No. 840,438. PATENTED JAN. 1, 1907.

S. A. COWART.

CULTIVATOR HOPPLE.

APPLICATION FILED JUNE 7, 1906.

2 SHEETS—SHEET 1.

Fig. 2.

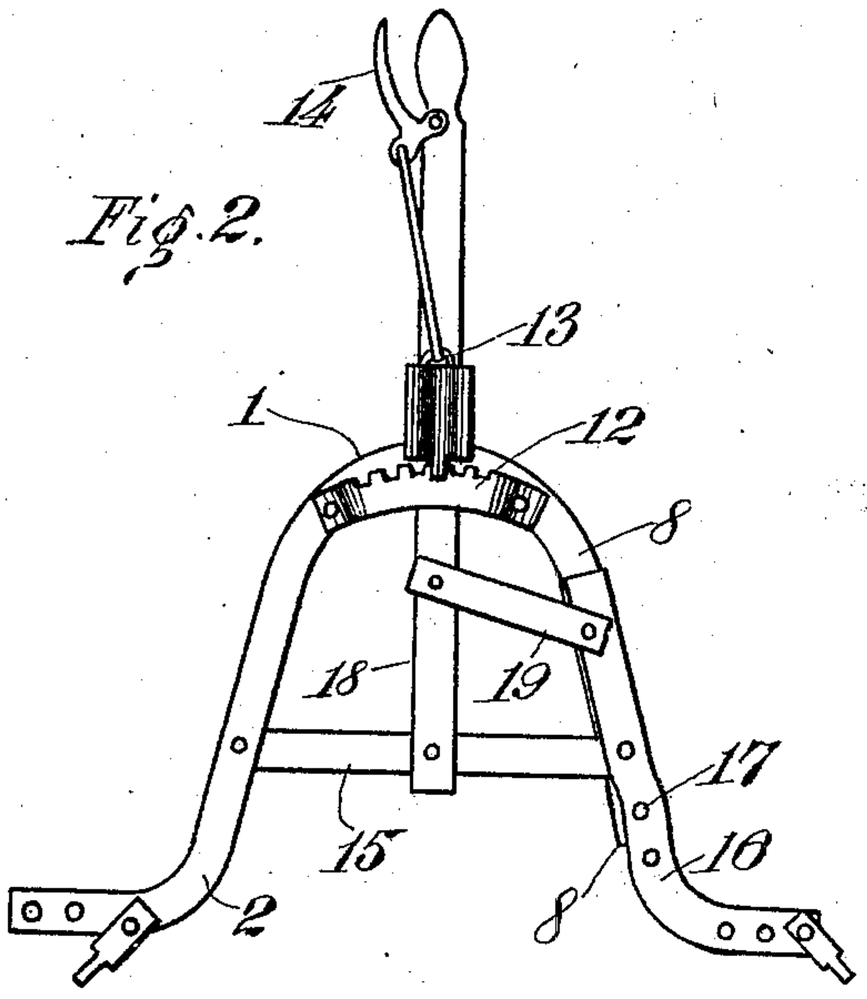
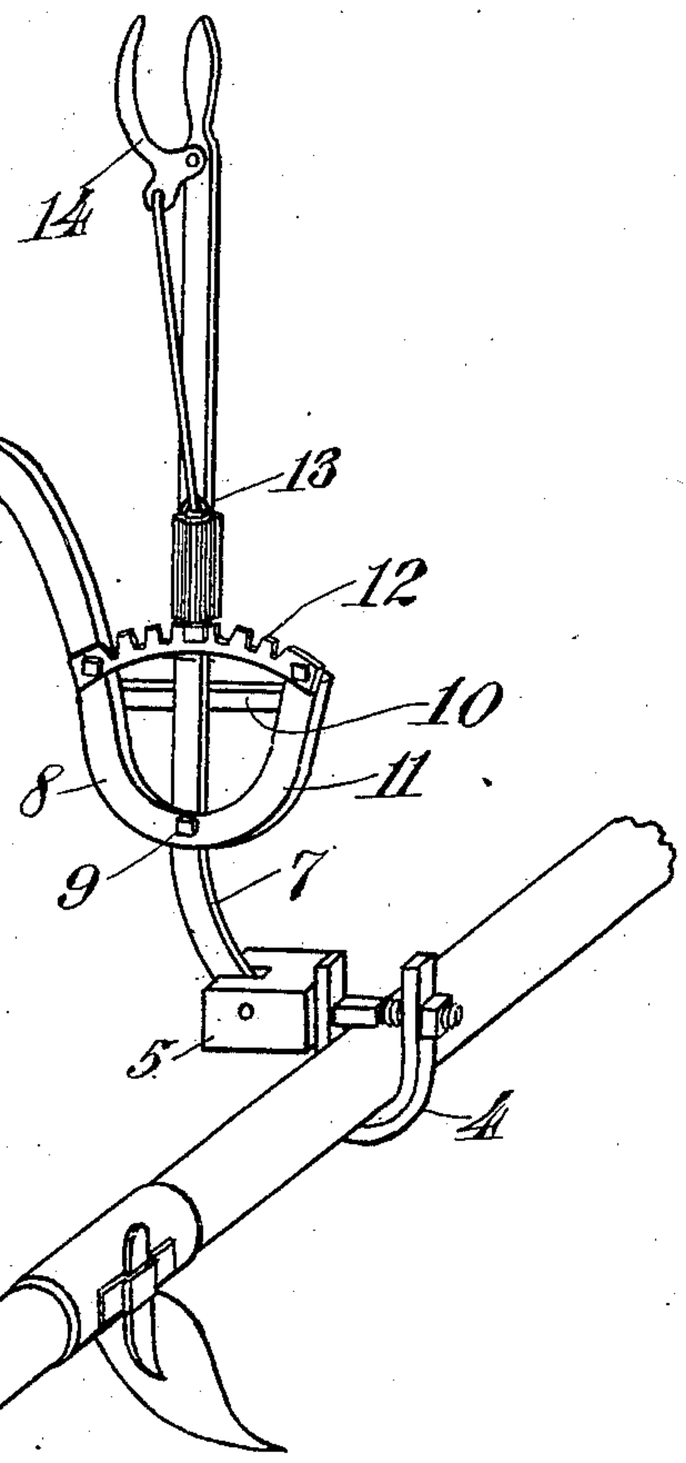


