E. C. CLAUSEN.

LOCK JOINTED FOLDABLE DRAFT BEAM FOR SECTIONAL HARROWS.

APPLICATION FILED MAR. 15, 1909.

927,713. Patented July 13, 1909.

Fig. 1.

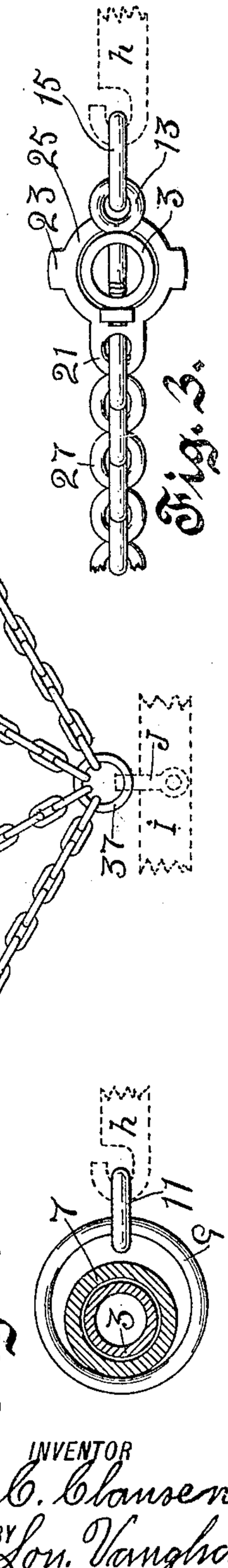

Fig. 2.

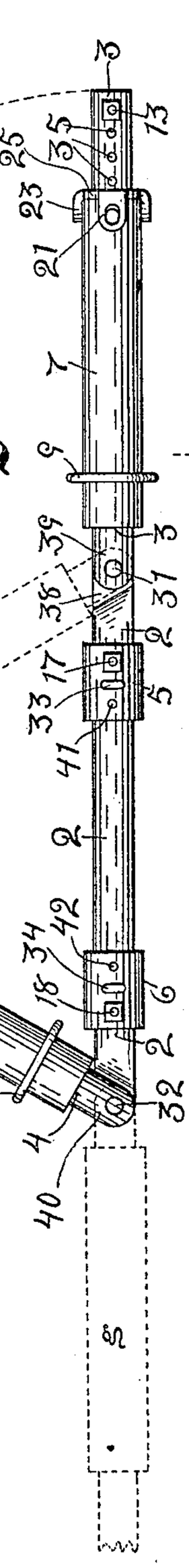

Fig. 3.

Fig. 4.

Fig. 5.

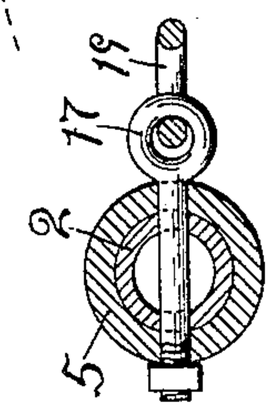

Fig. 6.

WITNESSES:

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UNITED STATES PATENT OFFICE.

EDGAR C. CLAUSEN, OF BLAIR, NEBRASKA.

LOCK-JOINTED FOLDABLE DRAFT-BEAM FOR SECTIONAL HARROWS.

No. 927,713. Specification of Letters Patent. Patented July 13, 1909.

Application filed March 15, 1909. Serial No. 483,663.

To all whom it may concern:

Be it known that I, EDGAR C. CLAUSEN, a citizen of the United States, residing at Blair, in the county of Washington and State of Nebraska, have invented certain new and useful Improvements in Lock-Jointed Foldable Draft-Beams for Sectional Harrows, of which the following is a specification.

My invention relates to improvements in draft-beams for harrows of two or more laterally arranged harrow-sections, usually hinged together, between which harrow and the evener to which the team is hitched, the said draft-beam is interposed to distribute the draft equally to all the sections of the harrow; and the objects of my improvement are, first, to provide a jointed draft-beam that will be unbendable in any direction while the harrow is being drawn forward in service or in turning around on the field; and second, that can be readily folded endwise, when laterally folding the harrow sections to which it is attached, without in any manner breaking the connections of said draft-beam with said harrow sections or with the team. These and minor objects hereinafter more fully set forth I attain by the mechanism illustrated in the accompanying drawing, in which—

Figure 1 is a top view of an entire three part or double jointed draft-beam as it appears connected up in service; Fig. 2, a front view of the same, the draft-chains removed, one end folded up and the joint of the opposite end unlocked ready to fold; Fig. 3, a partial end view of Fig. 1; Fig. 4, a sectional view looking toward the center from the broken line *b* in Fig. 1; Fig. 5, a vertical section on the broken line *a* of Fig. 1; and Fig. 6, a top view of the unlocked joint 31 in Fig. 2.

