(No Model.)

W. KIDD.

OX YOKE.

No. 409,687. Patented Aug. 27, 1889.

Fig. 1.

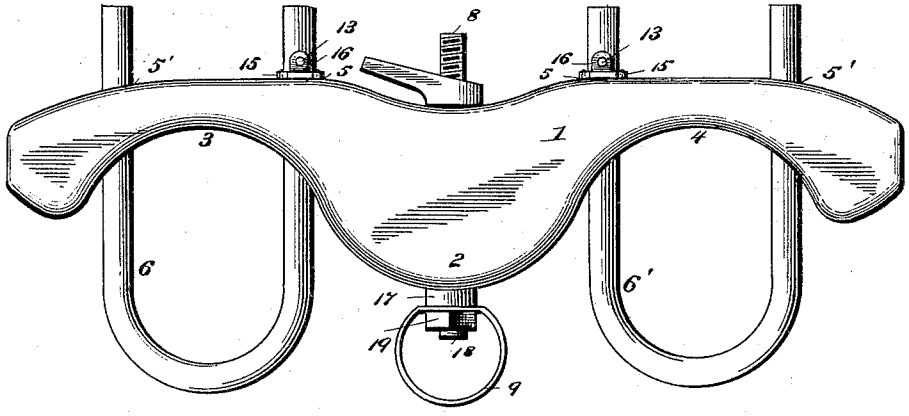


Fig. 2.

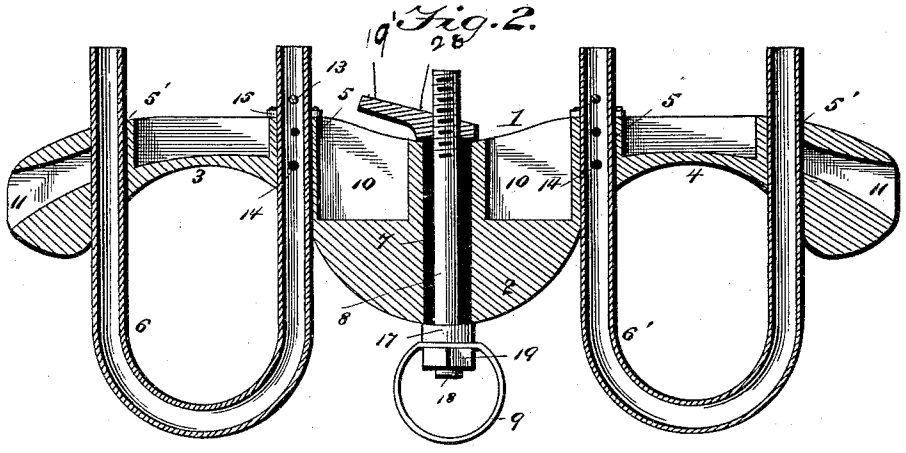
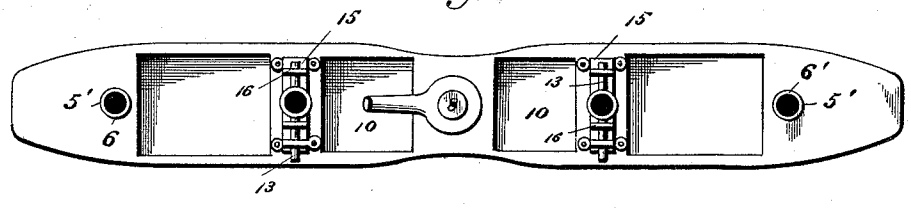


Fig. 3.



WITNESSES

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OX-YOKE.

SPECIFICATION forming part of Letters Patent No. 409,687, dated August 27, 1889.

Application filed April 20, 1889. Serial No. 307,989. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM KIDD, a citizen of the United States, residing at Fisherman's Bay, in the county of Sonoma and State of California, have invented certain new and useful Improvements in Ox-Yokes; 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.

My invention relates to improvements in ox-yokes; and it consists of the peculiar construction and arrangement of parts, as will be hereinafter fully described, and particularly pointed out in the claims.

