No. 621,741. Patented Mar. 21, 1899.

J. A. BLACKBURN.

MEANS FOR ATTACHING GAGE WHEELS OR COLTERS.

(Application filed Aug. 11, 1898.)

(No Model.)

FIG. 1.

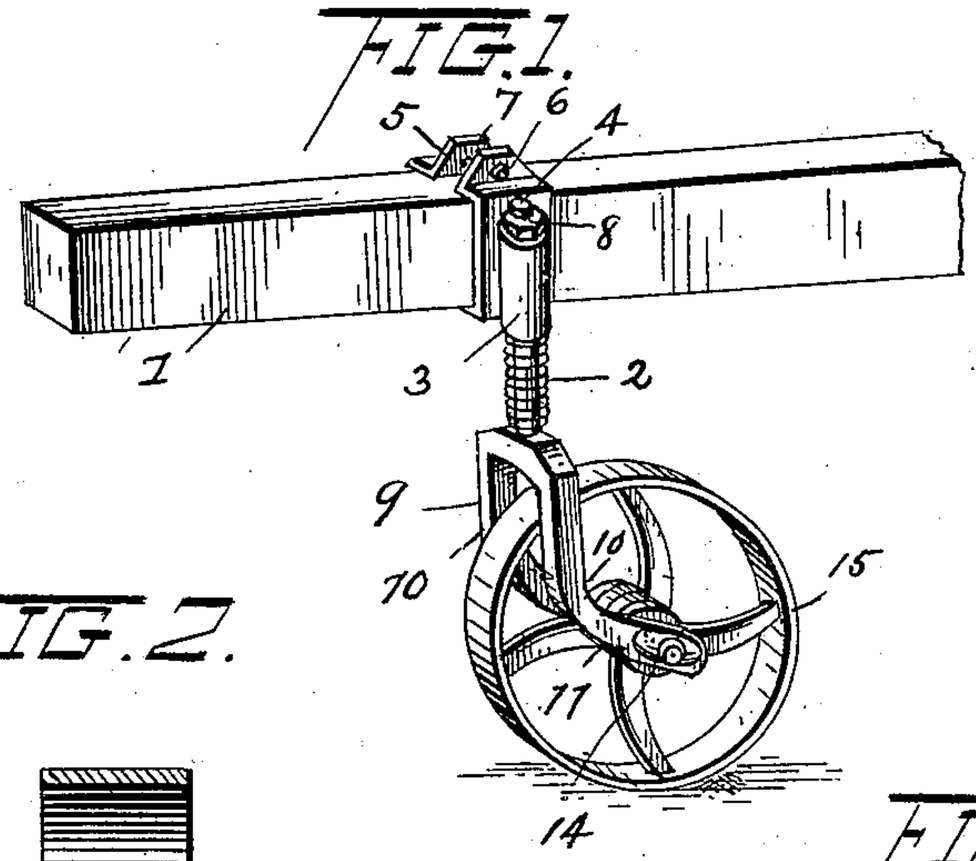


FIG. 2.

