

No. 748,194.

PATENTED DEC. 29, 1903.

G. KOCH.
BOB SLED.

APPLICATION FILED FEB. 17, 1903.

NO MODEL.

FIG. 1.

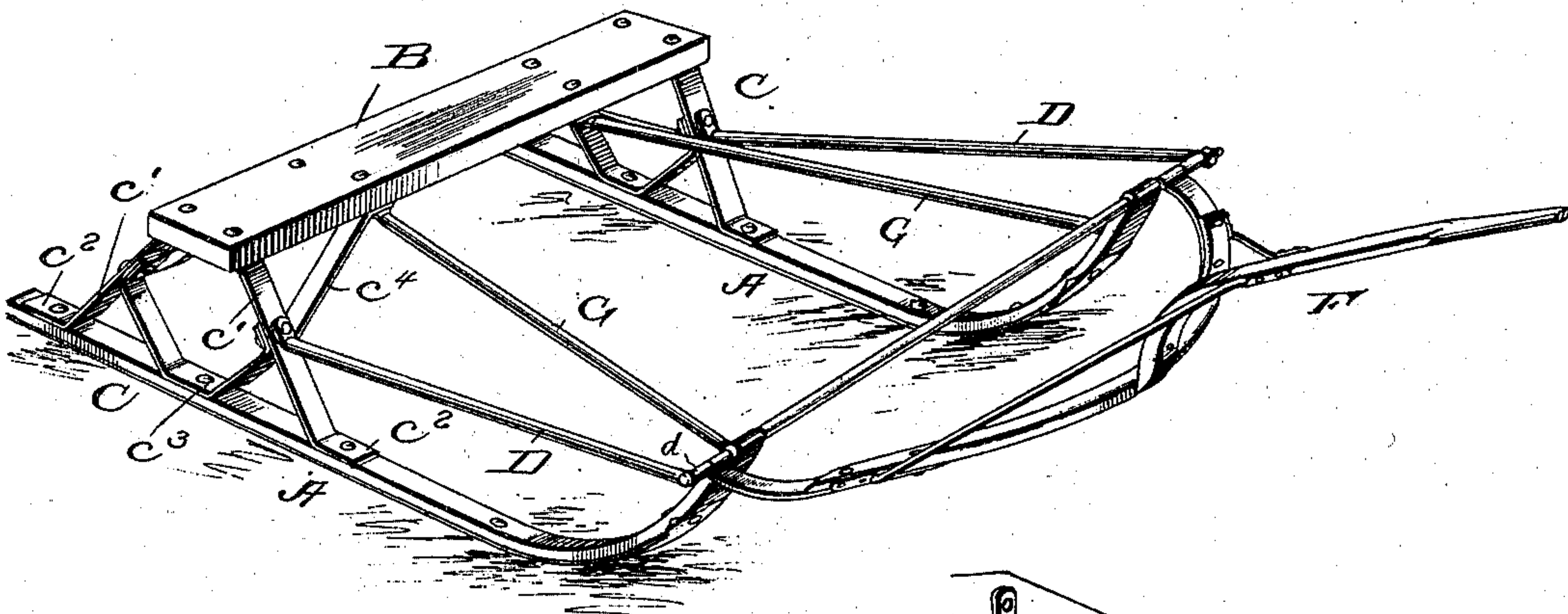


FIG. 2.

