

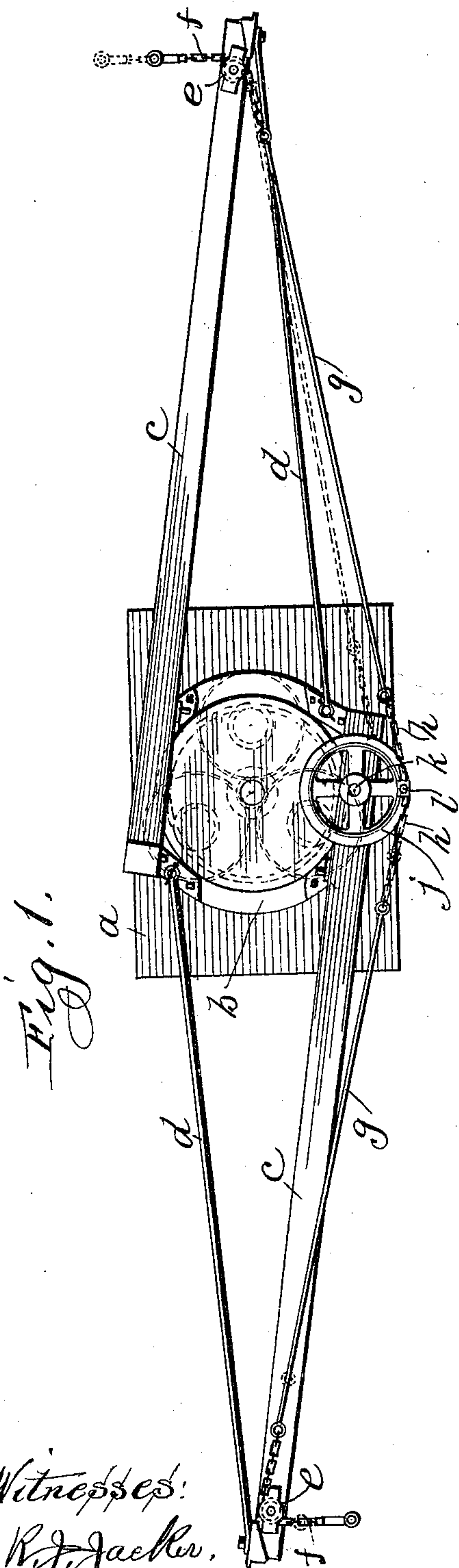
No. 684,772.

Patented Oct. 22, 1901.