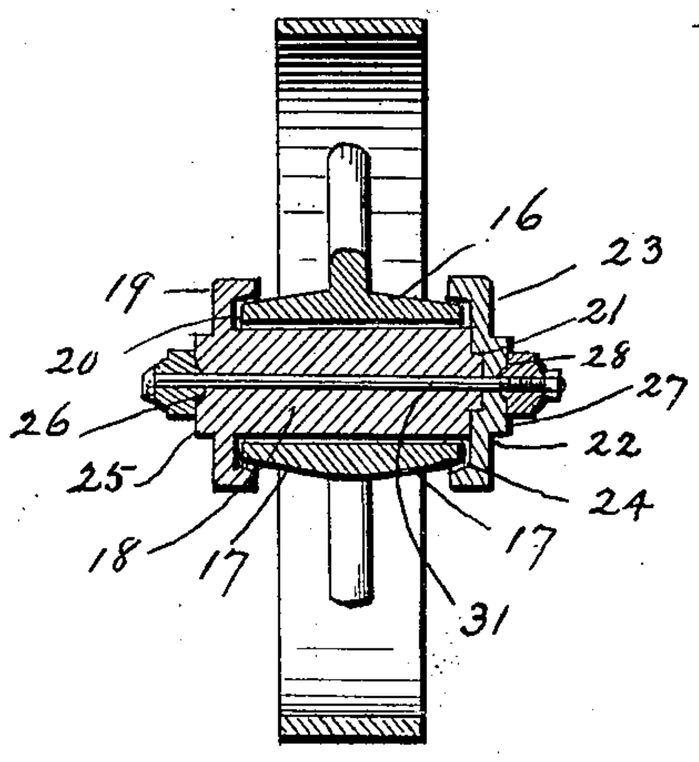


FIG. 3.

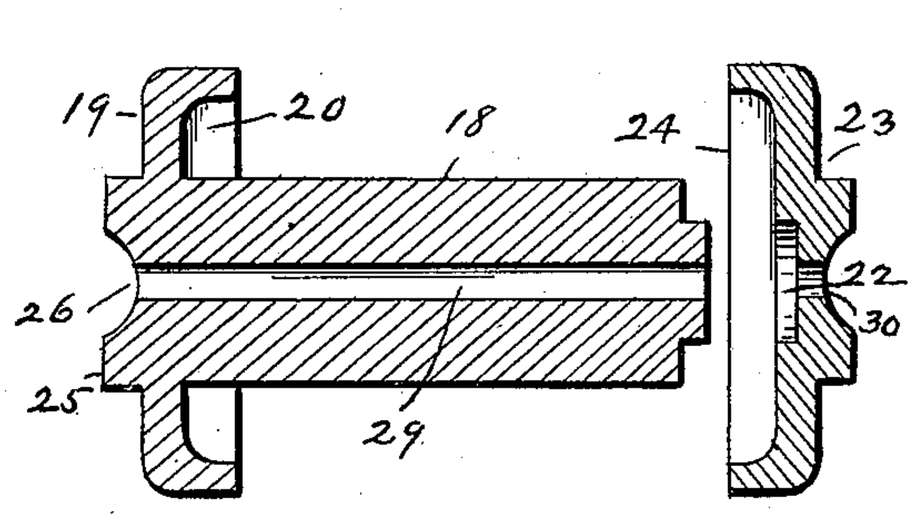


FIG. 4.

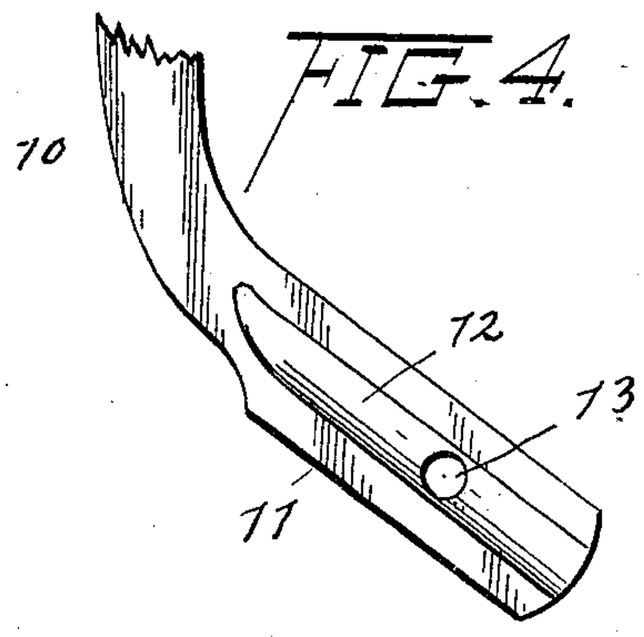
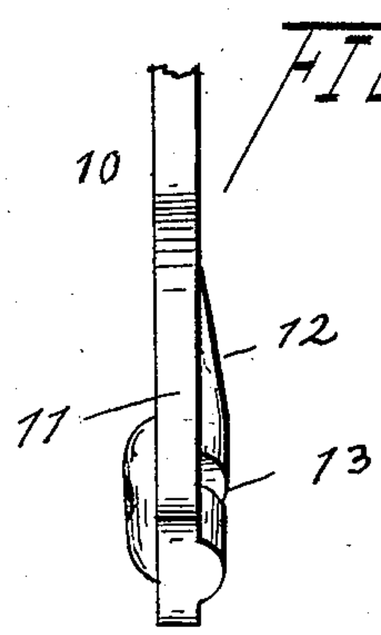


