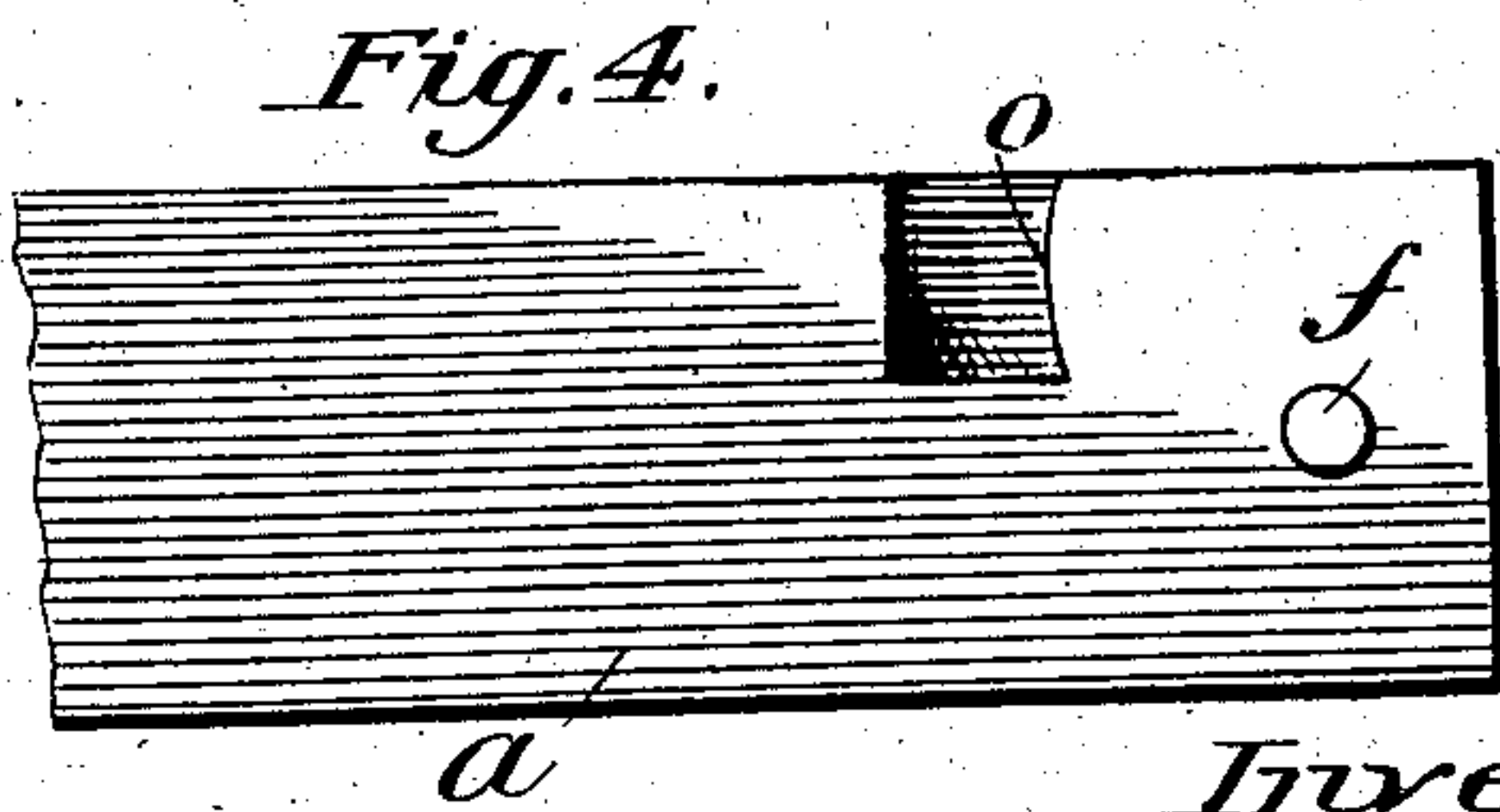
