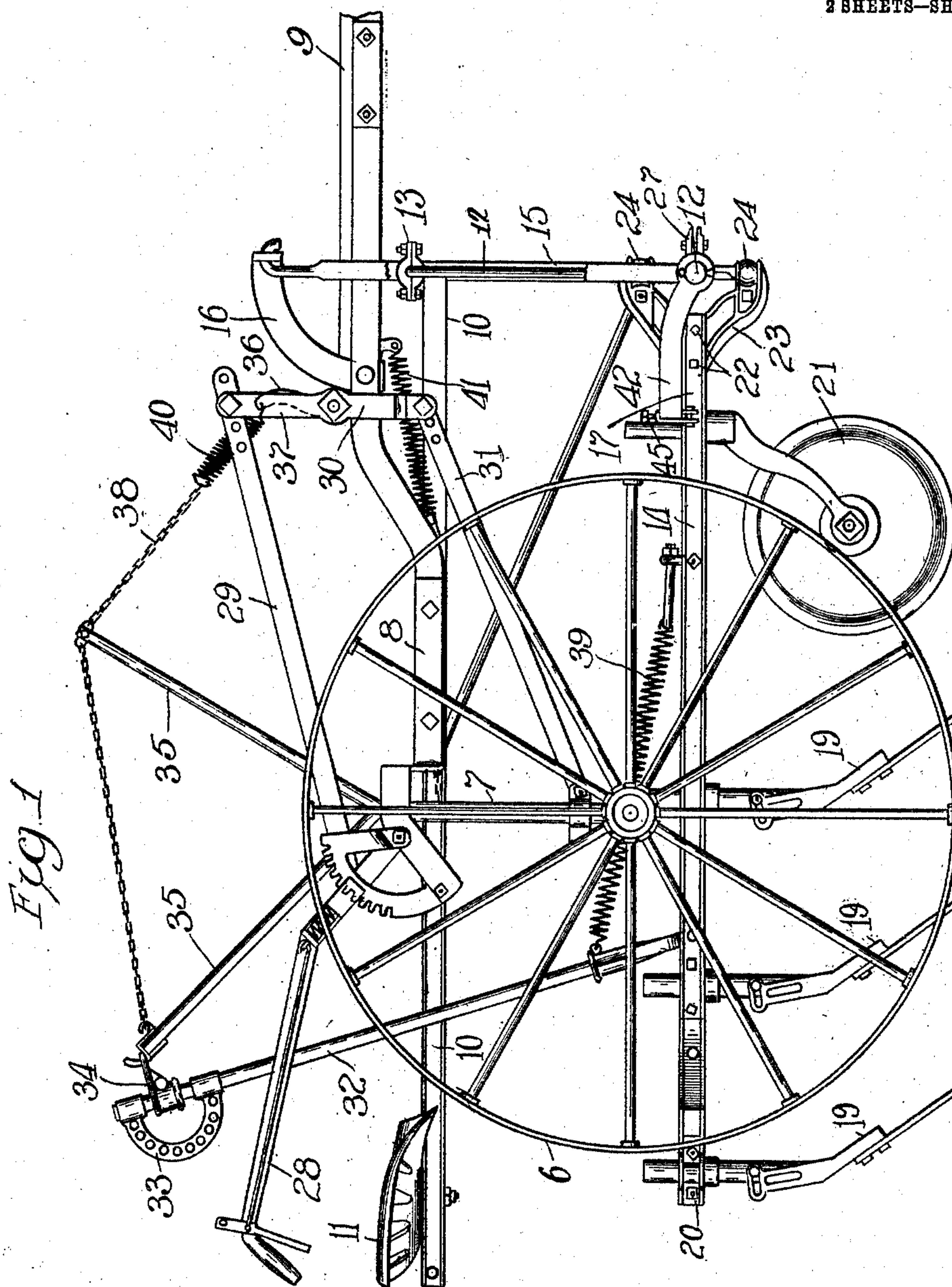


G. D. HOUSTON.
RIDING CULTIVATOR.
APPLICATION FILED JAN. 12, 1910.

967,195.

