No. 633,033.

Patented Sept. 12, 1899.

G. W. NOBLE.

CULTIVATOR.

(Application filed Dec. 15, 1898.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

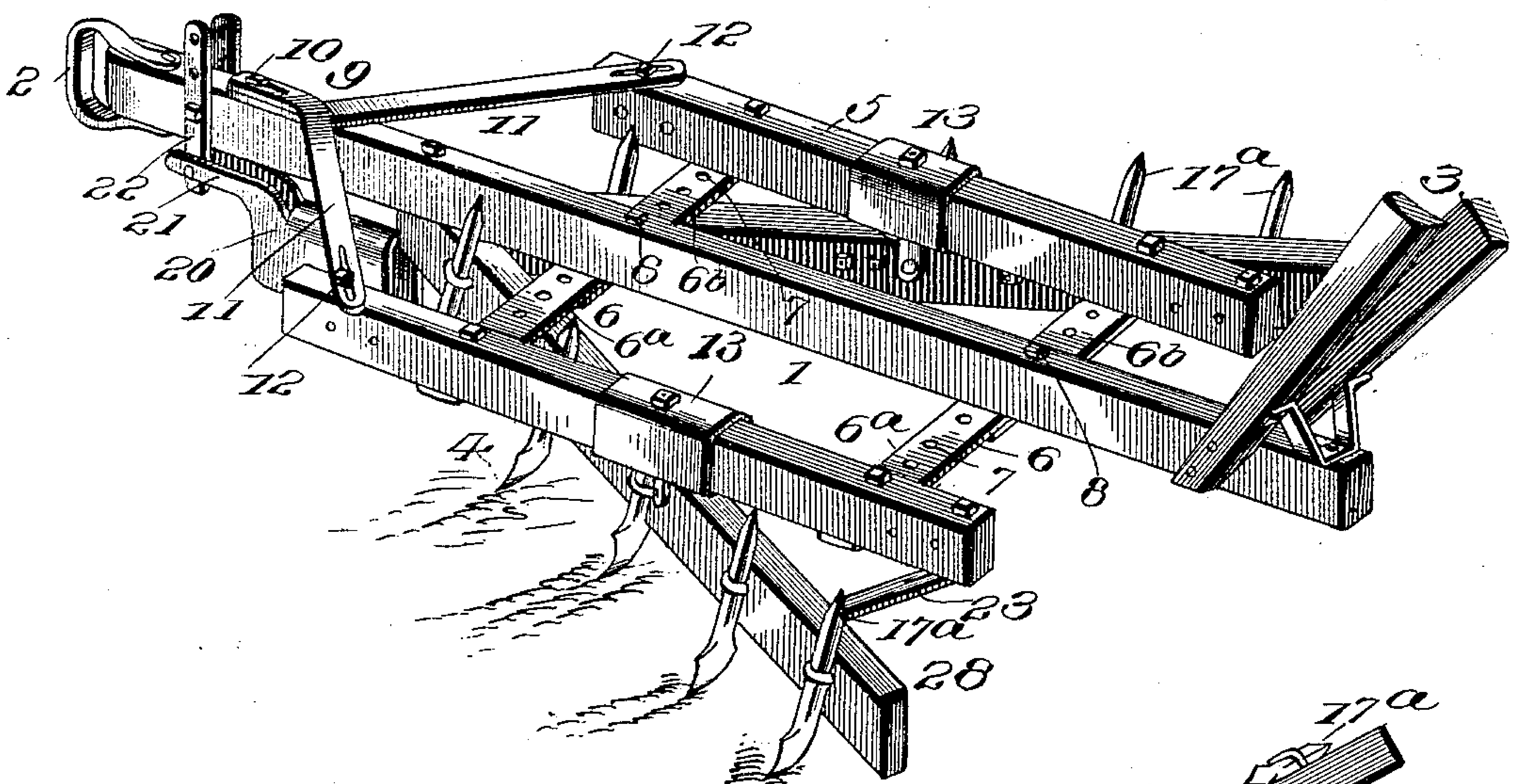


Fig. 2.

