

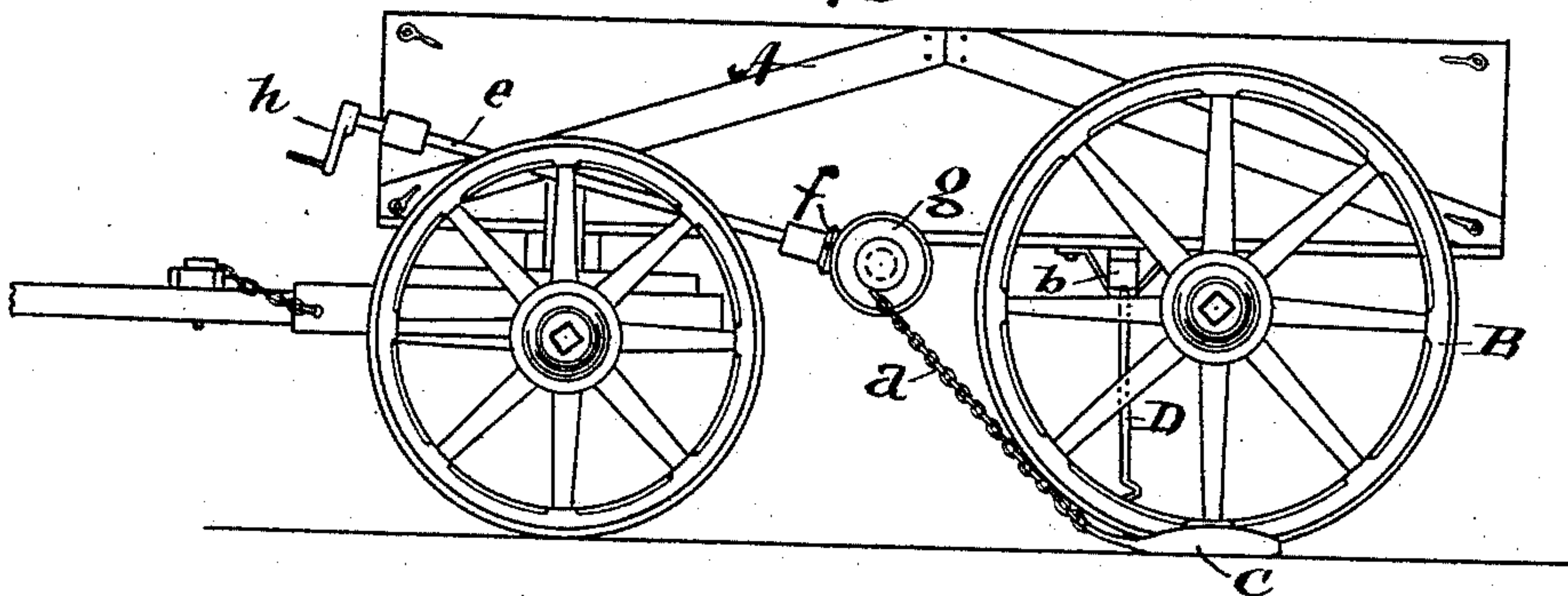
(No Model.)

