F. P. MORITZ.

SLEIGH KNEE.

APPLICATION FILED MAY 4, 1910.

983,390.

Patented Feb. 7, 1911.

2 SHEETS—SHEET 1.

Fig. 1.

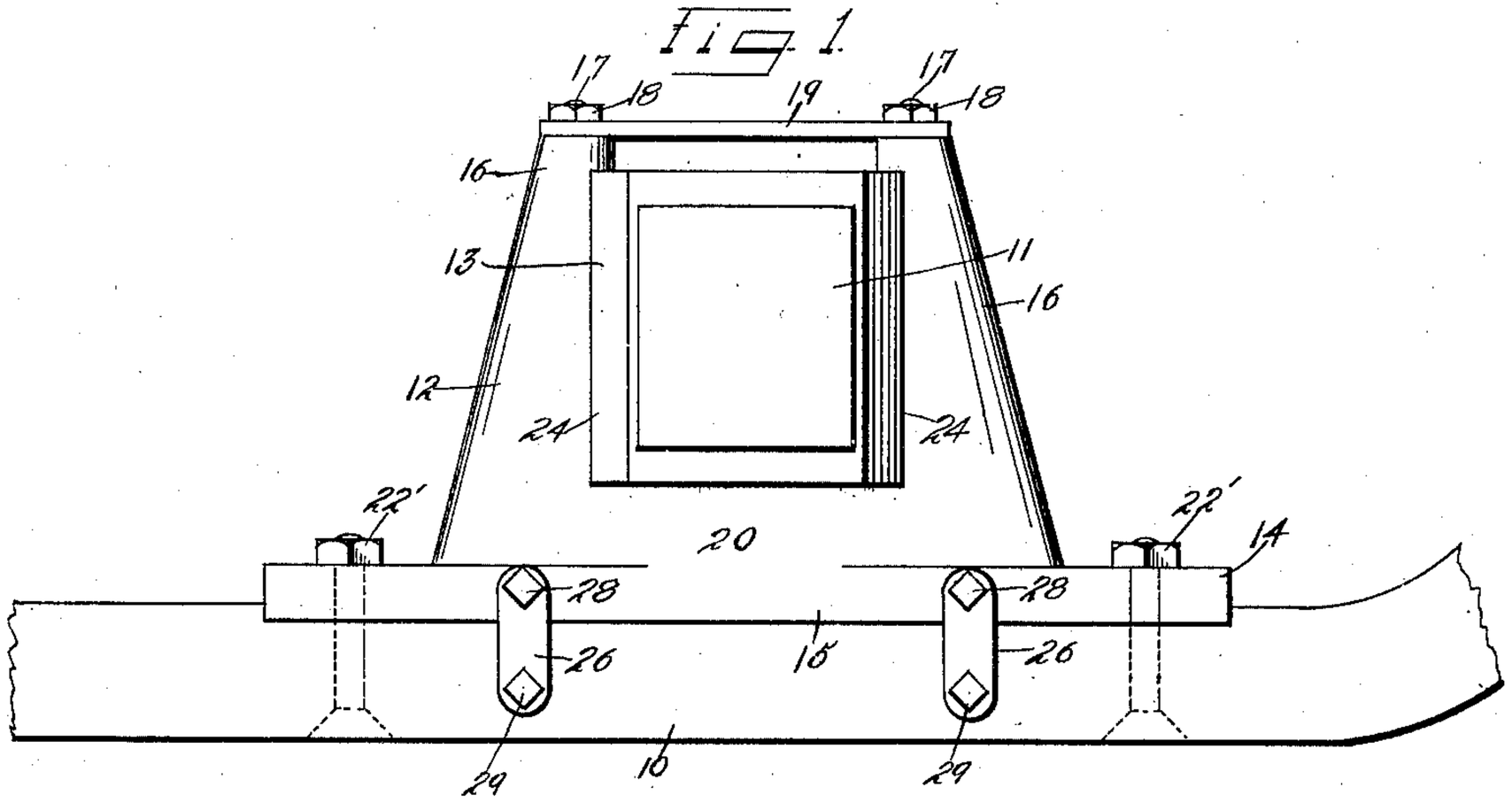
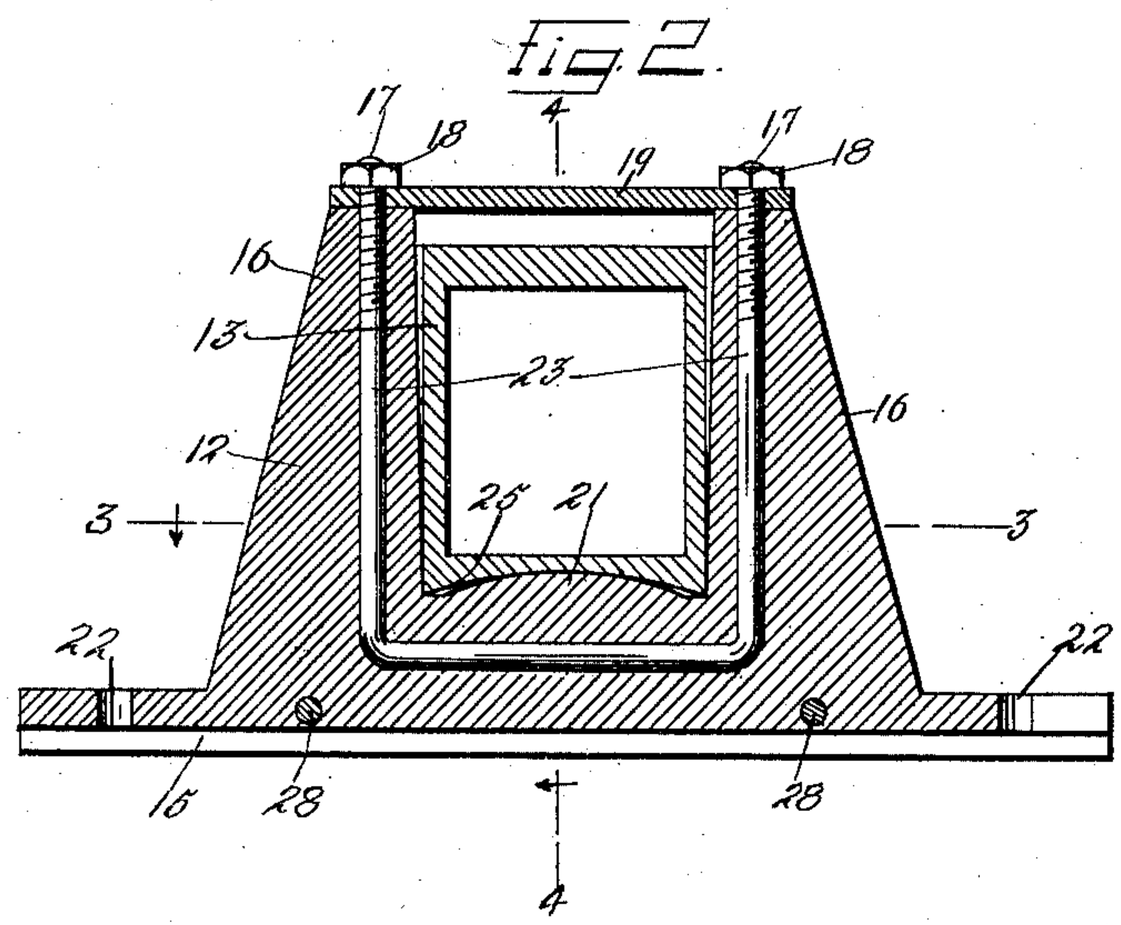