Patented Aug. 16, 1910.

2 SHEETS—SHEET 1.



Witnesses:
C. B. White
J. Wilson

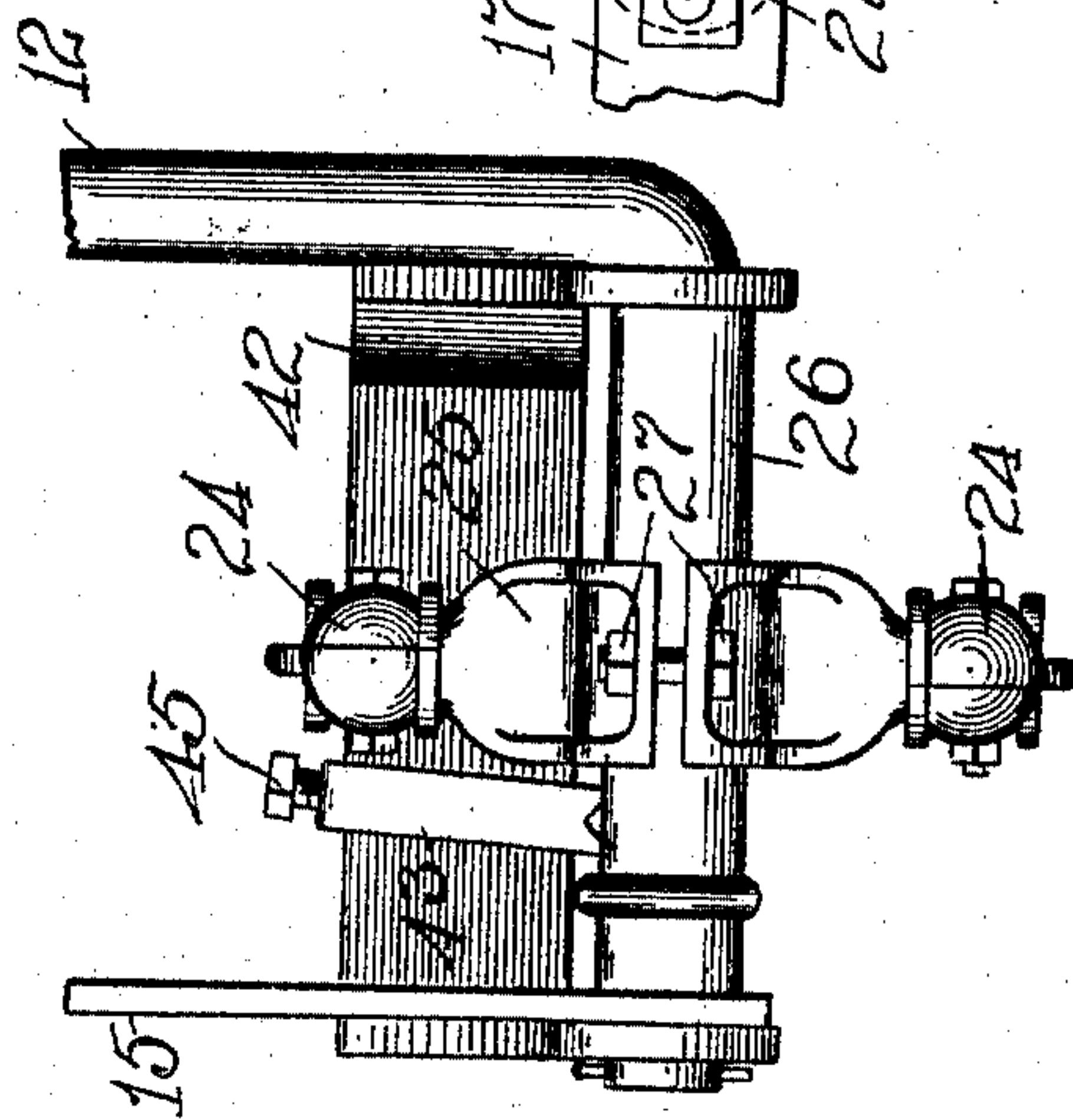
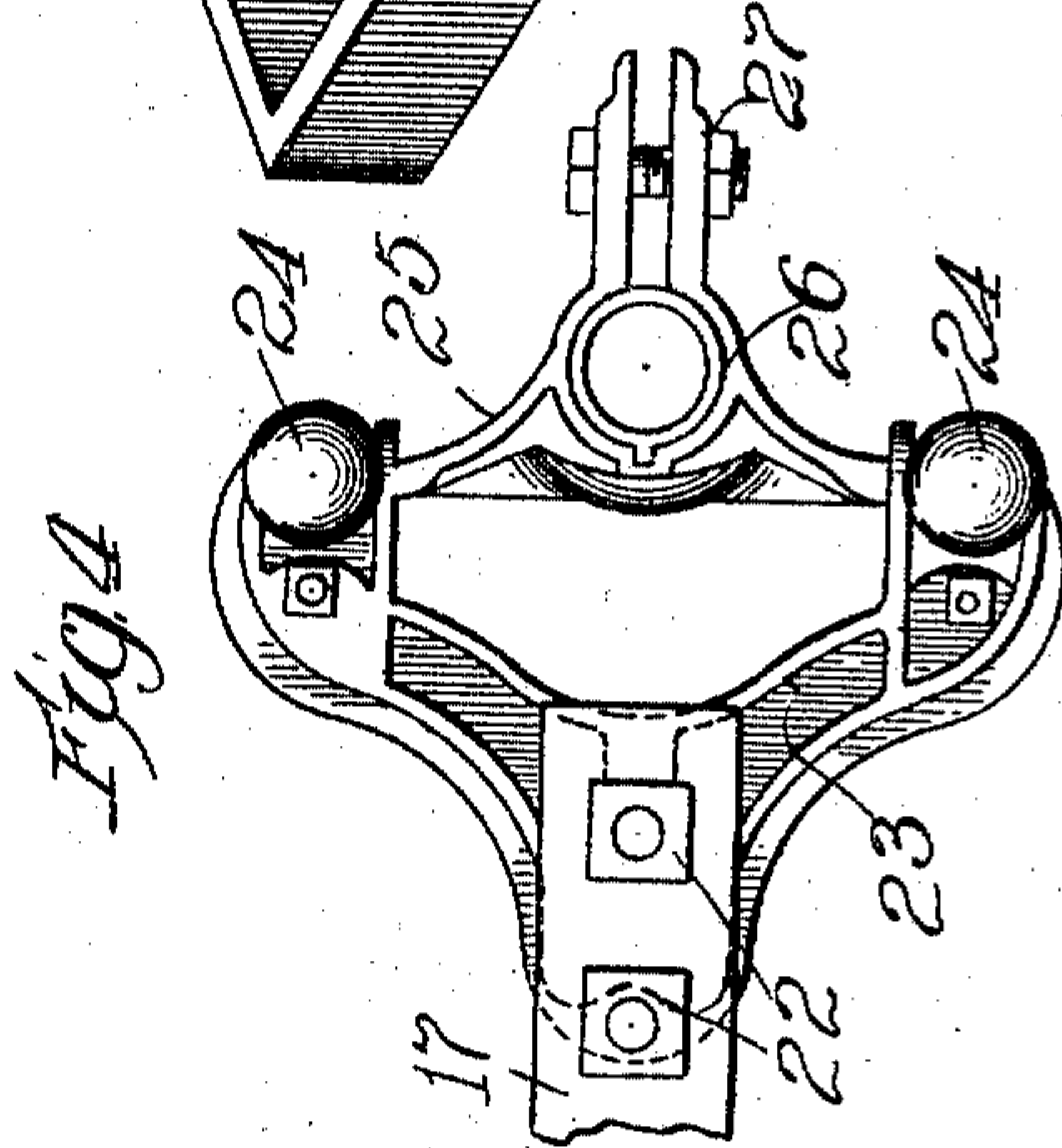
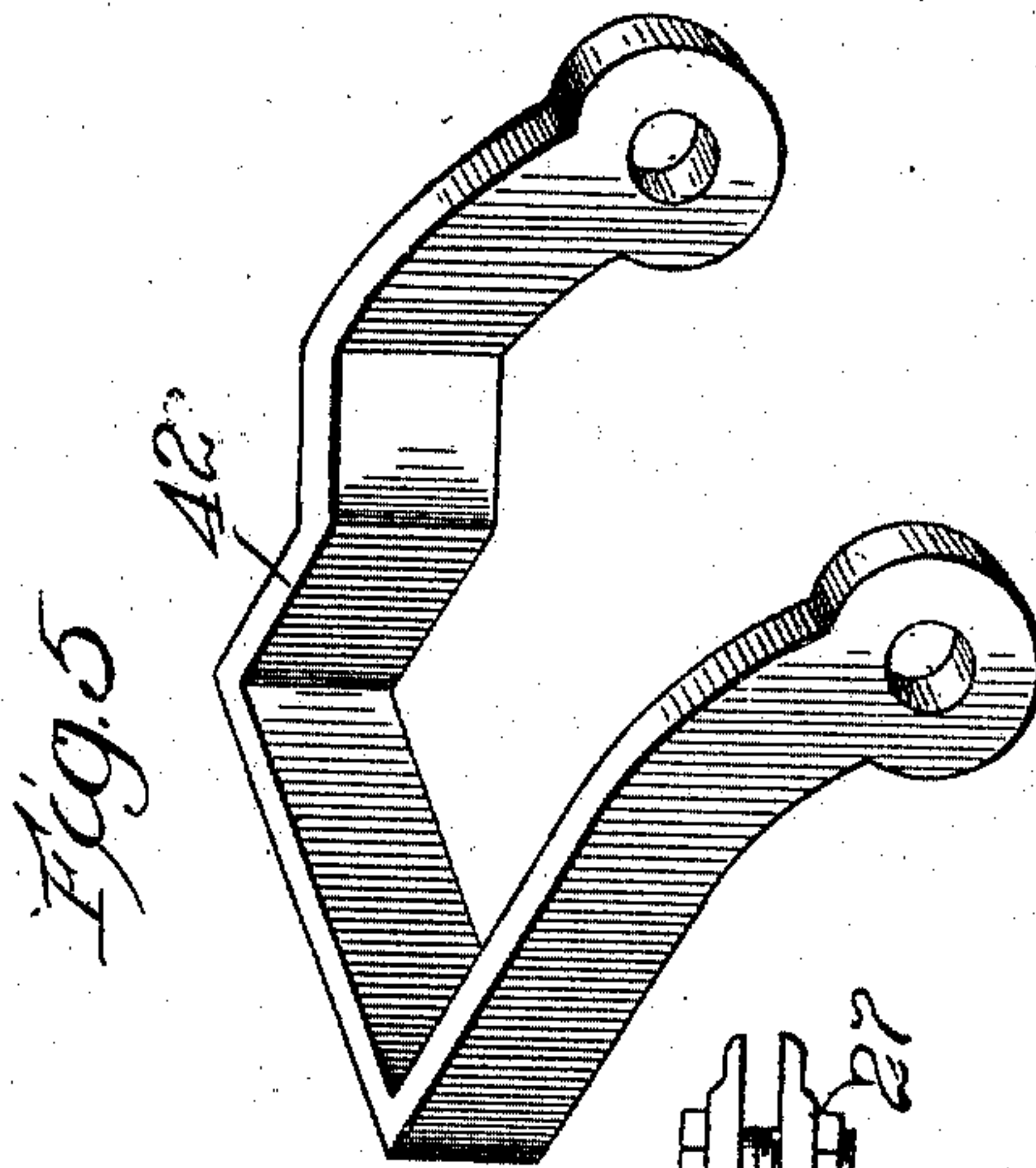
