No. 741,800. PATENTED OCT. 20, 1903.

C. LA DOW.

DRAFT EVENER.

APPLICATION FILED AUG. 15, 1903.

NO MODEL.

Fig. 1.

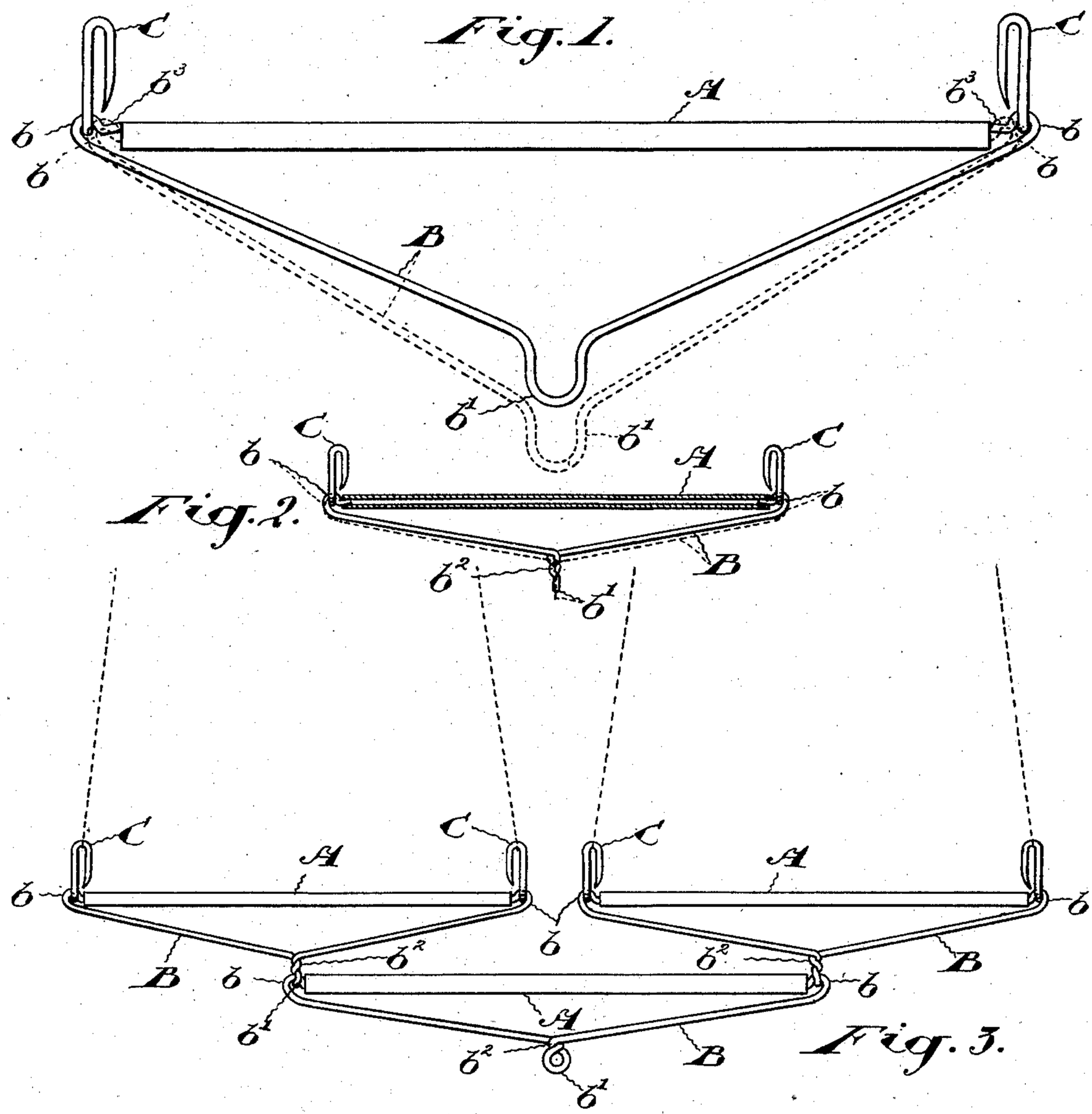

Fig. 2.

Fig. 3.

