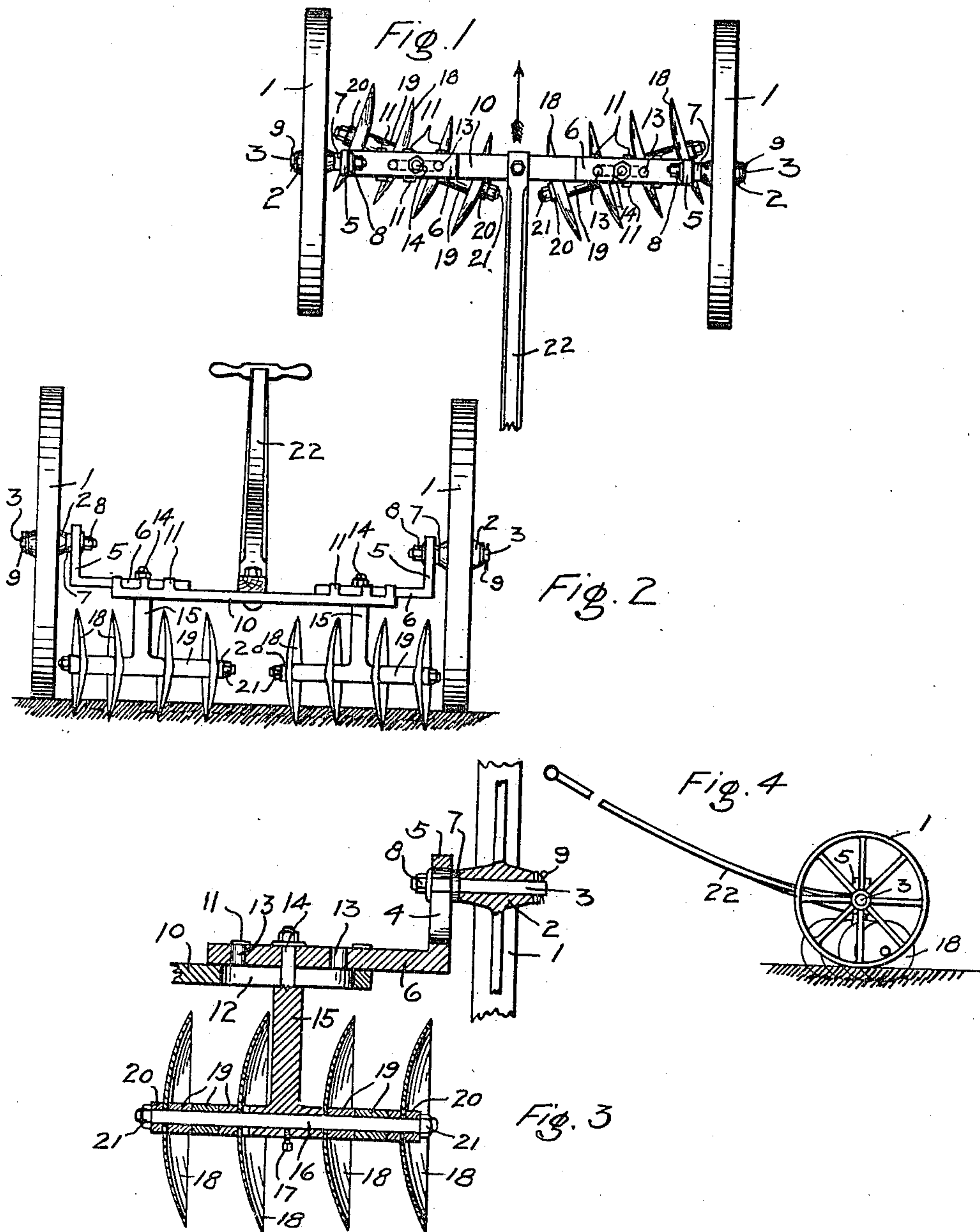


No. 831,531.

PATENTED SEPT. 25, 1906.

G. A. BRANTNER.  
HAND DISK PLOW.

APPLICATION FILED NOV. 6, 1905.



Witnesses

M. A. Van House.

Rollin S. Tuttle.

Inventor

George A. Brantner

By

P. J. Elliott

Attorney



# UNITED STATES PATENT OFFICE.

GEORGE A. BRANTNER, OF TACOMA, WASHINGTON.

## HAND DISK PLOW.

No. 831,531.

Specification of Letters Patent.

Patented Sept. 25, 1906.

