

No. 798,026.

PATENTED AUG. 22, 1905.

A. ELLWANGER.
SLEIGH.

APPLICATION FILED MAY 3, 1905.

2 SHEETS—SHEET 1.

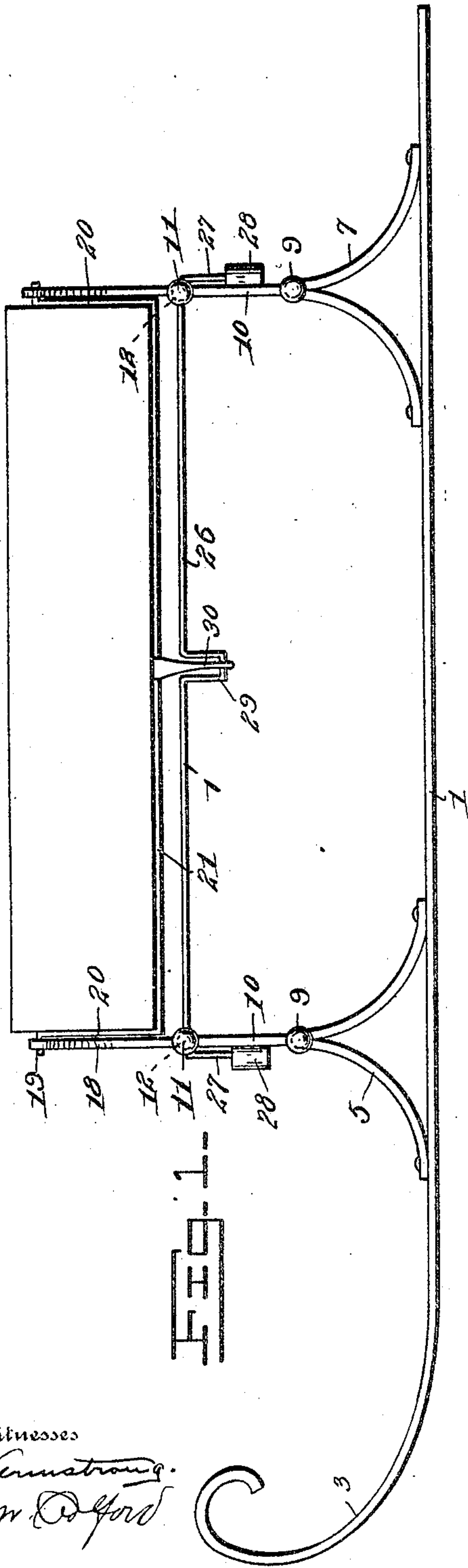


FIG. 1.

