

No. 742,735.

PATENTED OCT. 27, 1903.

H. B. PORTER.
ADJUSTABLE ARCH FOR CULTIVATORS.

APPLICATION FILED JAN. 15, 1903.

NO MODEL.

2 SHEETS—SHEET 1.

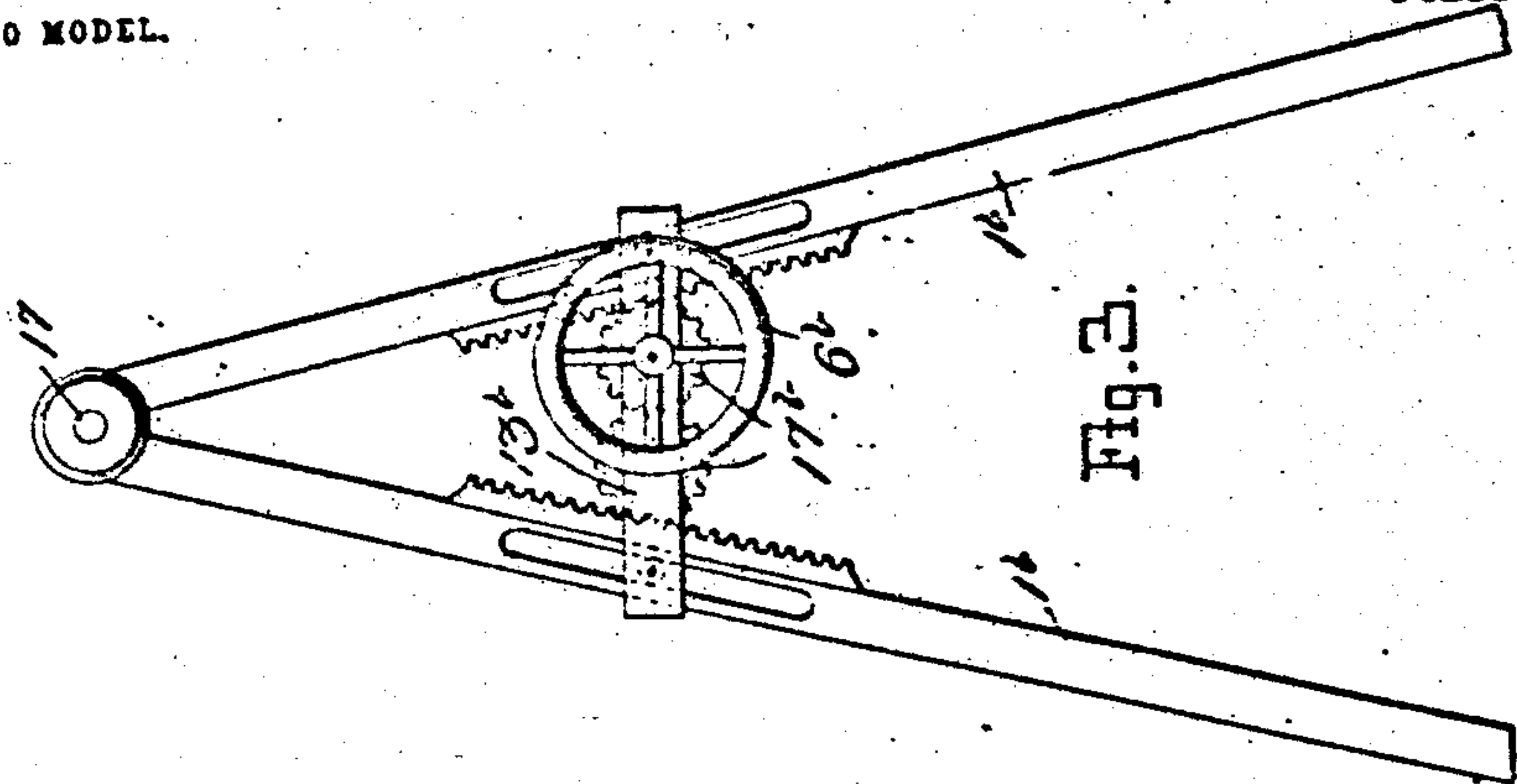


Fig. 3.

