

**No. 657,993.**

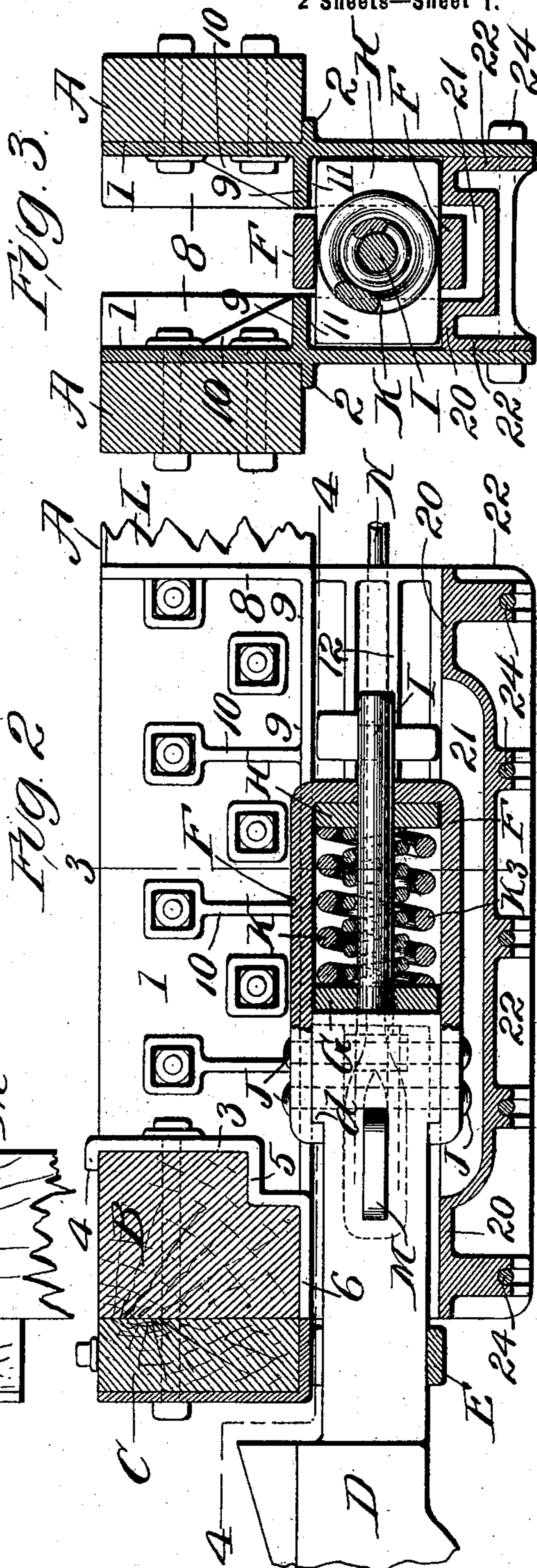
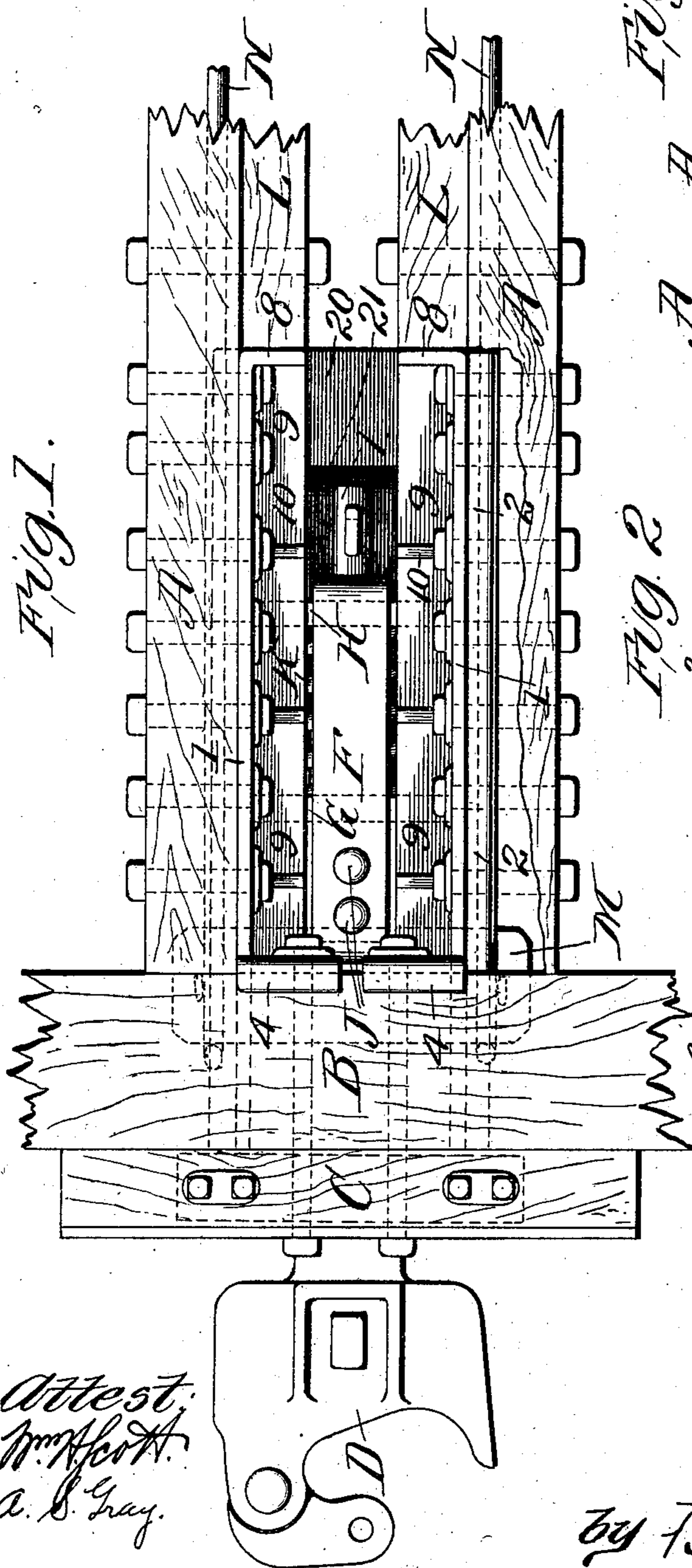
**Patented Sept. 18, 1900.**

