(No Model.)

S. A. SMITH.

OX YOKE.

No. 443,243. Patented Dec. 23, 1890.

Fig. 1.

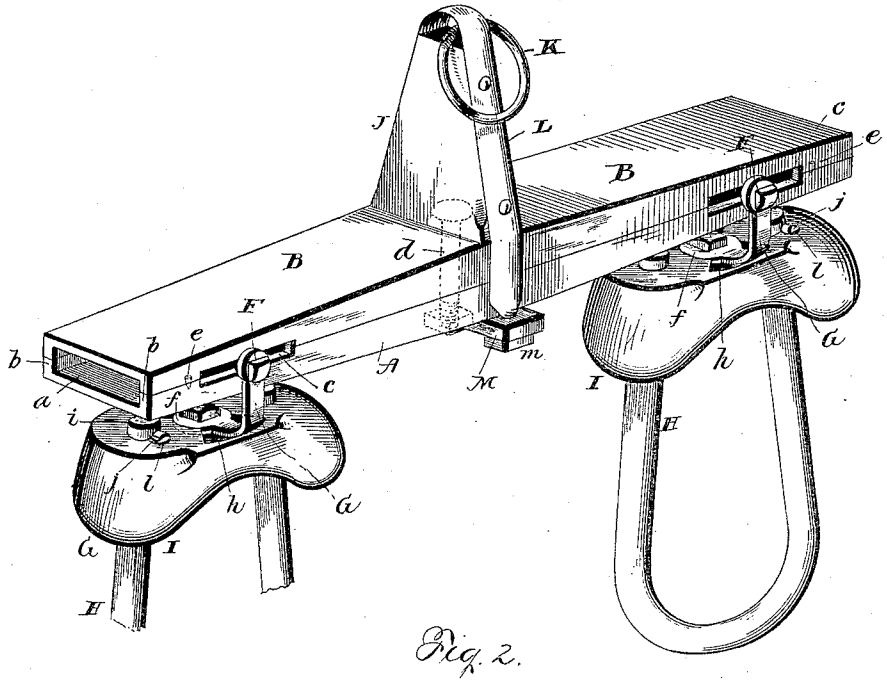


Fig. 2.

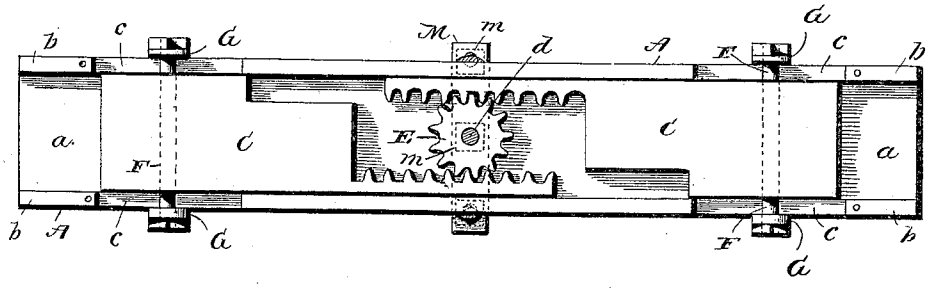
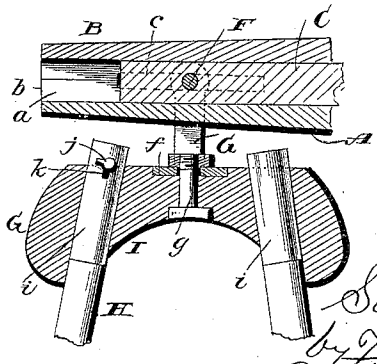


Fig. 3



Witnesses
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UNITED STATES PATENT OFFICE.

SAMUEL ADELBERT SMITH, OF GLENDALE, NEW YORK.

OX-YOKE.

SPECIFICATION forming part of Letters Patent No. 443,243, dated December 23, 1890.

Application filed September 18, 1890. Serial No. 365,413. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL ADELBERT SMITH, a citizen of the United States, residing at Glendale, in the county of Lewis and State of New York, have invented certain new and useful Improvements in Ox-Yokes; and I do 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification.

This invention relates to certain new and useful improvements in neck-yokes for oxen; and it has for its object, among others, to provide a device of this character which will serve to equalize the distance of the cattle from the center and yet allow them to assume any position desired and still have the neck-yoke or the bows remain both square and perpendicular.

Other objects and advantages of the invention will hereinafter appear, and the novel features thereof will be specifically defined by the appended claims.