FIG. 5.



Witnesses
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UNITED STATES PATENT OFFICE.

JAMES A. BLACKBURN, OF WEST NEWTON, PENNSYLVANIA.

MEANS FOR ATTACHING GAGE-WHEELS OR COLTERS.

SPECIFICATION forming part of Letters Patent No. 621,741, dated March 21, 1899.

Application filed August 11, 1898. Serial No. 688,369. (No model.)

To all whom it may concern:

Be it known that I, JAMES A. BLACKBURN, a citizen of the United States, residing at West Newton, in the county of Westmoreland and State of Pennsylvania, have invented certain new and useful Improvements in Means for Attaching Gage-Wheels or Colters; 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.

This invention relates to means for attaching a gage-wheel or colter to plows or other devices; and it consists of the construction and arrangement of the several parts, which will be more fully hereinafter described and claimed.

The object of the invention is to provide a simple, durable, and comparatively inexpensive means for attaching a gage-wheel or colter to the stem and also to conveniently attach the said stem to a plow-beam or other support.

In the accompanying drawings, Figure 1 is a perspective view of a portion of the beam or supporting device and having a gage-wheel attached thereto embodying the invention. Fig. 2 is a transverse section through the gage-wheel, showing the manner of connecting the same. Fig. 3 shows detail views in section of a bearing-sleeve and movable cap for the gage-wheel. Fig. 4 is a detail view of a portion of one of the arms of the yoke on the stem, looking toward the inner side thereof. Fig. 5 is an edge elevation of a portion of said arm.

Referring to the drawings, wherein similar numerals are employed to indicate corresponding parts in the several views, the numeral 1 designates a beam or other device to which the gage-wheel is connected. To support the gage-wheel, a stem 2 is employed, which is rotatably held in a vertical socket 3 on a clamp member 4, which is placed opposite a second clamp member 5 on the beam or support 1, and both members secured to each other by bolts 6, having bearing in ears 7. The contour of the clamp members 4 and 5 corresponds to the support 1, and they are thereby prevented from having loose play or becoming disarranged from the predetermined and desired position. The stem 2 is held in the socket 3 by means of a cap-nut 8, and at its lower end the said stem is provided with a lower fork 9, comprising opposite arms 10, which extend obliquely, as at 11, below a certain point. The oblique portions 11 of the said arms each have on the inner side thereof a rounded rib 12, and nearer the extremities of the said arms openings 13 are formed, which are alined, and around the same on the outer side of the arms bosses 14 are located and preferably formed integral with the said arms.