**P. SOUTHER.**  
**DRAFT RIGGING.**

(Application filed Jan. 24, 1900.)

(No Model.)

**2 Sheets—Sheet 1.**



Attest.  
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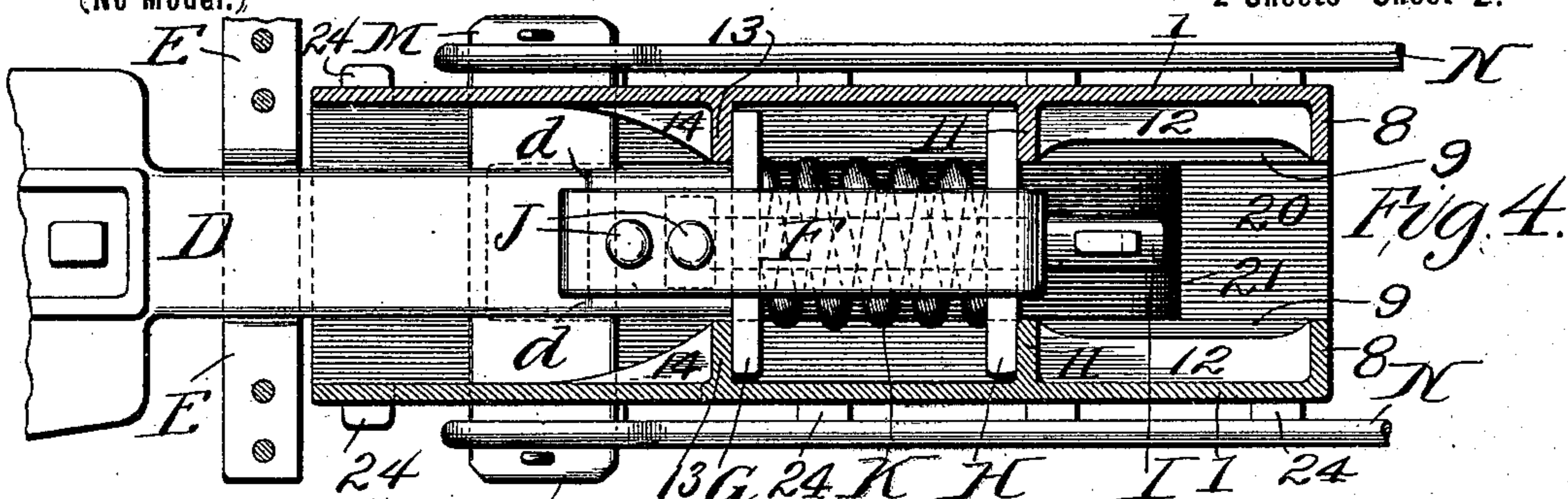