L. STÜFEE.  
WAGON BRAKE.

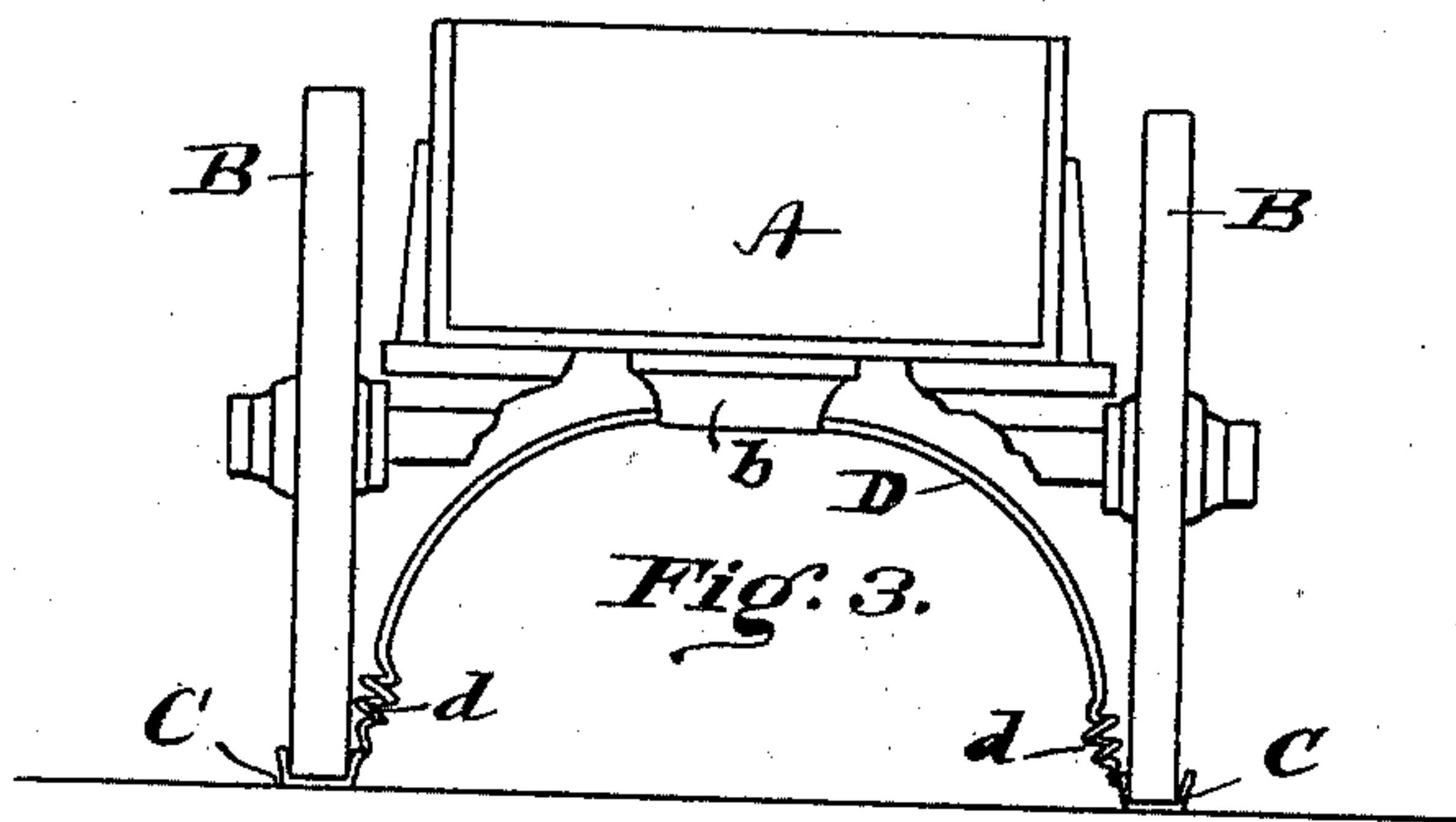