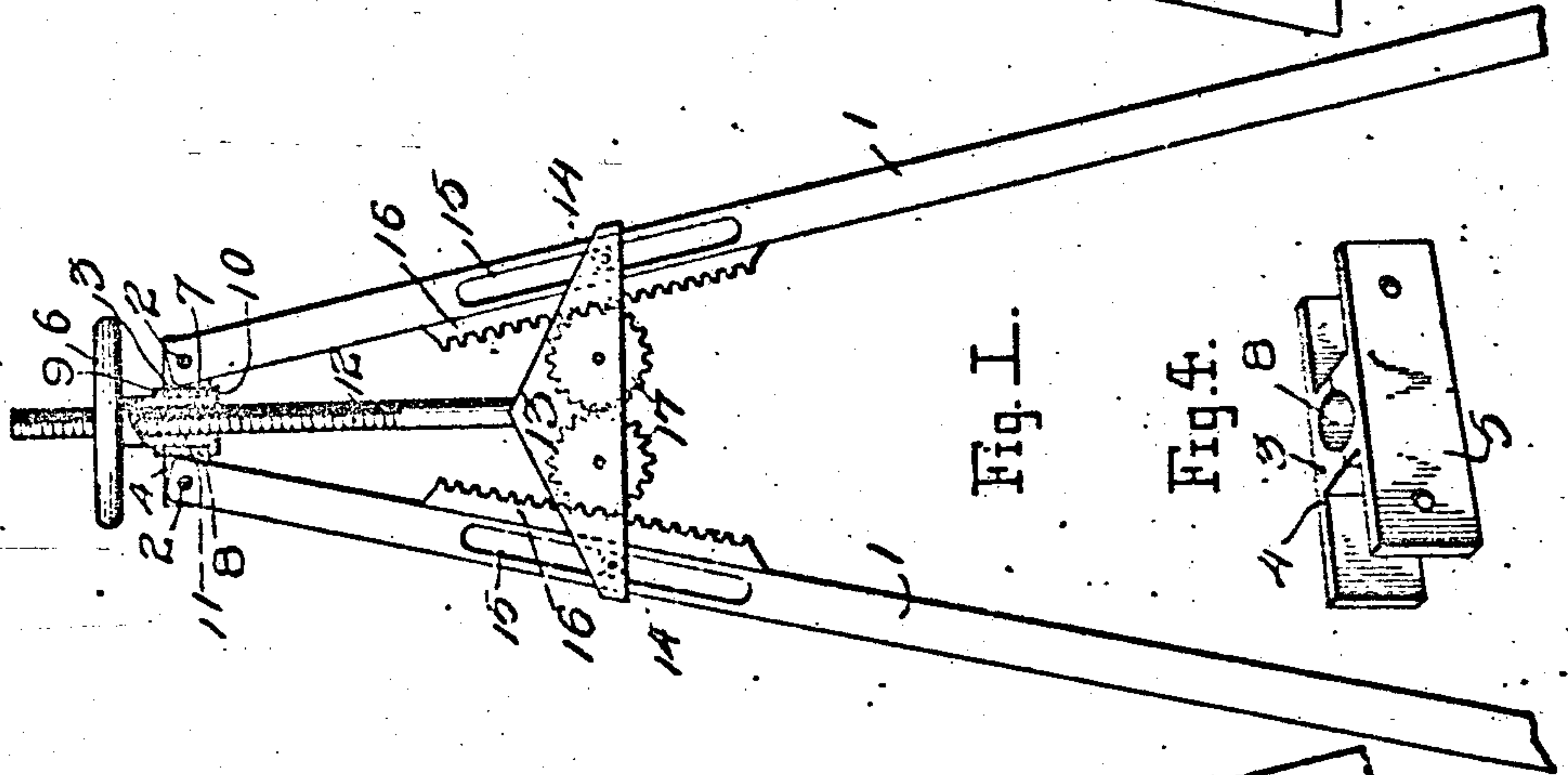


Fig. 1.