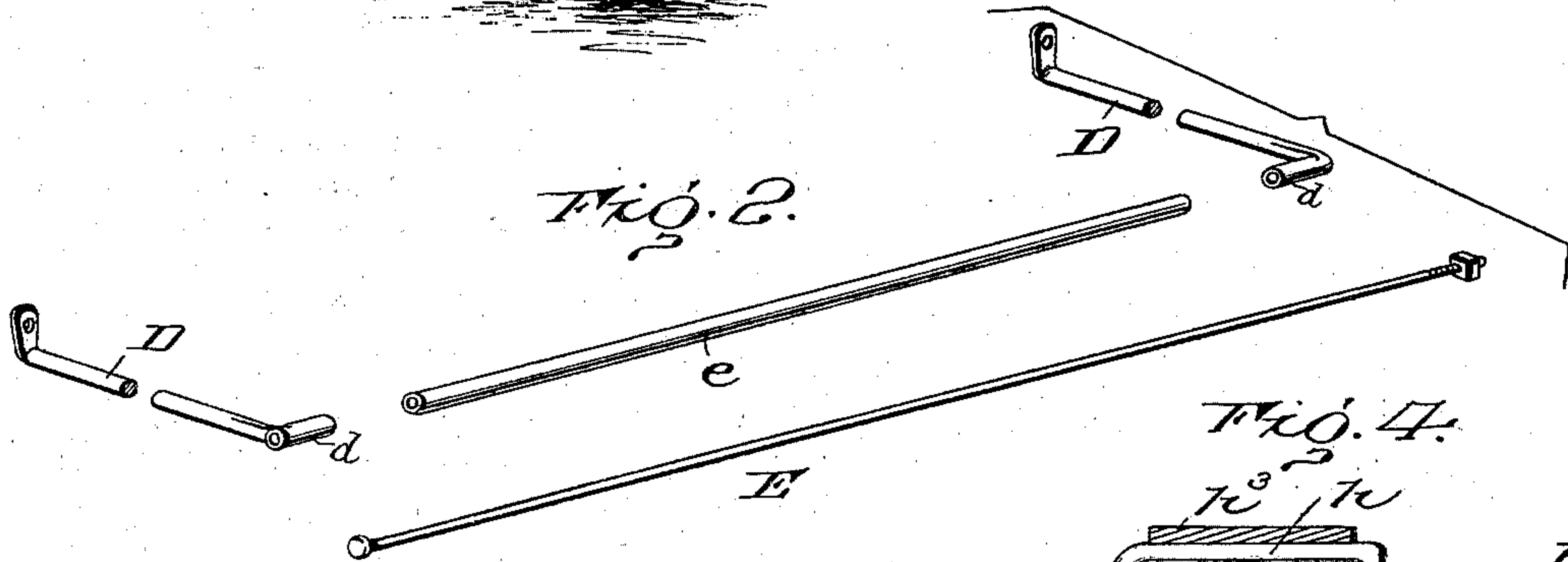


FIG. 3.