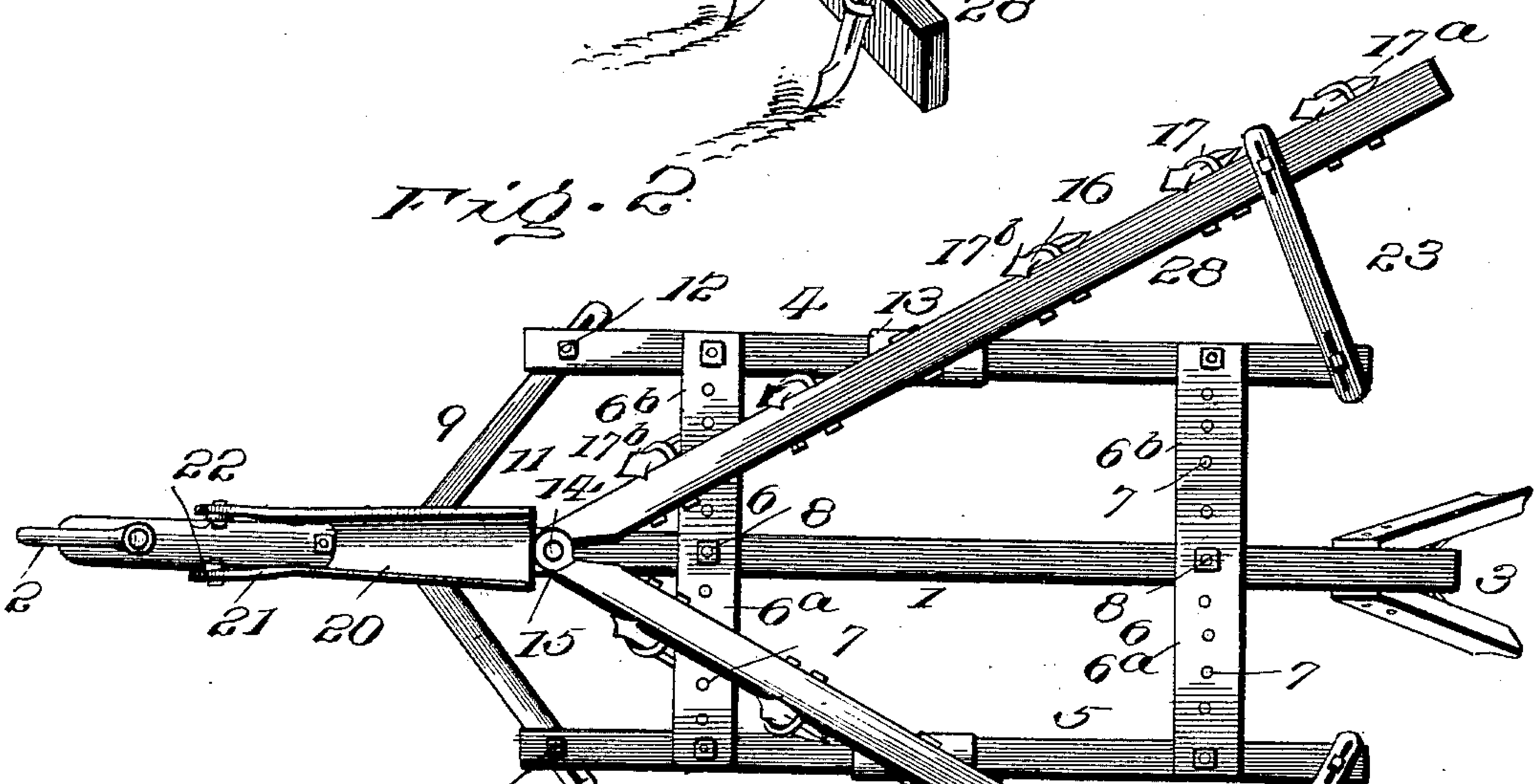