To enable others to understand my invention, I will now proceed to a detailed description thereof in connection with the accompanying drawings, in which—

Figure 1 is an elevation of my improved ox-yoke. Fig. 2 is a vertical longitudinal sectional view on the plane indicated by the line *x x* of Fig. 3, and Fig. 3 is a plan view.

Like numerals of reference denote corresponding parts in all the figures, in which—

1 designates the yoke, which is made or cast of a single piece of metal, for the purpose of strength, durability, and lightness. This yoke is of the ordinary pattern or configuration—that is to say, it has on its lower surface the enlargement 2 at its middle, which in the art is termed the "collar," and on opposite sides of the collar are formed the concave surfaces 3 4, by which the yoke rests on the necks of the cattle. Through each concave surface is formed two vertical openings 5 5′, through which are passed the ends of the bows 6 6′, of the ordinary construction, and which are held in position in the yoke in a novel manner, hereinafter explained.

In the ordinary common yoke no provision is made for adjusting it to oxen or cattle of varying sizes, and frequently two animals of different size and strength are coupled to the same yoke, which results in imposing nearly all the labor on the larger animal, because the yoke is not constructed to equalize the work of the mismatched cattle; besides, the smaller animal is liable to be choked or injured by the bow of the yoke. I aim to overcome this objection by providing the longitudinally-adjustable bolt 8, which passes through a vertical passage or slot 7 of the enlargement or collar 2 of the yoke-bar, and this bolt is rigidly held in place by means of its head and a wrench-nut, which bear against opposite sides of the yoke-bar. The headed bolt is of less diameter than the greater diameter of the passage or slot 7, so that the bolt can be adjusted longitudinally of the yoke-bar for the purpose of "balancing" the yoke when mismatched cattle are connected to the yoke; or, in other words, when two animals of different strength are connected to the yoke, this bolt is adjusted longitudinally thereof to shift the fulcrum (this bolt serving as the fulcrum when connected to the vehicle pole or chain) and impart a greater leverage to that end of the yoke to which the animal of less power or strength is connected by the bow, whereby the strength of the two animals is equalized and the yoke "balanced." The bolt is held rigidly and firmly in place in the slot or passage of the yoke by means of the wrench-nut presently described, and at its lower end said bolt has a swiveled ring 9, by means of which the yoke is connected to the pole of vehicle, or when more than one yoke of oxen is employed—as, for instance, in logging-camps—a chain passes through the swiveled rings of the series of yokes.

Heretofore it has been customary in logging-camps to make or hew the yokes of wood; but these are objectionable, because they are liable to soon become broken and split at the collar, and they soon wear and gall the necks and shoulders of the animals, and in some instances such wooden yokes have been bound and protected with metallic bands. Yokes of this latter class are also objectionable, because when the wood becomes soaked with water and is dried it shrinks or contracts, and consequently the metallic bands soon become loose and rattle; besides, said bands materially increase the weight of the yoke without adding in any considerable degree to its strength. I aim to overcome these objections by making the yoke and bows of metal in such a manner that, while a yoke is provided which shall possess the requisite strength and durability to withstand all the strain and wear that it may in actual use become subjected to, it will at the same time be comparatively light in weight and

will not wear and gall the animal's shoulders and neck. The metallic yoke 1 is hollow, as far as possible, to reduce the weight and yet insure the necessary strength.

Between the vertical openings 5 5′, immediately over each convex surface 3 and 4 of the yoke, vertical recesses 10 are made in the upper surface of the yoke and similar recesses are provided between the vertical central passage 7 and the apertures 5′, as clearly shown in Fig. 2. At the ends the yoke has short longitudinal passages 11, which open through the outer extremities thereof and communicate with the opening 5. It will thus be seen that I provide a cast-metal yoke which combines maximum strength and durability with minimum lightness in weight and a very material reduction in the cost of manufacturing the yoke.

The bows 6 6′ are each made hollow, of a single tubular piece of metal, and bent in the usual manner, so that they shall also be strong, durable, and light.