The novelty resides in the peculiar combinations, and the construction, arrangement, and adaptation of parts, all as more fully hereinafter described, shown in the drawings, and then particularly pointed out in the claims.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of refence marked thereon, form a part of this specification, and in which—

Figure 1 is a perspective view of my improved neck-yoke. Fig. 2 is a top plan with parts broken away. Fig. 3 is a vertical section through one of the bows.

Like letters of reference indicate like parts throughout the several views.

Referring now to the details of the drawings by letter, A designates the main bar of the yoke, which is formed upon its upper face with a longitudinal groove or channel *a*, and near each end upon opposite sides of the rib or flange *b*, formed by this channel, with cut-away portions *c*, through which work the bolts which pivotally connect the bows with the sliding rack-bars hereinafter described.

B is the cap-piece or cover, which is formed, like the main bar A, with longitudinal channel or groove, flange, or ribs, and cut away in said ribs at points opposite the cut-away portions of the ribs of the main bar, as shown. Free to slide within the chamber thus formed by the channels or grooves of the main bar and cap are the plates C, extending from opposite ends and formed with step-like projections, so as to allow them to work past each other, the adjacent end portions of the two being formed with teeth to constitute rack-bars, as shown.

Carried by a suitable shaft *d*, held in the cap-piece, is a pinion E, which is adapted to work between the two rack-bars, as shown, and this arrangement serves to keep the cattle at an equal distance from the pole, so that they will draw equally and will not swing the pole or cart from side to side. The shaft or bolt *d* extends through the main bar and has its lower end screw-threaded, for a purpose hereinafter made apparent.

The cap-piece is provided with spurs or projections *e* in its ribs near the ends thereof, which engage the ribs of the main bar and serve to keep the two parts firmly in their proper positions.

F are bolts or rods which pass through the widest portions of the plates C and work through the passage-ways formed by the cut-away portions of the ribs of the main bar and cap-piece, and carry the yoke-pieces G, to which the bows H are pivotally connected. The preferable manner of forming this connection is as follows: The yoke-pieces each have a disk portion *f* at the center of their horizontal parts, and through this disk portion passes a bolt *g* into the neck-piece I, the said horizontal portion of the yoke being limited in its movement by the side walls of the notches or recesses *h*, in which the horizontal portion is located. The neck-pieces are rounded, as shown, to give ease to the cattle, and the bows are connected thereto in any suitable manner, preferably, however, as shown—that is, the bows pass through the openings in the neck-pieces and are provided at their ends with metal caps *i*, through which pass removable pins *j*, which pass through key-hole slots *k* in the ends of the bows, and are then turned at right

angles to prevent their displacement, and are then seated in recesses *l* in the upper faces of the neck-pieces, as shown.

J is a block provided with a ring K and embraced by a metallic band L, the ends of which embrace the cap-piece and main bar and have screw-threads, as shown. This is placed in relation to the other parts so that the threaded ends will be in line with the end of the bolt *d*, and a plate of bar M is then placed over the ends of the three and there retained by means of suitable nuts *m*, as shown.

The plates C are arranged between the cap-piece and main bar so as not to touch either, so as to lessen the friction as much as possible.

It will be seen that a neck-yoke constructed as above described will allow the bows to turn on the bolts F, and also swivel on their pivots between the neck-pieces and the yoke-pieces, thus giving the cattle great freedom of motion and permitting them to accomplish much more work.

What I claim as new is—

1. The combination, with the main bar and cap-piece, each formed with a longitudinal channel and cut-away ribs, of the plates arranged to work in the channels, the pinion, the neck-pieces pivotally connected with the plates, and the bows detachably connected with the neck-pieces, substantially as specified.

2. The combination, with the main bar and cap-piece, each formed with a longitudinal channel and cut-away side ribs, of the plates arranged to work in the channels, the bolts passed through the plates and through the cut-away portions, the yokes carried by the bolts, the neck-pieces pivotally connected with the yokes, and the bows carried by the neck-pieces, all substantially as shown and described.

3. The neck-yoke described, consisting of the main bar A, formed with groove *a*, ribs *b*, cut-away portions *c*, the cap-piece B, formed reversely, like the bar A, with groove, ribs, and cut-away portions, the plates C, free to slide in the groove between the main bar and cap-piece and formed with rack-teeth and step-like projections, the shaft *d*, held in the cap-piece, the pinion E on said shaft, the spurs *e* on the cap-piece, the bolts F, the neck-pieces L, having recesses *h*, yoke G, having disk portions *f*, the bolts *g*, passed through the disks into the neck-pieces, and the bows H, swiveled to the neck-pieces, all substantially as shown and described.

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

SAMUEL ADELBERT SMITH.

Witnesses:
S. H. OLIVER,
JAMES COUGHLIN.