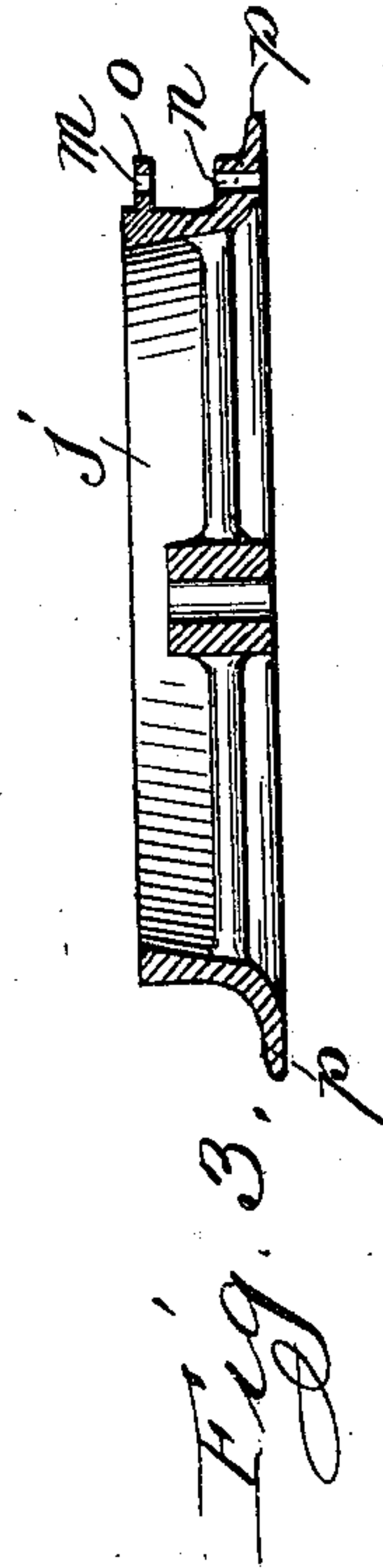
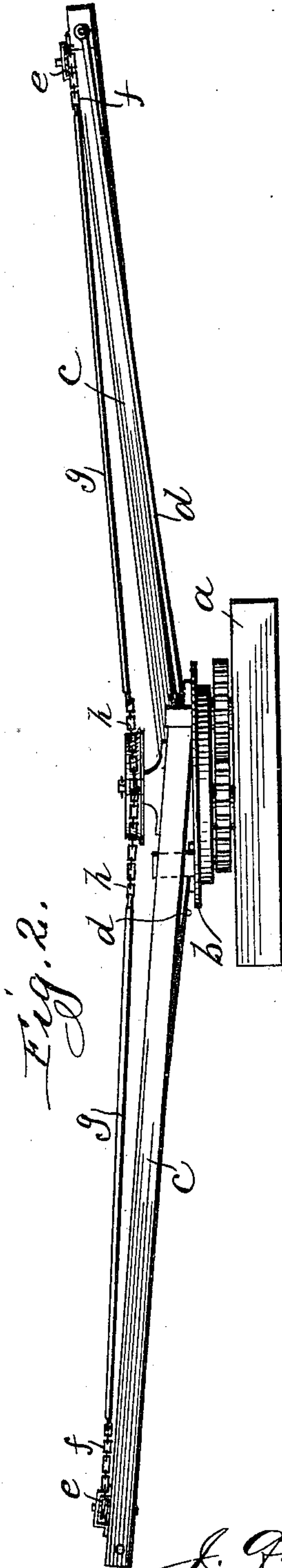
J. Q. ADAMS.
EQUALIZER.

(Application filed May 7, 1901.)

(No Model.)



Witnesses:
R. J. Jaeger,
R. S. Clemage.



Inventor:

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UNITED STATES PATENT OFFICE.

JOHN Q. ADAMS, OF MARSEILLES, ILLINOIS.

EQUALIZER.

SPECIFICATION forming part of Letters Patent No. 684,772, dated October 22, 1901.

Application filed May 7, 1901. Serial No. 59,089. (No model.)

To all whom it may concern:

Be it known that I, JOHN QUINCY ADAMS, residing at Marseilles, in the county of La-salle and State of Illinois, have invented certain new and useful Improvements in Equalizers, of which the following is a specification.

My invention relates to a certain new and useful improvement in equalizers, mainly of the type that are adapted to be applied to two-lever horse-powers. As these devices have been hitherto constructed the single or double trees, as the case might be, were attached by chains passing through sheaves on the ends of the levers to a rod directly connecting said chains. With this construction when one team slackened a little in their pull, as invariably occurs when they step over the tumbling-rod, the other team pulls the connecting-rod toward the outer end of the lever to which they are attached until the double-trees of the team that has slackened rest against the sheave, in which position all the pulling may be done by the team that is now in advance, unless the rear team should pull more strongly than the other team, which is not likely to occur, as the team in advance is doing all the work. To remedy this defect, I provide a compensating device, interposed between the two sheaves, which operates to cause the team that may get in advance to pull at a disadvantage on the compensating device, as compared to the team that is behind, until the two teams are pulling together again, when they both pull at the same advantage.