Fig. 5.

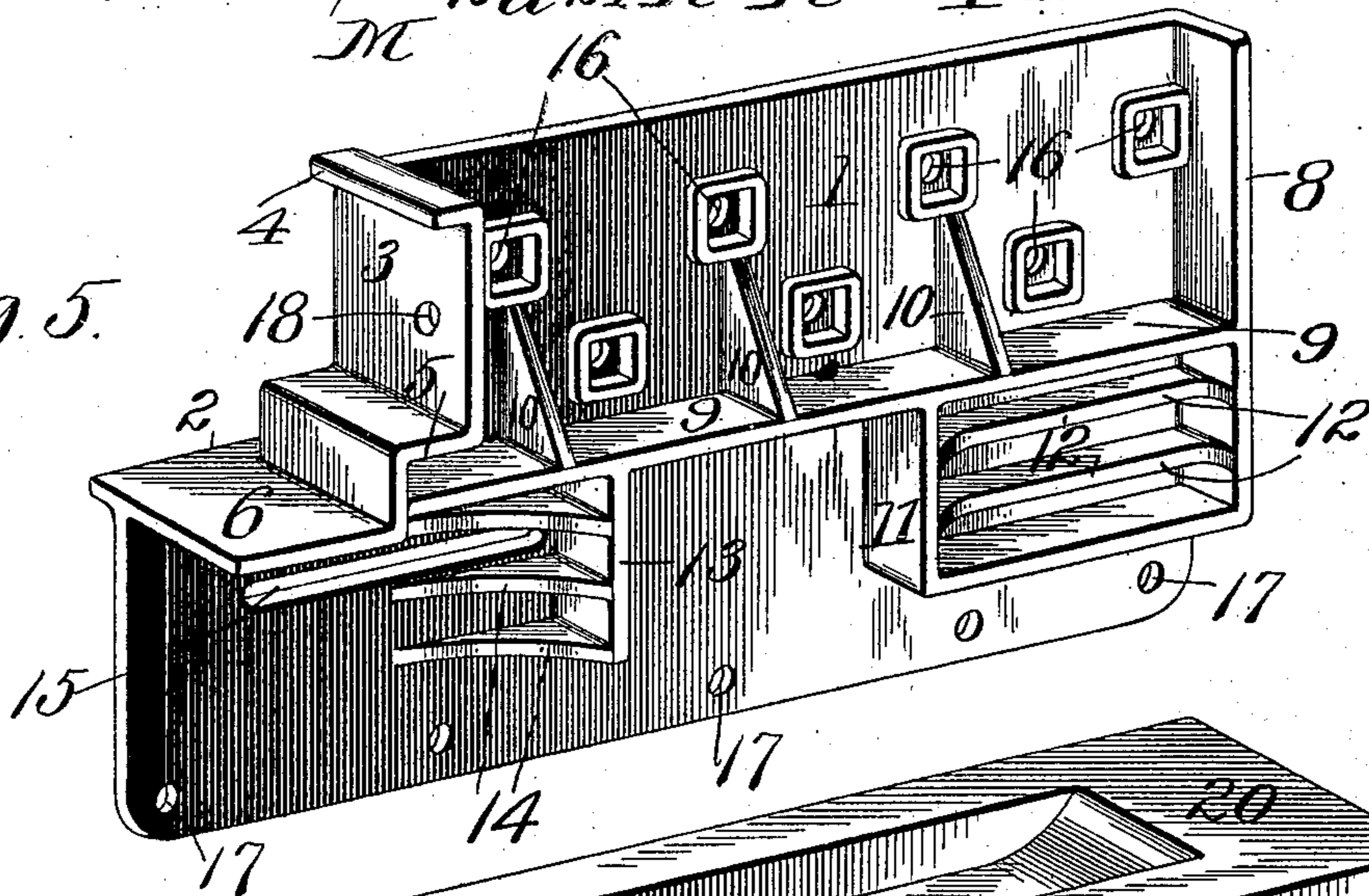