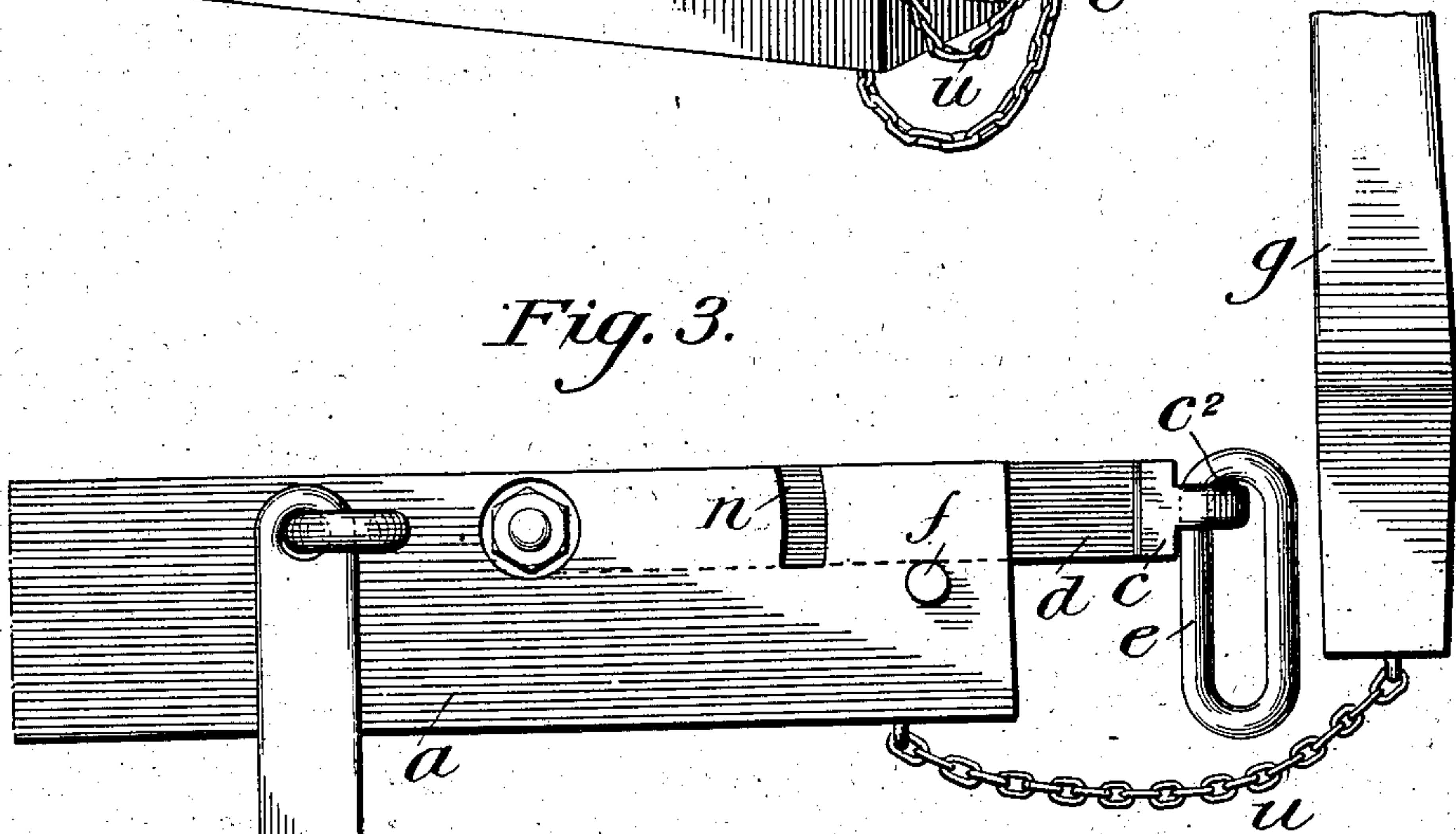