In the ordinary wooden yoke each of the bows are held in place by a single pin, which passes through an aperture in the upper extremity of one arm thereof and rests on the top of the yoke. One objection to the ordinary bow is that the bow plays freely in a vertical plane and can be lifted by the animal, which ofttimes results in breaking the yoke at the collar or enlargement thereof, or the bow itself when the parts are made of wood. It is therefore highly desirable that the bows of the yoke can be adjusted to accommodate mismatched cattle and to hold the bows in a fixed position with relation to the yoke. This end I accomplish by means of a fastening-pin 13, which has a fixed connection with the yoke and the bow, and this pin can also be connected to the yoke at different points of its length, whereby the bow can be adjusted vertically, and thus accommodate itself to animals of different sizes. The bow is provided with two or more apertures 14, through which the fastening removable pin can be passed, and this pin is rigidly connected to the yoke by means of plates 15, which are fixed in any suitable manner on the yoke, and have perforated aligned ears 16, through which the fastening-pin is passed, as is obvious. With a yoke having its bows constructed and connected thereto in the manner described, I am enabled to adjust the bows for use with two animals of different sizes. The bows are adjusted so that they properly fit the animals and enable them to draw or pull on the centers of the bows.

It is evident that if one end of the yoke rests too low down upon the smaller animal's shoulders it is liable to soon become useless by reason of its neck being sore and "galled," and if the bow is arranged too high up on the smaller animal the bow presses against its shoulders or it is liable to become choked. I aim to overcome these objections by adjusting the bows so that the animals draw uniformly on the yoke and the bows thereof, and thus equalize the strain and secure the best results.

The vertical bolt 7 is formed at its lower extremity with a squared head or enlargement 17, which bears against the lower side of the yoke, and beneath this squared head is a threaded stud 18, on which is loosely fitted the ring 9, and which receives a nut 19, to confine the ring in place and at the same time enable it to turn freely on the stud. In the majority of yokes this ring has been fixed to the bolt so that it could not turn on the latter; but with my improved swiveled ring the cattle attached to the yoke can move freely back and forward, and thus prevent "cramping" the yoke, and all the wear and strain on the bolt are relieved, which obviates cutting away of the bolt-passage, that is liable to take place with a rigidly-connected ring.

The upper end of the bolt is threaded and receives a wrench-nut 19′, which bears on the yoke, and has a handle 20, by means of which the nut can be easily and quickly removed to detach the bolt from the yoke and the latter from the chain, and thereby release the cattle from the chain, which is highly desirable when a large number of cattle are connected by a common chain—as is usual in hauling logs—when one of the cattle attached to a given yoke falls and is in danger of being injured by the other cattle.

The operation and advantages of my invention will be readily understood from the foregoing description, taken in connection with the drawings.

Slight changes in the form and proportion of parts can be made without departing from the spirit of my invention.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. An ox-yoke consisting of the metallic bar having the recesses formed therein and the vertical apertures, the tubular bows fitted in said vertical apertures, and means for rigidly connecting said bows to the yoke-bar, substantially as described.

2. In an ox-yoke, the combination of a yoke-bar, the perforated bows, and the removable fastening-pins adapted to slide in bearings, rigidly connected to the yoke-bar, and passing through the perforations in the bows to confine the latter against vertical play or movement on the yoke-bar and said bearings, substantially as and for the purpose described.

3. In an ox-yoke, the combination, with a yoke-bar and the bows, of the plates fixed to the yoke-bar and having the perforated ears, and the fastening-pins detachably connected to the plates and adapted to pass through the bows, substantially as described.

4. In an ox-yoke, the combination of a yoke-bar having a vertical central slot, a vertical

bolt of less diameter than said slot and having the threaded upper end and a head at its lower end which impinges directly against the lower edge of the yoke-bar, and a ring swiveled on the lower end of said bolt and confined in place between said head and a nut, substantially as and for the purpose described.

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

WILLIAM his × mark KIDD.

Witnesses:
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