I prefer to construct the body of my draft-beam of round tubing, although other shapes of tubing or solid metal bars may be used. The beam shown in the drawings consists of the central part 2 and the end parts 3 and 4 hinge-jointed together at 31 and 32, as shown in Figs. 2 and 6. The joint ends of the end parts are furcated and the corresponding ends of the central part shaped to form central tongues 38 disposed between the branches 39 and 40 of the forks. These are cross perforated and receive the pivotal rivets 31 and 32 to complete the required articulation. The shoulders at the bases of the tongues are formed oblique to allow the end parts to swing over toward each other as shown by one end and indicated by broken lines at the opposite end, *f* in Fig. 2. The joint is otherwise formed and restricted in size so as not to exceed at any point the outer diameter of the tubes jointed together. Toward the ends of the central portion 2 the broad stop-collars 5 and 6 are stationarily fastened by the eye-bolts 17 and 18, and 33 and 34, disposed crosswise through both collar and tube as shown in Fig. 5.

The locking sleeves 7 and 8 are fitted closely but loosely to receive the jointed beam therethrough and slide freely on said beam. To the outer ends of said locking sleeves the yokes 25 and 26 are fastened by the bent branches 23 and 24 riveted to the walls of the sleeves. These yokes also have forwardly inclined extensions 21 and 22 perforated to form eyes in which to connect the rear ends of the outer draft chains 27 and 28. The forward ends of these chains with those of the middle draft chains 29 and 30,—which latter have their rear ends connected in the eye-bolts 33 and 34,—are centrally connected in the ring 37 to receive the clevis *j* on the draft evener *i*. The draft on the outer chains slides and retains the sleeves against the stop-collars, where said sleeves inclose and lock the hinge-joints rendering the whole beam rigid and unfoldable.

The forward tooth-beams of the three harrow sections are indicated by the broken lines at *c*, *d* and *e*, in Fig. 1; here also are indicated the usual hooks *h*, *h*, etc. to engage the attaching links on said draft-beam:—shown in larger detail in Figs. 3 and 4.

Tht attaching links 15 and 16 at the ends of the beam are fastened thereto by the eye-bolts 13 and 14 which may be shifted to the different holes 35 and 36 to accommodate different widths of harrows or harrow sections *c* and *e*. The links 19 and 20 are carried by the eye-bolts 17 and 18 which are shiftable to the perforations 41 and 42 and interchangeable with the eye-bolts 33 and 34 to adjust the links to variable widths of the central harrow section *d*. The links 11 and 12 are carried by the rings 9 and 10 respectively, which rings loosely encircle the sliding sleeves 7 and 8, as shown in Fig. 4, allowing the links 11 and 12 to automatically adjust to the positions of their respective hooks and allowing the sleeves to slide loosely through said rings to unlock and lock the hinge-joints in the beam.

When the draft is slackened on the ring 37

giving slack to the chains 27 and 28, the sleeves 7 and 8 may be slid outwardly to the positions indicated by the broken lines *k* and *l* in Fig. 1; this unlocks the joints as shown at 31 in Fig. 2 and allows the end portions of the beam to be folded upward as shown at 8 on the opposite end. The harrow sections may be left attached and fold up in like manner with the beam to pass through narrow spaces or gateways; it being obvious that such folding of the beam slackens the outer long draft chains so that draft would only be by the short chains of the central section on which all other parts are imposed when so folded.

I claim:

1. A foldable draft-beam for sectional harrows, comprising a hinge-jointed bar, a slidable sleeve on said bar to slide over and inclose said hinge-joint to lock the bar straight and rigid, and the harrow draft-device connected to retain said sleeve in locking position only while draft is applied.

2. A foldable draft-beam for sectional harrows, comprising bars hinge-jointed together endwise, a slidable sleeve on said bars, a stop to limit the slide of the sleeve to inclose and lock said hinge-joint, and a draft-chain connected to retain the sleeve against said stop.

3. A foldable draft-beam for sectional harrows, comprising a hinge-jointed bar, a slidable sleeve mounted on the bar to inclose and lock said hinge-joint, and a ring mounted loosely around said sleeve and adapted to be connected to the harrow.

In testimony whereof I affix my signature in presence of two witnesses.

EDGAR C. CLAUSEN.

Witnesses:

S. W. CHAMBERS,

GEO. B. RIKER.