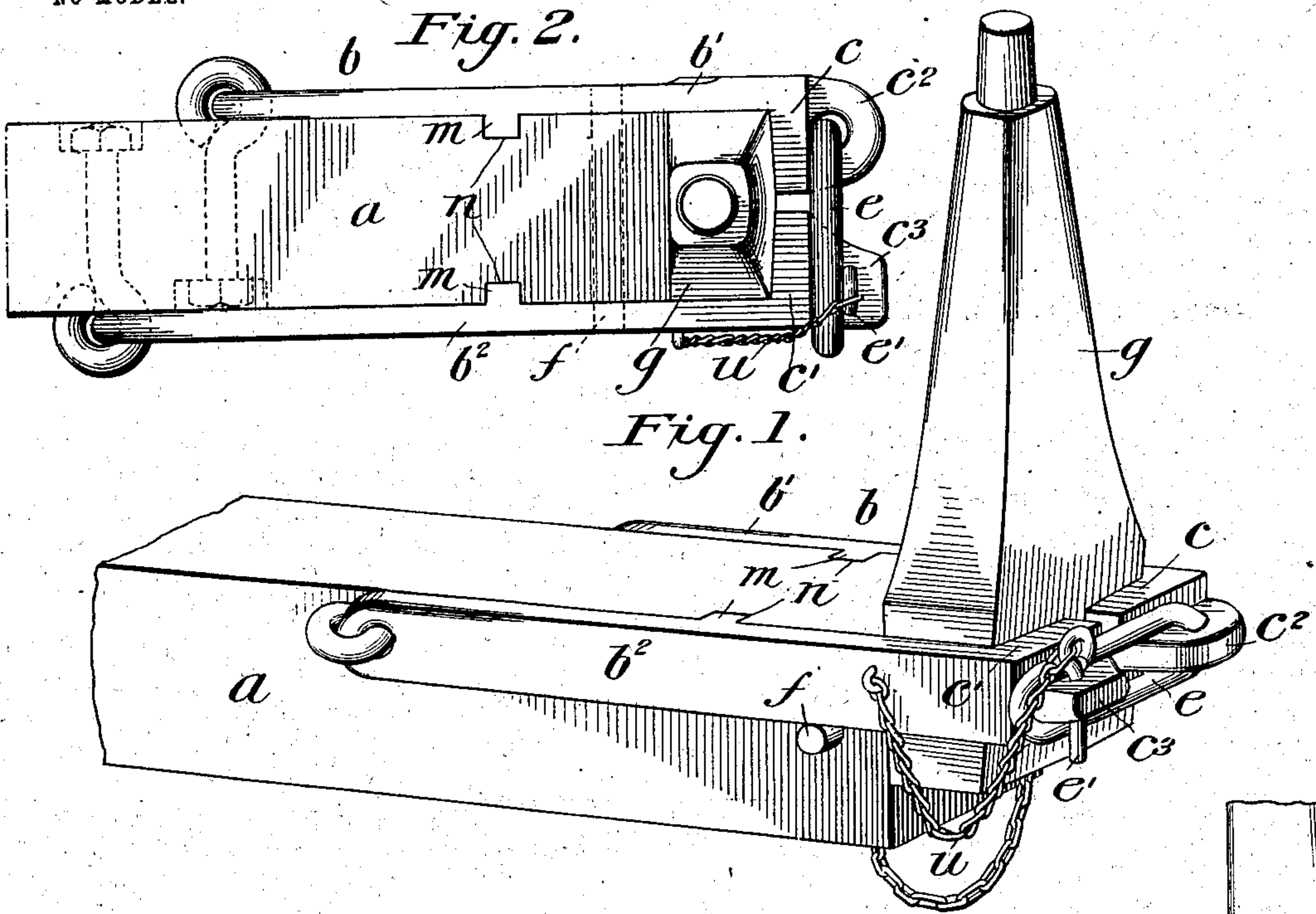