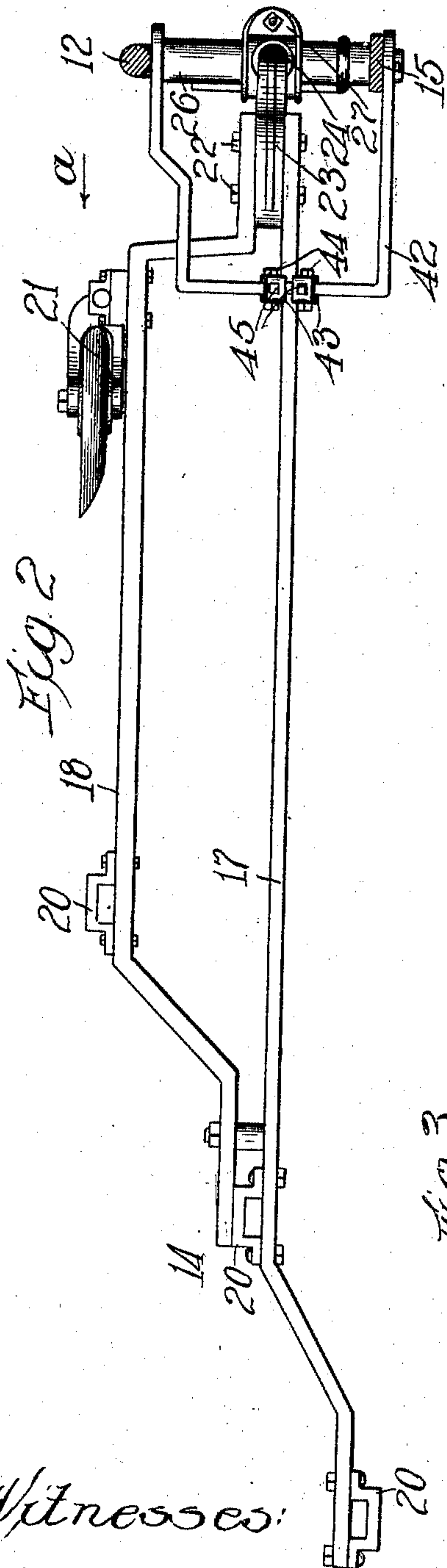
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George D. Houston
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2 SHEETS—SHEET 2.