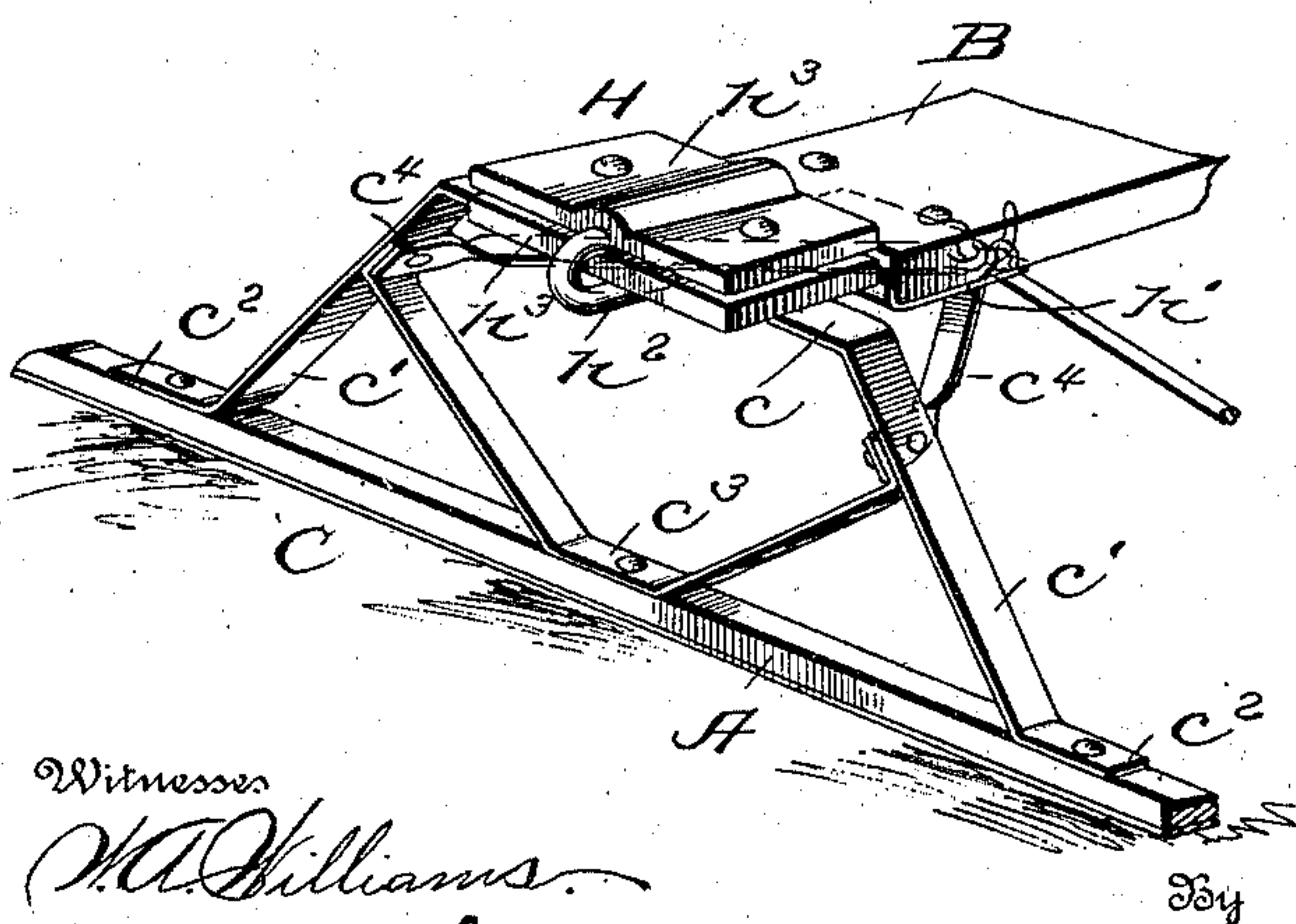


FIG. 4.

