

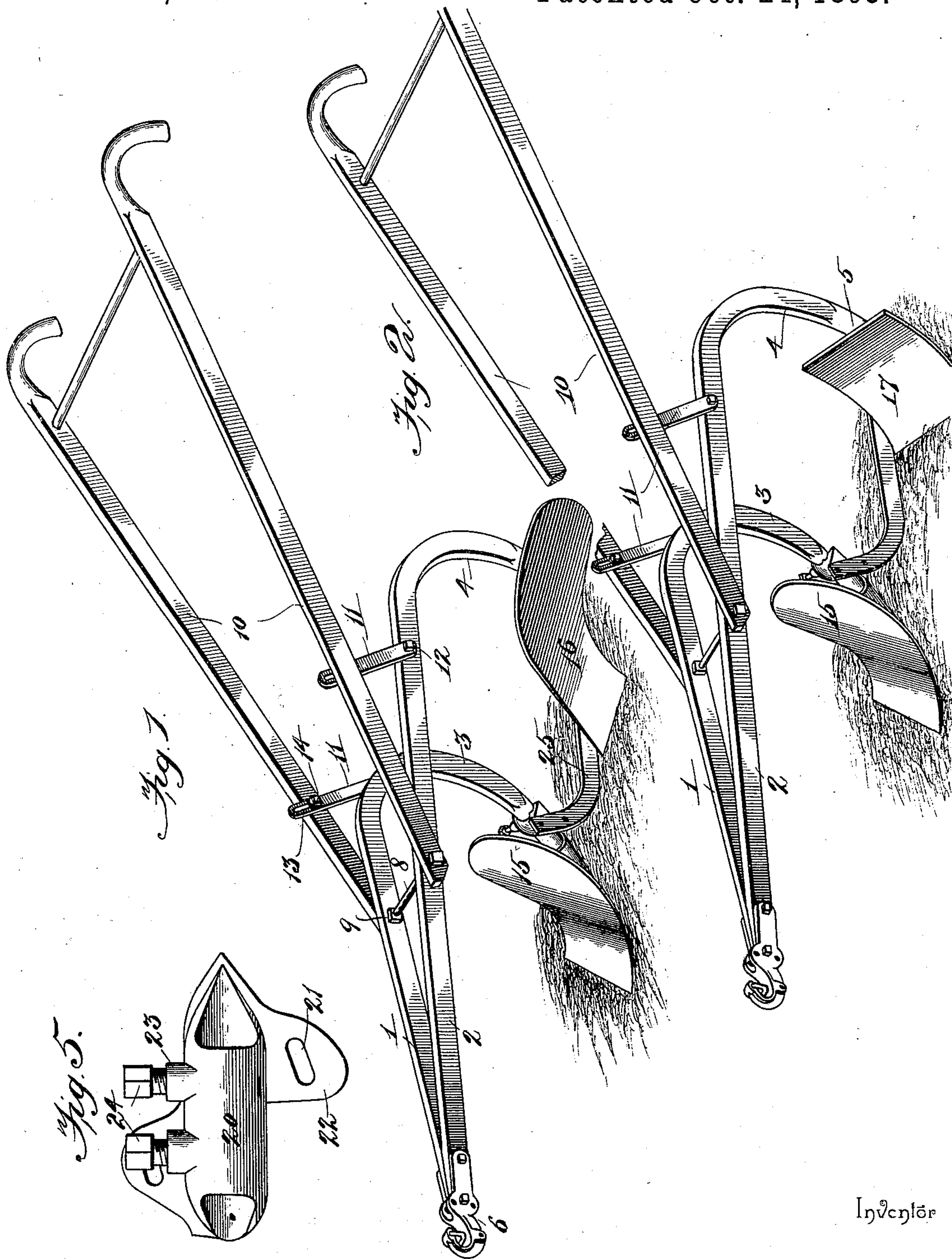
(No Model.)

2 Sheets—Sheet 1.

W. S. H. WAILES.  
COMBINATION CULTIVATOR.

No. 507,295.

Patented Oct. 24, 1893.



Inventor

Witnesses

*John C. Shaw*  
*W. S. Duval*

By *his* Attorneys.