In the illustration a gage-wheel 15 is shown applied; but it will be understood that a colter or analogous device could be quickly substituted therefor. In either event, however, a hub 16 is located at the center and projects outwardly beyond opposite sides of the wheel and has the opposite surface thereof beveled in opposite directions, as at 17. A bearing-sleeve 18 is loosely and movably fitted in the hub 16 and has at one end an integral flange 19, which is formed with an inner annular groove 20 to fit over one end of the hub, and at the opposite end with a central boss 21 to enter a similar-shaped recess 22 on the inner surface of a removable cap 23, which is applied against this end of the said sleeve and grooved on its inner side, as at 24, to fit over the adjacent end of the said hub 16. The outer exposed side of the sleeve 18, adjacent the flange 19, is formed with a central projection 25, having a groove 26 therein, the said projection and groove extending entirely across the diametrical extent of the sleeve at this point. In fact, the flange and the adjacent portion of the sleeve are in the form of a stationary cap, and the cap 23 is likewise provided with a central projection 27, having a groove 28 similar to that heretofore set forth. The sleeve has a bore 29 extending therethrough from end to end, and the cap 23 is provided with a central opening 30, which alines with the said bore 29. After the sleeve is inserted in the hub 16 and the cap 23 properly positioned, as shown in Fig. 2, the gage-wheel or colter, as the case may be, is then inserted in the fork 9 of the stem 2, and the ribs 12 on the inner sides of the arms 10 engage the grooves 26 and 28 in the outer end of the sleeve 18 and the cap 23, respectively, and a bolt 31 is then inserted through the openings 13 of the arms, the bore of the sleeve, and the opening in the cap 23, the head of the

bolt resting against the boss 14 and the securing-nut on the opposite side.

From the foregoing description it will be seen that a strong and durable bearing for a gage-wheel or colter is thus provided and that the parts thereof can quickly and easily be assembled or disassembled, and, further, by the use of the ribs 12 the strain on the arms of the fork 9 is distributed over a larger surface and said arms rendered stronger, and thereby provided with greater resistance to fracture. The said ribs also hold the parts that they engage in a non-rotatable position, and a very tight boxing over the hub is also provided, which will materially prevent the entrance of dust and dirt into the bearings. As shown by Fig. 1, a spring is adapted to be placed on the stem 2 between the socket 3 and the upper termination of the fork 9. Furthermore, through the use of the ribs 12 and when the parts are drawn up by bolt 31 the weight is put upon the wheel instead of the bolt, and the clamps set forth may be quickly adjusted and compensate for variation in size of the draft-animals.

The present device is intended particularly to be used on a binder to keep the weight of the tongue from the animals' necks and is permitted to turn in any direction. In turning or swiveling the bearing connection set forth obviates any injury to the parts arising from a lateral strain or turning operation.

It is obviously apparent that changes in the proportions, dimensions, and minor details of construction might be resorted to without in the least departing from the nature or spirit of the invention.

Having thus described the invention, what is claimed as new is—

1. In a device of the character set forth, the combination of a stem having a fork comprising opposite arms, a gage-wheel having a hub, a sleeve with a central bore removably mounted in the said hub and having a flange abutting against one end of the hub, a removable cap applied against the opposite end of the hub and of the sleeve, and a rod or bolt extending through the said arms of the fork, the sleeve and the cap, the said hub bearing upon the sleeve.

2. In a device of the character set forth, the combination of a stem having a fork comprising arms provided with ribs on the inner opposing sides thereof, a gage-wheel having a hub, a sleeve removably fitted in the said hub and having a flanged end to bear against one end of the hub, a removable cap against the opposite end of the hub and sleeve, the said cap and the end of the sleeve at which the flange is formed being grooved to engage the ribs on the arms, and a rod or bolt extending through the arms, sleeve and cap.

3. In a device of the character set forth, the combination of a stem having a fork comprising arms with ribs on the inner sides thereof, a gage-wheel having a hub, a sleeve removably mounted in said hub and having at one end an annular grooved flange and a central projection with a groove therein, said hub also being provided at the opposite end with a boss, a cap removably fitted on the opposite end of the hub and sleeve and having a recess to engage the boss and provided with an outer projection having a groove therein, the grooved projections of the sleeve and cap being adapted to engage the ribs on the arms of the fork, and a bolt extending through the said arms, sleeve and cap.

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

JAMES A. BLACKBURN.

Witnesses:

H. H. CAMPBELL,

A. M. DICK.