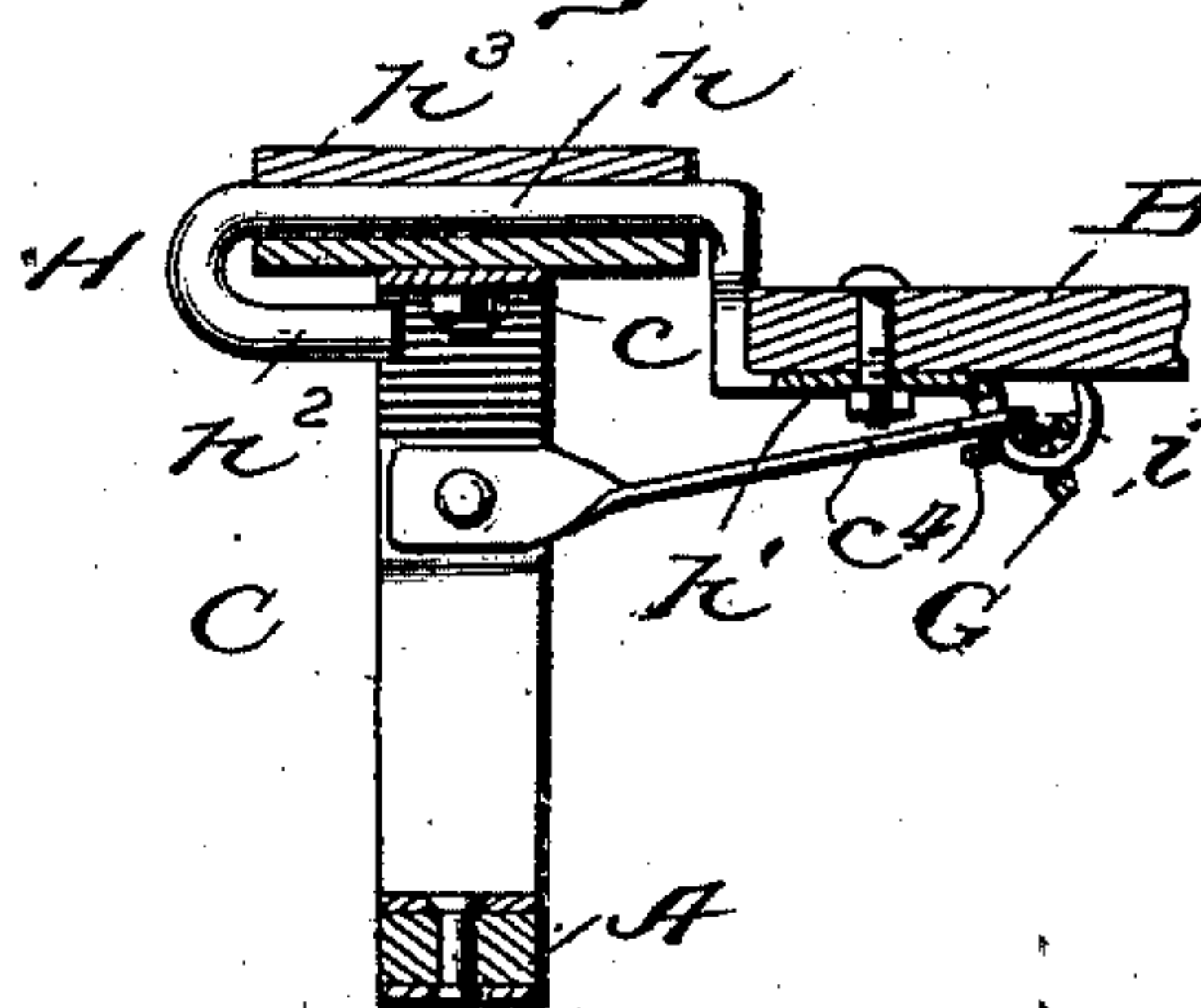
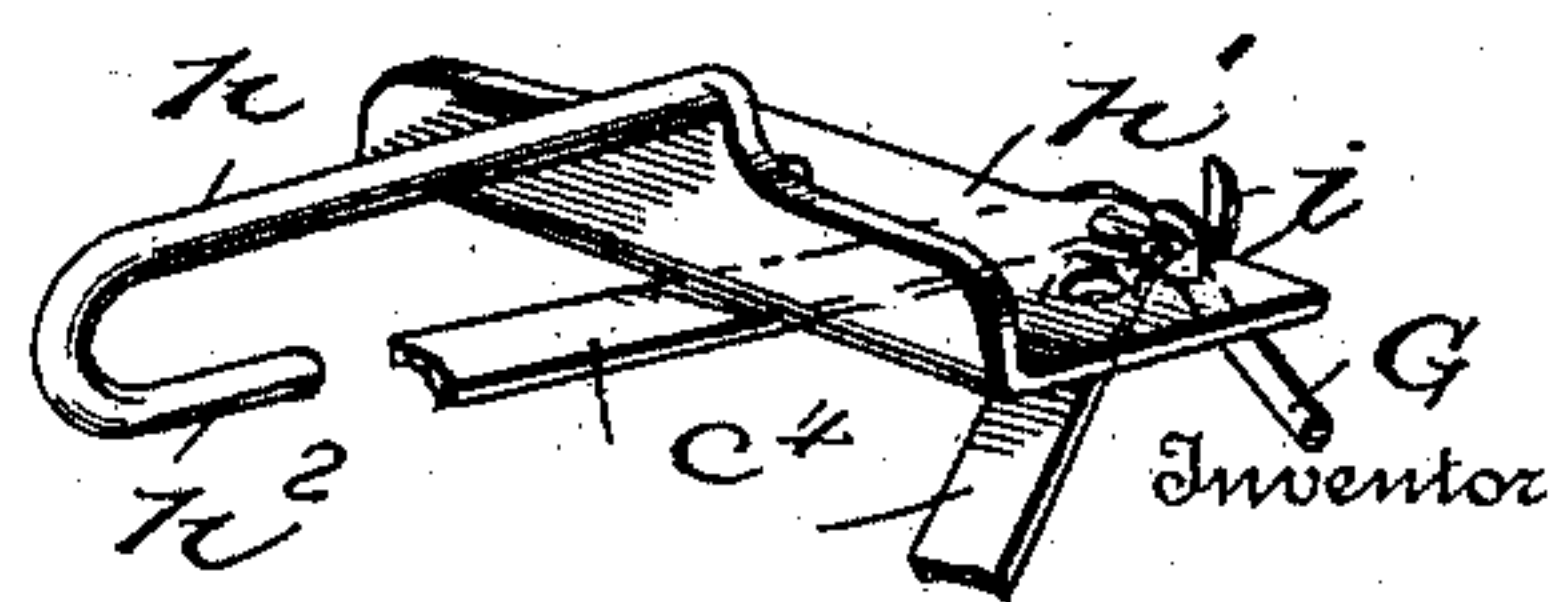


FIG. 5.



Witnesses

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UNITED STATES PATENT OFFICE.

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BOB-SLED.

SPECIFICATION forming part of Letters Patent No. 748,194, dated December 29, 1903.

Application filed February 17, 1903. Serial No. 143,844. (No model.)

To all whom it may concern:

Be it known that I, GUSTAV KOCH, a citizen of the United States, residing at St. Cloud, in the county of Stearns and State of Minnesota, have invented certain new and useful Improvements in Bob-Sleds, of which the following is a specification.

This invention relates to improvements in bob sleds or sleighs, and more particularly to the construction of the knees that connect the runners to the sleigh-body or the bolster or cross-beam thereof.

One object of the invention is to provide strong but inexpensive knees of wrought metal, which shall be braced at all points of strain.

A further object is to provide a bob-sled whereof all the parts shall be readily interchangeable in the event of renewal or repair.

A further object is to provide a novel construction of bob-sled in which the draft or pulling strain shall be referred to the knee instead of to the ends of the runners.