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By

Inventor:

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Atty.

UNITED STATES PATENT OFFICE.

GEORGE D. HOUSTON, OF RUSHVILLE, ILLINOIS.

RIDING-CULTIVATOR.

967,195.

Specification of Letters Patent. Patented Aug. 16, 1910.

Application filed January 12, 1910. Serial No. 537,585.

To all whom it may concern:

Be it known that I, GEORGE D. HOUSTON, a citizen of the United States, and resident of Rushville, Schuyler county, State of Illinois, have invented certain new and useful Improvements in Riding-Cultivators, of which the following is a specification.

This invention relates to improvements in riding cultivators adapted for plowing corn, tobacco or other crops which are planted in rows, and its object is to provide a cultivator which shall be simple in construction, cheap to manufacture and easy to operate.

More specifically, my invention is an improvement over my prior Patent #853,409, granted May 14, 1907, which disclosed the idea of shifting and guiding the gangs in a cultivator of this character, by swinging the head laterally about a pivot and maintaining the gangs in parallel relation at a predetermined distance apart, so that the shovels would always be kept at the same angle and parallel with the tongue. The means for maintaining the parallel relation of the gangs, consisted in a pair of arch-shaped hangers which were secured to the gangs at their front and rear ends.

My present invention aims to obviate the necessity of arch-shaped hangers, and maintains the parallel relation of the gangs by a simple and effective construction located at the front of the gang beams, and consisting of a yoke provided with adjustable clips, which, although permitting of slight variable movements of the gangs independently of each other, limit the extent of such movements and maintain the gangs in substantially parallel relation.

My invention will be best understood by reference to the following description when taken in connection with the accompanying illustration of one specific embodiment thereof, while its scope will be more particularly pointed out in the appended claims.

In the drawings which illustrate the preferred embodiment of my invention Figure 1 is an elevation. Fig. 2 is a plan of one of the gangs. Fig. 3 is an end elevation of a gang looking in the direction of the arrow *a*, Fig. 2. Fig. 4 is a side elevation of the pivotal mounting for the gang, and, Fig. 5 is a perspective of the yoke.

Referring to the drawings, the wheels 6 are mounted on the ends of an arched axle 7,

which carries the main frame 8 of the cultivator, and from the forward end of which extends the tongue 9. The lever 10 forming a support at its rear end for the seat 11, is pivotally supported beneath the axle 7, in a suitable manner which will permit the seat lever to swing laterally and vertically as in my patent above referred to. Upon the forward end of the lever 10, is mounted an arch 12, by means of the clips 13. The arch extends downwardly on either side of the clips 13 and has its lower ends bent outwardly as shown in Figs. 2 and 3, to serve as bearings for the gangs 14. The arch is supported by a plurality of straps 15, which are slipped over the ends of the arch and which are pivotally mounted at their upper ends in forwardly curved brackets 16 secured to the main frame 8.

It will be evident that the yoke mounted and supported as above described, is capable of lateral movement, which in the operation of the machine will be imparted to it from the seat lever 10.

The gangs 14 comprise a plurality of bars 17 and 18 bent to space the shovels 19, which are secured to the gangs by the clips 20, the proper distance apart. To the inner side of the inner bar 18 there may be attached a rolling colter 21, and whenever it is necessary the bar may also be supplied with a fender. The forward ends of the bars 17 and 18 are brought near each other and into substantial parallelism, and are secured by bolts 22 to either side of the head 23. The upper and lower ends of the head 23 are provided with split cup-shaped bearings 24, as best shown in Fig. 3. These bearings are adapted to receive the enlarged ends of a bearing member 25. The ball-and-socket joints between the members 23 and 25, permit the gangs to swing laterally about these bearings as pivots.

The lower ends of the arch 12, as previously mentioned, are bent to form horizontal bearings for the forward ends of the gangs. A spline sleeve 26 is adapted to slip over one of the ends of the arch and to be engaged between the split portion of the member 25, which is adapted to be drawn together by the bolt 27 to securely clamp the member 25 in any desired adjusted position longitudinally of the sleeve 26, to position the gang at a predetermined distance from

the row. The rear ends of the gangs may be raised and lowered about the bearing portions of the arch 12, by means of the hand lever 28 pivoted on the main frame, and carrying a link 29 adapted to oscillate a lever 30 which is attached to the axle 7 near its lower end by a link 31. Movement of the axle about the frame as a center in either direction, will lower the frame bodily.

Each of the gangs may be provided with an upwardly extending rod 32 having a hand-grip 33 at its upper end. A bearing eye 34 secured on the rod 32 projects laterally therefrom and is adapted to be engaged over an outwardly projecting finger on the end of one of a plurality of pivotally mounted levers 35. A lever 36 is rigidly secured and is attached by some suitable connecting means, such as the chain 38, to the pivotally mounted levers 35. It will be evident that by means of the handle lever the gangs may be lifted clear of the ground or adjusted at any desired depth. A contraction spring 39 is adapted to maintain the shovels in the ground, and springs 40 and 41 assist in raising and lowering the gangs and in absorbing the shocks incident to their movements.