W. T. EDNEY.
STAKE HOLDER FOR RAILWAY CARS.

APPLICATION FILED JAN. 24, 1903.

NO MODEL.



Witnesses:

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UNITED STATES PATENT OFFICE.

WILLIAM THOMAS EDNEY, OF FRANKLIN, VIRGINIA.

STAKE-HOLDER FOR RAILWAY-CARS.

SPECIFICATION forming part of Letters Patent No. 730,242, dated June 9, 1903.

Application filed January 24, 1903. Serial No. 140,334. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM THOMAS EDNEY, of Franklin, in the county of Southampton and State of Virginia, have invented certain new and useful Improvements in Stake-Holders for Railway-Cars, of which the following is a specification.

My invention relates to railway-cars of the flat type usually employed for carrying logs, and particularly to a novel construction of stake-support combined therewith or constituting a part of the same.

One of the primary objects of the invention is to provide a frame designed to be associated with the end of one of the car bolsters or beams and forming therewith a stake-receiving socket which may be shifted to release the stake and when so shifted will occupy a position entirely to one side of the path of movement of the logs which are being unloaded from or loaded onto the car.

Another object of the invention is to provide in a stake-support, including a movable frame connected to one of the car-beams, a construction which will prevent the means employed for connecting the frame to the beam from being subjected to any strain which may be placed upon the stake by the cargo pressing thereupon.

A further object is to provide in a stake-support, including a frame comprising two members movable relative to each other to release the stake and a mechanism for locking the members against such movement, a construction which will avoid or prevent any strain placed upon said members by the pressure of the cargo upon the stake being transmitted to the locking mechanism, whereby the easy manipulation of the same will not be impaired.

Other objects of the invention will appear and the many advantages of the same be appreciated when the invention is better understood.

To effect the ends sought, the invention comprises the construction, combination, and arrangement of component parts to be hereinafter described, and particularly pointed out in the claims.

While the invention is susceptible of some modifications, the accompanying drawings illustrate, and I shall hereinafter describe,

what is now conceived to be the preferred embodiment of the same.

In the drawings, Figure 1 shows in perspective a fragmentary part of a car equipped with my invention. Fig. 2 is a plan view of a part of a cross-beam of a car-platform having the invention applied thereto. Fig. 3 is a side elevation with one of the side frames thrown down and with the inner side presented outwardly. Fig. 4 is a detail view of a modification.

As will be understood by those familiar with railway-cars of the flat type usually employed for transporting logs, upright stakes are associated with the ends of a plurality of the cross-beams to receive the lateral pressure of the cargo piled longitudinally of the car-platform; but in the present drawings the illustration of but one end of one of the beams equipped with my improved stake-support has been deemed necessary to clearly present the latter.

The invention includes generally a frame associated with the end of a beam to form therewith a stake-receiving socket, this frame including two members having movement relative to each other to release the stake and locking mechanism for holding the members against such movement, the parts being combined and arranged as will be hereinafter described. The beam illustrated in the accompanying drawings is designated by the letter *a*, and the frame associated with the end thereof is designated by the letter *b*. In the present embodiment of my invention the latter includes two complementary side frames *b'* *b''*, pivotally connected at their inner ends to the sides of the beam *a*, extending parallel with the latter, with their upper edges substantially flush with the upper face of said beam when the frame is in one position and their outer ends projected beyond the extreme end of the beam and terminating in inwardly-projecting right-angular extensions *c c'*. The extensions *c c'*, which project toward each other, constitute the end of the frame *b* and form one wall of a stake-receiving socket *d*, the other walls of which are formed by the end of the beam *a* and the portions of the vertical walls of the side frames *b' b''* between said extensions *c c'* and said end of the beam.