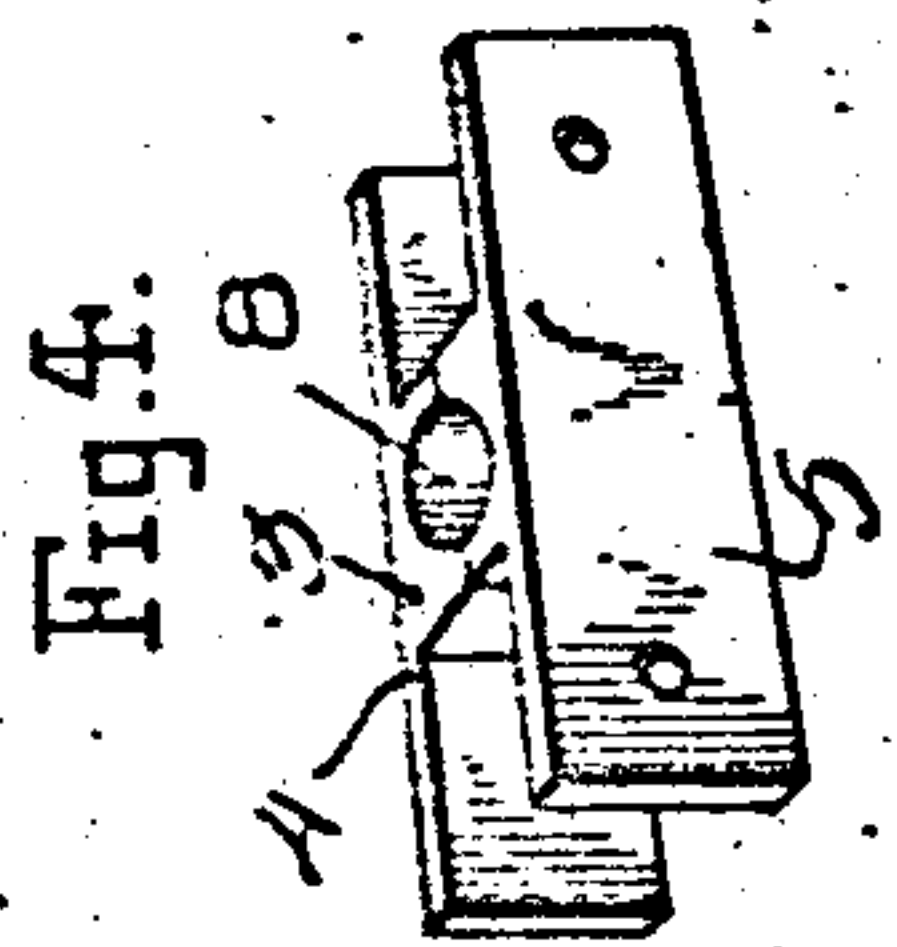


Fig. 4.