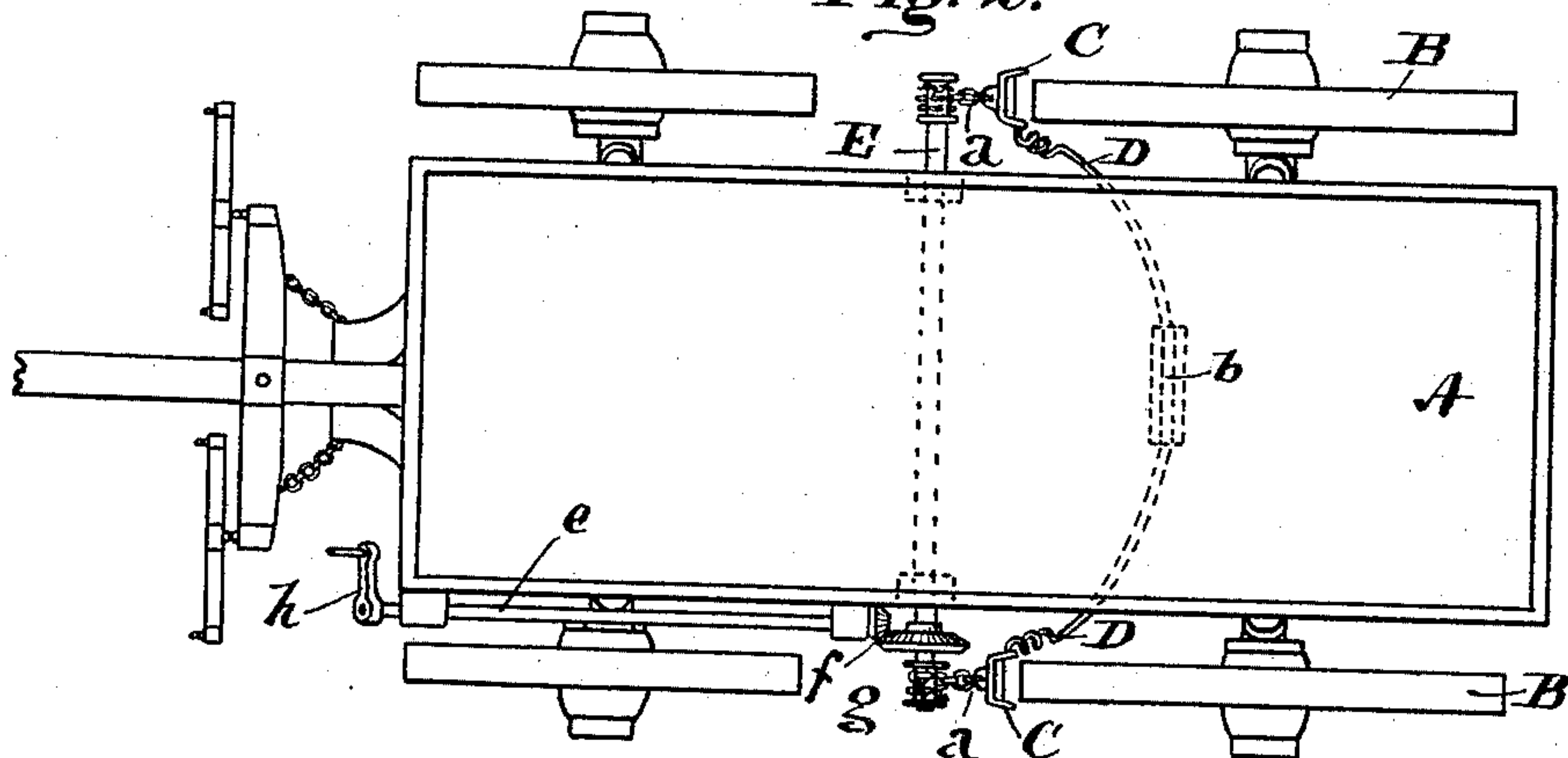
No. 396,780.