*William S. H. Wailes.*

*C. A. Snow & Co.*



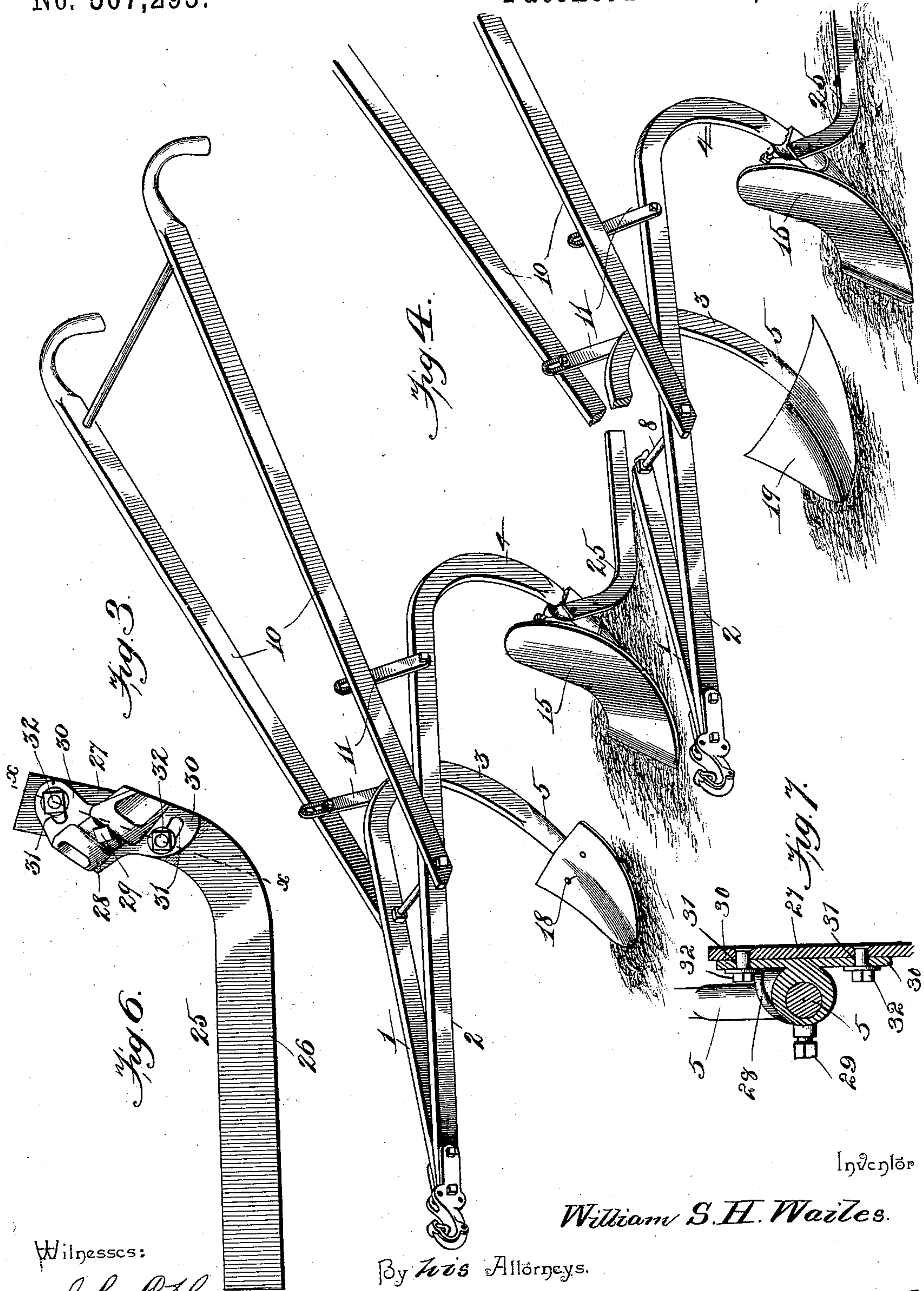
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# UNITED STATES PATENT OFFICE.

WILLIAM S. H. WAILES, OF WATERPROOF, LOUISIANA.

## COMBINATION-CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 507,295, dated October 24, 1893.

Application filed July 8, 1893. Serial No. 479,922. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM S. H. WAILES, a citizen of the United States, residing at Waterproof, in the parish of Tensas and State of Louisiana, have invented a new and useful Combination-Cultivator, of which the following is a specification.

My invention relates to improvements in cultivators, and particularly to that class thereof embodying interchangeable parts, whereby the cultivator is adapted for different operations.

The objects of my invention are to provide a simple, durable, and economically constructed device, whose parts are readily interchangeable and may be set to run at various depths, and which by a proper combination may be operated as a middle breaker, a cotton scraper, a cotton hiller, and a sweep plow or cultivator.

With this general statement of the objects of my invention, the same consists in certain features of construction and combinations of parts hereinafter specified and particularly pointed out in the claims.

Referring to the drawings:—Figure 1 is a perspective view of a cultivator or plow embodying my invention, the same being designed for use as a middle-breaker. Fig. 2 is a similar view, the same being designed for use as a cotton scraper. Fig. 3 is a similar view, the same being designed as a cotton hiller or molder. Fig. 4 is a similar view, the same being designed for use as a sweep-plow. Fig. 5 is a detail in elevation of the casting on the back of each of the shears. Fig. 6 is a detail in elevation of the adjustable heel employed with the several combinations. Fig. 7 is a sectional view on the line  $x-x$ , Fig. 6. Like numerals of reference indicate like parts in all the figures of the drawings.