Fig. 1.



Witnesses:-

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2 SHEETS—SHEET 2.

Fig. 3

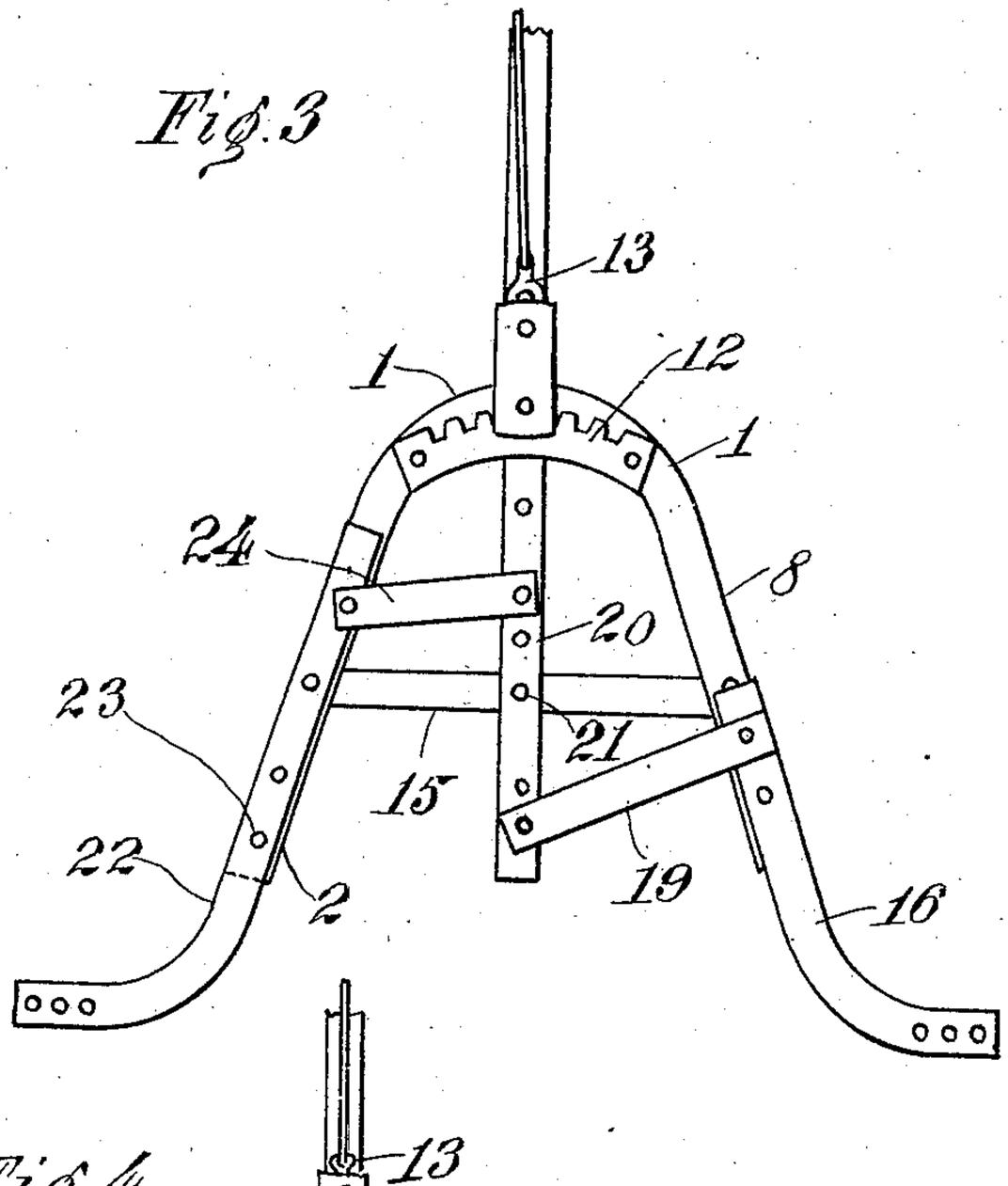
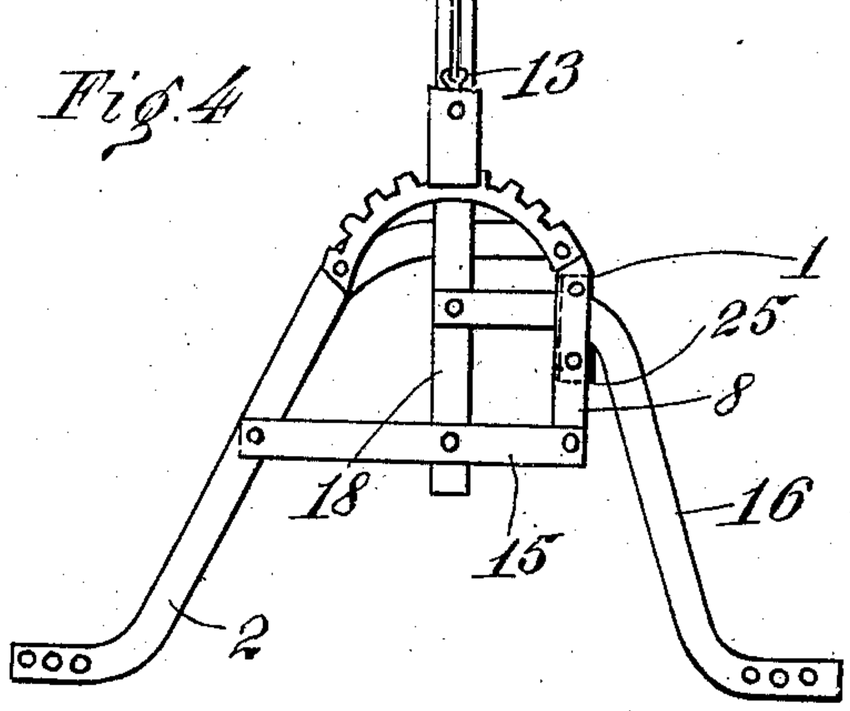