Patented Jan. 29, 1889.

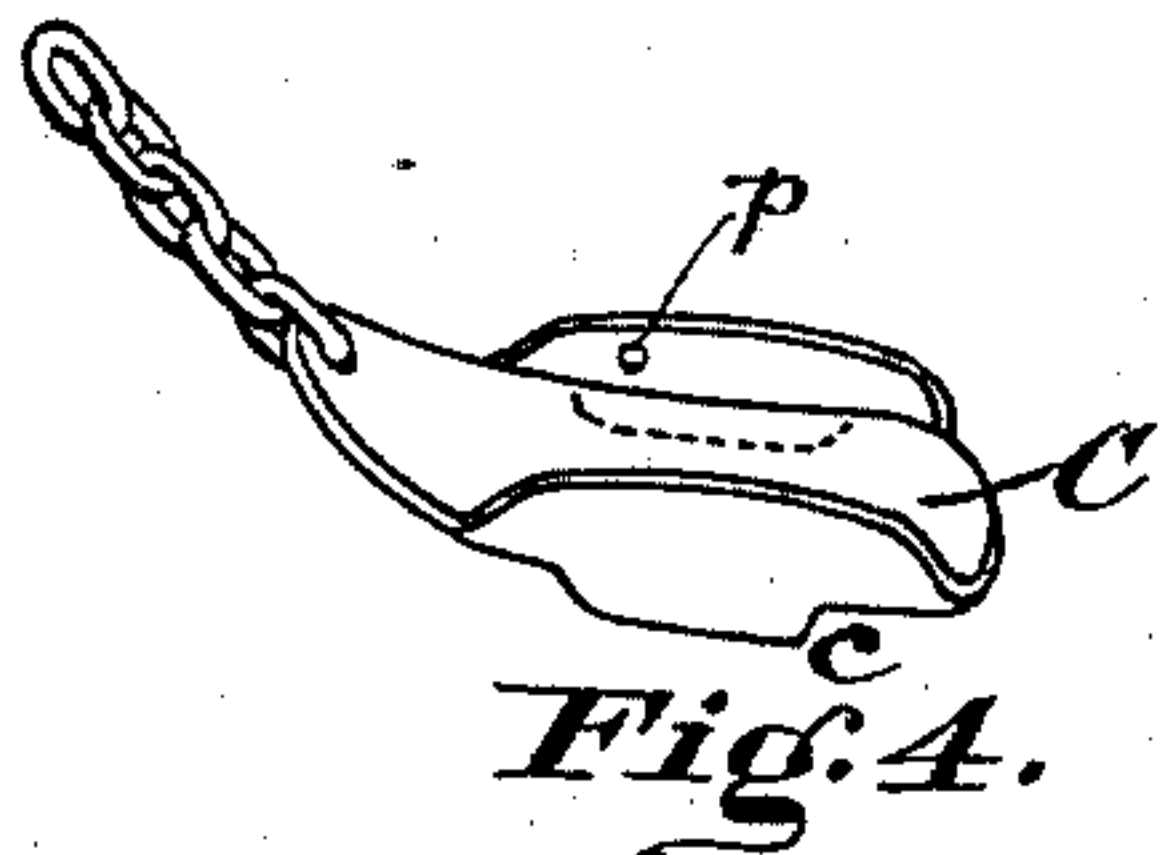
*Fig. 1.*



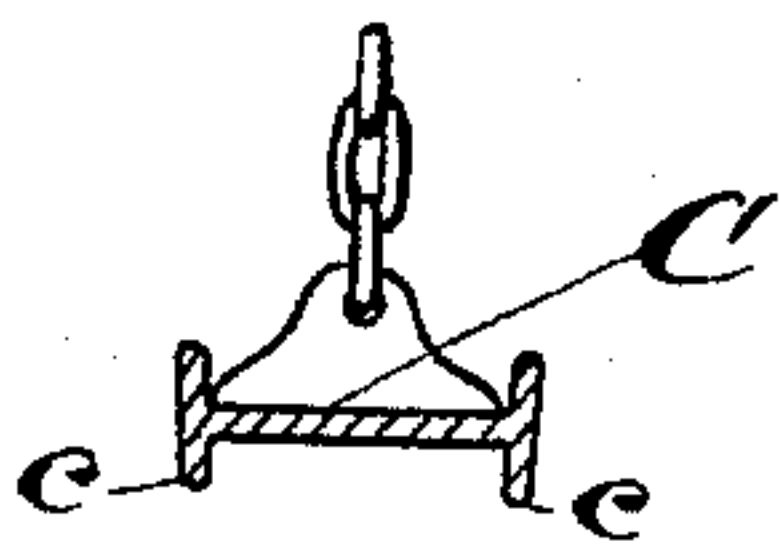
*Fig. 2.*



*Fig. 3.*



*Fig. 4.*



*Fig. 5.*

Attest.  
C. W. Bogart.  
L. E. Hosea.

Inventor.  
Ludwig Stüfee  
By L. E. Hosea Atty.



# UNITED STATES PATENT OFFICE.

LUDWIG STÜFEE, OF COZADDALE, OHIO.

## WAGON-BRAKE.

SPECIFICATION forming part of Letters Patent No. 396,780, dated January 29, 1889.

Application filed April 23, 1888. Serial No. 271,556. (No model.)

*To all whom it may concern:*

Be it known that I, LUDWIG STÜFEE, a citizen of the United States, residing at Cozaddale, Warren county, Ohio, have invented  
5 new and useful Improvements in Wagon-Brakes, of which the following is a specification.

My invention relates to wagon-brakes or "drags" intended to control the momentum  
10 of wagons on hillsides, particularly in slippery places or on icy surfaces; and it consists in the devices hereinafter more fully described, whereby a drag-shoe (one or two) carried by the vehicle may be inserted beneath  
15 the main bearing wheel or wheels and restored to their normal position again after use by the act of the driver without dismounting from his seat upon the wagon.

