

(No Model.)

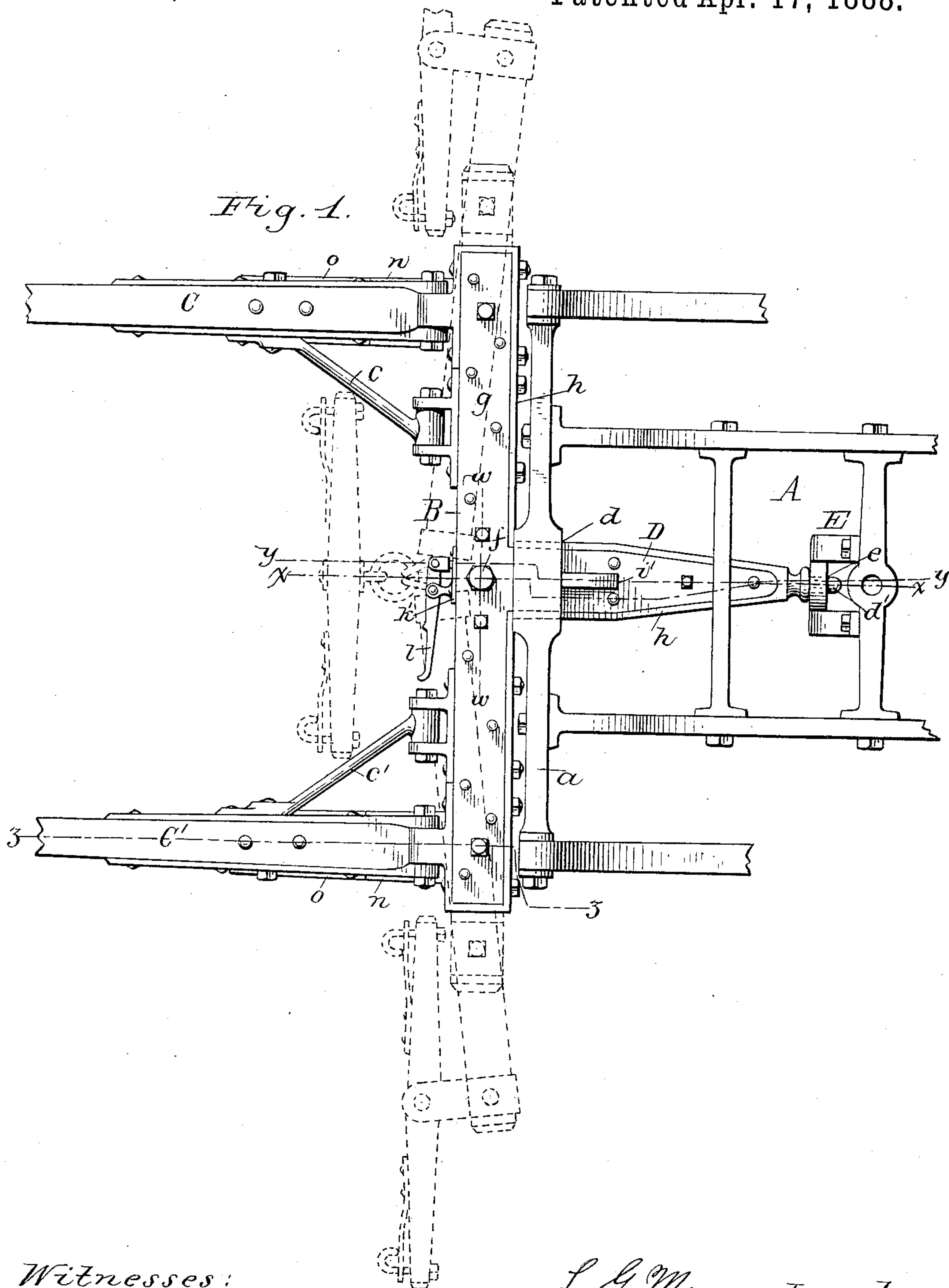
2 Sheets—Sheet 1.

L. G. MOWRY.

DETACHABLE DRAFT FRAME FOR VEHICLES.

No. 381,481.

Patented Apr. 17, 1888.



Witnesses:
Theo. L. Popp.
Geo. Buchheit Jr.

