J. CHASE.

Ox-Yoke.

No 6,878. Patented Nov. 20, 1849.

Fig: 2.

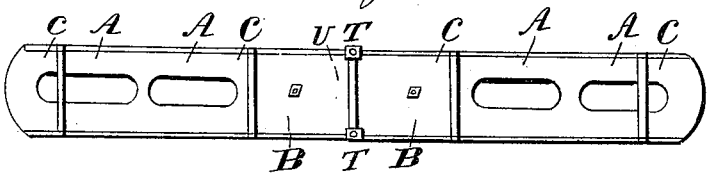


Fig: 3.

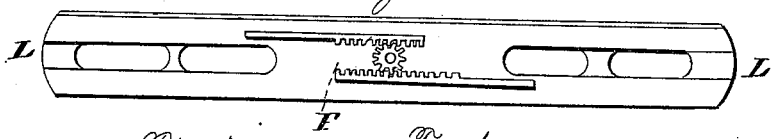


Fig: 5. Fig: 4.

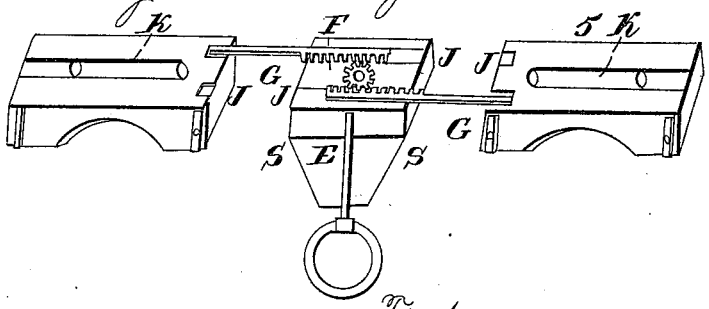
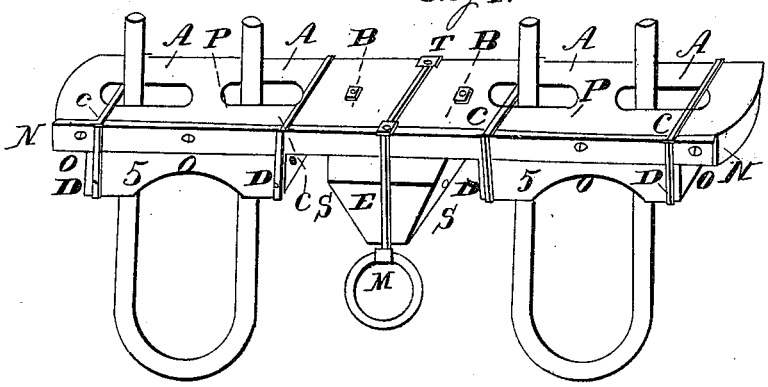


Fig: 1.



UNITED STATES PATENT OFFICE.

JOHN CHASE, OF CRAFTSBURY, VERMONT.

OX-YOKE.

Specification of Letters Patent No. 6,878, dated November 20, 1849.

To all whom it may concern:

Be it known that I, JOHN CHASE, of Craftsbury, in the county of Orleans and State of Vermont, have invented a new and useful Improvement on the Common Ox-Yoke or Any other Ox-Yoke Now Known or in Use; and I do hereby declare that the following is a full, clear, and exact description of my invention and improvement, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a perspective view of said yoke. Fig. 2 is a longitudinal view of the top or upper side of the beam. Fig. 3 is a longitudinal view of the under or reverse side of the beam. Fig. 4 represents what (for the want of a more definite term) I shall call the staple and gear piece. Figs. 5, 5, represent the sliding collars detached from the beam, the top part of which are also seen in perspective.

I will now proceed to describe the mode of constructing my improved ox yoke.

The beam is made of any kind of firm solid wood or timber, the length and size of which as indeed of all other parts and appendages should be proportioned to the size and strength of the oxen and the business for which it is designed to be used. For a large heavy pair of oxen the beam Fig. 2 should be 4 feet and 2 inches long, 5½ inches broad, and one and ⅞ inches deep. Fig. 3 is merely the reverse or opposite side of Fig. 2. The staple and gear piece Fig. 4 is of a triangular form made of hard solid wood 6 inches broad 7½ inches deep 10 inches long at the top where it is fitted to the beam 4 inches long at the extreme under side in the top or upper side of which is a box containing the wheel and gearing hereinafter described and shown in the drawings which are referred to. Figs. 5, 5, show the collars 14 inches long each, 6 inches broad, and 3¼ inches deep at the ends, and are fitted to the necks of the oxen by suitable circles. All of which are shown in the drawings, and the several parts referred to by letters A, A, A, A. Fig. 1 shows the slots in which the bows move longitudinally in the beam, and the same are shown at Fig. 2.

