 in the supporting bars 81, respectively, and from which slots said trunnions may be introduced into the notches 86, 87 or 88 in said supporting arms 81, respectively, whereby the foot plate 82 may be supported at different elevations by said supporting arms. The braces 83 are secured rigidly at their forward ends, respectively, to the side edges at the rear corners of the foot plate 82, and said braces extend rearwardly from said foot plate and are pivotally connected at their rear ends to the leg-connecting rod 10 by sleeve 90 on said ends of said braces.

The operation of my invention is as follows:

Assuming my baby buggy to be set up in position for use, as shown in Figs. 1 and 2 of the drawings, and it is desired to collapse the same, the clamps 52 and 53 are released from the telescopic sections 47 and 48 respectively, of the handle post 6 by turning and loosening the nuts 55 on the jaws 58 of said clamps, respectively; the side arms 36 are disengaged from the clips 38, and said arms are swung down transversely, upon the seat 4, and the back 5 is swung down forwardly upon said seat, folding the sheet 40 upon itself, the lower front legs 9 and connecting rod 10, and the upper front legs 12 are swung forwardly from the front axle 8 and the front seat connecting rod, respectively, and the foot-rest braces 83, foot plate 82 and supporting arms 81 are thereby swung forwardly by the connecting rod 10 until

said connecting rod 10, together with the ends of said legs and the rear ends of said foot-rest braces 82 connected to said rod 10, are swung forwardly beyond the front wheels 2 while the forward ends of said braces are swung rearwardly with the trunnions 89 sliding upwardly in the supporting arm slots 85, whereupon said upper front legs 12, together with the front connecting rod 14, and the side connecting rods 16 and side arms 36 of the seat frame 1, and the foot-rest supporting arms 81, braces 83 and foot plate 82 are swung down near the lower section 46 of the handle post 6, while the links 22 and the link 70 are drawn forwardly by the lower front legs 9 and the connecting rod 10, respectively, and the rear legs 20 are swung upwardly toward the lower section 46 of the handle post 6 by the links 22 and the intermediate section 47 of said handle post is drawn down in said lower section 46 of said handle post 6 by the link 70, the lug 68 connecting the upper end of said link and the lower end of said intermediate section 47 sliding forwardly in the slot 69 in said lower section 46 of the handle post 6; and the upper section 48 is telescoped in the intermediate section 47 of the handle post, thus completely collapsing my baby buggy as shown in Fig. 3 of the drawings.

My baby buggy when in its collapsed position as shown in Fig. 3 may be set up in position for use by grasping the handle 7 and pulling the section 48 of the handle post 6 rearwardly out of the section 47 until the stop collar 63 on the forward end of said section 48 engages the inner end 64 of the sleeve 56 of the clamp 53 and pulls the section 47 rearwardly out of the section 46, whereupon the connecting rod 10 together with the upper ends of the lower front legs 9, the lower ends of the upper front legs 12 and the rear ends of the foot-rest braces 83 are drawn and swung upwardly and rearwardly on their fulcrums by said section 47 and the link 70 connected to said section and to said rod 10, the trunnions 89 at the forward ends of said braces sliding downwardly in the slots 85 in the foot rest supporting arms 81, while the upper ends of said upper legs 12, the upper connecting rod 14 and the forward ends of the side connecting rods 16 of the seat frame 1, together with the upper ends of the foot-rest supporting arms 81, are thereby swung upwardly and the rear legs 20 are swung rearwardly by the lower connecting rod 10 and links 22 until the stop collar 61 on the section 47 engages the inner end of the sleeve 56 of the clamp 52 and the seat frame 1, and the foot-rest 80 are swung up into their upright positions, as shown in Fig. 1. The sections 47 and 48 are then clamped in their extended positions by the clamps 52 and 53 respectively, by turning and tightening the nuts 55 on the jaws 58 of said clamps until the jaws of said clamps firmly grip said sections, respectively. The back 5 is then swung upwardly and backwardly into its upright position and the side arms 36 are finally swung up into their upright vertical position until engaged and held by the clips 38 in said positions. The buggy is thus completely set up in its upright position for use, as shown in Fig. 1.