L. G. Mowry Inventor.
By Wilhelm H. H. H.
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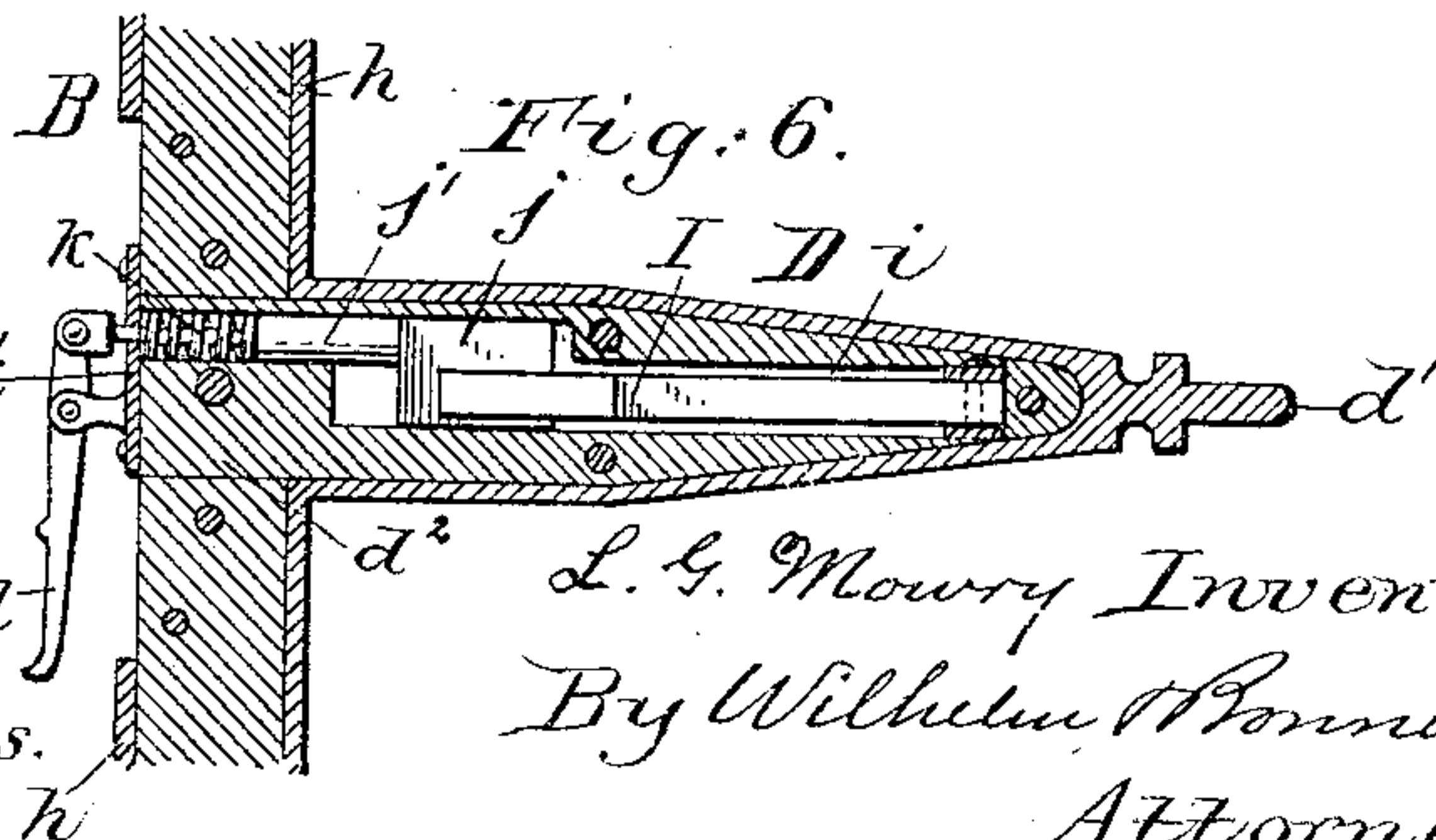
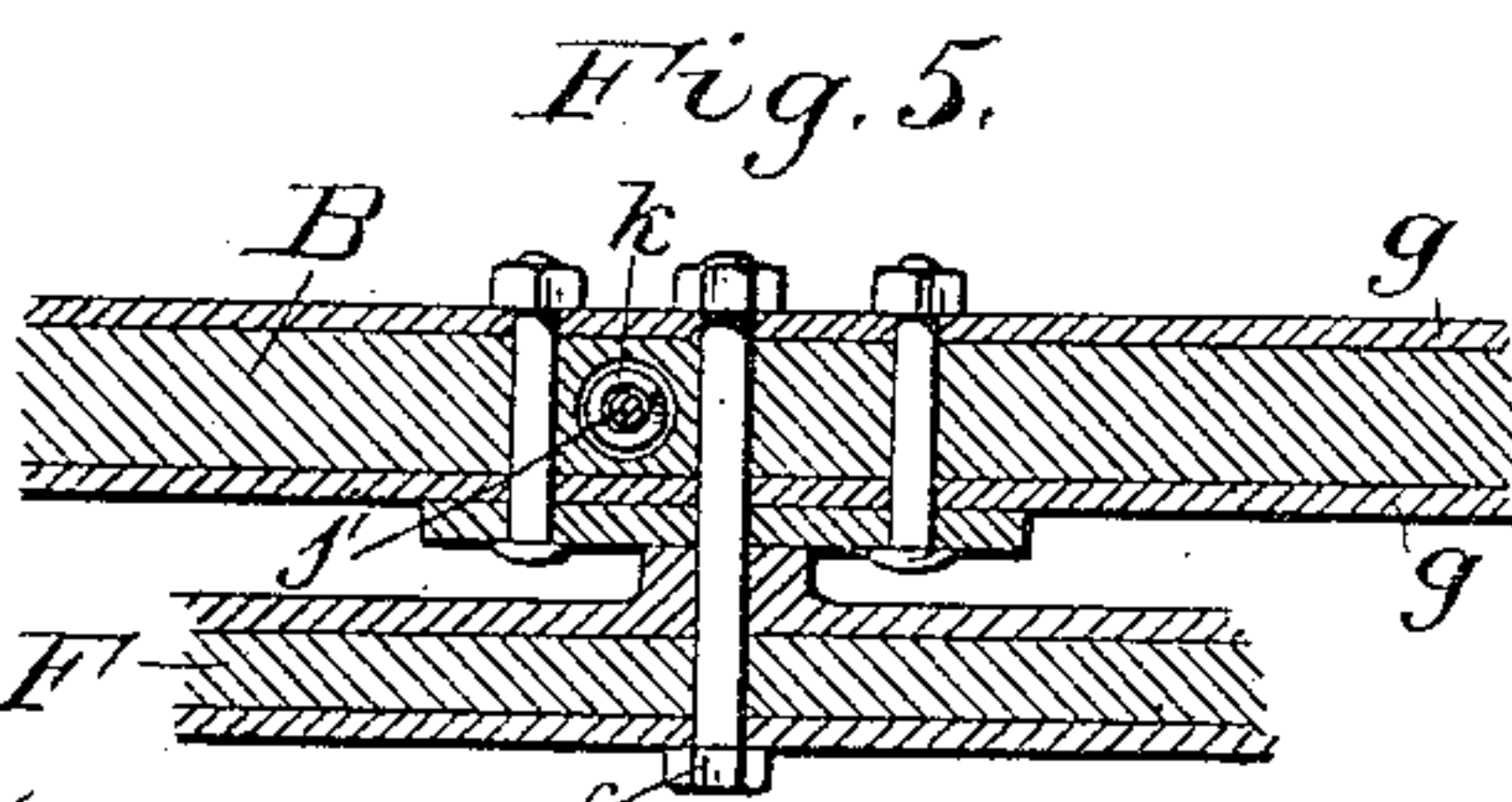
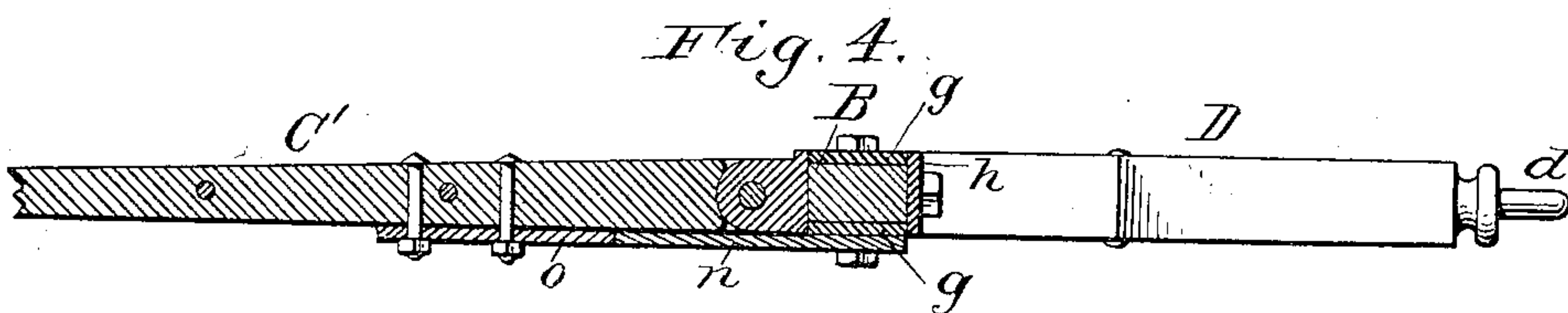