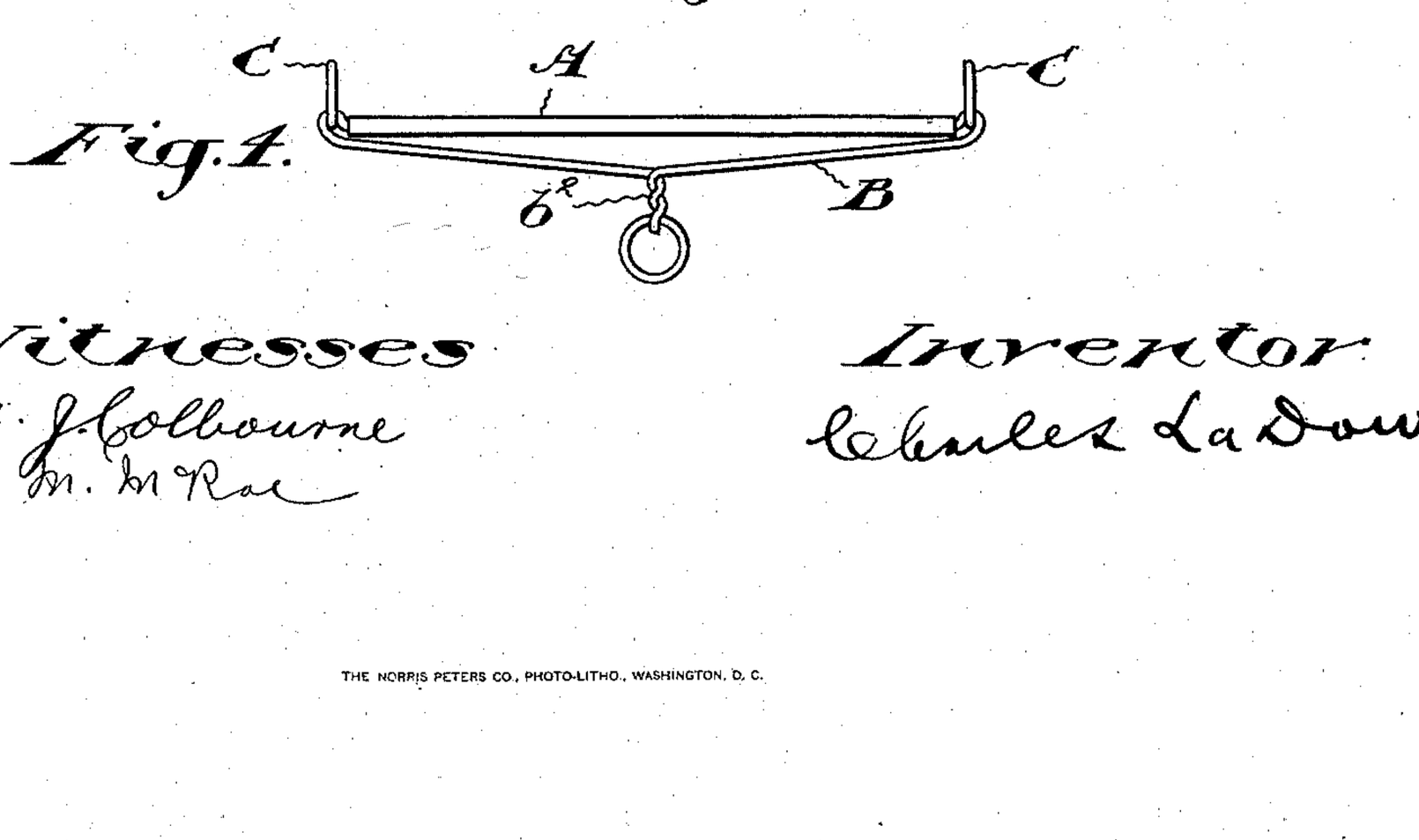

Fig. 4.

Witnesses

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No. 741,800. Patented October 20, 1903.

UNITED STATES PATENT OFFICE.

CHARLES LA DOW, OF ALBANY, NEW YORK.

DRAFT-EVENER.

SPECIFICATION forming part of Letters Patent No. 741,800, dated October 20, 1903.

Application filed August 15, 1903. Serial No. 169,576. (No model.)

To all whom it may concern:

Be it known that I, CHARLES LA DOW, of the city and county of Albany, in the State of New York, have invented a new and useful Improvement in Eveners, of which the following is a specification.

My invention relates to a new form and new construction of eveners for draft purposes and for equalizing purposes and to a new method for assembling and holding together their parts; and it is especially adapted for use in whiffletrees and neck-yokes and also for draw-bars and draft-eveners for harrows and the like.

In the drawings, Figure 1 represents an enlarged plan view of a swingletree made according to my invention before its parts are assembled. Fig. 2 illustrates a sectional plan view of a swingletree constructed according to my invention and ready for use. Fig. 3 illustrates a complete set of whiffletrees consisting of two swingletrees and a doubletree constructed and linked together according to my invention. Fig. 4 illustrates a plan view of my evener adapted to operate as a neck-yoke.