A further object is to provide a simple and light sleigh construction in which each of the runners shall have an oscillatory movement entirely independent of the other, so as to yield readily when striking an obstruction, the parts being also easily disconnected when desired to ship the sleigh in "knock-down" form.

The nature, characteristic features, and scope of the invention will be more clearly understood from the following detailed description, taken in connection with the accompanying drawings, forming a part hereof, wherein—

Figure 1 is a perspective view of a bob-sled, embodying features of the invention. Fig. 2 represents perspective views in detail of the hitching-rod and its holding-sleeve. Fig. 3 is a perspective view of one of the knees and the yielding connection between it and the bolster. Fig. 4 is a sectional view of the same, showing the general relation of the trunnion and its bearing; and Fig. 5 is a detail view of the trunnion.

Referring to the drawings, A represents the runners, which may be of usual or any suitable construction, connected through the medium of a bolster or transverse beam B and knees C. Only one set of runners is illus-

trated, same being deemed sufficient for a proper disclosure of the invention; but it is manifest that one or more additional sets may be called into service, the mode of connecting the various sets forming no part of the present invention.

Upon each runner is mounted a knee C, which consists of a flat bar of wrought metal, the central portion *c* of which is retained in a horizontal position and the adjacent portions *c'* inclined in divergent directions to properly support and brace fore and aft said central portion. The lower ends of the divergent arms *c'* are bent horizontally to constitute feet *c²*, that may be bolted or otherwise secured to the runner. Upon the central portion *c* of each knee is placed said bolster or transverse beam B to unite one knee to the other on the opposite side. U-shape braces *c³*, located between the divergent arms *c'* and the runners, tend to relieve the strain fore and aft on the knees C, and to prevent lateral play of the runners I employ the transverse braces *c⁴*, located between the divergent arms of the knee and the bolster.

The knees are connected with the upper front ends of the runners by means of the rave or bars D of the sleigh, having eyes *d* at their front ends, the rear ends of said bars being attached to the arms *c'* about midway between the bolster and the runner. The front ends of the runners are united by means of a bolt E, which constitutes a hitching-bolt and is made to pass through a sleeve *e*, which acts as a distance-piece for spacing the runners and also as a means for attaching a draft-pole F or, the equivalent thereof, the shafts of a buggy.

G represents additional braces connecting the bolster with the forward ends of the runners and also acting to insure the runners against lateral movement. It will thus be evident that the draft or pulling strain instead of being exerted on the fore part of the runners will be referred to the knees and bolster.

Referring to Figs. 3, 4, and 5, H represents a novel mounting for securing an independent oscillatory movement of the runners. Same consists of a trunnion *h*, having at one end a ledge or bench *h'* to accommodate the bolster and having at the other end a hook-

like terminal h^2 . The knee carries detachable upper and lower bearing-boxes h^3 , which retain the trunnion, and the arrangement is such that the hook-like terminal extends under the top c of the knee and secures the runner relatively to the bolster and also constitutes a stop for defining the vertical play fore and aft of the runners. The construction is a very simple one, and it will be readily apparent how the runners are enabled to act independently of one another in meeting and overriding obstructions. All the parts are detachable and interchangeable, which facilitates renewal and repair, and may be easily disconnected when desired to ship the sleigh in knockdown form.

It will be obvious to those skilled in the art to which the invention relates that modifications may be made in details without departing from the spirit and scope of the same. Hence I do not limit myself to the precise construction and arrangement of parts hereinbefore referred to and illustrated in the accompanying drawings; but,

Having described the nature and objects of the invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination of the runners, the transverse beam or bolster, the knees carried by the runners and supporting the bolster, bench-plates h' secured to the bolster, each plate h' having a trunnion h provided with a

hook-like end h^2 , with rods G connecting the bolster with the forward ends of the runners, and rods D having their rear ends secured to the knees and their front ends provided with eyes, and a rod passing through the eye of each rod D , substantially as described.

2. The combination of the runners, the bolster, the knees carried by the runners and supporting the bolster, and trunnions h and their bench-plates h' connecting the knees and bolster, the trunnions having hook-like ends bent under the knees to limit the independent oscillatory movement of the runners, substantially as described.

3. The combination of the runners, the transverse beam or bolster, the knees carried by the runners and supporting the bolster, and trunnions connecting the knees and bolster and insuring an independent oscillatory movement of the runners, said trunnions having hook-like terminals that secure the runners relatively to the bolster and also constitute stops for defining the oscillatory movement of the runners, substantially as described.

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

GUSTAV KOCH.

Witnesses:

PETER BRICK,
ANDREW C. ROBERTSON.