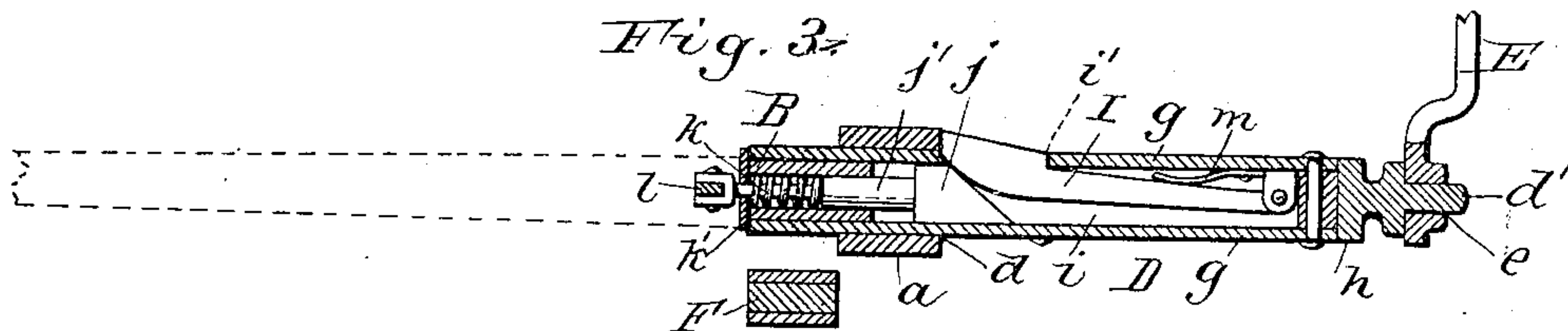
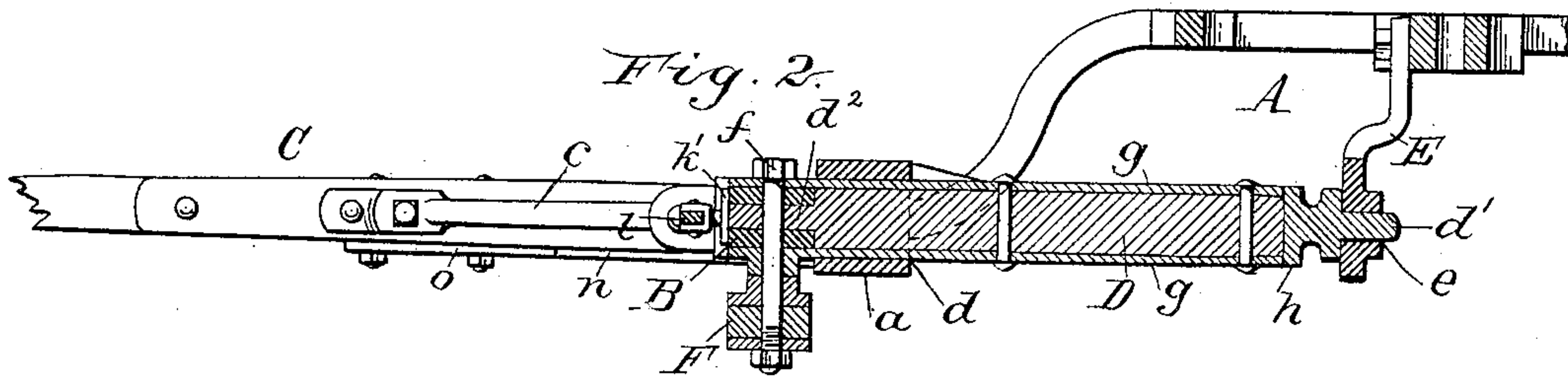
2 Sheets—Sheet 2.