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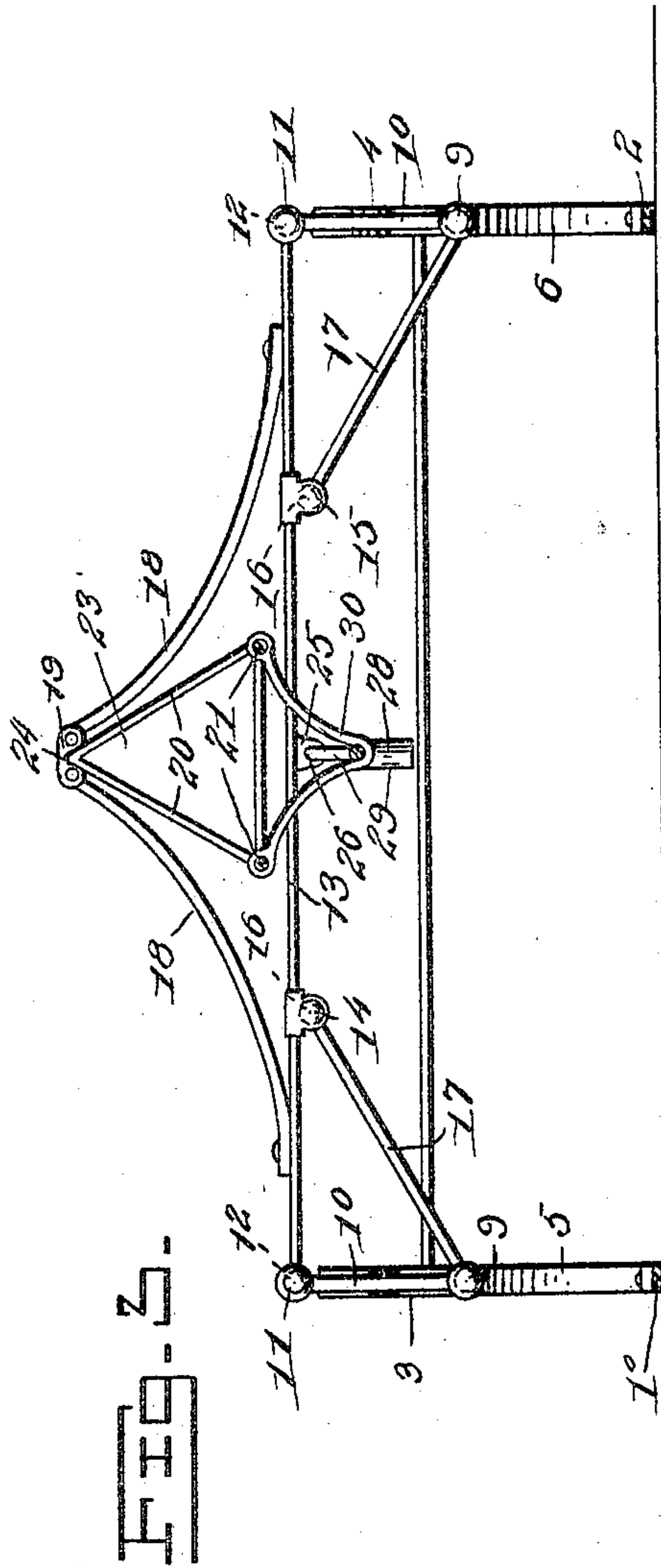


FIG. 2.