Fig. 4



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UNITED STATES PATENT OFFICE.

STEPHEN A. COWART, OF MIDLOTHIAN, TEXAS.

CULTIVATOR-HOPPLE.

No. 840,438. Specification of Letters Patent. Patented Jan. 1, 1907.

Application filed June 7, 1906. Serial No. 320,539.

To all whom it may concern:

Be it known that I, STEPHEN A. COWART, a citizen of the United States, residing at Midlothian, Texas, have invented certain new and useful Improvements in Cultivator-Hopples, of which the following is a specification.

This invention relates to hopples or devices for shifting the beams of cultivators for the purpose of adjusting the plows to rows of different widths or to cause the plows to run at the desired distances from the plants; and the object is to provide an arch which will be rigid when adjusted and to provide means for adjusting the beams while the plow is in motion.

One of the advantages of my improved hopple is that I provide an arch which is not broken at the crest of the arch, where the greatest strength is needed, and another advantage is that I provide an arch and a fulcrum-bar for a lever, which bar is rigid with the arch. The arch is further strengthened by or made rigid by an arch-rack for engagement with a spring-dog carried by the hand-lever.

Other objects and advantages will be fully explained in the following description, and the invention will be more particularly pointed out in the claims.

Reference is had to the accompanying drawings, which form a part of this application and specification.

Figure 1 is a perspective view of one form of my improved hopple applied to plow-beams. Fig. 2 illustrates a variation of the arch of the hopple, but having one side adjustable with a lever, as shown in Fig. 1. Fig. 3 is a variation of the hopple, as shown in Fig. 2, but showing the same rigid arch and having a fulcrum-bar rigid with the arch. Fig. 4 is a variation of the hopple, as shown in Fig. 1, having the rigid arch and the fulcrum-bar rigid with the arch and one arm pivoted to the adjusting-lever.