Mechanism embodying my invention is  
20 illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of a wagon with my invention applied. Fig. 2 is a plan view  
25 of same; Fig. 3, a rear elevation of same, and Figs. 4 and 5 detail views of the shoe proper detached.

In many places and under many conditions the "locking" of wheels against rotation by friction-brakes or chains is insufficient to  
30 control the momentum of a loaded wagon on hillsides, and resort is had to a "shoe" placed under the wheel and held by a rod or chain from the wagon-bed. The latter device, while usually more effective than the ordinary friction-brake, is at present seldom employed,  
35 because it requires adjustment by hand, compelling the driver to dismount, &c., which sometimes cannot be permitted. These disadvantages are obviated by my invention by  
40 providing the shoe with raising and lowering mechanism by which it may be controlled by the driver, whereby it may be used upon emergency to check a momentum already acquired.

45 Referring now to the drawings, A designates the wagon-body, and B B its main or rear bearing-wheels, which may be provided with the ordinary brake apparatus, if desired.

The shoe C (shown in detail in Figs. 4 and  
50 5) is preferably of sheet-iron or steel, some-

what shovel-shaped, provided with an eye at its front extension for the attachment of the holding-chain *a*, and may be provided at its under side with one or more "calks" or "cutters," *c*, to cut into a slippery or icy surface  
55 to increase its holding-power.

Two shoes will be ordinarily employed. These are mounted, as shown in Figs. 1, 2, and 3, at the ends, respectively, of a curved  
60 bow or holding-brace, D, pivoted centrally by a bracket, as *b*, to the wagon-bed between its wheels. The bow or brace D is preferably made of light iron or steel rod twisted into a spiral near the outer ends, as at *d*, to allow  
65 some elasticity of action, and riveted to the shoe at a convenient point, as *p*, Fig. 4. The bow or brace D forms a carrier retaining the shoes in proper position relatively to the  
70 wheels, and by its pivotal action allowing both shoes to be drawn up, as indicated in Fig. 2, to clear the wheels.

The withdrawal of the shoes from the position beneath the wheels, Figs. 1 and 3, to the elevated position out of use, Fig. 2, is  
75 effected by a winding-shaft, E, held in bearings across the wagon-body a convenient distance in front of the wheels B, upon which the chains *a* are wound by a rotation imparted by a crank-shaft, *e*, carrying a bevel-  
80 pinion, *f*, engaging a similar pinion, *g*, upon the winding-shaft E, or in any other convenient manner. The shaft *e* is carried forward in bearings upon the side of the wagon, and is provided with a hand-crank, *h*, arranged  
85 convenient to the driver's seat in front.

The operation is as follows: The parts being in non-operative position, as shown in Fig. 2, the driver turns the crank *h* backward, thus rotating the driving-shaft E by  
90 means of the shaft *e* and pinions *f g*, and unwinding the chains *a*. The shoes C then drop by gravity, and are guided by the pivoted bow D to the position shown in Fig. 1, beneath the wheels B. The chains, being paid  
95 out, hold the shoes firmly in this position, and the latter, being thus interposed between the wheels B and the ground, form a drag-brake of a resistance proportioned to the load of the wagon.

It will be obvious that in many cases but 100

one shoe will be required, in which case one half of the bow or carrier and one chain may be omitted.

I claim as my invention and desire to secure by Letters Patent of the United States—

1. The combination, with a wagon, of a bow-carrier pivoted between the bearing-wheels and having spring terminals or extensions, drag-shoes pivotally hung upon such terminals, chains connecting each shoe with the wagon-body forward of the bearing-wheels, and a winding-shaft constituting the forward holding element of said chain upon the wagon-body for winding said chain and lift-

ing the drag-shoes from the ground out of engagement with the wheels, substantially as set forth. 15

2. The combination, in a wagon-brake, of the bowed carrier D, shoes C C, chains *a a*, winding-shaft E, crank-shaft *e*, and gears *f g*, substantially as set forth. 20

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

LUDWIG STÜFEE.

Witnesses:

L. M. HOSEA,

L. E. HOSEA.