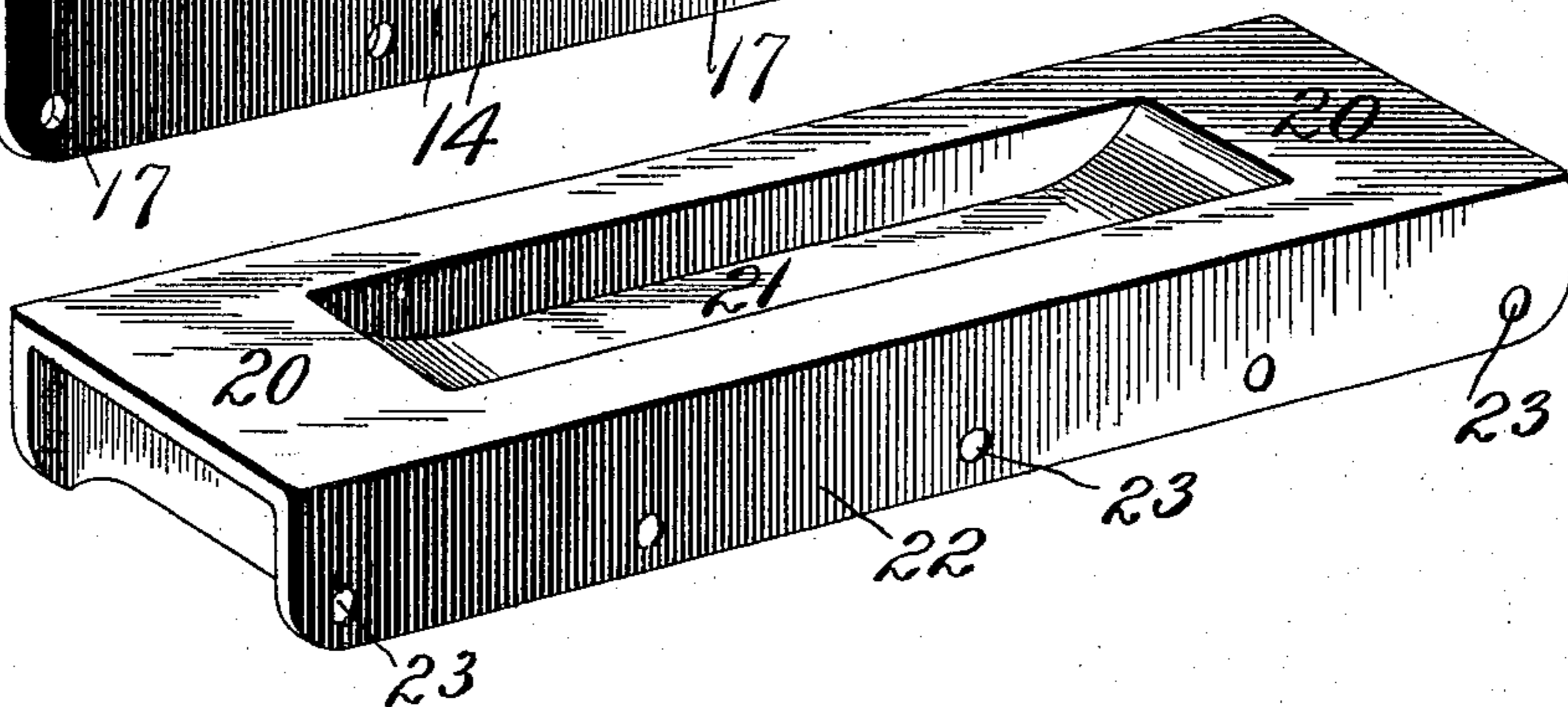