Fig. 2.



Witnesses

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2 SHEETS—SHEET 2.

Fig 3

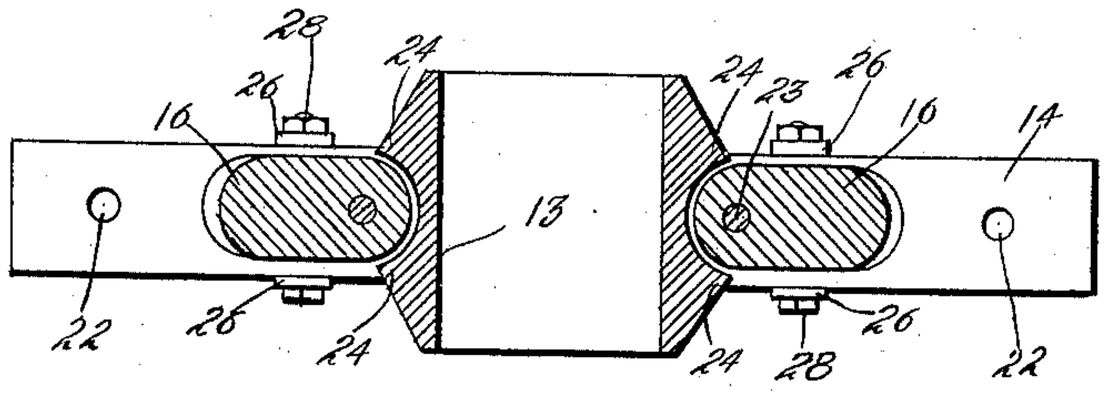


Fig. 4.

