A. C. GILBERT.

SLED.

APPLICATION FILED APR. 10, 1919.

1,424,011. **Patented July 25, 1922.**

Fig. 1

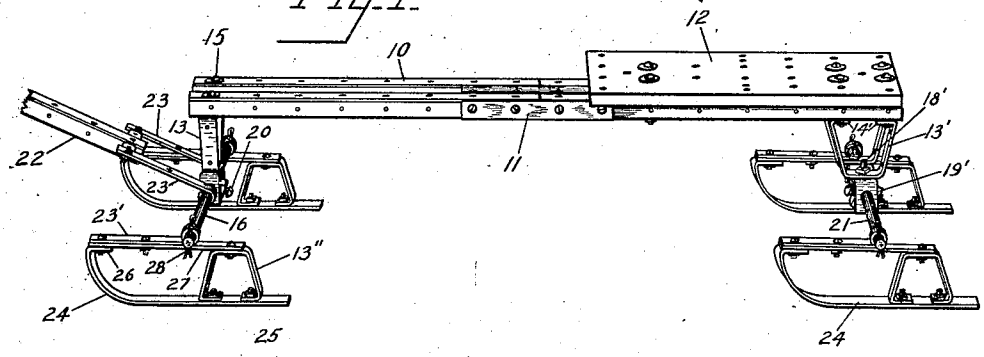


Fig. 2

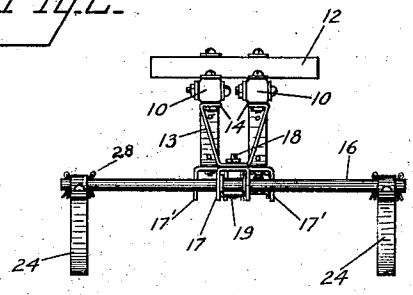


Fig. 3

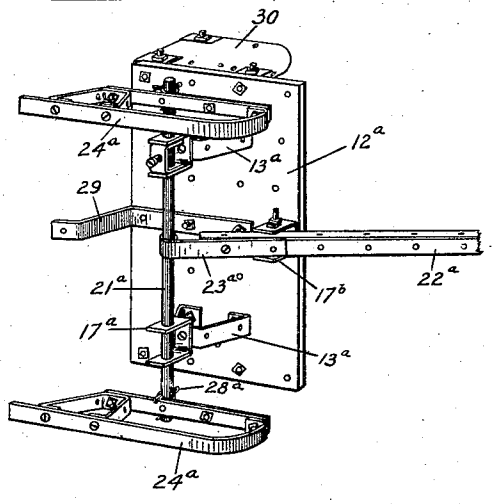
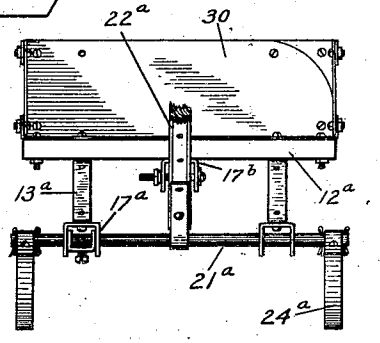


Fig. 4



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UNITED STATES PATENT OFFICE.

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SLED.

1,424,011. Specification of Letters Patent. **Patented July 25, 1922.**

Application filed April 10, 1919. Serial No. 288,948.

To all whom it may concern:

Be it known that I, ALFRED C. GILBERT, a citizen of the United States, residing in the city of New Haven, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Sleds, of which the following is a full, clear, and exact description.

This invention relates to sleds and more particularly to sleds constructed from the knockdown toy structure of the general class referred to in my application, Serial No. 281,970 filed March 11, 1919. In that application, there is described a so-called construction toy, wherein a set of parts is used for constructing various toy vehicles and playthings, in which the parts can be used in a great many different combinations. When one of the toy vehicles or the like has been built, it can thereafter be readily taken apart for building another structure more or less different. However, it will be apparent that some of the features of my sled may be very satisfactorily embodied in a permanent sled construction.

The present invention relates particularly to mechanism whereby an express wagon, go-cart or the like, constructed from a set of interchangeable parts, such as described in my application, above mentioned, may be readily converted into a sled.