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Geo. J. Buchheit Jr. Witnesses.

L. G. Mowry Inventor.
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UNITED STATES PATENT OFFICE.

LEVI G. MOWRY, OF BUFFALO, NEW YORK.

DETACHABLE DRAFT-FRAME FOR VEHICLES.

SPECIFICATION forming part of Letters Patent No. 381,431, dated April 17, 1888.

Application filed January 23, 1888. Serial No. 261,568. (No model.)

To all whom it may concern:

Be it known that I, LEVI G. MOWRY, of the city of Buffalo, in the county of Erie and State of New York, have invented new and useful
5 Improvements in Detachable Draft-Frames for Portable Fire-Engines and other Vehicles, of which the following is a specification.

This invention relates to a detachable draft-frame which is more especially designed for
10 use in connection with portable fire-engines and hook-and-ladder trucks. In localities or districts where the streets have considerable grade, and especially in the winter season, when the condition of the streets renders the draft of
15 heavy wheeled vehicles difficult, it is necessary to attach three draft-animals to the engine or truck.

The object of my invention is to construct a strong, light, and durable frame to which the
20 whiffletrees and the thills for the center animal are hung, and which can be readily attached to the engine or truck, or be removed therefrom.

The invention consists of the improvements
25 which will be hereinafter fully described, and pointed out in the claims.

In the accompanying drawings, consisting of two sheets, Figure 1 is a top plan view of my improved draft-frame and the front portion of the frame of a portable fire-engine. Fig. 2 is
30 a vertical longitudinal section in line *x x*, Fig. 1. Fig. 3 is a similar view in line *y y*, Fig. 1. Fig. 4 is a vertical longitudinal section of one of the poles of the thills and the draft-frame in line *z z*, Fig. 1. Fig. 5 is a vertical cross-section in line *w w*, Fig. 1. Fig. 6 is a fragmentary horizontal section of the draft-frame.

Like letters of reference refer to like parts in the several figures.

40 A represents the front portion of the frame of a portable engine, which may be of any ordinary construction.

B represents the detachable draft-frame, to the front side of which the poles C C' of the
45 thills are independently pivoted in any suitable manner, so that the center animal can enter between the thills from the sides thereof, without backing into the same, by raising one of the thill-poles. The poles C C' are preferably
50 ably braced by diagonal rods *c c'*, secured with

their front ends to the inner sides of the thill-poles and pivoted with their rear ends to the thill-frame B in line with the pivots of the thill-poles. The whiffletrees, which are pivoted to the under side of the frame B, are of
55 the usual draft-equalizing type, and are shown by dotted lines in Fig. 1. The frame B is provided on its rear side with a short tongue or pole, D, arranged at right angles thereto, and which passes through an opening or socket, *d*, formed in the front cross-piece, *a*, of the engine-frame. The tongue D is provided at its rear end with a stud or pin, *d'*, which engages in an opening or socket, *e*, formed at the lower end of a depending arm, E, secured to
65 the adjacent part of the engine-frame. The main portion or body of the frame B and tongue D is constructed of wood, and the tongue D is formed at its front end with a tenon, *d''*, which fits in a mortise formed in the frame B, 70 and is secured therein by a vertical bolt, *f*, which also serves as a support for the main frame F of the whiffletrees, as clearly shown in Fig. 2.

g g represent metallic re-enforcing plates secured, respectively, to the upper and lower sides of the frame B and tongue D, and *h* is a metallic re-enforcing strap extending around the edge of the frame B and tongue D and secured thereto by bolts or rivets. These re-en-
80 forcing plates and straps stiffen and strengthen the frame and its tongue.