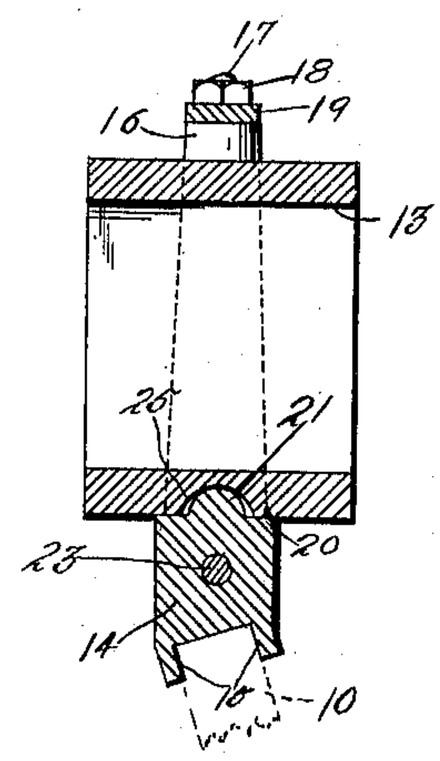
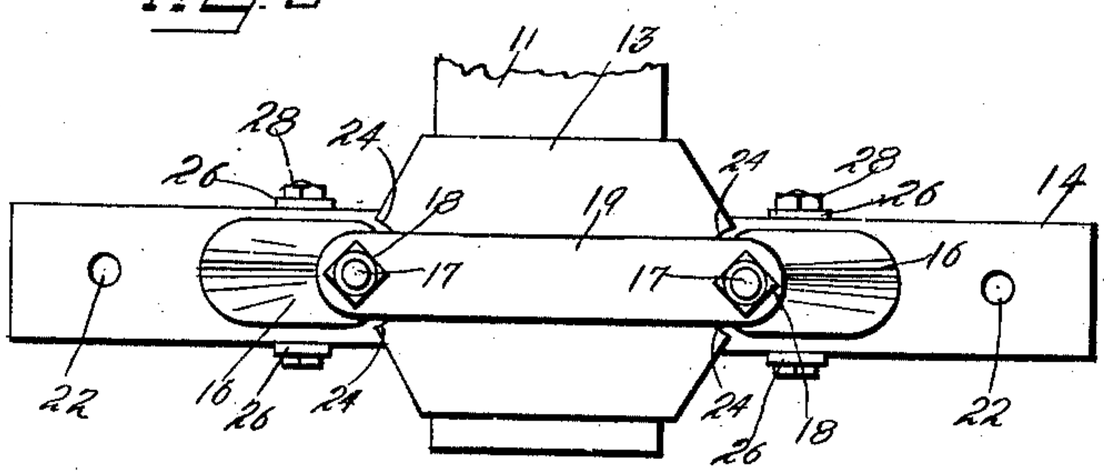


Fig. 5



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SLEIGH-KNEE.

983,390. Specification of Letters Patent. **Patented Feb. 7, 1911.**

Application filed May 4, 1910. Serial No. 559,267.

To all whom it may concern:

Be it known that I, FRANK P. MORITZ, a citizen of the United States, residing at Oak Park, in the county of Benton, State of Minnesota, have invented certain new and useful Improvements in Sleigh-Knees; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in sleigh knees, and has for an object to provide a light, strong and durable device of this character which will have a novel form of locking means between the bolster beam box and the box pedestal, so that the sleigh runner may advance over obstructions in the road without twisting the bolster beam, this locking means being adapted to guide the bolster beam box into its initial position upon the pedestal after the obstruction has been passed.

Another object is to provide a device of this character in which the pedestal is provided on its base with means for holding the sleigh runner inclined outwardly from the vertical diameter of the pedestal.

With the above objects in view, the invention consists in certain novel details of construction and combination of parts which will be hereinafter fully described and claimed.

In the accompanying drawing forming part of this specification, Figure 1 is a side elevation of a sleigh knee constructed in accordance with my invention in applied position. Fig. 2 is a longitudinal sectional view through the device. Fig. 3 is a cross-sectional view through the device taken on the line 3—3, Fig. 2. Fig. 4 is a cross-sectional view taken on the line 4—4, Fig. 2. Fig. 5 is a plan view of the device.

The reference character 10 designates a sleigh runner, and the reference character 11 a bolster beam, both of the usual and well-known kind.

The sleigh knee comprising the subject matter of this invention consists of a pedestal 12 bolted to the sleigh runner and a box 13 mounted for sliding movement vertically and for pivotal movement laterally in the pedestal, this box being bolted to the outer end of the bolster beam.