The particular means for locking the mem-

bers b b' against relative movement illustrated in the accompanying drawings include a link e , pivotally supported in a lug c^3 , projecting from the outer vertical face of the extension c , the free portion of said link engaging a corresponding lug c^3 , projecting outwardly from the extension c' . The free end of the link is held in engagement with the lug c^3 by a headed pin e' , which passes through and is held in an opening extending vertically through the lug c^3 , said free portion of the link being held between the portions of the pin projecting above and below said lug c^3 and the adjacent outer face of the extension c' . Means are preferably provided to support the frame b with the upper edge of the same substantially flush with the upper face of the beam when the frame is to coact with the end of the latter to provide a stake-receiving socket, and the particular means disclosed herein for this purpose comprise shoulders on opposite sides of the beam, upon which the lower edges of the side frames b' b^2 rest, said shoulders being preferably formed by pins f , driven into said beams, having their heads projecting slightly beyond the sides thereof. The frame b , when resting upon said lugs and with the members b' b^2 thereof secured against relative movement, presents with the end of the beam the receiving-socket d , before referred to, which is designed to receive the lower end of the stake g , this end being slightly tapered or wedge-shaped. In placing the stake in position the wedge-shaped end is inserted in the socket d and forced down until it fits tightly between the end of the beam and the inner walls of the extensions c c' . As will be appreciated, the tapering end of the stake facilitates the insertion of the same in the socket and, further, provides for the wear of the contact-faces thereof and the holding-surfaces engaging with the same. To remove the stake from the socket when it is desired to discharge the cargo, the pin e' is removed from the lug c^3 and the free end of the link e disengaged from the latter. The stake is then given a lateral movement or movement transverse in relation to the beam, preferably by engaging the end of a bar carrying an engaging hook with the upper end thereof. In this movement one of the side frames b' b^2 provides a fulcrum for the stake, while the lower end of the latter serves to force upwardly and outwardly the other side frame, thus moving it away from its companion and loosening the grip of the frame b upon the stake, so that said companion side frame may also be thrown outwardly and the stake entirely freed. While this is one method of disengaging the stake from the frame after the members b' b^2 of the latter are uncoupled, various other procedures which suggest themselves may be followed. As will be appreciated in the construction described, any strain placed upon the stake by the pressure of the cargo is not transmitted to the link e and pin e' , nor does the wedg-

ing of the lower end of the stake between the end of the beam a and the extensions c c' of the frame b affect said coupling mechanism in any respect, and as a consequence the free and easy action or manipulation of the same is not impeded. The frame, as soon as the members b b^2 thereof are uncoupled and the stake removed, is intended to drop down below the beam a and swing a distance inwardly from the end of the same into a position entirely out of the path of movement of the logs when the same are being loaded onto or unloaded from the car, and thus the accidental breakage of this frame by the logs falling thereupon or striking against the same is avoided.

In the particular construction illustrated in the accompanying drawings and hereinbefore described, in which shoulders forming temporary supports are provided for the members b' b^2 , the latter must be so connected to the beam a that they may swing both in vertical and horizontal directions. The preferred means for effecting such a connection is illustrated in the accompanying drawings, in which the inner end of each member is provided with an eye engaging with the eye of a bolt passing transversely through the beam and fixedly secured therein. The shank of each bolt preferably extends entirely through the beam and is provided with a threaded end, upon which a nut is mounted, the latter being countersunk in the side of the beam opposite to that from which the eye of said bolt projects. In order to avoid interference of the eyebolts with each other, one of the members b b' is made somewhat longer than the other, and as the bolts engage with the extremity of each one of said bolts is necessarily positioned slightly nearer the end of the beam than the other.

A subsidiary feature of my invention, but one of prime importance, relates to means for relieving the pivotal connections between the members b' b^2 and the beam a from any strain or stress that may be placed upon the angular extensions c c' of said members by the stake. The means for effecting this purpose preferably includes coacting bearing parts on the members b' b^2 and the beam located between the pivotal connections and the extensions c c' . These parts preferably include a shoulder or projection on one of the parts, which moves relative to the other, engaging with a shoulder on the other part. The coacting shoulders may be constituted by a rib or projection on one part engaging the wall of a groove or slot in the other part. In the particular construction disclosed in the drawings the members b' b^2 are shown as provided with ribs m upon their vertical faces contiguous to the side of the beam a , while the latter are provided with grooves n , which receive said ribs and against the inner walls of which the ribs bear. The ribs and grooves may be curved concentrically to the centers upon which the members b' b^2 swing, as shown in the pre-

ferred form of the invention, or only the vertical walls or shoulders *o* of the beam may be curved, as disclosed in Fig. 5.

The coupling-pin *e'*, hereinbefore referred to, may be permanently connected to the beam *a* by a flexible coupling *u*, such as a chain or the like, and a similar coupling is preferably provided for permanently connecting the stake *g* to the beam, so that said parts will not become displaced or lost.