Application filed November 6, 1905. Serial No. 286,067.

*To all whom it may concern:*

Be it known that I, GEORGE A. BRANTNER, a citizen of the United States of America, residing at Tacoma, in the county of Pierce and State of Washington, have invented certain new and useful Improvements in Hand Disk Plows, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to hand-cultivators which are particularly adapted for use in small garden-work, and has for its objects to provide a cultivator which can be made cheap enough for the purpose and which shall be adjustable as to the width between supporting-wheels, as to the vertical depth of soil which may be operated upon, and as to the number and distance apart of the furrows. I attain these objects by mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a plan of my machine. Fig. 2 is a front view thereof, and Fig. 3 is an enlarged vertical section of one side thereof. Fig. 4 is a side view on a reduced scale.

Similar numerals of reference refer to similar parts throughout the several views.

My machine is mounted on two wheels 1, whose hubs 2 turn on the horizontal pins or axles 3, which are adjustably secured in the vertical slot 4 in the vertically bent ends 5 of the sliding end frames 6. The axle 3 is provided with a shoulder 7, which is pulled against the outer edge of the upturned part 5 by means of the nut 8, which screws on the inner end of the axle and which engages, through a suitable washer, the inner side of said upturned part 5. The hub 2 is kept on the axle 3 by a split pin 9 passing through a hole in the end of the axle.

The frame which joins the two wheels 1 is adjusted to any length by sliding the end pieces 6, which engage wheels 1, as above described, inward or outward from the center, and consists of the above-mentioned end pieces 6 and the central piece 10, joining them. The piece 10 has a series of lugs 11 formed on each side of each end, between which the end pieces 6 slide, so that there is no tendency for the pieces 6 to twist about the bolt which fastens them to the piece 10. This fastening is attained in the following manner: The piece 10 is provided with a longitudinal slot 12 at each end, and the piece 6 is provided with one or more bolt-holes 13, and the clamping-bolt 14 passes through one

of the bolt-holes 13 and the slot 12 and has a shoulder engaging the lower edge of the part 10 and a suitable nut and washer at its upper end, whereby the said shoulder is drawn against the part 10 and the parts 6 and 10 are firmly clamped together. If only one hole 13 is provided, the adjustment will then be slightly less than the length of the slot 12; but by providing several holes 13, as illustrated in Fig. 3, I am enabled to make a much greater adjustment.

The clamping-bolt 14, above mentioned, is formed as a part of the disk-support 15, which passes downward therefrom and is provided with horizontal bosses at its ends, through which the shaft 16 passes and in which it is secured by a set-screw 17. Since the bolt 14 is round, it is evident that the support 15 may be turned so that the axle 16 will assume any desired angle with the direction of motion of the cultivator. The disks 18 rotate freely on the axle 16 and are separated from each other by the washers 19. Washers 20 are placed on the axle 16 outside of the end disks, and the nuts 21 are screwed on the reduced ends of the axle 16, so that the nuts hold all the disks on the axle, but do not clamp them in such a way as to prevent their rotation. The machine is pushed in the direction of the arrow shown in Fig. 1 by means of the handle 22, which is secured to the middle of the part 10.

It is evident from the above description that vertical adjustment may be had by shifting the axle 3 in the slot 4 in the part 6 that horizontal adjustment may be had by shifting the bolt 14 within the slot 12 in the part 10 and by changing it from one hole 13 to another hole 13 in the part 5, that the angle that the disks make to the direction of travel of the machine is adjusted by simply rotating the bolt 14 within the hole 13 to the desired position, and that the distance between the disks is adjusted by changing the number or size of spacing-washers between them. When it is desired to transport the machine from one place to another without allowing the disks to engage the ground, the handle 22 is swung over to the other side, bringing with it all the parts of the machine and causing the disks to be raised considerably above the ground.

What I claim as my invention is—

In a hand disk plow, the combination of supporting-wheels, a frame joining said wheels, and formed in three sections, the end

sections engaging said wheels by vertically-adjustable means and sliding between lugs formed on the central section; hangers having bolt extensions passing through slots in  
5 said central section and holes in said end sections, and adapted to clamp said sections together in transverse horizontal adjustment and to allow angular adjustments of said hangers about their vertical axes; shafts se-

cured to said hangers; disks loosely mounted on said shafts; and separating washers loosely mounted on said shafts and spacing said disks.

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

GEORGE A. BRANTNER.

Witnesses:

M. H. COREY,

M. A. VAN HOUSE.