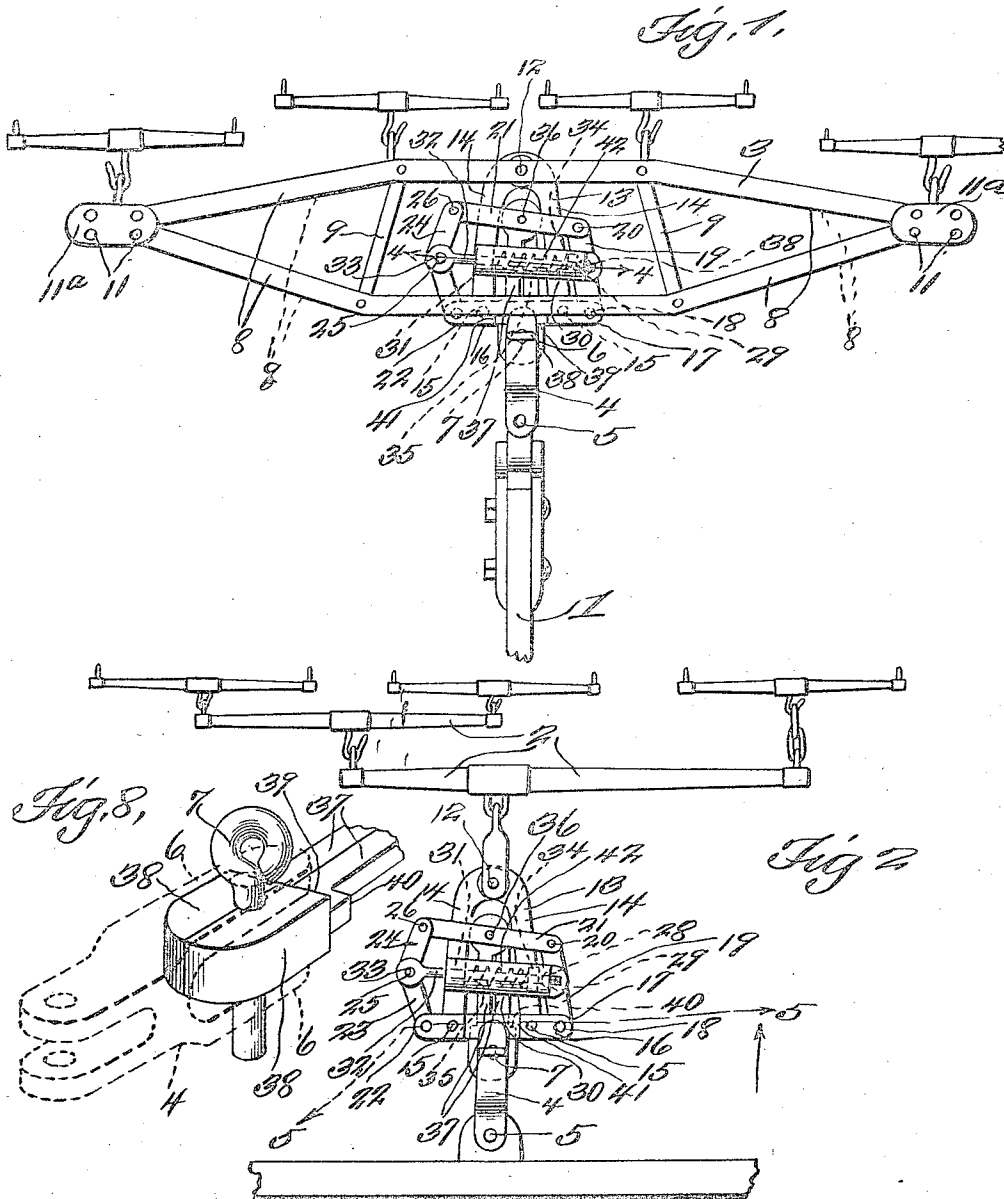


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 AUTOMATIC RELEASING DEVICE FOR EQUALIZERS.
 APPLICATION FILED SEPT. 27, 1912.