One of the primary objects of my invention is to provide a toy building construction, the parts of which are so designed that they may be assembled to form sled runners for an express wagon or the like in addition to numerous other desirable mechanical playthings.

Another object of my invention is to provide a sled having the novel construction herein set forth.

To these and other ends the invention consists in the novel features and combinations of parts to be hereinafter described and claimed.

In the accompanying drawing:

Fig. 1 is a perspective view of a sled formed by applying runner frames to the front and rear axles of an express wagon.

Fig. 2 is a front view of the device shown in Fig. 1, the draft tongue being omitted.

Fig. 3 is a perspective view of a modification of my invention showing a sled constructed by applying runner frames to a go-cart or the like; and

Fig. 4 is a front view of the device shown in Fig. 3.

In the embodiment of my invention shown in Figs. 1 and 2, I have shown an express wagon which has been converted into a sled by applying runners to the axles of the same. The body portion of this sled is constructed by providing a pair of relatively long sticks or braces 10, each of which is preferably formed of two comparatively short braces secured together by overlapping strips 11 having bolts passing through the same. Upon the upper face of the strips or braces 10 is secured a board or body member 12. The forward end of the braces 10 are preferably bolted to the opposite legs of the V-shaped bracket 13, each leg of this bracket being provided with an inwardly directed portion 14 to which the forward end of the braces 10 are secured by bolts 15. Each of the braces 10 has secured to the lower face of the same, adjacent its rear end, a similar V-shaped bracket 13′, these brackets being provided with inwardly turned portions 14′ adapted to be bolted to the braces 10. The braces 13 and 13′ provide means for securing the front and rear axles to the body portion of the sled in spaced relation thereto. The front axle 16 is pivotally secured to the bracket 13 by means of a U-shaped bracket 17 having a drill-hole formed through each leg thereof, through which the axle 16 passes, and this bracket 17 is pivotally secured to a flat portion of the V-shaped bracket 13 by means of a bolt 18. The axle 16 is prevented from moving longitudinally relatively to the bracket 17 by means of a U-shaped clamp 19 inserted between the spaced legs of the bracket 17 and having the axle passed through drill-holes formed through the legs of this clamp, which is provided with a set screw 20 adapted to rigidly engage the axle 17. The rear axle 21 is secured to the brackets 13′ by means of U-shaped brackets 17′ similar to the bracket 17, just described. These brackets 17′ are bolted to the brackets 13′ by the bolts 18′ and one of the brackets 17′ is provided with a U-shaped clamp 19′ operating in the same manner as the clamp 19, above described. The front axle 16 is preferably provided

with a draft tongue 22, which is preferably secured to the axle 16 by the spaced looped brackets 23, each bracket having a loop formed at one end thereof through which the axle 16 is passed, and the other end of these brackets 23 may be secured to the tongue 22 in any desired manner. From the construction so far described, it will be seen that the front axle 16 is pivotally secured to the forward end of the body portion of the sled, and that the rear axle 21 is rigidly secured to the rear end of the same, and that these parts are all secured together by a knockdown construction that may be easily assembled and taken apart.

In order to convert the construction, so far described, into a sled, I have provided the runner frames 24, each of which comprises a curved runner 25, the upper curved end of which has a rearwardly directed portion 26 to which a relatively long flat strip or rave 27 is bolted, the rear end of this strip 27 being supported in spaced relation to the rear portion of the curved runner 25 by a V-shaped bracket 13″, and upon the upper face of the strip 27 is bolted a looped bracket 23′. Each of the runner frames is secured to the axle upon which it is mounted by inserting the axle through the looped portion of the bracket 23′ and the same is retained therein by cotter pins 28. It should be noted that the V-shaped bracket 13″ of the runner frames is similarly constructed and is interchangeable with the V-shaped brackets 13 and 13′, above mentioned, furthermore, the relatively long flat strip 27 is similar to and is interchangeable with the similar strips 11, above mentioned, and that the looped bracket 23′ is similar to and interchangeable with the brackets 23. The brackets, clamps, strips and the like, so far described, are provided with a plurality of drill-holes and are adapted to be bolted together in various ways, as will be apparent from the above description.