The pedestal 12 consists of a bed plate 14 upon the opposite longitudinal edges of which is formed depending flanges 15 which engage the sides of the sleigh runner. The bottom face of the bed plate inclines upwardly, and the flanges are disposed in parallel planes which are perpendicular to the plane of the bottom face of the bed plate, this construction serving to maintain the sleigh runner inclined outwardly to the vertical plane of the bed plate. Rising from the top face of the bed plate is a pair of spaced standards 16 which are preferably formed elliptical in cross section and taper from their roots to their free ends. The side faces of these standards are nearly flush with the sides of the bed plate at their lower ends and the opposed longitudinal edges of the standards are disposed in vertical planes and form bearings or guides for the bolster box 13. Rising from the top faces of the standards are lugs 17 which are provided with external screw threads to engage retaining nuts 18. A locking plate 19 bears against the top faces of the standards and is provided adjacent its ends with annular openings to receive the locking lugs 17, the retaining nuts 18 bearing against the top face of this locking plate serve to secure the plate detachably to the standards.

That portion 20 of the bed plate intermediate the standards is formed considerably greater in vertical cross dimension than the portions of the bed plate beyond the standards. Formed on the top face of this portion 20 is a locking lug 21 which is sufficient in length to extend nearly to the roots of the standards and is located centrally on the top face of the thickened portion 20. This locking lug 21 is semielliptical in longitudinal and transverse section so that it presents a curved outer face which guides the bolster box into position between the standards when the former has moved laterally therebetween when the runner passes over an obstruction in the road bed as will presently be described.

Formed in the bed plate adjacent its opposite ends are openings 22 through which securing bolts 22′ are passed to rigidly secure the bed plate to the runner.

In forming the pedestal above described it is preferable to form the bed plate and standards of wrought iron, and the lugs of steel. An expedient method of accomplishing this is to cast the pedestal upon a steel

clevis 23 shown in end elevation lines in Fig. 2, the threaded terminals of this clevis being arranged to project beyond the casting.

The bolster box 13 consists of a metal housing sufficient in size to snugly receive one end of the bolster beam 11. The side faces of the box are provided with spaced parallel lugs 24 the opposed faces of which are rounded and coöperate to loosely conform to the rounded bearing edge of the adjacent standard 16. The box is less in height than the height of the standards, and by virtue of the standards tapering from their roots to their free extremities, and the lugs 24 upon the sides of the box being arranged parallel, there will be more play between the upper portions of the box and the standards than between the lower portions of the box and the standards, this construction permitting of a pivotal movement of the box in a plane coinciding with the longitudinal vertical plane of the pedestal and also in a plane coinciding with the transverse vertical plane of the pedestal. This construction permits of the box rocking between the standards when either the forward or rear end of the runner tilts in advancing over an obstruction, and also of the box rocking transversely between the standards when the runner slides sidewise into a deep rut in the road. Thus the bolster beam is yieldingly held in the pedestal and is prevented from becoming snapped off during severe conditions of service.

Formed in the bottom face of the box 13 is a semi-elliptical rabbet 25 which is sufficient in size to loosely receive the locking lug 21 carried by the bed plate of the pedestal. The inclined or curved wall of this rabbet engages the curved surface of the locking lug and guides the box to rest upon the top face of the portion 20 of the bed plate between the standards after the obstruction in the road bed has been passed.

For reinforcing the connection between the bed plate of the pedestal and sleigh runner, a pair of spaced plates 26 are arranged on each side of the pedestal and are sufficient in length to engage the side of the sleigh runner. The opposite ends of each plate are provided with openings through which securing bolts are passed, one securing bolt 28 serving to secure the upper ends of adjacent plates arranged on opposite sides of the pedestal, to the pedestal, and a second securing bolt 29 being employed to secure the lower ends of adjacent plates that engage opposite sides of the runner, to the runner.

From the foregoing description taken in connection with the accompanying drawings, it is thought the construction and operation of my invention will be easily understood without a more extended explanation, it being understood that various changes in the form, proportion and minor details of construction may be made within the scope of the appended claim.

What is claimed is:—

A sleigh knee consisting of a pedestal having an inclined bottom face, flanges depending from said bottom face and disposed in planes perpendicular thereto, a box mounted for independent longitudinal and transverse pivotal movement in the pedestal, and an interlocking rounded lug between the pedestal and box operating to guide the box into position after each pivotal displacement thereof.

In testimony whereof, I affix my signature, in presence of two witnesses.

FRANK P. MORITZ.

Witnesses:

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Wm. H. Leid.