In the practice of my invention I construct a plow-frame, preferably of metal, the same consisting in the present instance of the two beams 1 and 2, the former numeral designating the shorter beam and the latter the longer beam. These beams diverge from their front ends rearward, and each terminates at its rear end in a goose-neck standard 3 and 4, respectively, whose lower ends are provided with cylindrical portions 5. The front ends of the beams are secured together by means

of a draft clevis 6, the same forming no part of my invention. A transverse spacing-bolt 8 extends through the beams and is provided at opposite sides of each beam with clamping-nuts 9. This bolt also passes through the lower terminals or ends of a pair of handle bars 10, the upper ends of which are shaped to form suitable handles located a convenient distance in rear of the standards. The handle-bars are pivoted in position by the bolt 8 and are supported adjustably by means of the metal straps 11, whose lower ends are pivoted upon the beams 1 and 2, as indicated at 12, and which at their upper ends are provided with slots 13 through which pass adjusting bolts 14 from the handle bars. By a loosening of the nuts upon these bolts the handle-bars may be raised and lowered, the same moving upon their pivot, which is the bolt 8, and after being adjusted to suit the height of the operator, the nuts are retightened and the bars maintained in their adjusted positions.

15 designates a right-hand turning-plow, 16 a left-hand turning plow, 17 a cotton-scraper, 18 a shovel-plow, and 19 a sweep. These several plows or blades I propose to accompany each of my improved cultivators with, the same to be used in combinations which I will now proceed to describe, prefacing my description with the statement that the said plows or blades are of the usual constructions, with the exception that each is provided upon its rear side with the casting shown in Fig. 5. This casting consists of a tubular sleeve 20, open at opposite ends, which is designed to fit removably and adjustably upon the cylindrical portion 5 of either one of the two beams 1 and 2. The sleeves are secured in position upon the blades through the medium of suitable set-bolts, not shown, but which pass through oblique slots 21 which are formed in obliquely opposite laterally disposed ears 22 with which the sleeve 20 of each plow or blade is provided. The sleeve is further provided at one side with threaded perforations 23 in each of which is seated a binding-bolt 24, which being operated upon by an ordinary wrench binds at its inner end against the cylindrical portion 5 of that shank upon which the sleeve thereof is mounted.

In Fig. 1 I have illustrated my plow as



adapted for middle breaking, and in this instance I locate upon the two standards 3 and 4 the reversely disposed right and left-hand turning-plows 15 and 16, each of said plows occupying its respective standard.

In Fig. 2 I have illustrated my invention as adapted for scraping cotton, wherein I have removed the left-hand turning-plow 16, and substituted therefor the usual cotton scraping-blade 17.

In Fig. 3 I have illustrated my invention as adapted for molding or hilling cotton. In this instance I substitute for the right-hand plow, shown in Fig. 1, the shovel plow 18, and removing the left-hand turning-plow 16 substitute therefor the right-hand turning-plow 15.

In Fig. 4 I retain the right-hand turning-plow upon the standard 4, but substitute for the shovel the sweep-plow 19. Each of the combinations thus formed produces an efficient device and one whose operation is so well-known by those familiar with this class of implements that it is unnecessary to specifically describe it.

In Fig. 6 I have illustrated an adjustable heel that I employ in all of the various combinations suggested, and designate the same by the numeral 25. This heel comprises a lower horizontal portion 26, an upwardly curved front end 27, and is designed to operate as a landside, as a guide to the plow, and to limit the depth of penetration of the plow. This heel is provided at one side with a cylindrical casting or sleeve 28 open throughout its length, which is perforated and provided with an adjusting bolt 29. The sleeve 28 is at diametrically opposite sides provided with lateral ears 30, which are provided with elongated slots 31, through which and into the heel extend adjusting bolts 32. The cylindrical sleeve 28 is designed to fit over the cylindrical portion of either one of the standards 3 or 4. When the plow is employed as a middle-breaker and a cotton-scraper the heel is applied to the front standard 3 directly in rear of the right-hand turning-plow, and when the plow is employed as a sweep or for hilling or molding cotton the aforesaid heel is arranged upon the rear standard. It will be seen that it is adjustable up and down, and thus may adapt the plows to run shallow

or deep as the case requires; and, furthermore, that it steadies the plow when in operation and serves as a guide and a landside combined.

From the foregoing description in connection with the accompanying drawings it will be seen that I have provided a very simple, light, and durable combination implement, adapted to operate as a middle breaker, a cotton-scraper, a cotton hiller, and a sweep, the changes being produced readily and with but little effort and resulting in an efficient implement in each instance.

I do not limit my invention to the precise details of construction herein shown and described, but hold that I may vary the same to any degree and extent within the knowledge of the skilled mechanic.

Having described my invention, what I claim is—

1. In a combination plow, the combination with the beams terminating at their rear ends in standards, adapted to removably receive plows, of a heel adapted to be removably located upon either one of said standards in rear of the plow carried thereby, substantially as specified.

2. In a combination plow, the combination with the beams terminating at their rear ends in standards plows removably secured thereto of the curved heel, a sleeve secured to the heel and adapted to adjustably fit either one of the standards, and securing devices for the same, substantially as specified.

3. In a plow, the combination with the beams terminating at their rear ends in downwardly curved standards having lower cylindrical portions, of plows removably applied to said lower ends, the heel 25, the cylindrical bored sleeve 28 applied to one side of the heel at the front end thereof and having a lateral portion and lateral slotted ears, and set bolts passed through the sleeve and adapted to impinge upon the lower cylindrical portion of either one of said standards, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

WILLIAM S. H. WAILES.

Witnesses:

N. S. CORNELL,  
GEO. H. HUNTER.