The sled construction disclosed in Figs. 3 and 4 of the drawing is built up to a large extent from the elements disclosed in Figs. 1 and 2, and assembled in the manner hereinafter described. In these two figures, which I will now describe I have shown a board or body member 12ª to the under face of which is secured a pair of V-shaped brackets 13ª and to these brackets is secured an axle 21ª by means of U-shaped brackets 17ª similar to the manner in which the axle 21, above described, is secured to the brackets 13′. The device disclosed in Figs. 3 and 4 is provided with a tongue 22ª, which is connected to the axle 21ª by means of a loop bracket 23ª, the axle 21ª being passed through the loop of this bracket and the flat portion of this bracket is bolted to the tongue 22ª, as shown. This tongue is preferably also secured to the under face of the board 12ª by means of a U-shaped bracket 17ᵇ, which is bolted to the tongue and to the under face of the board 12ª. If desired, the go-cart or sled may also be provided with a rearwardly directed and downwardly bent brace 29 adapted to engage the ground and thereby prevent the same from tilting over backwards. The go-cart or sled is preferably further provided with side-boards 30, secured to the upper face of the board 12 as shown. Upon each end of the axle 21ª is mounted a runner frame 24ª similar to the runner frame 24, above described, and constructed in exactly the same manner, these runner frames being secured to the opposite ends of the axle 21ª by cotter pins 28ª, the same as in Figs. 1 and 2.

From the above description, it will be apparent that the V-shaped brackets 13ª are similar to and interchangeable with the V-shaped brackets, which are used in constructing each of the built-up runner frames 24ª, and it will also be apparent that the looped bracket 23ª is similar in construction and interchangeable with the looped bracket secured to the upper face of the runner frames 24ª.

I have not attempted to illustrate or describe all of the various devices which may be constructed from the interchangeable parts herein disclosed, that are adapted to having my runner frames applied thereto, as it will be apparent that these parts may be assembled in many different combinations.

I do not claim herein the specific body construction of either the express wagon shown in Figs. 1 and 2, or the go-cart shown in Figs. 3 and 4, since the patentable novelty residing in these constructions is claimed in my copending applications, Serial No. 292,877, filed April 26, 1919 and Serial No. 310,562, filed July 14, 1919.

What I claim is:

1. A knockdown sled, comprising a body, front and rear axles secured thereto, brackets for supporting said body upon said axles in spaced relation thereto, runner frames secured to the opposite ends of said axles, each of said frames comprising a curved runner, a plate connected to the curved end of said runner and extending rearward therefrom, and a bracket interposed between said runner and plate, said runner brackets and body supporting brackets being similar in construction and interchangeable.

2. A knockdown sled, comprising a body, front and rear axles secured thereto, brackets supporting said body upon said axles, and runner frames secured to the opposite ends of said axles, said frames provided with an upper and lower metal strip and with brackets for supporting said strips in spaced relation, said last mentioned

brackets and body supporting brackets being interchangeable.

3. A knockdown sled, comprising a body, an axle secured thereto, brackets supporting said body upon said axle, and runner frames secured to the opposite ends of said axle, said frames provided with an upper and lower strip and with a bracket for supporting said strips in spaced relation, said last mentioned brackets and said body supporting brackets being interchangeable.

4. A knockdown sled, comprising a body, a fixed rear axle and a pivoted front axle secured thereto, runner frames for the opposite ends of said axles, means for securing said frames to said axles, comprising a loop bracket secured to each of said frames with its loop receiving and end of said axles, and a draft tongue for said sled provided with loop brackets having the loops thereof receiving said front axles, said last mentioned loop brackets and said loop brackets upon said runner frames being interchangeable.

5. A knockdown sled, comprising a body, an axle secured thereto, runner frames for the opposite ends of said axle, means for securing said frames to said axle, comprising a loop bracket secured to each of said frames with its loop having an end of said axle secured therein, a draft tongue for said sled, and a loop bracket secured to said tongue and having said axle extending through the loop thereof, said loop brackets upon said tongue and frames being interchangeable.