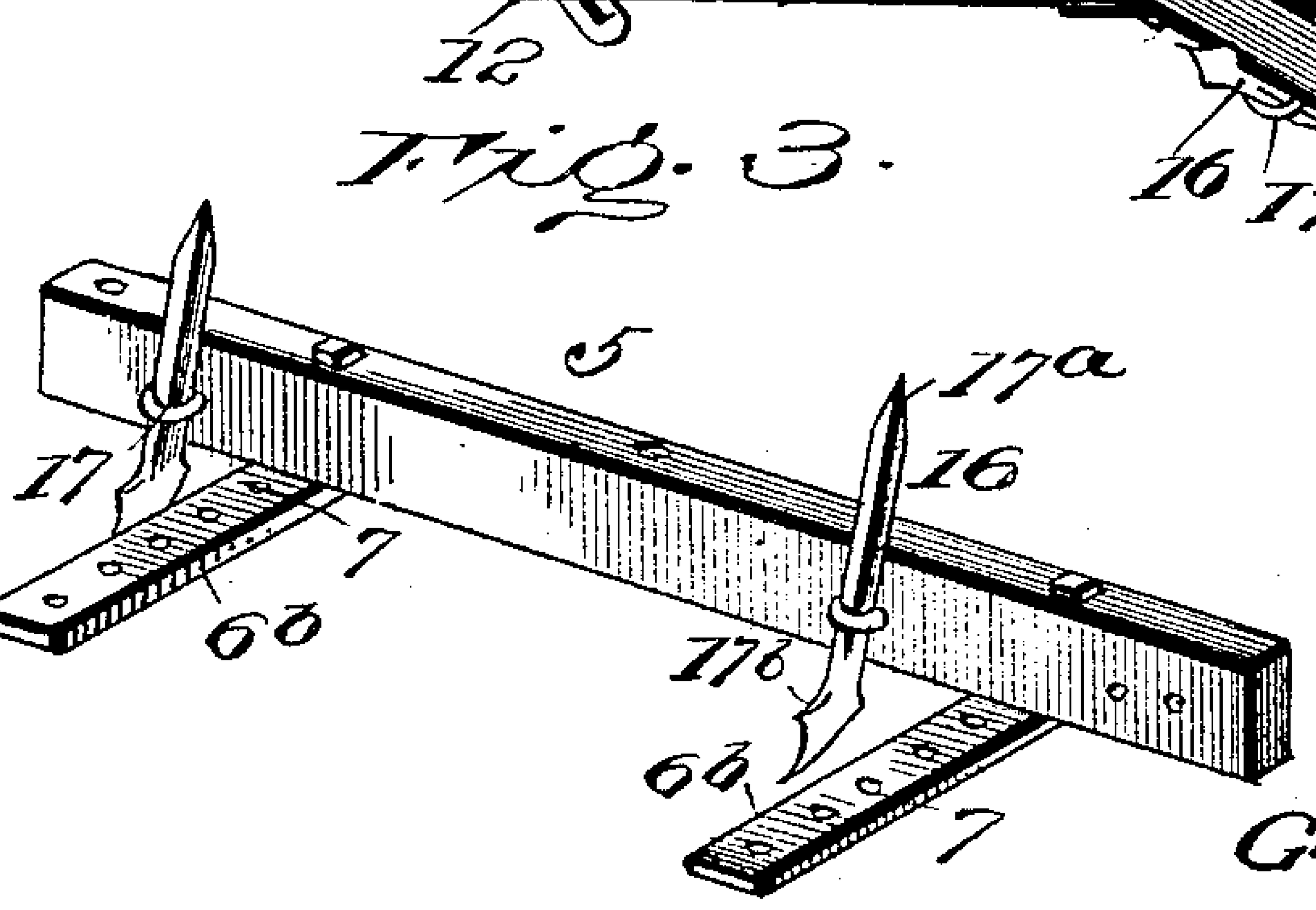