Fig. 6.



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# UNITED STATES PATENT OFFICE.

PETER SOUTHER, OF PINE BLUFF, ARKANSAS.

## DRAFT-RIGGING.

SPECIFICATION forming part of Letters Patent No. 657,993, dated September 18, 1900.

Application filed January 24, 1900. Serial No. 2,582. (No model.)

*To all whom it may concern:*

Be it known that I, PETER SOUTHER, a citizen of the United States, residing at Pine Bluff, Jefferson county, Arkansas, have invented a certain new and useful Improvement in Draft-Rigging, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a top plan view of my improved draft-rigging. Fig. 2 is a longitudinal vertical sectional view through the same. Fig. 3 is a cross-sectional view on line 3 3, Fig. 1. Fig. 4 is a horizontal sectional view on line 4 4, Fig. 3. Fig. 5 is a detail view of one of the side frame-plates, and Fig. 6 is a detail view of the bottom frame-plate.

This invention relates to a new and useful improvement in draft-rigging for railway-cars, particularly freight-cars, one object being to do away with the wooden draft-timbers usually employed in freight-car draft-rigging.

Another object is to enable the draft-rods of a continuous draft-rigging to be coupled closer to the draw-bar, thus obviating the liability of the cross-key to bend when the rods are under strain.

With these objects in view the invention consists in the construction, arrangement, and combination of the several parts of my device, all as will hereinafter be described and afterward pointed out in the claims.

In the drawings, A indicates the draft-sills; B, the end sill; C, the dead-wood; D, the coupler, and E the carry-arm, such parts being of usual construction. The dead-wood is preferably faced with an angle-iron L-shaped in cross-section, as shown.

My improvement consists in the provision of frame-plates constituting a housing for the rigging, which frame-plates are so constructed as to be received by the sills of the cars as generally constructed.

My framing consists, essentially, of two side plates and a bottom plate, said side plates being attached to and supported by the draft and end sills and the bottom plate being arranged between the lower portions of the side plates. In Fig. 5 I have shown one

of these side plates, which consists of a body portion 1, whose upper edge is designed to be flush with the top of its supporting draft-sill, from the outer face of which plate extends a rib 2, (see Fig. 3,) affording a shoulder which fits under the draft-sill.

3 indicates a vertical front wall which is designed to bear against the inner face of the end sill, said front wall being provided with a forwardly-extending flange 4 at its upper edge, which rests upon the top face of said end sill, as shown in Fig. 2. This front wall 3 is recessed or formed with a stepped portion at its lower edge, as at 5, for the purpose of permitting the forward play of the yoke, (the end sill being cut away to receive this stepped portion,) while a horizontal flange 6 extends in advance of said stepped portion under the end sill. The rear end of the plate is formed with an inwardly-extending vertical flange 8, which extends nearly to the bottom of the plate.

9 indicates a horizontal flange arranged substantially on the plane of the flange 6 and extending, preferably, throughout the length of the plate and connected to the vertical flange 8. Flange 9 is stiffened by strengthening-webs 10, arranged thereabove.

11 indicates a vertical flange forming an abutting shoulder arranged beneath the flange 9, said shoulder being strengthened by parallel webs 12, which preferably extend to the flange 8.