The construction and operation of my invention will be readily understood upon reference to the foregoing description and accompanying drawings, and it will be appreciated that the parts and combinations recited may be varied within a wide range without departing from the spirit of the same.

Having thus described my invention, what is claimed as new, and desired to be secured by Letters Patent, is—

1. The combination with a beam, of a frame pivotally secured thereto to lie in parallelism therewith with the end of the frame coacting with the end of the beam to form a stake-receiving socket, and to occupy a second position at an angle to said beam, substantially as described.

2. The combination with a beam, of a frame pivotally secured thereto to lie in parallelism therewith, with the end of the frame coacting with the end of the beam to form a stake-receiving socket, and to occupy a second position below said beam and a distance inwardly from the end thereof, substantially as described.

3. The combination with a beam, of a frame having two side members each pivoted to the sides of the beam upon horizontal pivots, and an end member coacting with the end of the beam to provide a stake-receiving socket, substantially as described.

4. The combination with a beam, of a frame having side members each freely pivoted to the beam to swing in a vertical plane, and an end member coacting with the end of the beam to provide a stake-receiving socket, substantially as described.

5. The combination with a beam, of a frame including complementary members having movement relative to each other, pivotal connections between the inner ends of said members and the beam, and extensions on the outer ends of the members coacting with the end of the beam to provide a stake-receiving socket, substantially as described.

6. The combination with a beam, of a frame including complementary members having movement relative to each other, pivotal connections between the inner ends of said members and the beam, the outer ends of said members coacting with the beam to provide a stake-receiving socket, and mechanism for coupling the outer ends of the members together operating free of the strain placed upon said members by the stake, substantially as described.

7. The combination with a beam, of a frame

coacting therewith to provide a stake-receiving socket, said frame including complementary members having relative movement, said members having pressure-receiving surfaces arranged parallel to the end of the beam, and a coupling member engaging surfaces on said members disposed at angles to said pressure-receiving surfaces, substantially as described.

8. The combination with a beam, of a frame coacting therewith to provide a stake-receiving socket, said frame including complementary members having relative movement, said members having pressure-receiving surfaces arranged parallel to the end of the beam, a link-coupling member, and lugs projecting from said members coacting with the link, the engaging portions thereof being disposed substantially at right angles to the pressure-receiving surfaces of said members, substantially as described.

9. The combination with a beam, of a frame including complementary members having relative movement, pivotal connections between the inner ends of said members and the beam, coupling mechanism for connecting the outer ends of the beam, and bearing-surfaces coacting with the end of the beam to provide a stake-receiving socket located between said coupling mechanism and said pivotal connections, substantially as described.

10. The combination with a beam, of a frame including complementary members having movement relative to each other, pivotal connections between the inner ends of said members and the beam, coupling mechanism coacting with the outer end of the members, and bearing-surfaces coacting with the end of the beam arranged intermediate of the length of said members, substantially as described.

11. The combination of a beam, of a frame including complementary members having movement relative to each other, said members including side frames pivoted to the beam, and angular extensions coacting with the end of the beam to provide a stake-receiving socket, substantially as described.

12. The combination with a beam, of a frame including complementary members having movement relative to each other, said members including side frames pivoted to the beam, angular extensions coacting with the end of the beam to provide a stake-receiving socket, and coupling mechanism working between said extensions, substantially as described.

13. The combination with a beam, of a frame including complementary members having movement relative to each other, said members including side frames pivoted to the beam, angular extensions coacting with the end of the beam to provide a stake-receiving socket, and a coupling-link connected to one of said members having a free end detachably engaging the other member, substantially as described.