I claim:

1. A baby buggy including a front axle, front wheels journaled on said axle, a telescope handle post pivotally connected at its forward end to said axle, a collapsible seat frame mounted on said axle and said handle post, means whereby said seat frame is collapsed, when said handle post is telescoped, and set up in position for use when said handle post is extended, and a seat on said seat frame.

2. A baby buggy as claimed in claim 1 including a clamp for clamping the telescopic sections of the handle post in their extended position.

3. A baby buggy including a front axle, front wheels journalled on said axle, a telescopic handle post formed with a forward section, connected at its forward end to said axle and with a telescopic section telescoping in said forward section, a seat including a collapsible seat frame and a seat bottom member, said collapsible seat frame comprising a rear seat connecting rod pivotally mounted on the forward section of said handle post, side connecting rods connected at their rear ends to said rear connecting rod, a front connecting rod connected to the forward ends of said side connecting rods, lower front legs secured at their lower ends to said front axle, upper front legs pivotally connected at their upper ends to said front connecting rod, a leg-connecting rod to which the upper ends of said lower front legs and the lower ends of said upper front legs are pivotally connected, rear legs pivotally connected at their upper ends to said rear connecting rod, rear wheels journaled on the lower ends of said rear legs, and links connected at their rear ends to said rear legs, respectively, and at their forward ends to said lower front legs, respectively; a third link connected at its forward end to said leg-connecting rod and at its rear end to the forward end of said telescoping section of said handle post, and a clamp for securing said telescoping section in its extended position and said collapsible seat frame in its upright position.

4. A baby buggy as claimed in claim 3 including side arms for the seat pivotally connected to the side connecting rods of the collapsible seat frame so as to swing down transversely of the collapsible seat frame when said frame is collapsed and to swing up into an upright position when said collapsible seat frame is swung up into position for use, a seat back pivotally mounted on the upper rear structure of the collapsible seat frame to swing down upon the seat when the seat frame is collapsed and to swing up into an upright position when said seat frame is swung up into position for use, and clips on said seat back for engaging and detachably holding said seat arms in their upright position.

5. A baby buggy including a front axle, front wheels journalled on said axle, a telescopic handle post formed with a forward section, an intermediate section telescoping in said forward section and a rear section telescoping in said intermediate section, said forward section being secured to said front axle, a seat including a collapsible seat frame and a seat bottom member, said collapsible seat frame comprising a rear seat connecting rod pivotally mounted on the forward section of said handle post, side connecting rods connected at their rear ends to said rear connecting rod, a front connecting rod connected to the forward ends to said front connecting rod, lower front legs secured at their lower ends to said front axle, upper front legs pivotally connected at their upper ends to said front connecting rod, a leg-connecting rod to which the upper ends of said lower front legs and the lower ends of said upper front legs are pivotally connected, rear legs pivotally connected at their upper ends to said rear connecting rod, rear wheels journaled on the lower ends of said rear legs, and links connected at their rear ends to

said rear legs, respectively, and at their forward ends to said lower front legs, respectively; a third link connected at its forward end to said leg-connecting rod and at its rear end to the forward end of said intermediate section of said handle post, a clamp for securing said intermediate section of said handle post in its extended position, and said collapsible seat frame in its upright position, a clamp for securing said rear section of said handle post in its extended position, and a handle on the rear end of said rear section.

6. A baby buggy as claimed in claim 1 including a clamp for clamping the telescopic sections of the telescopic handle post in their extended position, said clamp comprising a sleeve clamp member, and a clamp nut, said sleeve clamp member being secured in one of said telescopic sections and through which the other telescopic section extends, jaws formed on said sleeve clamp member, the outer surface of which jaws being

tapered and threaded, and said clamp nut engaging said thread on said jaws for causing said jaws to grip said other telescopic section of said handle post.

7. A baby buggy as claimed in claim 1 including a foot rest constructed and arranged to be collapsed, when the seat frame is collapsed, and set up in position for use, when the seat frame is set up in position for use.

8. A baby buggy as claimed in claim 3 including a foot rest comprising a pair of supporting arms, pivotally connected at their upper ends to said front connecting rod, a foot plate and a pair of braces secured at their forward ends to the rear corners of said foot plate, said foot plate at its rear corners and said braces at their forward ends being pivotally connected to said supporting arms, and the rear ends of said braces being pivotally connected to the leg-connecting rod.

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