In order to maintain the gangs in substantial parallelism so that they will swing together and be always maintained parallel with the tongue, it is necessary to limit the lateral movement of the gangs about the bearing points 24. To accomplish this result there is provided a plurality of yokes 42, each adapted to be mounted on a bearing portion of the arch 12 at the ends of the sleeves 26, as shown in Figs. 2 and 3. Each yoke extends back of the gang and has adjustably secured upon its rear portion, a plurality of clips 43 extending downwardly on either side of the bar 17. These clips are held on the yoke by bolts 44 which clasp the clips upon the yoke, and they are provided with set-screws 45 to insure their maintenance in the desired adjusted position. The bar 17 is thus limited in its lateral movement in either direction by the clips 43, and if desired the clips may be spaced a short distance apart so that slight independent lateral movement of the gangs may be had.

In plowing cross-way it is often desirable to move one of the gangs independently of the other, and by setting the clips in the desired position independent movement about the bearings 24 may be imparted to the gangs until they strike the limiting clips, whereupon any additional movement of the gang in the same direction, will carry the other gang with it. In plowing straight-way, very little if any, independent movement of the gangs is required; consequently the clips are usually set relatively close to either side of the bar 17, so that movement of either gang in either direction will carry

the other gang with it, thereby maintaining the gangs at all times in a substantially parallel relation.

While I have shown and described a preferred embodiment of my invention, it will be understood that various changes in the shape, form and minor mechanical details may be resorted to without departing from the spirit of the invention or sacrificing any of the material advantages thereof.

I claim:

1. In a cultivator, the combination of an arch, means for shifting said arch laterally, a plurality of gangs pivotally mounted on said arch, yoke devices independent of the pivotal gang mountings secured at either end of the arch and extending backwardly over the gangs, and means adjustable on the yoke devices for limiting the lateral movement of the gangs relative to the arch, whereby lateral movement of the arch will shift the gangs therewith and in substantially parallel relation.

2. In a cultivator, the combination of a frame, an arch, a plurality of gangs secured on the arch, yokes mounted on the arch independently of the gangs, and devices adjustably mounted on said yokes to engage the gangs, whereby the limits of the lateral swinging movements of the gangs may be varied.

3. In a cultivator, the combination of a frame, a plurality of gangs mounted thereon, an arch connecting the forward ends of said gangs, a yoke mounted on each end of the arch and disposed adjacent a gang, and a plurality of adjustable clips mounted on said yoke for limiting the independent lateral movement of the gangs.

4. In a cultivator, the combination of a frame, an arch, straps connecting the ends of said arch with the main frame, a gang mounted upon each end of the arch so as to be capable of swinging movement in a longitudinal and in a vertical plane about its point of attachment to the arch, and a yoke secured to each end of the arch and extending over the gangs and having adjustable means thereon to limit the lateral movement of each gang.

5. In a cultivator, the combination of an arch having an outwardly projecting end, a sleeve loosely mounted on said end of the arch, a bearing member rigidly secured to said sleeve, a gang pivotally attached to said bearing member, a yoke secured upon the arch and extending rearwardly over the gang, and means adjustable on said yoke and adapted to engage with said gang to limit the lateral swinging movement thereof about the bearing member.

6. In a cultivator, the combination of an arch provided with laterally extending ends, means for supporting said arch, sleeves loosely disposed upon the end of the arch,

bearing members adjustably secured upon
said sleeves, a head pivotally connected
with each bearing member, a gang rigidly
attached to each head, a plurality of yokes
5 each mounted upon an end of the arch and
disposed adjacent a gang, and members ad-
justable upon each yoke and adapted to en-
gage a gang to limit the swinging movement
of the gang about its bearing member.

GEORGE D. HOUSTON.

Witnesses:

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DAVID H. GLASS.