The hopple shown in Fig. 1 has an arch 1 with a leg 2 for attachment to a plow-beam 3. The leg 2 is attached to the plow-beam 3 by means of a clamp 4 and a bolt 5, which has a slotted head to receive the leg 2, which may be secured in said bolt-head by a pin 6. The leg 2 has several holes, whereby the leg 2 is made adjustable in the bolt-head. The other leg of the arch is completed by means of a lever 7, which engages a bolt-head 5 of the clamp 4. The lever 7 is fulcrumed on the leg 8 of the arch by means of a pin 9. A keeper 10 is bolted rigidly to the bow 11, formed on the end of leg 8, and a curved rack 12 is also bolted rigidly on the bow 11. The lever 7 carries a spring-pressed dog 13, such as are in common use, for engaging the rack 12 at any desirable position on said rack. The lever 7 also carries the usual thumb-lever 14 for actuating the dog 13. By means of the lever 7 the plow-beams may be thrown closer toward each other or farther from each other while the plow is in motion. The hopple has the other adjustment previously described—that is, the leg 2—provided with several bolt-holes.

In the form of the hopple shown in Fig. 2 the arch 1 and the leg 2 and the rack 12 are the same as shown in Fig. 1. There is an adjustment for one leg of the arch, as in Fig. 1. A fulcrum-bar 15 is bolted rigidly to the leg 2 of the arch 1 and to leg 8 of the arch. An adjustable leg 16 here completes the leg 8 of the arch instead of completing the leg 8 with a lever, as in Fig. 1. The leg 16 is pivotally connected to the leg 8 by means of a pivot-bolt 17, and the leg 16 has a plurality of holes by which it may be attached to leg 8 at different adjustments. A lever 18 is fulcrumed on the bar 15. A link 19 is pivotally connected both to the leg 16 and to the lever 18. The dog 13 and thumb-lever 14 are the same as in Fig. 1. By means of the lever 18 any desired adjustment of the plow-beams may be effected.

In the form of the hopple shown in Fig. 3 the arch 1, legs 2 and 8, rack 12, dog 13, fulcrum-bar 15, link 19, and an adjustable leg 16 perform the same functions as these elements perform in the forms of hopples previously described. The lever in the form of hopple in Fig. 3 is fulcrumed in a different manner from the fulcrum shown in Fig. 2, being fulcrumed on the bar 15 by means of the pivot-bolt 21. The fulcrum-bar 15 is rigid with arch 1, as in Fig. 2. Fig. 3 shows an additional adjusting-leg 22, which is pivotally connected to the leg 2 of arch 1 by means of a pivot-bolt 23. A link 24 is pivotally connected both to the leg 22 and to the lever 20. A movement of the lever 20 will effect a movement or adjustment of both legs 16 and 22, so that the plow-beams to which these legs are attached can be adjusted to any desired adjustment.

In the form of hopple shown in Fig. 4 the same arch 1, legs 2 and 8, rigid fulcrum-bar 15, lever 18, rack 12, dog 13 are shown with the same functions as these elements have in the previous figures. A keeper 25 is bolted to the leg 8 in Fig. 4 to serve as a guide for the adjusting member 16, which is pivotally connected to the lever 18. The member 16 is held approximately in the same plane as the leg 2 and the arch 1 by means of the keeper 25.

In all the forms of the hopple shown there is the same rigid arch, which is not weakened by slots or rack-teeth. The fulcrum-bar is also rigid with the arch, and with the exception of the form shown in Fig. 1 this fulcrum-bar strengthens the arch, and the arch is strengthened by the rack also except in the form shown in Fig. 1. The arch in all the figures serves as a keeper for the lever.

It will be seen that the hopple herein shown is adapted for attachment to any ordinary cultivator. The arch and the rack and the fulcrum-bar in all the forms being rigid with each other, the crest of the arch is rigid and has the necessary strength.

The hopple is provided with a lever which carries a spring-pressed dog for engaging the rack to hold the legs of the hopple in any desirable positions. The adjusting-lever is arranged for the convenience of the driver, and the driver can adjust the hopples while in motion.

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

1. A hopple for cultivators comprising an arch-bar, arms rigid with said arch-bar and provided with means for adjusting the beams of the cultivator toward or from each other, a rack rigid with the crest of said arch, a fulcrum-bar rigid with said arch-bar, and a lever for actuating said adjusting means provided with a spring-pressed dog for engaging said rack and pivotally mounted on said fulcrum-bar.

2. A hopple for cultivators comprising an arch-bar rigid at the crest thereof and provided with arms rigid therewith, adjusting members connecting said arms to the beams of the cultivator, a rack rigid with said arch, and a lever for operating said adjusting members carrying a spring-pressed dog for engaging said rack and provided with a fulcrum rigid with said arch-bar.

In testimony whereof I set my hand, in the presence of two witnesses, this 28th day of May, 1906.

STEPHEN A. COWART.

Witnesses:

L. P. HINKLE,

C. J. HENDRIX.