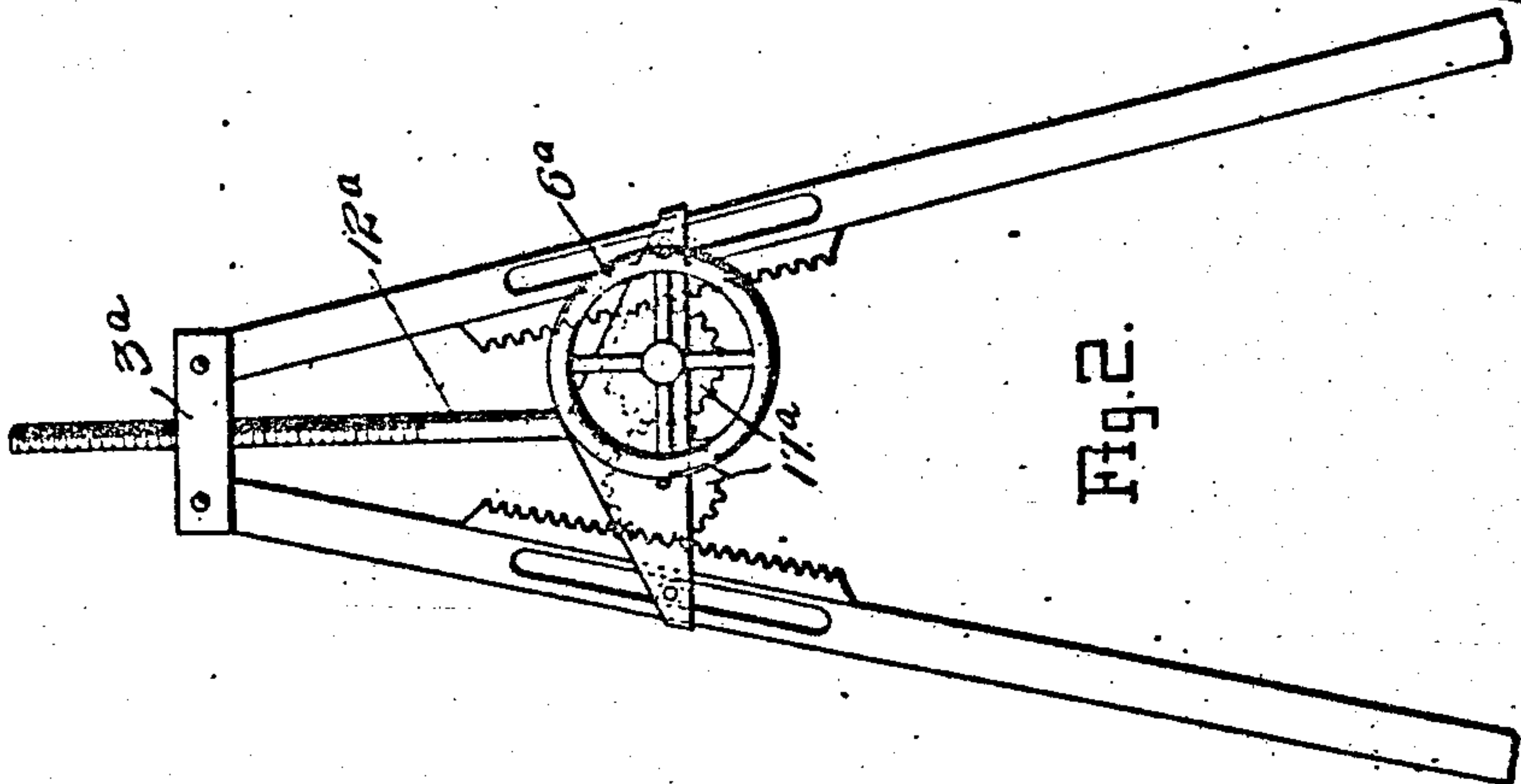


Fig. 2.

