

No. 894,552.

PATENTED JULY 28, 1908.

J. W. WARNER.
ATTACHMENT FOR CULTIVATORS.

APPLICATION FILED DEC. 19, 1907.

2 SHEETS—SHEET 2.

FIG. 3—

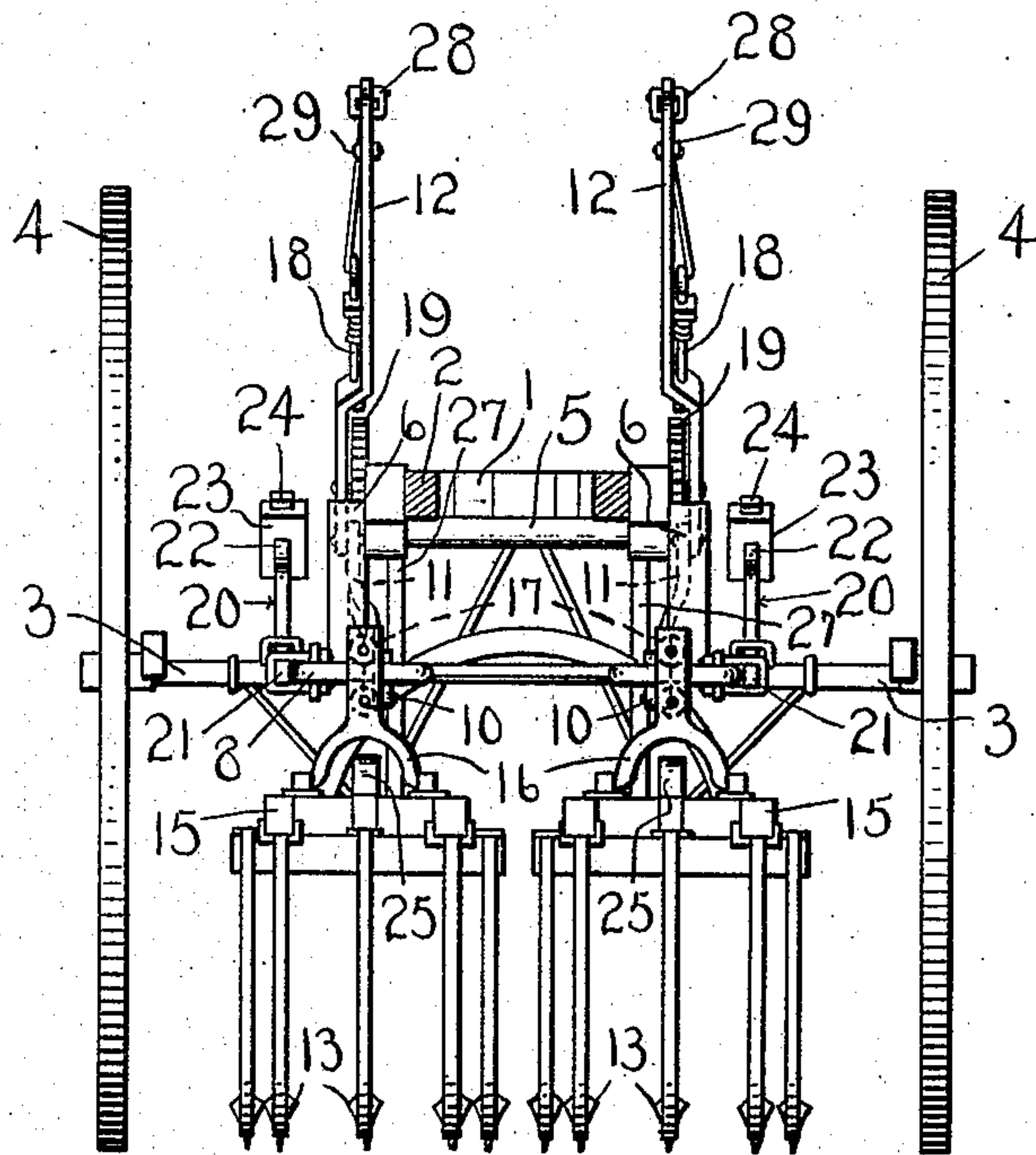


FIG. 4—

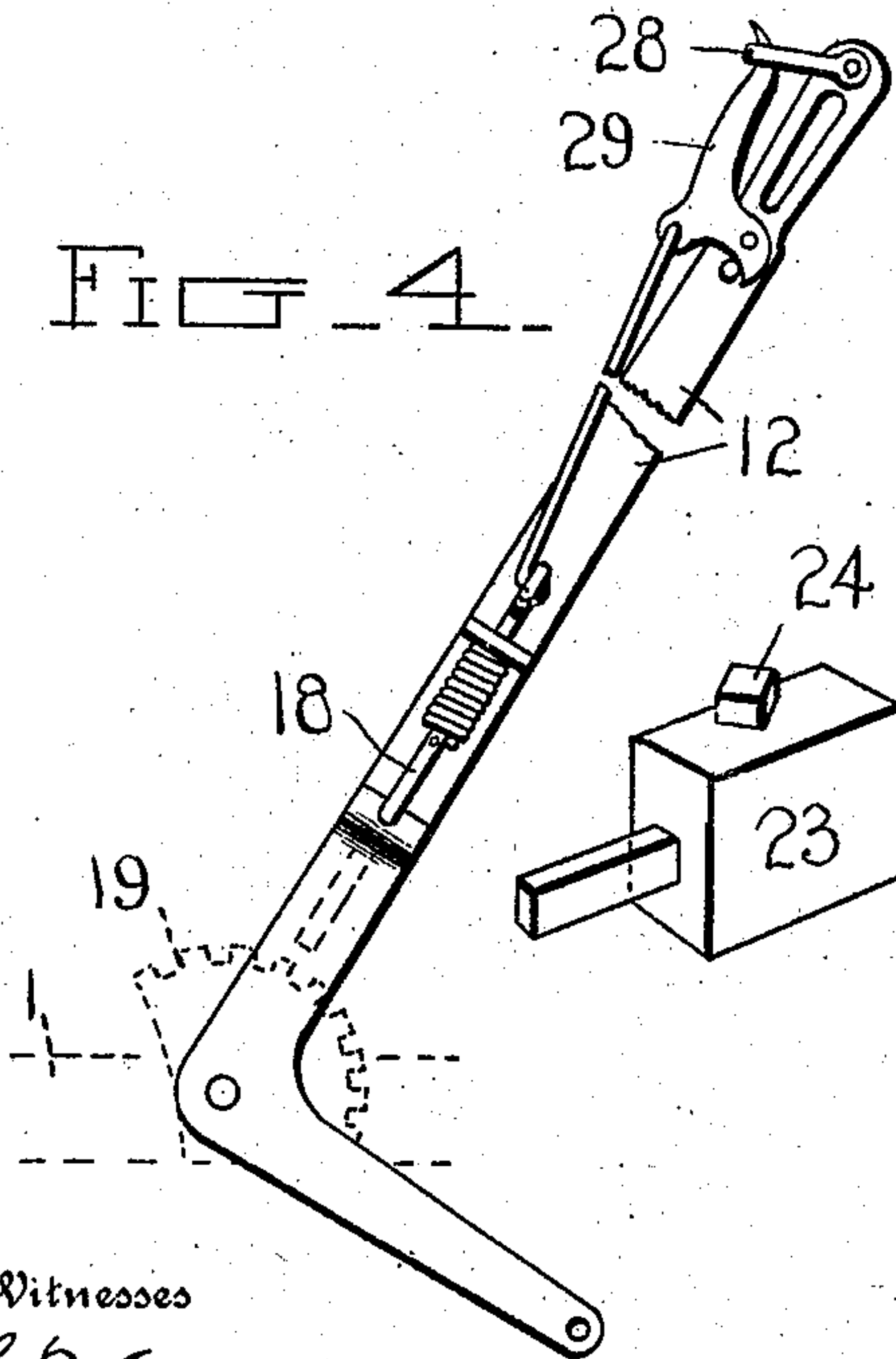
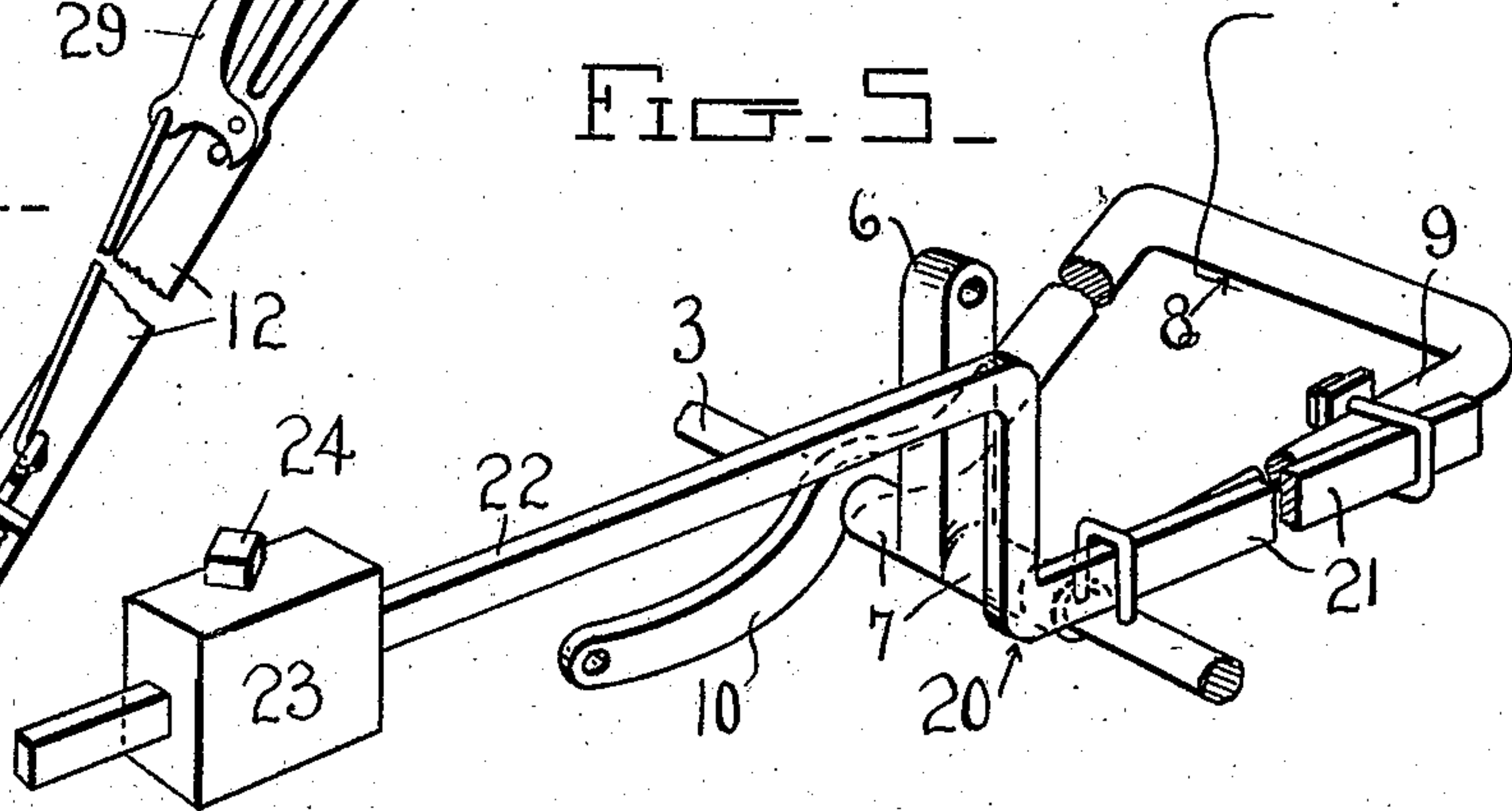


