Griswold, Cramer & Blay.

Equalizing Double-Tree.

No 74347 Patented Feb. 11, 1868.

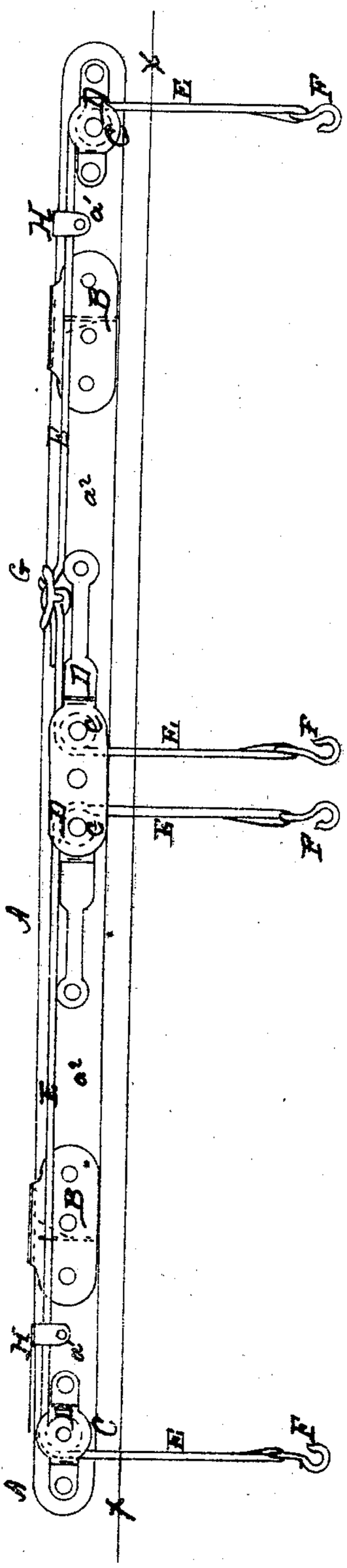

Fig. 1.

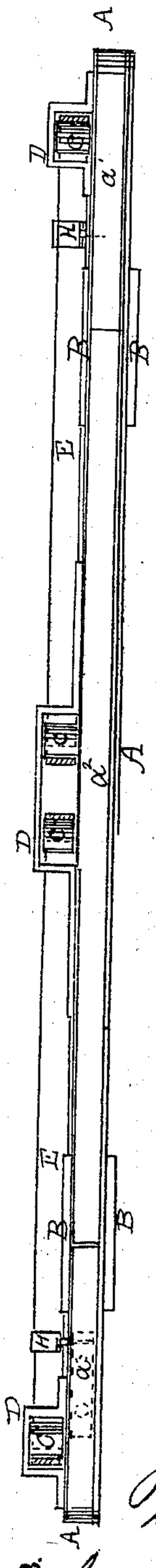

Fig. 2.

Witnesses.

Alex. F. Roberts

J. H. Covington

Inventors.

G. Griswold

J. B. Cramer

W. Blay

Per Munn & Co

Attorneys

United States Patent Office.

EDWIN GRISWOLD, JOEL B. CRAMER, AND WILLIAM BLAY, OF HELENA, MONTANA TERRITORY.

Letters Patent No. 74,347, *dated February* 11, 1868.

IMPROVEMENT IN EQUALIZING DOUBLE-TREE.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that we, EDWARD GRISWOLD, JOEL B. CRAMER, and WILLIAM BLAY, of Helena, in the county of Edgerton, Montana Territory, have invented a new and improved Equalizing Double-Tree; and we do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art 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 view of our improved double-tree.

Figure 2 is a side view of the same, partly in section, through the line *x x*, fig. 1.

Similar letters of reference indicate corresponding parts.

Our invention has for its object to furnish an improved double-tree, so constructed and arranged as to promote safety and economy, and avoid noise and disarrangement; and it consists in an improved double-tree, the end parts of which are hinged or jointed to the central part; in the combination of a draught-strap and rollers with the double-tree or draught-bar, and in the combination of a rigid or flexible strap with the end parts of the double-tree, and with draught-straps, the whole being constructed and arranged as hereinafter more fully described.

A is the double-tree, which is secured to the tongue or draught-bar of the vehicle by a bolt passing through the centre of said double-tree in the ordinary manner. The double-tree is made in three parts or pieces, the end-pieces, a^1, being each about one quarter the length of the central piece, a^2. The end-pieces, a^1, are jointed to the ends of the central part, a^2, in such a way that they may be turned back, so as to form an angle of forty-five degrees, (45°,) or more, with the central part, but cannot be drawn farther forward than to be in a straight line with said central part, however much power may be applied to them. The joints are covered and protected by a band, B, passing around the upper, lower, and rear sides of the double-tree, as shown in figs. 1 and 2. To the pieces a^1, near their outer ends, and to the central pieces, a^2, upon each side of its middle point, are pivoted rollers C, said rollers being placed in pulley-boxes D, securely attached to said double-tree, as shown in the drawings. Around the rollers C are passed straps E, having hooks F, or their equivalents, attached to their ends, for the attachment of the tugs or traces, as shown in fig. 1. These straps, E, may be made adjustable, by means of a buckle, G, attached to their middle part, as shown in fig. 1, for convenience in adjusting the length of the tugs; or each of them may be made in one piece, and the length of the tugs adjusted in the ordinary manner. In the case of a single horse, the rollers C and strap E may be attached directly to the thills.

The double-tree, A, constructed as herein described, may also be used for a lead-bar, in case more than one pair of horses are used. If desired, the straps E and rollers C may be attached to an ordinary double-tree, that is to say, to a double-tree made without joints. H is a guide-strap attached to the end-pieces, a^1, of the double-tree, near the joint or hinge by which the said parts, a^1, are connected to the central part, a^2. The straps H may be rigid metallic straps, or they may be made of leather, or other flexible material. This latter construction is preferable when the double-tree is used as a lead-bar; in other cases we prefer the rigid strap. The straps H act as a guard to hold the straps E away from the wheels when the end parts, a^1, are drawn back, and they also enable the straps E to act as a lever to draw the parts, a^1, into their proper position, as soon as the obstructing force has been removed. This construction prevents the double-tree, every time it encounters an obstruction, from becoming entangled therewith, the joints enabling its ends to give, and thus free themselves when obstructed.

We claim as new, and desire to secure by Letters Patent—

1. An improved double-tree, the end parts, a^1, of which are hinged or jointed to the central part, a^2, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the strap or straps E and pulleys C with the draught-bar or double-tree, substantially as herein shown and described, and for the purpose set forth.

3. The combination of the rigid or flexible straps H with the end parts of a jointed double-tree, and with the straps E, substantially as herein shown and described, and for the purpose set forth.

EDWARD GRISWOLD,
JOEL B. CRAMER,
WILLIAM BLAY.

Witnesses:
R. LAWRENCE,
J. E. VINTON.