1,052,739.

Patented Feb. 11, 1913.

2 SHEETS—SHEET 1.



Witnesses

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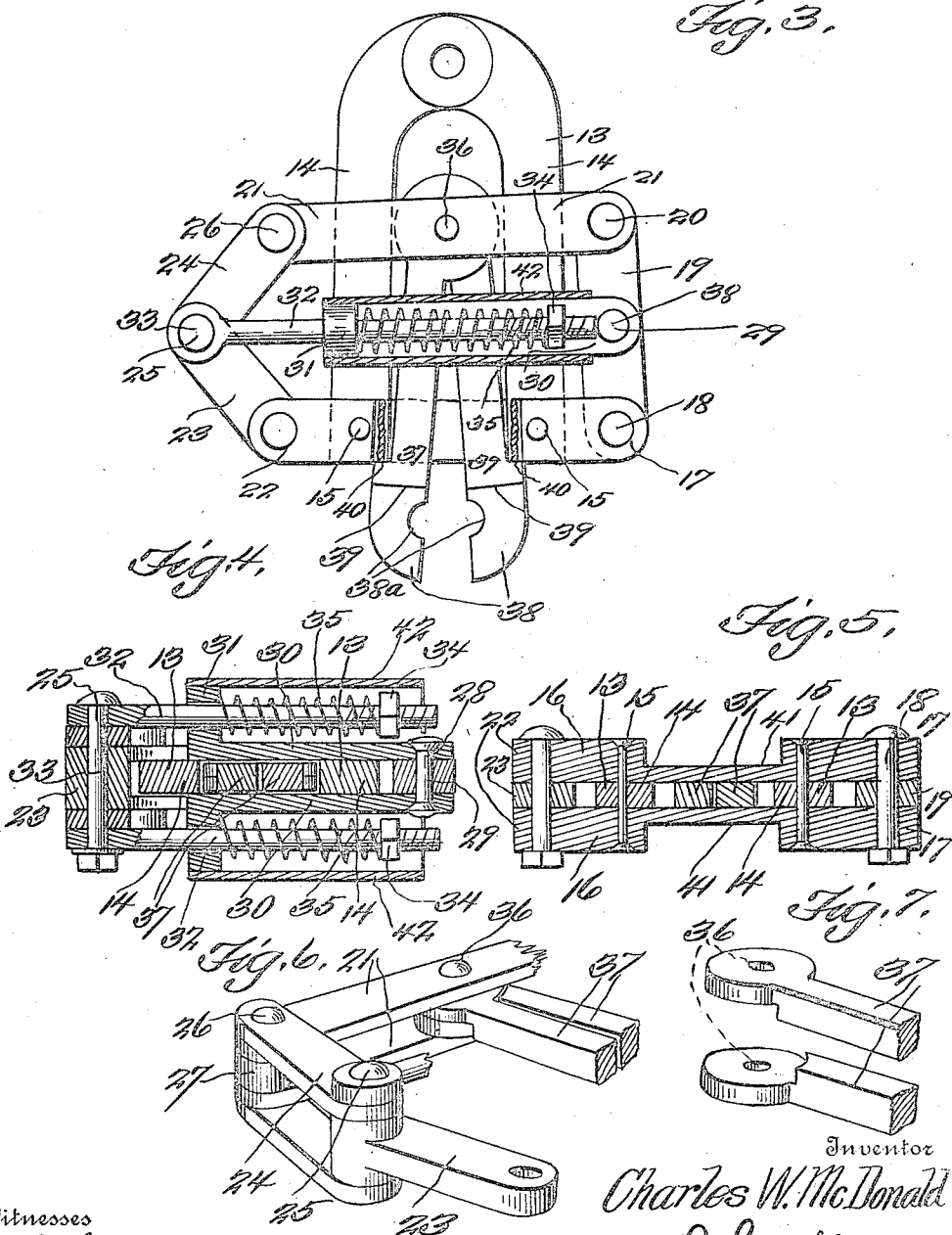
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UNITED STATES PATENT OFFICE.