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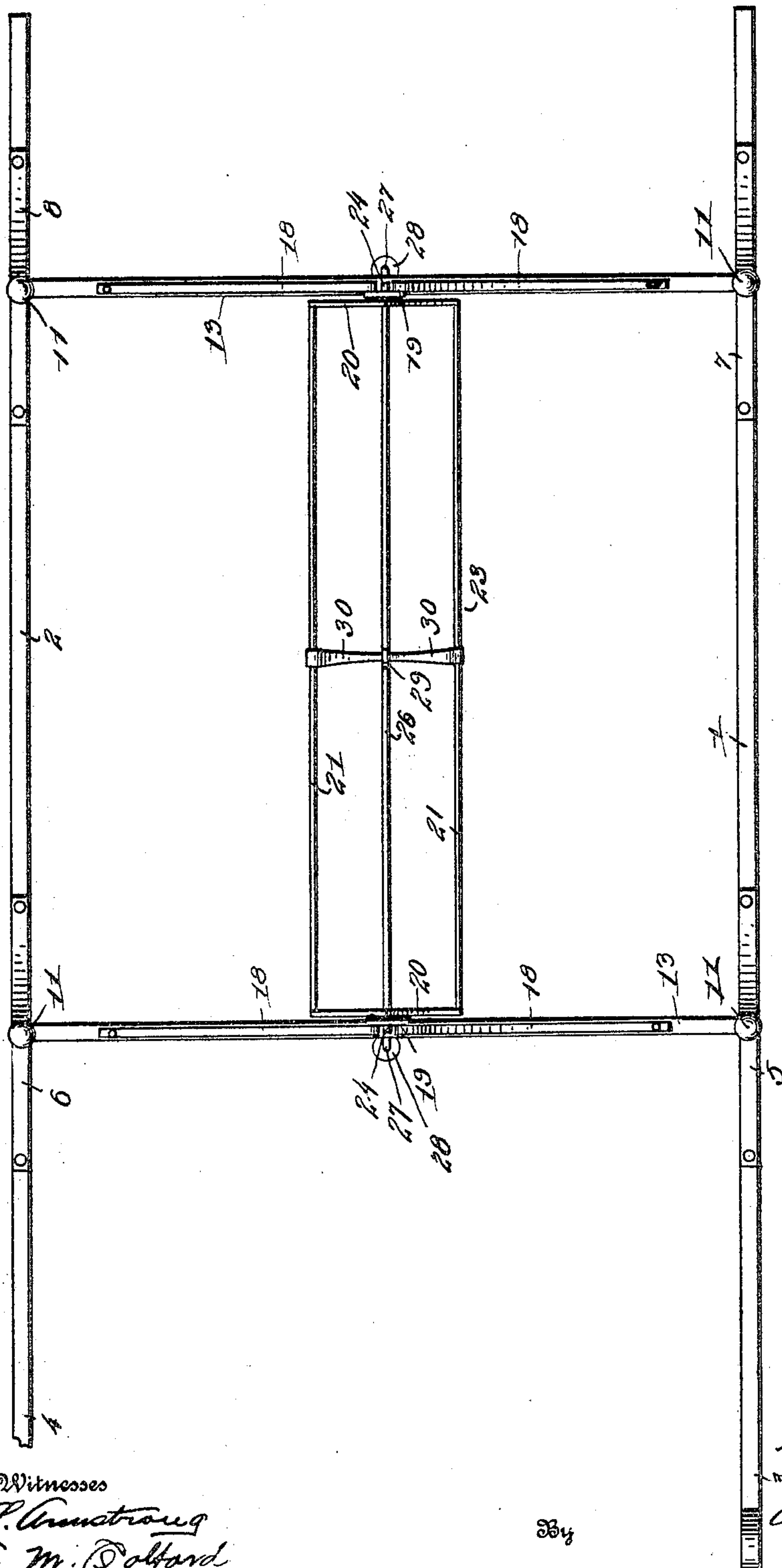


Fig. 2.

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UNITED STATES PATENT OFFICE.

ALBERT ELLWANGER, OF ASHBY, MINNESOTA.

SLEIGH.

No. 798,026.

Specification of Letters Patent.

Patented Aug. 22, 1905.

Application filed May 3, 1905. Serial No. 258,641.

To all whom it may concern:

Be it known that I, ALBERT ELLWANGER, a citizen of the United States, residing at Ashby, in the county of Grant, State of Minnesota, have invented certain new and useful Improvements in Sleighs; 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 sleighs.

One object of the invention is to provide a sleigh wherein the body thereof will be yieldably supported thereupon and the runners yieldably supported with the latter.

Another object of the invention resides in the provision of a sleigh wherein the runners will be permitted to yield in a longitudinal direction and the body portion permitted to yield transversely of the runners.

A further object of the invention is to provide a simple, light, durable, and comparatively inexpensive sleigh capable of fulfilling the characteristics mentioned.

With these and other objects in view the present invention consists in the combination and arrangement of parts, as will be hereinafter more fully described, shown in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that changes in the form, proportion, size, and minor details may be made within the scope of the claims without departing from the spirit or sacrificing any of the advantages of the present invention.

In the accompanying drawings, Figure 1 is a side elevation of the sleigh embodying my invention. Fig. 2 is a top plan view with the body removed. Fig. 3 is a vertical transverse section through the structure with the body removed and looking toward the front of the sleigh.