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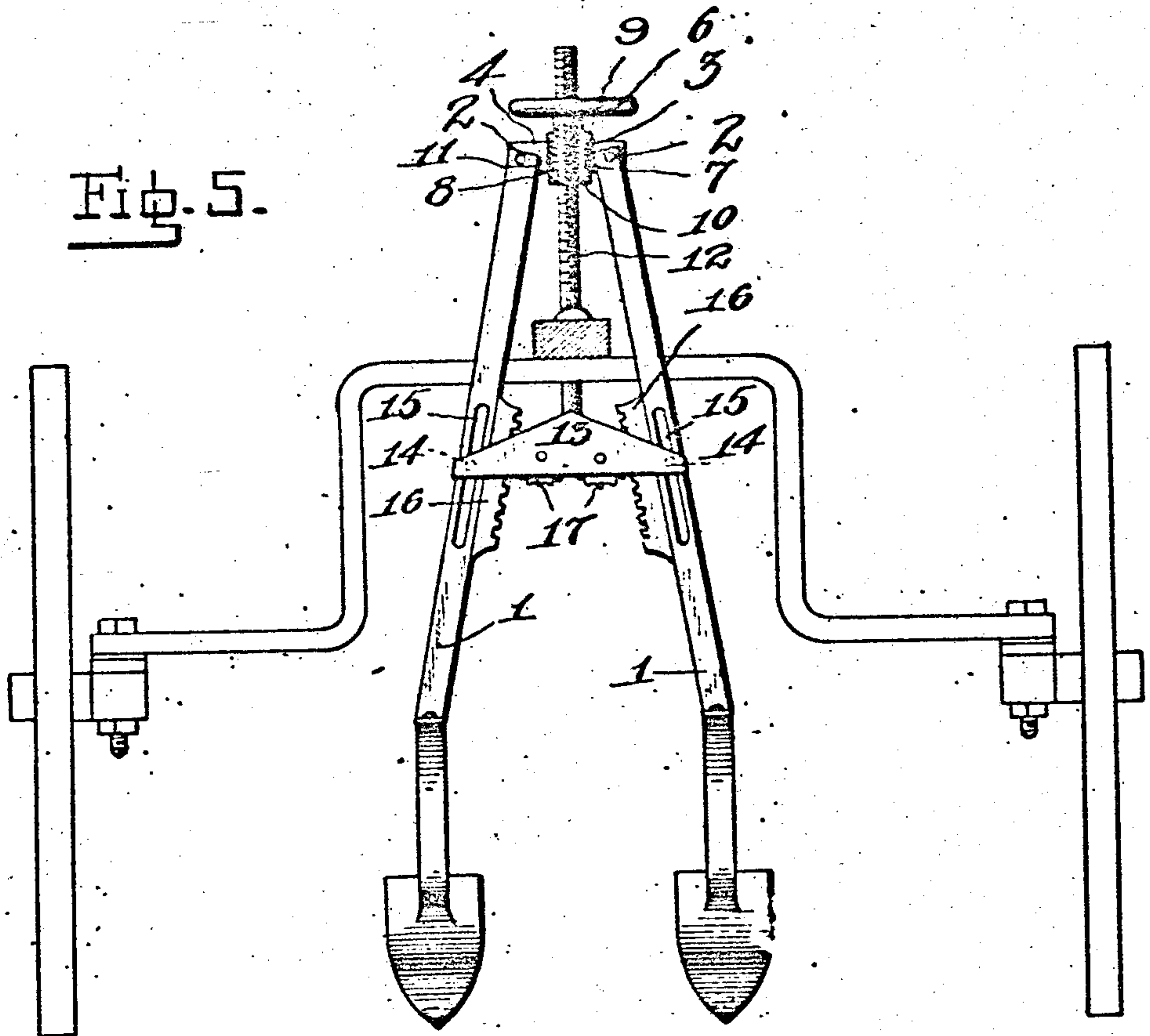
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2 SHEETS—SHEET 2.

Fig. 5.



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UNITED STATES PATENT OFFICE.

HARRISON B. PORTER, OF BUDA, TEXAS.

ADJUSTABLE ARCH FOR CULTIVATORS.

SPECIFICATION forming part of Letters Patent No. 742,735, dated October 27, 1903.

Application filed January 15, 1903. Serial No. 139,221. (No model.)

To all whom it may concern:

Be it known that I, HARRISON B. PORTER, a citizen of the United States, residing at Buda, in the county of Hays and State of Texas, have invented certain new and useful Improvements in Adjustable Arches for Cultivators; and I do 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 is an improved adjustable arch for cultivators; and it consists in the peculiar construction and combination of devices hereinafter fully described and claimed.

The object of my invention is to provide an improved cultivator-arch having arms mounted for movement toward and from each other and a shiftable adjusting device connecting the arms and adapted when shifted to move the arms toward and from each other, whereby the cultivator-beams may be shifted laterally to dispose the cultivating implements at any desired distance apart while the cultivator is in operation and without loss of time.

In the accompanying drawings, Figure 1 is an elevation, partly in section, of a cultivator-arch illustrating a preferred embodiment of my invention. Fig. 2 is a similar view of the upper portion of the same, showing another embodiment of my invention; and Fig. 3 is a similar view showing another modification thereof. Fig. 4 is a detail view of the block to which the upper ends of the arms are pivotally connected in the form of the invention shown in Figs. 1 and 2. Fig. 5 is a diagrammatic rear elevation of a sulky-cultivator provided with my improved adjustable arch.