CHARLES W. McDONALD, OF NOBLESVILLE, INDIANA.

AUTOMATIC RELEASING DEVICE FOR EQUALIZERS.

1,052,739.

Specification of Letters Patent. Patented Feb. 11, 1913.

Application filed September 27, 1912. Serial No. 722,745.

To all whom it may concern:

Be it known that I, CHARLES W. McDONALD, a citizen of the United States, residing at Noblesville, in the county of Hamilton, and State of Indiana, have invented a new and useful Automatic Releasing Device for Equalizers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to a new and useful automatic releasing device for equalizers.

As a rule when drawing a gang plow through the field, or when drawing a vehicle or the like, and the gang plow or other device comes in contact with an immovable obstacle, the harness or the plow or the like is put under a great strain, and the chances are some part is broken. In this case, considerable time is necessitated to repair the parts.

As one of the objects of the invention, it is the aim to overcome the above difficulties and disadvantages. To attain this object, there has been devised a pair of spring-tensioned jaws, which, when an excessive strain is exercised upon the equalizer, will immediately and automatically open, thereby releasing the equalizer from the gang plow or the like. The springs of the spring-tensioned jaws are of sufficient strength to stand the usual draft by the draft animals, in order to draw the plow forward.

The invention comprises further features and combination of parts, as hereinafter disclosed in the drawings, set forth and claimed.

In the drawings:—Figure 1 is a plan view showing the automatic releasing device as applied between an equalizer and the gang plow. Fig. 2 is a similar view showing the automatic releasing device as applied to a wooden equalizer. Fig. 3 is an enlarged plan view of the releasing device detached, showing the spring-tensioned jaws opened. Fig. 4 is a sectional view on line 4—4 of Fig. 1. Fig. 5 is a sectional view on line 5—5 of Fig. 3. Figs. 6 and 7 are detail views. Fig. 8 is a detail view of the clevis member in dotted lines.

Referring more especially to the drawing 1 designates a portion of a gang plow, while in Fig. 2, 2 denotes the usual wooden equalizer, whereas in Fig. 1, 3 marks a steel equalizer. Connected to the gang plow is a clevis member 4 by means of the pin 5. Extending through the forks 6 of the clevis member

is a pin 7, the purpose of which will hereinafter appear. In Fig. 1 the equalizer beam is constructed of steel bars 8, between which the braces 9 are secured. These steel bars at their ends are brought together, and secured by the bolts 11.

Pivoted at 12 between two of the bars of the equalizer beam is a frame 13. This frame comprises the side bars 14, one end of each of which is secured by the bolts 15 between the plates 16. Pivoted between the ends 17 of the plates 16, by means of the bolt 18 is a link 19, which in turn is pivoted at 20 between the links 21, one being arranged above the frame 13 and one below. Pivoted between the ends 22 of the plates 16 is a link 23, and to this link a pair of links 24 is pivoted at 25. The links 23 and 24 constitute toggle links. The links 21 are pivoted to the links 24 by means of the bolt 26, which also passes through the collar 27. Pivoted at 28 by means of the bolt 29, one upon each side of the link 19 are plates 30 having laterally extending apertured ears 31, through which the shanks of the bolts 32 extend. These bolts 32 are pivoted on the bolt 33, which passes through the links 23 and 24.