Referring more particularly now to the accompanying drawings, the reference characters 1 and 2 designate runners having their forward ends curved upwardly, as at 3 and 4, respectively. Forward and rearward knees 5 6 and 7 8, respectively, are secured upon the runners, extending upwardly therefrom, each knee having its upper end provided with a socket 9 of cup or other shape, there being a vertical upright 10 secured in any suitable manner to the respective sockets 9, the uprights or shanks 10 being each provided with a cup 11, the oppositely-disposed cups of the uprights or shanks of each knee receiv-

ing the balls 12 upon each end of the transverse cross-pieces 13, there being cups 14 and 15 formed upon each transverse cross beam or piece 13, the cups or sockets 14 and 15 depending from said cross-pieces and arranged for the reception of the balls 16 of the inclined braces 17, which latter have balls at their opposite ends for engagement with the sockets 9 of the knees. This arrangement provides the forward and rearward transverse cross pieces or beams immediately above the corresponding forward and rearward knees, with the inclined braces of each cross member 13 diverging downwardly from each other therefrom toward the corresponding knees.

Secured to each of the transverse cross members 13 is a bracket including upwardly-directed convergent bracket members 18, having a journal-bearing 19 rigidly secured to their upper ends.

Pivotally connected with each journal-bearing 19 and depending therefrom are downwardly-directed portions 20, connected by longitudinal bars or members 21, the downwardly-directed and longitudinal portions 20 and 21, respectively, forming a box or body hanger, the box or body hanger 23 having trunnions 24 for engagement in the journal-bearings 19 and the upright and longitudinal portions 20 and 21, respectively, being secured, respectively, to the ends and bottom of the sleigh body or box in any suitable manner. The respective ends of the longitudinal braces are connected together by a suitable cross-piece. (See Fig. 3.)

An ear 25 is formed upon each of the transverse cross members 13 intermediate its ends, the ears being arranged in alinement with respect to each other and provided with perforations for the reception of the equalizing-bar 26, which latter has depending portions 27, provided with weights 28 at their free ends, the intermediate portion of the equalizing-bar being provided with a crank-bend 29, to which is pivotally connected a spider 30, which latter is connected with the longitudinal portion 21 of the hanger which supports the box or body of the sleigh.

From the foregoing it will be understood that in the event the sleigh strikes an obstruction the ball-and-socket-joint connections of the ends and transverse cross-pieces will permit of a slight longitudinal swinging movement of the sleigh elements, resulting in the same movement of the body thereof and also at the same or other time permit-

ting of a swinging movement of the box or body transversely of the sleigh by reason of the box or body hanger being connected with the crank portion of the equalizing-bar, the weights 28 of the latter serving to hold it normally in proper position to support the box or body properly within the framework.

It will be also seen from the foregoing that a longitudinal and transverse yielding movement of the box or body is permitted, resulting in such degree of yieldability as to provide for much comfort to the occupants of the sleigh when being drawn over rough or uneven surfaces, all of which is accomplished without the employment of springs. While this longitudinal and transverse yielding is permitted, the ends of the aforesaid hanger being connected to the box or body of the sleigh and close to brackets 18, together with the fact that the longitudinal bars 21 of the hanger are connected to the spider 30, which latter is connected to the equalizing-bar, the longitudinal and transverse movements are limited, the braces 17 serving to prevent inward and outward movement of the knees and the runners.

What is claimed is—

1. In a sleigh including runners, knees connected with the runners, transverse beams yieldably associated with the knees, brackets associated with the beams, a hanger pivotally associated with the brackets, a sleigh-body mounted upon the hanger, and a weighted element associated with the hanger to prevent undue transverse pivotal movement of the body.

2. In a sleigh including runners, knees mounted upon the runners, transverse cross-beams mounted above corresponding knees, ball-and-socket connections between the knees and the beams, brackets mounted upon the beams, a hanger pivotally associated with the brackets, a sleigh-body secured upon the hanger, and a weighted element associated with the hanger to prevent undue transverse pivotal movement of the hanger-body.

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

ALBERT ELLWANGER.

Witnesses:

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