Referring to the accompanying sheet of drawings, in which the same reference characters are used to designate identical parts in all the views, Figure 1 is a plan view of an equalizer, showing my invention applied to a two-lever horse-power. Fig. 2 is a side elevation of the same; and Fig. 3 is a sectional view, on an enlarged scale, through the sheave which I employ as a compensating device.

a is the stationary framework, upon which the main driving gear-wheel b is mounted to rotate in the customary manner. Projecting tangentially from the edges of the driving-wheel b are the levers c , which are mounted thereon in the customary manner and are strengthened by the brace-rod d . Near the ends of the levers c are mounted the sheaves

e , through which pass the chains f , to the outer ends of which are attached the single or double trees, as the case may be, while the single ends thereof are attached to the rods g , which have secured to their inner ends the chains h , which in turn have their inner ends attached to the compensating member j , which preferably takes the form of a sheave journaled upon a suitable bearing k on the inner end of one of the levers c . The chains h are preferably constructed of a single chain, which is attached to the sheave j by a bolt l , passing through the aperture m , formed in the lug o , projecting from the upper portion of the sheave, then through a link of the chain, and finally through the aperture n , formed in the flange p at the bottom of the sheave. The flange p , especially for ninety degrees on either side of the aperture n , is extended out for a considerable distance, so that as the sheave j turns the chains h will rest upon the flange p and be supported thereby.

The operation of the device will be readily apparent. If both teams are pulling uniformly and are in the same relative position to their levers c , the apparatus will stand in the position shown in full lines in Fig. 1; but if one of the teams slackens up, as in passing over the tumbling-rod, the position of the parts will be shifted to that shown in dotted lines in Fig. 1, in which position it will be seen that the team that did not cease pulling is in advance of the other and will have pulled the sheave j around until the rod g on that side stands nearly in line with the axis of the sheave instead of tangent thereto, so that it does not pull at the same advantage on the compensating device as the other team, which still has the leverage amounting to the radius of the sheave j in its favor and will always have the advantage of this leverage, inasmuch as the chain h on the sheave j will always apply the power at the circumference of the sheave. The result of the team in advance working at this disadvantage in the matter of leverage will be that as soon as the teams are pulling equally the team that is behind, now pulling at an advantage, will draw the parts automatically to the full-line position, where the power of both teams must be applied fully to the draft mechanism.

While I have shown my invention as em-

bodied in the form which I at present consider best adapted to carry out its purposes, it will be understood that it is capable of modifications and that I do not desire to be limited in the interpretation of the following claims by the language thereof, but only as may be necessitated by the state of the prior art.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a two-lever equalizer, a compensating device to which the teams are attached, constructed so that the team that may be behind will pull with a constant leverage on said compensating device to bring it back to its normal position, while the team that is in advance pulls on said device to draw it away from its normal position with a leverage that decreases as it recedes from its normal position.

2. In a device of the class described, the pivoted compensating member having a substantially circular flange thereon concentric with its pivotal point, and having the chains attached to said flange at one end and the draft-rigging at the other end, so that as one team advances ahead of the other, the compensating member will be turned on its pivot winding one of said chains on the flange substantially as described.

3. In a device of the class described, the

sheave having the chains attached to the circumference thereof at one end and to the draft-rigging at the other end, so that as one team advances ahead of the other, the sheave will be turned for the purpose described, winding one chain on the periphery of the sheave.

4. In a device of the class described, the combination with the levers *c*, of the chains *f*, the sheaves *e* around which said chains pass, the compensating member *j* journaled between the ends of said levers, and the chains *h* secured to and adapted to wind on the periphery of the compensating member *h*, and connected to the chains *f*; all cooperating substantially as and for the purpose described.

5. In a device of the class described, the combination with the levers *c*, of the chains *f*, the sheaves *e* around which said chains pass, the sheave *j* journaled between the ends of said levers and having the flange *p* thereon, and the chains *h* secured to the periphery thereof above the flange *p* and connected to the chains *f*; substantially as and for the purpose described.

In witness whereof I hereunto set my hand in the presence of two witnesses.

JOHN Q. ADAMS.

Witnesses:

JOHN H. McELROY,
R. S. CLEMAGE.