Surrounding the shanks of the bolt, and interposed between the lateral extensions 31 and the nuts 34 (which are threaded to the shanks) are coil springs 35. The nuts 34 constitute means for regulating the tension of the springs. Pivoted at 36 to and between the links 21 is a pair of jaws 37, which are arranged between the bars 14 of the frame 13. These jaws 37 terminate in heads 38, and pass between the plates 16. The adjacent faces of the heads 38 are provided with oppositely arranged recesses, which receive the shank of the pin 7, that is, when excessive strain is not exercised upon the clevis member 4, and in this case the shoulders 39 constructed by the provision of the heads 38 are in contact with the rear edges of the plate 16. However, in the event the strain on the clevis member is increased, occasioned by the gang plow coming in contact with an obstruction, the jaws will open, thereby releasing the pin 7, owing to the fact that the plates 16 and the frame 13 move forwardly. When the jaws are open, they are held in such positions by the shoulders engaging the ends of the bars 14, so that the pin 7 may again be placed in position to be clamped by the jaws. When this excessive

strain is exercised upon the jaws and the clevis member, the springs are put under tension, so that just as soon as the shoulders 40 are disengaged from the ends of the bars 14, the jaws will automatically close. The forks 6 of the clevis member 4 are received in the recesses 41 of the plates 16. The springs and the bolts are covered by a shield 42.

10 In the drawings there has been disclosed certain structural features, but in practical fields these features may necessitate alterations, to which the patentee is entitled, provided the alterations are comprehended 15 within the scope of what is claimed.

From the foregoing it will be observed there has been produced a novel form of automatic releasing device, for releasing the equalizer from gang plow or the like, in 20 case the same comes in contact with an obstruction, and one which has been found desirable and practical.

The invention having been set forth, what is claimed as new and useful is:—

25 1. In combination, an equalizer, a frame pivoted thereto, a pair of jaws movably arranged in the frame and adapted to clamp a pin of a clevis member of a gang plow, link connections between the jaws and the 30 frame, and spring means for tensioning the link connections.

2. In combination, an equalizer beam, a frame pivoted thereto, a pair of jaws slidably and movably arranged in the frame and 35 adapted to clamp a pin of a clevis member, link connections including toggle links between the frame and the jaws, and spring means for tensioning the toggle links for holding the jaws closed.

40 3. In combination, an equalizer beam, a frame pivoted thereto, a pair of jaws slidably and movably arranged in the frame and adapted to clamp a pin of a clevis member, link connections including toggle links 45 between the frame and the jaws, and spring means for tensioning the toggle links for holding the jaws closed, the spring means adapted to be put under tension when ex-

cessive strain is exerted on the clevis member, and means forming an integral part of 50 the jaws to engage the frame for holding the jaws open.

4. In combination, an equalizer beam, a frame comprising bars and plates connecting the ends of the bars, a link pivoted be- 55 tween the plates at one end, a pair of jaws arranged between the bars and the plates slidably, a pair of links pivoted to the jaws at their pivotal connections and arranged one above and one below the bars, the pair 60 of links being in turn pivoted to the first link, toggle links pivoted to the pair of links and in turn to the plates, spring means connecting between the toggle links and the first link for tensioning the toggle links and 65 the jaws, the jaws adapted to clamp a pin of a clevis member of a gang plow.

5. In combination, an equalizer beam, a frame comprising bars and plates connecting the ends of the bars, a link pivoted be- 70 tween the plates at one end, a pair of jaws arranged between the bars and the plates slidably, a pair of links pivoted to the jaws at their pivotal connections and arranged one above and one below the bars, the pair 75 of links being in turn pivoted to the first link, toggle links pivoted to the pair of links and in turn to the plates, spring means connecting between the toggle links and the first link for tensioning the toggle links and 80 the jaws, the jaws adapted to clamp a pin of a clevis member of a gang plow, the spring means adapted to be put under tension to permit the jaws to open due to excessive strain on the clevis member, and 85 means forming an integral part of the jaws to engage the ends of the bars to hold the jaws open.

In testimony whereof I have signed my name to this specification in the presence of 90 two subscribing witnesses.

CHARLES W. McDONALD.

Witnesses:

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