FIG. 5—



Witnesses

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ATTACHMENT FOR CULTIVATORS.

No. 894,552.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JONATHAN W. WARNER, a citizen of the United States, residing at Sandusky, in the county of Sanilac, State of Michigan, have invented certain new and useful Improvements in Attachments for Cultivators; 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.

The present invention has reference to attachments for cultivators and more especially for two-horse cultivators of that type in which each set of teeth is connected with a saddle carried by a lever which, in turn, is pivoted to the frame of the machine, as is generally understood, the principal object of the invention being the provision of a balance lever secured at its rear end to the outer arm of each saddle and pivoted intermediate its ends to the axle, the front end of each lever being bent upwardly and then forwardly and provided with a weight adjustably mounted thereon, which levers serve to maintain an even pressure upon both saddles and the teeth connected therewith, the depth to which the latter penetrate the ground being thus approximately constant when the position of the weight has been adjusted.

The invention will be readily understood from a consideration of the following detailed description and its preferred embodiment is illustrated in the accompanying drawings in which like parts or features as the case may be are designated by corresponding reference numerals in the several views.

Of the said drawings:—Figure 1 is a side elevation of a two-horse cultivator provided with the improved balance lever. Fig. 2 is a top plan view thereof. Fig. 3 is a rear elevation. Fig. 4 is an enlarged detail view of one of the operating levers. Fig. 5 is a similar view of one of the balance levers and the saddle with which it is connected.

Referring more particularly to the drawings, 1 and 2 designate respectively the front and rear beams of the frame of the machine, 3 the axle, and 4 the wheels rotatably attached thereto. Said beams extend in opposite directions, in the usual manner, and are pivotally connected by collars, or otherwise, with a transverse rod 5, whose ends fit in the bearings formed in a pair of vertical brackets 6, which brackets are formed upon

sleeves 7 carried by the axle adjacent the opposite ends thereof.