Fig. 3.



Witnesses

C. C. Hines.

Inventor

George W. Noble

by R. S. & A. B. Lacey, his Attorneys.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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2 Sheets—Sheet 2.

Fig. 4.

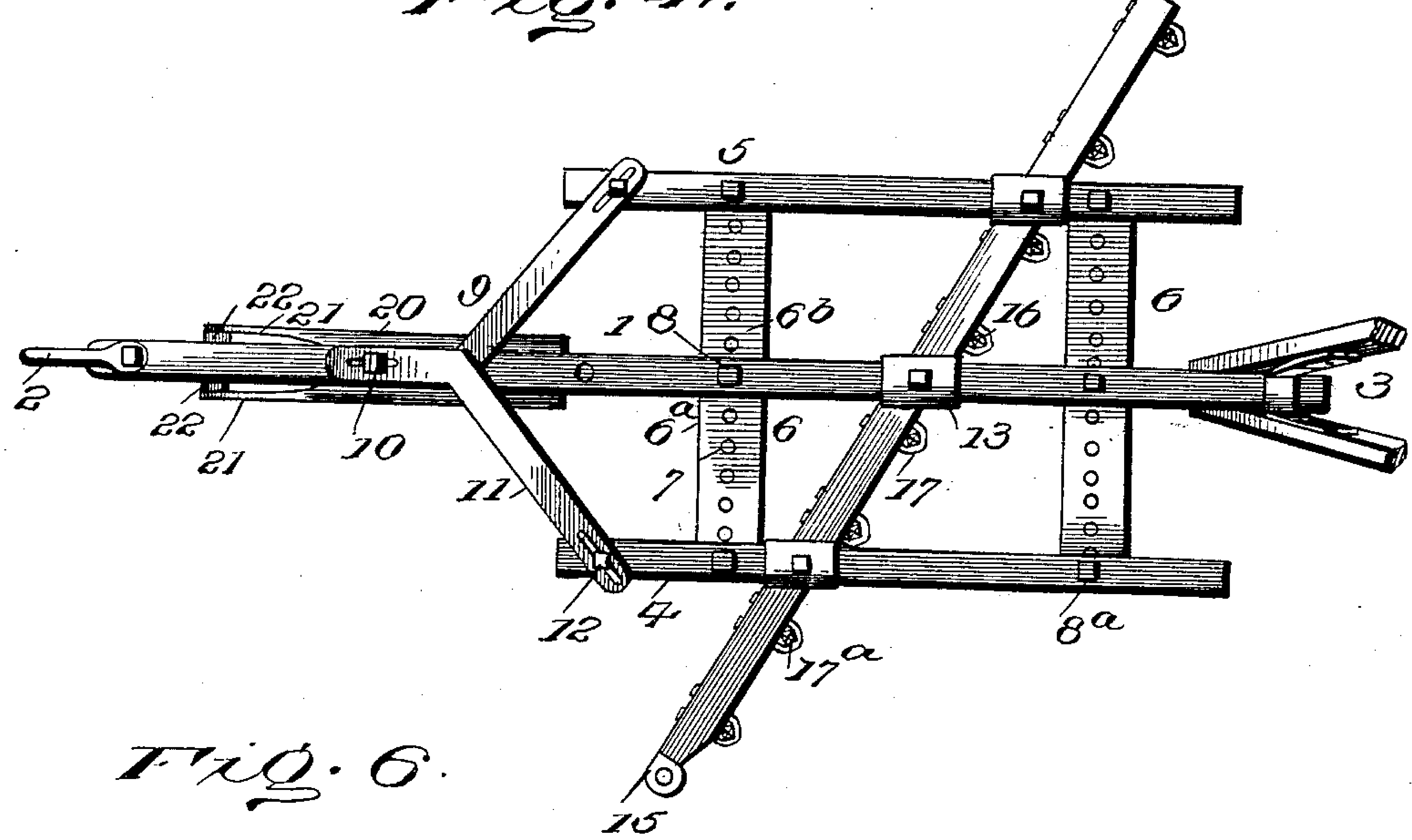


Fig. 6.