I prefer to construct an evener under my invention with a tubular rod A and a draft-rod B, carrying hooks or rings C, the whole being made from material of commercial shapes, the tube being cut to the proper length and made perfectly straight, and the rod being also cut to the proper length and bent into the form shown in Fig. 1, where it is indicated by full lines as being ready for insertion at its ends into the ends of tube A and by dotted lines the position and form it assumes at this step of assembling. The hooks or rings C of the ordinary pattern are slipped loosely into the eyes b of the rod B, and the hooked portions b^3 b^3 are pressed toward each other in the ends of the tube A, which causes the rod B to assume the position shown in dotted lines in Fig. 1. The rod B is then twisted into the form shown in Fig. 2. This causes the ends of the rod B to approach each other within the tube and also causes the portion b' to approach the tube in a transverse direction until the rod assumes the form shown in Fig. 2. The rod B is thus securely locked to the tube A and cannot be withdrawn therefrom without destroying the structure. The hooked portions b^3 stand at such angle to the tube as to fill the bore thereof, which prevents rattling.

In Fig. 3 are shown four dotted lines which indicate the lines of draft from the animals, from which it will be seen that draft strains when applied to whiffletrees constructed as described tend to draw the ends of the rod B toward each other, thus rendering the structure strongest when draft strains are applied thereto.

By reference to the dotted lines in Fig. 2 it will be seen that the draft-eyes b b have when strained by drafts or other causes a spring action, which permits the body portion of rod B to spring or yield rearwardly when heavy draft strains are applied thereto, thus relieving the animal's shoulders. This construction affords a cushion or yielding action to all these eveners, rendering them stronger than others and easier for the animal to work in. It will also be seen by reference to Fig. 2 that the rod B is twisted into a spiral spring at b^2, which increases the above-named spring action. The draft-eye b' (shown in Fig. 2) is so bent as to stand vertically, which affords a natural easy means for linking the swingletrees to the doubletree and to also give them free swiveling action in all directions.

It will be observed that the swingletrees and doubletree are all made of round material, which for some purposes is of great advantage—for instance, when used as whiffletrees for hauling a plow, where the operator is frequently obliged to pull the plow and its attached whiffletrees backward by main strength. Whiffletrees when constructed round, as by my invention, are more easily hauled backward than when constructed in other ways. It will also be observed that all the eveners shown are made of material which is of substantially the same dimensions throughout the entire length of each piece, which gives them a symmetrical appearance and reduces weight and cost. It will also be observed that the draft-rod is applied to the rod A by its ends only and that draft strains tend to cause the ends of the rod to endeavor to approach each other, thus causing the bar A to become a truss-bar and draft strains to be applied only in an end direction relatively thereto instead of being applied in a trans-

verse direction, as heretofore. The draft-eyes *b* abut against the ends of bar A to form a "stop," which prevents the ends b^3 of rod B from entering too far into bar A. It is therefore obvious that the structure herein described being without strains in a transverse direction can be made lighter and at the same time stronger than if constructed as heretofore.

I prefer to construct my evener of round tubular material; but it can be constructed of solid material and can be made of wood, if desired; but a construction which is all steel and not perforated is preferable.

It will be seen that the draft-rod and draft-eye and draft-hooks are integral, and therefore stronger than if made up of different parts riveted or bolted together, as heretofore. The draft-rods being attached to the truss-bar by their ends only leave an unobstructed space between the rod and truss-bar their entire length, thus affording a clean and handsome appearance. The draft-eyes of bar B are brought near to the ends of bar A to prevent hooks C from slipping lengthwise of rod B.

I have described the form of construction which I prefer; but my invention may be applied in other forms and with any desired material without departing from the spirit and scope of my invention and claims.

Having thus described my invention, I claim—

1. In an evener the combination of two bars, one having its ends perforated longitudinally and the other having hooks adapted to enter said perforations and be brought toward each other therein by twisting its central portion into an eye.

2. As a new article of manufacture an evener perforated longitudinally and centrally, having a looped draft-rod whose ends enter and fill said central perforation, the loops pressing against the ends of the evener.

3. As a new article of manufacture an evener consisting of three sections, each comprising a truss-bar and a draft-rod, having end loops which are carried around the ends of each truss-bar and thereby increase the length thereof.

4. As a new article of manufacture an evener comprising a hollow truss-bar supported against draft strains by a rod attached to the ends thereof by looped portions which form rounded ends to the evener.

5. In an evener a truss-bar, and a draft-rod having a draft-eye consisting of an angled end entering endwise into the end of the truss-bar, and a loop closed at its front end and open at its rear portion.

6. An evener comprising a hollow truss-bar A, and draft-rod B, having reversely-curved ends, the extremities of which are assembled and maintained in a longitudinal plane relatively to and within the hollow of truss-bar A.

7. An evener comprising a truss-bar and draft-rod arranged on one plane in one direction but not on a plane in another direction and supported relatively to each other by their ends only, the extreme ends of the draft-rod being covered by the surrounding truss-bar and held therein in alinement with the length of the truss-bar.

Toronto, Ontario, August 13, 1903.

CHARLES LA DOW.

In presence of—
JOHN G. RIDOUT,
A. M. MCRAE.