B B, shows the nuts screwed onto the bolts which pass up from the trips of E, Fig. 4 at S, S, securing the gear and staple piece to the beam.

c, *c*, *c*, *c*, at each Figs. 1 and 2 shows the bands passing directly and entirely around the yoke and firmly bolted to the collars as seen at D, D, D, D, which bands are fitted closely but made to move freely upon the beam, the heads of the bolts or rivets *o*, *o*, *o*, *o*, and the screws represented by P, P, being countersunk in the iron plates (hereafter described) so as to offer no resistance to the free action of the bands as they slide to and fro on the beam.

F at the center of Fig. 3 shows the ideal track of the iron cog wheel F, (in the gear and staple piece) in the center of which track is represented a hole to receive one end of an iron pin around which the cog wheel is made to move by the action of the cogged bars, the other end of said pin being inserted at the center of said wheel as seen at Fig. 4, in which figure F shows the cog wheel, G G the cogged bars. Said wheel and bars should be ¾ of an inch thick, and are attached to the inner ends of the collars in the short groove J, by the same bolt D, as seen in the drawings.

J J, J J, Figs. 4 and 5 show the grooves in which the bars move.

M Fig. 1 shows the ring and staple, the staple parts into two branches which pass up on each side of the gear and staple piece to the top of the beam where it is made fast by the nuts T, T, Fig. 2 upon the iron plate U.

K K Figs. 5, 5 shows a fillet raised ¾ of an inch intended to act in a groove as seen at L, L, Fig. 3 and is sunk ¾ of an inch deep, from the end of the beam to the outer slot—the same through the core between the slots, and is designed to keep the collars steady and in their places acting in concert with the bands.

N N Fig. 1 represents an iron plate 4 feet and 2 inches long $\frac{3}{16}$ of an inch thick, 2¼ inches wide, with a corresponding plate on the opposite side of the yoke, which two plates are firm bolted or riveted (as seen at *o o*, *o o*, Fig. 1 in the drawing) through the beams, one bolt passing through near each end of the beam and the others through the cores between the slots to prevent the beam from splitting, and also a suitable number of screws to hold the iron plates firmly to the beam, the heads of the bolts and of the screws as represented at P, P, Fig. 1 should be countersunk in the iron plates to allow the bands *c c*, *c c*, to move freely upon the beam. The edges of

these iron plates should project ⅜ of an inch below the beam, (which projection is not shown in the drawings) to form a guide for the collars to slide in—which collars (as also the gear and staple piece) should be rabbeted at their corners ⅜ of an inch deep to receive the projection of the iron plates, and where the bands are bolted to the collars as above described the wood should be left flush so as not to obstruct the action of the bands upon the beam.

As to the practical operation of and utility this yoke it will readily be seen that when oxen crowd or haul (as it is technically called) by reason of deep snows in winter, or deep ruts in summer or from a vicious disposition, the yoke adjusts itself to the impulse given it by the action of the oxen, as in crowding the pressure upon the inside of each bow causes the bows to move along in the slots and thus the distance between the oxen is diminished each ox holding his relative distance from the center of the yokes and when the oxen haul a contrary effect is produced in passing over rough grounds with or without a load, the ease and facility with which oxen perform this service is very striking and adds great value to these yokes—and finally in passing over smooth surfaces or on hard plain roads it is found in practice that the natural vibratory or lateral motion with which oxen travel is at almost every step lengthening or shortening the distance between the bows in a greater or less degree and operate as a great easement from that state of confinement that constantly attends the use of the common yoke. Another practical advantage is found, that when it becomes necessary to give the less or weaker ox the longest end of the yokes the bows are only to be withdrawn from the yoke, when the collars with the cogged iron bars can be also withdrawn, and then enter one of the iron bars as far as is necessary upon the cog wheel and then enter the other bar at the first cog and the desired effect is accomplished and the bows remain in that unequal position until you choose to alter them.

If it is found necessary to fix the yoke at a certain stationary length (which I do not deem of great importance) this is effected by passing an iron pin down through the beam so as to interfere with the cogs in one of the iron bars which causes the bars and wheels to cease from operating and fixes the bows stationary.

I do not desire nor intend to interfere with the claims of Mr. David Chappell as set forth in a patent for a yoke heretofore granted to him, but

What I do claim and desire to secure by Letters Patent is—

1. The pinion F, and rack bars G, G, working within the beam in the manner and for the purpose set forth.

2. I also claim the two iron plates, N, N, as set forth.

3. I also claim the grooves L, and tongue K, in the manner and for the purpose set forth.

JOHN CHASE.

Witnesses:
JOHN W. MASON,
L. D. WOODBURY.