13 indicates a vertical flange arranged beneath flange 9 and in advance of the flange 11, said flange 13 affording an abutting shoulder and strengthened by webs 14, arranged in front thereof.

An elongated opening 15 is provided in the forward portion of the plate 1 for the passage of a cross-key in the event that the rigging is of the continuous type. A series of bolt-openings 16 are arranged in the plate 1, above the flange 9, for the passage of securing-bolts, said bolt-openings being preferably surrounded on the inner face of the plate by squared bosses, offering countersunk seats for bolt-heads to prevent said bolts from turning when nuts are applied on their threaded ends to impinge against the outer faces of the draft-sills and secure the plate in position. A series of bolt-openings 17 are arranged along

the lower edge of the plate. These plates are made in rights and lefts and are secured opposite each other against the inner faces of the draft and end sills. Bolt-openings 18 are preferably provided through the vertical walls 3 for the accommodation of securing-bolts which pass through the end sills, and which securing-bolts may also be employed to hold the dead-wood in position.

20 indicates the bottom plate, which, as shown in Fig. 6, is provided with a recess or sunken portion 21 in its upper face to accommodate the movement of the yoke. This bottom plate has two vertical side flanges 22, designed to fit against the inner face of the lower edges of the side plate 1, said flanges being formed with openings 23, designed to register with the openings 17 of the side plates for the passage of through-bolts 24, which tie or clamp the plate 1 against the bottom plate. The bottom face of this bottom plate is provided with transverse strengthening ribs or webs, affording seats for the bolts 24.

The draw-bar D, which may be of the usual construction, has the ordinary shank formed with shoulders *d* at its rear end, against which are fitted the inturned flanges of a yoke F.

G indicates a follower-plate passing through the yoke and having its ends extending laterally beyond the shank of the draw-bar, so as to rest against the abutting shoulder afforded by the vertical flange 13.

H indicates a follower-plate, which for the purpose of distinction may be designated the "rear" follower-plate, which extends through the yoke and has its ends project laterally, so as to rest against the vertical flange 11.

I indicates the tail-pin of the coupler, and J the securing bolts or rivets for attaching the yoke to the draw-bar shank, one of said bolts passing through the head of the tail-pin.

K indicates the ordinary draft-springs, interposed between follower-plates G and H and, as usual, surrounding the tail-pin.

From the above construction it will be noted that any pressure which is exerted against the draw-bar to force the same inwardly will be initially absorbed by the draft-springs bearing against the rear follower-plate H, which is held in a stationary position by the flanges 11, the associate or connected parts of the coupler moving inwardly under these conditions. Any outward pull exerted on the draw-bar will be initially absorbed by the draft-springs; but in this movement the forward follower-plate G, resting against the flanges 13, will remain stationary.

The follower-plates G and H in addition to having squared bearings against the rear end of the draw-bar shank and the connecting member of the yoke, respectively, are guided in their movements by the flange 9, the upper face of the bottom plate, and the side plates 1, the bearing-surfaces against these parts being preferably of such dimen-

sions that tilting or canting of the followers is prevented, they being guided straight in their movements. A snug fit of the follower-plates in their receiving-pockets is therefore desirable, though not absolutely necessary, as the draft-springs will hold them square against their associate parts. The construction above described is advantageous, in that it dispenses with the use of draft-timbers and offers metal wearing-surfaces to all the moving parts of the draft-rigging. Thus there are no wooden timbers to be chafed and worn away.

The housing for the rigging consists of three pieces, two side plates and a bottom plate, and in the event of accident or breakage the rigging and its housing may be quickly dismantled and the parts thereof replaced quickly and with little trouble. The arrangement of the follower-plates is such that all shocks and jars incident to coupling and uncoupling, as when the cars are switched, is taken up or absorbed by the draft-springs.

To further strengthen the housing, I may arrange blocks L behind the inner flanges 8, as is common, said blocks extending to the body-transom, or a construction preferable to the use of the blocks would be to shoulder the draft-sills A and have the side frames about against said shoulders.