In the construction of my improved cultivator-arch I provide a pair of arms 1, which are connected together at their upper ends for movement toward and from each other. In Figs. 1 and 2 the upper ends of the arms 1 are pivotally connected, as at 2, to a block 3, which comprises a pair of longitudinally-separable sections 4 5, connected together by the bolts 2, which are also employed to pivot the upper ends of the arch-arms thereto.

In Fig. 1 of the drawings there is employed an adjusting-wheel 6, which is formed with

a depending hub-spindle 7, adapted to revolve in a vertical opening 8, made in the opposing sides of the sections 4 5 of the block 3, at the center thereof, and the said hub-spindle is provided with annular flanges 9 10, which bear, respectively, on the upper and lower sides of the said block, and thereby serve to swivel the said wheel 6 thereto, as will be understood. The hub-spindle 7 has a screw-threaded bore 11, which is engaged by a vertically-movable adjusting-screw 12, the lower end of which is attached to a vertically-shiftable adjusting device, here shown as a block or cross-head 13, provided near its ends with antifriction-rollers 14, which operate in slots 15, made longitudinally in the arms 1, and which by reason of the upwardly-converging disposition of said arms 1 lie in upwardly-converging planes and coact with the shiftable block or cross-head 13, which connects the said arms together, to adjust the arms of the arch toward and from each other, according to the movement of the block 13 in an upward or downward direction, by the turning of the hand-wheel 6. In order to cause the ends of the said block or cross-head 13 to move in unison and prevent side stress from being applied to the adjusting-screw, I provide the arms 1 on their inner opposing sides with racks 16, which are engaged by a pair of intermeshing gears 17, which are journaled in bearings with which the block or cross-head 13 is provided.

In the embodiment of my invention shown in Fig. 2 the hand-wheel 6, hereinbefore described, is discarded. The block 3^a, which connects the upper ends of the arms 1 together, constitutes a nut engaged by the adjusting-screw 12^a, and the adjusting-wheel 6^a is attached to the journal or axle of one of the gears 17^a. It will be understood that by turning this adjusting-wheel 6^a the arms of the cultivator-arch may be moved toward or from each other to any desired extent.

In the modified form of my invention shown in Fig. 3 the upper ends of the arms 1^b of the cultivator-arch are directly pivoted together, as at 17, and the adjusting-screw shown in Figs. 1 and 2 is discarded, the gears 17^b serving by coaction with the racks in the opposing sides of the arch-arms to move the con-

necting-block or cross-head 13^b and the adjusting-wheel 6^b being connected to the journal of one of the said gears.

From the foregoing description, taken in connection with the accompanying drawings, the construction, mode of operation, and advantages of my invention will be readily apparent, it is thought, without requiring a more extended explanation.

I do not desire to limit myself to either of the forms of my invention here shown and described, as it is evident that other modifications may be made therein without departing from the spirit of my invention and within the scope of the appended claims.

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

1. A cultivator-arch having arms pivotally connected together at their upper ends and thereby adapted for angular movement toward and from each other, a connecting device shiftable on the said arms longitudinally of the latter to move them toward and from each other, and mechanical means which adjusts and fixes said connecting device at a predetermined point, substantially as described.

2. A cultivator-arch having arms pivotally connected together and thereby adapted for

angular movement toward and from each other, a device connecting the arms together and shiftable thereon toward and from the pivotal connection thereof, and an adjusting-screw to operate the said device and thereby move said arms toward and from each other.

3. A cultivator-arch having arms pivotally connected together and thereby adapted for movement toward and from each other, said arms having racks disposed longitudinally thereof, a shiftable adjusting device connecting the said arms, and gears carried by said device and engaging the respective racks, substantially as described.

4. A cultivator-arch having arms pivotally connected together and thereby adapted for movement toward and from each other, said arms having racks disposed longitudinally thereof, a shiftable adjusting device connecting the said arms, and intermeshed gears carried by said device and engaging the respective racks, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

HARRISON B. PORTER.

Witnesses:

WILL GROOS,
OTTO GROOS.