Secured to the axle adjacent each sleeve is a rearwardly-extending U-shaped saddle 8 whose outer or shorter arm 9 is pivotally connected at its free end to the axle, while its inner or larger arm 10 extends directly across the axle. The free end of the last mentioned arm is pivoted to the lower end of a pitman 11 whose other end is pivoted to the shorter arm of an angular operating lever 12 the movement of which towards or from the driver, will correspondingly raise or lower the shovels or teeth 13 secured to the under face of a pair of forwardly-extending beams 15, which beams are connected with the bight portion of the adjacent saddle by a stirrup 16, the upper end of each stirrup being bifurcated for the reception of a pair of rollers 17 adapted to travel along said portion. The upper arm of each operating lever is provided with a spring-pressed dog 18 adapted to engage the teeth of a segmental rack 19 secured to the outer side face of the adjacent front beam 1 to which rack said operating levers are likewise pivoted.

Secured at its rear end to the side of the shorter arm 9 of each saddle is a balance lever 20 which is bent upon itself intermediate its ends, as shown in Fig. 5, to form front and rear portions 22 and 21 which lie in different horizontal planes, the forward end of the lower or rear portion being stapled to the axle in such a manner as to permit a swinging movement of said lever in a vertical plane. The forward portion 22 of each balance lever carries a sliding weight 23 which is held in adjusted position thereon by a screw 24.

The pairs of beams 15 converge towards each other at their forward ends and are connected together at such points by yokes 25 each of which is pivoted for movement in a vertical plane upon a spindle 26 formed upon or secured to the lower end of a depending rod 27 whose upper end is secured to the adjacent front beam 1.

The arrangement of the parts above described is such that the machine may be regarded as composed of two separate sections each of which comprises a pair of beams 15, the saddle connected therewith, and the balance and operating levers connected with the saddle, each section being capable of movement independently of the other, to

compensate for any irregularity in the ground over which the machine is drawn. The formation of a cultivator in two separate sections, however, is broadly old and no specific claim is therefore made to such construction.

Each angle lever 12 carries at the upper end of its main arm a pivoted strap 28 adapted for engagement with the corresponding dog-operating lever 29, to hold the dog in retracted position. When so engaged, it will be apparent that each angle lever is free to move towards or from the driver according to the position assumed by the balance levers which latter adjust themselves automatically to compensate for any irregularities in the ground, being practically stationary and horizontal when the machine passes over level ground. It will also be apparent that the ground pressure of both sets of teeth is equal, and that, when the position of the weights 23 is adjusted such pressure is virtually constant, the depth to which the levers penetrate the ground being likewise regulated by the position of the weights.

By reason of the construction of the machine in two independent sections, it will be apparent that where one wheel passes over a stone or into a furrow, as the case may be, the corresponding set of teeth will not be raised completely away from the ground or be driven to an increased depth therein, but by reason of the provision of balance levers, will continue in the formation of furrows whose depth is the same as that of the furrows formed by the other section.

What is claimed is:—

1. The combination, in a cultivator, of an axle; a U-shaped saddle pivoted to each end of the axle; tooth-carrying bars connected with each saddle; an operating lever pivotally connected with one arm of each saddle; and a balance lever connected to the other arm of each saddle, to permit an independent movement of the saddles with respect to each other.

2. The combination, in a cultivator, of an axle; a rearwardly-extending U-shaped saddle pivoted to each end of the axle; tooth-

carrying bar connected with each saddle; an operating lever pivotally connected with one arm of each saddle; and a balance lever secured to the other arm of each saddle and extending parallel therewith across the axle, to permit an independent movement of the saddles with respect to each other.

3. The combination, in a cultivator, of an axle; a rearwardly-extending U-shaped saddle located adjacent each end of the axle and having arms of unequal lengths pivotally connected therewith, the longer arm of each saddle extending forwardly across the axle; an operating lever pivotally connected with the forward end of the longer arm of each saddle; a lever secured to the shorter arm of each saddle and extending forwardly parallel therewith across the axle; and a weight carried by each of the last-mentioned levers at its forward end, to permit an independent movement of the saddles with respect to each other.

4. The combination, in a cultivator, of an axle; a rearwardly-extending U-shaped saddle located adjacent each end of the axle and having arms of unequal lengths pivotally connected therewith; the longer arm of each saddle extending forwardly across the axle; an operating lever pivotally connected with the forward end of the longer arm of each saddle; a lever secured to the shorter arm of each saddle and extending forwardly parallel therewith across the axle; a weight carried by each of the last-mentioned levers at its forward end, to permit an independent movement of the saddles with respect to each other; a traveling stirrup connected with the bight portion of each saddle, the upper portion of each stirrup having a bifurcation formed thereon through which the bight portion extends; and upper and lower rollers disposed within the bifurcations and contacting with the opposite surfaces of the bight portions.

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

JONATHAN W. WARNER.

Witnesses:

JOHN H. HANDS,

WILLIAM S. DICKEN.