Another advantage flowing from the use of my improved rigging is the saving of the length of the cross-key M, employed in what is known as "continuous" draft-rigging. In ordinary constructions this cross-key is of sufficient length to pass through the draft-timbers on each side of the draw-bar shank, and the continuous rods N, secured to the ends thereof, have such a leverage that the cross-key frequently bends. Further than that the slot in the draft-timbers for the passage of this key tends to weaken said timbers, and at the same time the metal key coming in contact with the wood chafes and wears it away. The side plates in my construction taking the place of the draft-timbers effects a saving in the length of the cross-key of about nine inches—four and one-half inches on each side—and the draft-rods N being short-coupled greatly decreases the liability of the cross-key to bend when the rods are under strain. Further than this the rods can be attached to the ends of the cross-keys close to the sides of the plates, as care does not have to be taken to prevent the rods from chafing, as is done where wooden draft-timbers are employed.

I am aware that minor changes in the arrangement, construction, and combination of several parts of my device can be made and substituted for those herein shown and described without in the least departing from the nature and principle of my invention.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination with draft and end  
sills, of two side plates 1, having in their up-  
per portion bolt-holes for horizontal bolts  
passing through the draft-sills, and having  
5 lower portions depending below the sills, said  
plates being formed with outer ribs 2, engag-  
ing the bottoms of the sills, opposite inwardly-  
projecting horizontal flanges 9, the front wall  
3 secured to the end sill and having top and  
10 bottom horizontal flanges engaging respec-  
tively the top and bottom of the end sill, and  
vertical flanges 11 and 13 depending from the  
horizontal flanges 9, and a bottom plate se-  
cured between said side plates, substantially  
15 as described.

2. The herein-described housing-plate for  
draft-riggings, comprising the vertical side  
having bolt-holes in its upper portion, the  
outer, horizontal rib 2, the inner horizontal  
20 flange 9 and end horizontal flange 6; interme-  
diate the upper and lower edges of the plate,  
the vertical end wall 3 having the top hori-  
zontal flange 4, and the inner vertical flanges  
11 and 13 depending from the horizontal flange  
25 9, substantially as described.

3. The combination with the end and draft  
sills, of side plates secured to said end and  
draft sills, a bottom plate between said side  
plates, a draw-bar, a yoke, follower-plates ex-  
30 tending laterally behind said yoke and coop-  
erating with shoulders on the side plates, a  
draft-spring interposed between said follower-  
plates, a cross-key carried by the draw-bar  
and projecting through slots in the side plates,  
35 and draft-rods arranged on the ends of said

cross-key close to the side plates; substan-  
tially as described.

4. The herein-described framing-plate for  
draft-gear housing, comprising a body portion  
1, a horizontal rib or flange 2 on its outer face, 40  
a front wall 3, having a flange 4 at its top, a  
recessed portion 5 in said front wall, an in-  
wardly-extending horizontal flange 9, vertical  
flanges 11 and 13, and strengthening-webs for  
said horizontal flange 9, and said vertical 45  
flanges 11 and 13; substantially as described.

5. The combination with draft and end sills,  
of side plates secured on the inner sides of the  
draft-sills and extending below the same, said  
side plates being provided with outside hori- 50  
zontal ribs 2 engaging the under sides of the  
draft-sills, horizontal flanges 6 engaging the  
under side of the end sill, vertical front pieces  
3 secured to the end sill, the opposite in-  
wardly - projecting flanges 9, the vertical 55  
flanges 11 and 13 depending from flanges 9, a  
bottom plate secured between said side plates,  
a draw-bar, a yoke, follower-plates extending  
laterally beyond said yoke and cooperating  
with the flanges 11 and 13, said follower- 60  
plates being guided between said flanges 9  
and bottom plate, and a spring between said  
follower-plates, substantially as described.

In testimony whereof I hereunto affix my  
signature, in the presence of two witnesses, 65  
this 17th day of January, 1900.

PETER SOUTHER.

Witnesses:

WM. H. SCOTT,  
A. S. GRAY.