14. The combination with a beam, of a frame including complementary members having

- movement relative to each other, said members including side frames pivoted to the beam, angular extensions coacting with the end of the beam to provide a stake-receiving socket, a coupling-link connected to one of said members having a free end detachably engaging the other member, and means for retaining said free end in engagement, substantially as described.
15. The combination with a beam, of a frame including complementary members having movement relative to each other, said members including side frames pivoted to the beam, angular extensions coacting with the end of the beam to provide a stake-receiving socket, a coupling-link connected to one of said members having a free end detachably engaging the other member, and a removable member for retaining the free end of the link in engagement, substantially as described.
16. The combination with a beam, of a frame including complementary members having movement relative to each other, said members including side frames pivoted to the beam, angular extensions coacting with the end of the beam to provide a stake-receiving socket, a lug carried by each of said extensions, and a coupling member pivoted to one of said lugs and detachably engaging the other, substantially as described.
17. The combination with a beam, of a frame including complementary members having movement relative to each other, said members including side frames pivoted to the beam, and angular extensions coacting with the end of the beam to provide a stake-receiving socket, a lug carried by each of said extensions, and a link forming a coupling member pivoted to one of said lugs and detachably engaging the other, substantially as described.
18. The combination with a beam, of a frame including complementary members having movement relative to each other, said members including side frames pivoted to the beam, angular extensions coacting with the end of the beam to provide a stake-receiving socket, a lug carried by each of said extensions having a vertical opening through the same, a link pivoted in the opening in one of said lugs having a free end for detachably engaging the other lug, and a pin for retaining the said free end in engagement removably held in the opening in said second lug, substantially as described.
19. The combination with a beam, of a frame including complementary side frames arranged parallel to the sides of the beam pivoted at their inner ends thereto and having their outer ends projected beyond the end of the beam and provided with inwardly-projected extensions, and means for coupling the latter against movement relative to each other, substantially as described.
20. The combination with a beam, of a temporary support on the side thereof, a frame comprising complementary members having

relative movement, one of which members is designed to rest upon said support, said members having angularly-projecting extensions at their outer ends coacting with the end of the beam, and a connection between the inner end of said member which rests upon said temporary support constructed to permit said member to swing in two directions, substantially as described.

21. The combination with a beam, of temporary supports on the sides thereof, a frame comprising complementary members having relative movement, designed to rest upon said supports and having angularly-projecting extensions at their outer ends coacting with the end of the beam, and a connection between the inner end of each of said members and the beam constructed to permit said members to swing in two planes, substantially as described.

22. The combination with a beam, of temporary supports on the sides thereof, a frame comprising complementary members having relative movement designed to rest upon said supports and having angularly-projecting extensions at their outer ends coacting with the end of the beam, and a connection between the inner end of each of said members and the beam constructed to permit said members to swing in two planes at right angles to each other, substantially as described.

23. The combination with a beam, of temporary supports on the sides thereof, a frame comprising complementary members having relative movement designed to rest upon said supports and having angularly-projecting extensions at their outer ends coacting with the end of the beam, and a connection between the inner end of each of said members and the beam constructed to permit said members to swing outwardly and downwardly, substantially as described.

24. The combination with a beam, of temporary supports on the sides thereof, a frame comprising complementary members having relative movement designed to rest upon said supports and having angularly-projecting extensions at their outer ends coacting with the end of the beam, and a connection between the inner end of each of said members and the beam constructed to permit said members to swing outwardly and downwardly, said connection including horizontally-disposed eyes projecting from the beam engaging the ends of said members, substantially as described.

25. The combination with a beam, of temporary supports on the sides thereof, a frame comprising complementary members having relative movement designed to rest upon said supports and having angularly-projecting extensions at their outer ends coacting with the end of the beam, and a connection between the inner end of each of said members and the beam constructed to permit said members to swing outwardly and downwardly, said connection including eyebolts having shanks ex-

tending transversely of the beam, one of said bolts being arranged in advance of the other, substantially as described.

26. The combination with a beam, of a frame including complementary members movable relative to each other having extensions coacting with the end of the beam to form a stake-receiving socket, pivotal connections between the ends of said members and the beam, and means for relieving said connections from the strain placed on said extensions, substantially as described.

27. The combination with a beam, of a frame including complementary members movable relative to each other having extensions coacting with the end of the beam to form a stake-receiving socket, pivotal connections between the ends of said members and the beam, and means interposed between said connections and extensions for relieving the former from the strain placed on the latter, substantially as described.