I represents a spring-catch attached to the tongue D, and whereby the latter is detachably secured in place in the sockets or openings *d* and *e*. The catch I is arranged in a recess, *i*, formed in the tongue D, and is pivoted at its rear end between lugs or ears formed on the upper re-enforcing plate, *g*. The front end of this catch projects through an opening, *i'*,
90 formed in the top plate, *g*, and bears with its front end against the rear side of the cross-piece *a*, when the tongue is attached to the engine-frame.

j is a wedge sliding in the recess *i* and adapted to bear against the lower curved or inclined front end of the catch I, so as to cause the front portion of the catch to project through the opening *i'* and hold the same against the rear side of the cross-piece *a*. The wedge *j* is
105

provided with a horizontal stem or rod, *j'*, which is guided in a longitudinal opening formed in the tongue D.

k is a spiral spring surrounding the stem of the wedge and interposed between a plate, *k'*, secured to the end of the opening, and a shoulder or offset formed on the stem. This spring forces the stem *j'* inwardly and causes the wedge *j* to raise the front end of the catch I.

l is a lever pivoted to the front side of the frame B and attached at one end to the stem of the wedge *j*. Upon pressing the free arm of the lever inwardly toward the frame B the wedge *j* will be withdrawn from the catch and allow its outer end to drop into the recess *i* and clear the cross-piece *a*, in which position of the catch the tongue D can be withdrawn from its sockets in the engine-frame, or be inserted into the same. A flat spring, *m*, is preferably interposed between the upper side of the catch I and the top plate, *g*, to facilitate the retraction of the catch into its recess when the wedge is moved forwardly. The lever *l* is so arranged that it can be operated by the knee, so that the frame can be attached and removed by a single person. The frame is attached to the engine by simply passing its tongue through the sockets *d* and *e*, when the catch will automatically lock the tongue in position.

The catch I is provided on its upper side with a nose or shoulder which bears against the rear edge of the opening *i'* when the tongue D is in position, and thereby relieves the pivot of the catch from strain.

It is obvious that my improved catch may be applied to an ordinary tongue or pole, if desired.

n, Figs. 2 and 4, represents horizontal plates secured to the under side of the draft-frame B at opposite ends thereof, and *o* represents similar plates secured to the adjacent under sides of the thill-poles C C', so that when the latter are in a horizontal position the rear ends of the plates *n* will abut against the adjacent ends of the plates *o* and support the poles in this position.

I claim as my invention—

1. The combination, with the frame of a

portable fire-engine or other vehicle, of a draft-frame detachably secured to said frame, a pair of thills pivoted to said draft-frame, and whiffletrees, also attached to said draft-frame, substantially as set forth.

2. The combination, with the frame of a portable fire-engine or other vehicle provided with a horizontal opening or socket, of a draft-frame provided with a tongue detachably secured in said socket, a pair of thill-poles pivoted to said draft-frame independently of each other, and a set of whiffletrees, also attached to said draft-frame, substantially as set forth.

3. The combination, with the frame A, provided with a cross-bar, *a*, having a socket or opening, *d*, and a depending arm, E, having a socket or opening, *e*, of a draft-frame, B, provided with a tongue arranged in said sockets, a spring-catch, whereby the tongue is removably secured in its sockets, and a pair of thills pivoted to the draft-frame B, substantially as set forth.

4. The combination, with the frame A, having a cross-bar, *a*, and sockets *d* *e*, and the draft-frame B, having a tongue, D, arranged in said sockets, of a catch pivoted to said tongue and adapted to bear against the cross-bar *a*, a wedge, *j*, whereby said catch is operated, a spiral spring, *k*, whereby said wedge is held against said catch, and a lever, whereby said wedge is retracted from the catch, substantially as set forth.

5. The combination, with the draft-frame B and tongue D, of re-enforcing plates *g* *g*, secured to opposite sides of the frame B and its tongue, and a re-enforcing strap, *h*, secured to the edges of said parts, substantially as set forth.

6. The combination, with the draft-frame B, provided with plates *n*, of the thill-poles C C', provided with plates *o*, abutting against the plates *n*, substantially as set forth.

Witness my hand this 21st day of January 1888.

LEVI G. MOWRY.

Witnesses:

CARL F. GEYER,
FRED. C. GEYER.