6. A knockdown sled, comprising a body, a fixed rear axle and a pivoted front axle, vertically disposed angle brackets attached to said body, U-shaped members attached to said axles between the ends thereof, said angle brackets and U-shaped member being secured together thereby forming a connection between said body and axles, and runner frames rockingly attached to the ends of said axles.

7. A runner frame for a sled, comprising a curved runner, a plate connected to the curved end of said runner and extending rearwardly therefrom, a bracket interposed between said runner and plate to support the runner and plate in spaced relation, and a strip attached to said plate having an end bent to form a circular loop to form a bearing.

8. In combination with a wheel receiving axle, runner frames detachably secured to the opposite ends of said axle, said runner frames comprising, a lower strip having a curved forward end, an upper strip secured to said lower strip and supported in spaced relation thereto, and a bracket secured to said upper strip having a loop formed thereon to encircle an end of said axle to secure the runner frame thereto, said runner frames being interchangeable one for the other.

9. A runner frame for a sled, comprising a lower strip having an upwardly curved front end, an upper strip secured to said lower strip and supported in spaced relation thereto and a strip attached to said upper strip having an end bent to form a circular bearing loop.

10. A runner frame for a toy vehicle comprising a runner strip curved upwardly at its forward end, connecting means between the forward end and the ground portion of said runner strip and a bearing member comprising a strip having an end bent to form a circular loop secured to said connecting means.

11. A sled runner for a vehicle having front and rear axles, said runner comprising a bent up runner strip, a plate extending rearward from the bent up portion, a bracket supporting the rear end of said plate, and a strip attached to and upon said plate having an end bent to form a circular loop and thereby forming a bearing for the end of said axles, said runner thereby being adapted to be applied to either end of either front or rear axles.

12. A knockdown sled having easily detachable members, comprising a body, a fixed rear axle, a pivoted front axle, angle brackets to support said body upon said rear and front axles, said angle brackets being interchangeable, means to secure said brackets to said axles, runner frames rockingly secured to the ends of said axles, and fastening devices whereby said members may be readily assembled and disassembled.

13. A runner frame for a toy vehicle including a runner, a rave secured thereto in spaced relation therefrom and a bearing member, comprising a strip having an end portion thereof bent to form a circular loop, secured to said rave.

14. A knockdown sled having easily detachable members comprising a body, runners, a fixed rear axle, a pivoted front axle, angle brackets to support said body upon said axles, means to secure one of said brackets to the front axle comprising a U-shaped member embracing said axle and pivotally connected to said angle bracket and means to retain said U-shaped member in any predetermined position on said axle.

15. A sled having a body, axles attached to said body and interchangeable runner frames on said axles, said runner frames comprising, a ground portion with a curved-up front end, a rearwardly extending plate attached to the said front end of said ground portion, an angle bracket supporting said plate in spaced relation to said ground portion and a bracket upon said plate, said bracket adapted at one end to encircle said axles thereby forming a one-piece bearing.

16. Interchangeable runners for a sled each comprising a bent up ground portion, a

rearwardly extending strip attached to the bent up end of said ground portion, a bracket supporting the rear end of said plate from said ground portion, and a strip upon and attached to said plate having one end bent to form a circular loop bearing.

17. A detachable runner frame for a toy vehicle including a bearing member secured thereon comprising a strip having an end thereof bent to form a circular loop.

18. A knockdown toy vehicle including a body, an axle, runners on said axle, means to connect said axle to said body, a draft tongue, a bearing member secured to said runners to connect same with said axle and a connecting means to connect said draft tongue with said axle, said bearing member and draft tongue connector being interchangeable.

19. A knockdown toy vehicle including a body, an axle, runners on said axle, means to connect said axle to said body, a draft tongue, a bearing member secured to said runners to connect same with said axle and a connecting means to connect said draft tongue with said axle, said bearing member and draft tongue connector being interchangeable, and comprising a strip bent at one end to form a circular loop.

In witness whereof, I have hereunto set my hand on the 4th day of April, 1919.

ALFRED C. GILBERT.