28. The combination with a beam, of a frame including complementary members movable relative to each other having extensions coacting with the end of the beam to form a stake-receiving socket, pivotal connections between the ends of said members and the beam, and means for relieving said connections from the strain placed on said extensions, said means including coacting shoulders on the beam and members, substantially as described.

29. The combination with a beam, of a frame including complementary members movable relative to each other having extensions coacting with the end of the beam to form a stake-receiving socket, pivotal connections between the ends of said members and the beam, and means for relieving said connections from the strain placed on said extensions, said means including ribs projecting from the side frames and shoulders on the beam coacting with the same, substantially as described.

30. The combination with a beam, of a frame including complementary members movable relative to each other having extensions coacting with the end of the beam to form a stake-receiving socket, pivotal connections between the ends of said members and the beam, and means for relieving said connections from the strain placed on said extensions, said means including ribs on the inner faces of said members and grooves in the adjacent sides of the beam, the walls of which coact with said ribs, substantially as described.

31. The combination with a beam, of a frame having an end coacting with the end of the beam to provide a stake-receiving socket, a pivotal connection between said frame and the beam, and means for relieving said connection from the strain placed on the end of the frame, substantially as described.

32. The combination with the beam, of a frame including complementary members having movement relative to each other provided with end extensions having vertically-

arranged bearing-faces, connections between the members and frame constructed to permit said members to swing in vertical planes, and temporary rests for said members arranged on the beam, whereby fulcrums will be provided for the stake when the same is tilted to lift one of said members, substantially as described.

33. The combination with the beam, of a frame including complementary members having movement relative to each other provided with end extensions having vertically-arranged bearing-faces, connections between the members and frame constructed to permit said members to swing in vertical planes, and temporary rests for said members arranged on the beam, whereby fulcrums will be provided for the stake when the same is tilted to lift one of said members, said rests comprising abutments on the sides of the beam, substantially as described.

34. The combination with the beam, of a frame including complementary members having movement relative to each other provided with end extensions having vertically-arranged bearing-faces, connections between the members and frame constructed to permit said members to swing in vertical planes, and temporary rests for said members arranged on the beam, whereby fulcrums will be provided for the stake when the same is tilted to lift one of said members, said rests comprising pins extending transversely of the beam having their heads projecting beyond the sides of the same, substantially as described.

35. The combination with the beam, of a frame including complementary members having movement relative to each other provided with end extensions having vertically-arranged bearing-faces, connection between the members and frame constructed to permit said members to swing in horizontal and vertical planes, and temporary rests for said members arranged on the beam, whereby fulcrums will be provided for the stake when the same is tilted to lift one of said members, said rests comprising pins extending transversely of the beam having their heads projected beyond the sides of the same coacting with the frames intermediate of their ends, substantially as described.

36. The combination with a car member, of a frame including complementary members having movement relative to each other, pivotal connections between the said complementary members and the car member, and extensions on the outer ends of the complementary members coacting with the car member to provide a stake-receiving socket, substantially as described.

37. The combination with a car-platform member, of a frame coacting therewith to provide a stake-receiving socket, said frame including complementary members having relative movement, the latter members having pressure-receiving surfaces arranged parallel to the car-platform member, and a coupling

member engaging surfaces of said complementary members at angles to said pressure-receiving surfaces, substantially as described.

38. The combination with a car, of a stake-
5 supporting frame associated therewith, said frame comprising two complementary members, each of said members comprising a side frame for embracing the side of the stake to be held, an end frame extending at right
10 angles to the side frame for engaging the end of the stake to be held, a pivotal connection between each side frame and the car, a lug projecting outwardly from each angular ex-

tension, and a coupling member pivotally connected to one of said lugs, and detachably
engaging the other, substantially as described. 15

In testimony whereof I have hereunto signed my name, in the presence of two attesting witnesses, at Franklin, in the county of Southampton and State of Virginia, this 16th
20 day of January, 1903.

WILLIAM THOMAS EDNEY.

Witnesses:

W. J. M. HALLAM,
R. H. COBB, Jr.