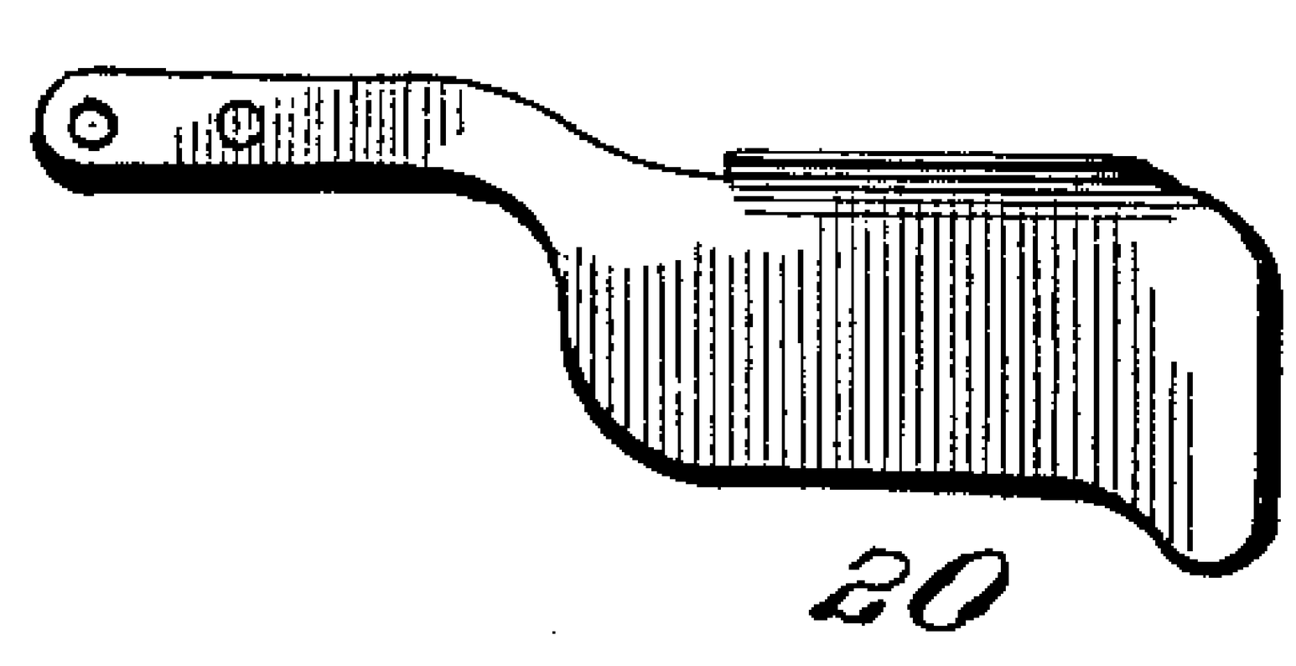


Fig. 5

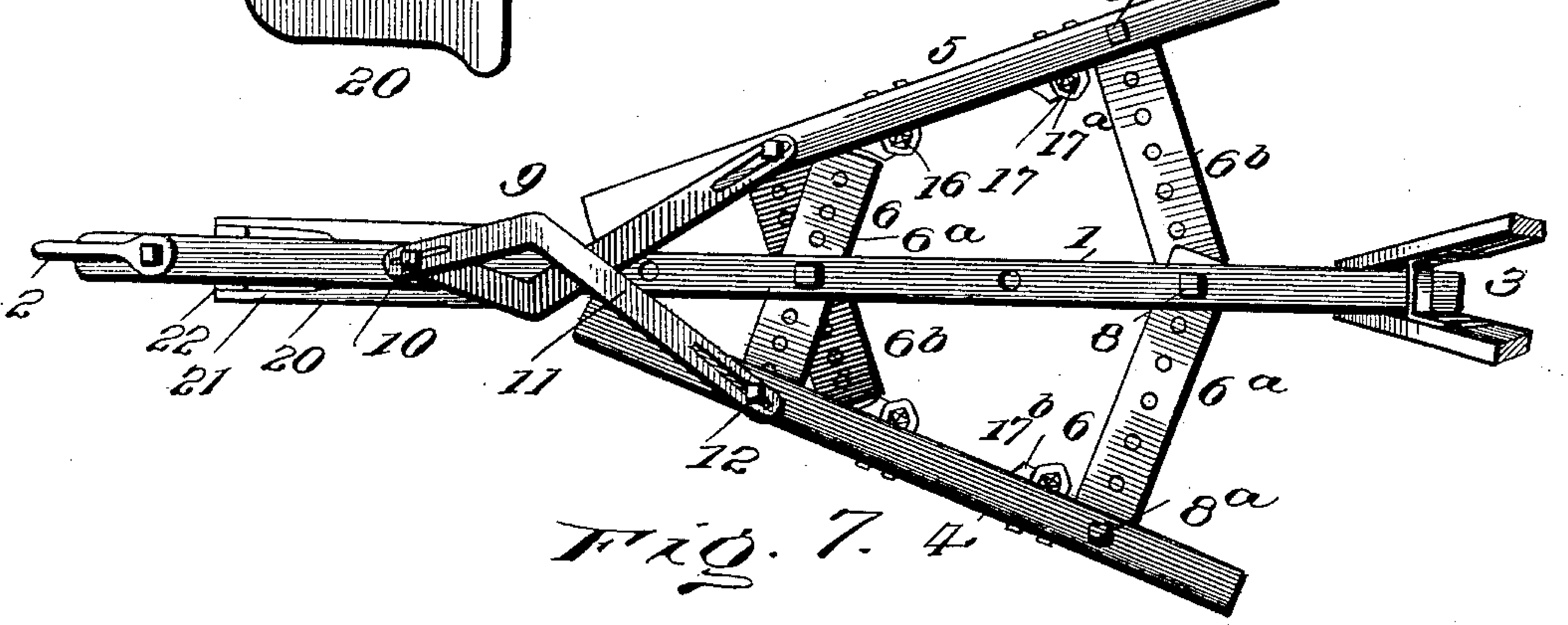
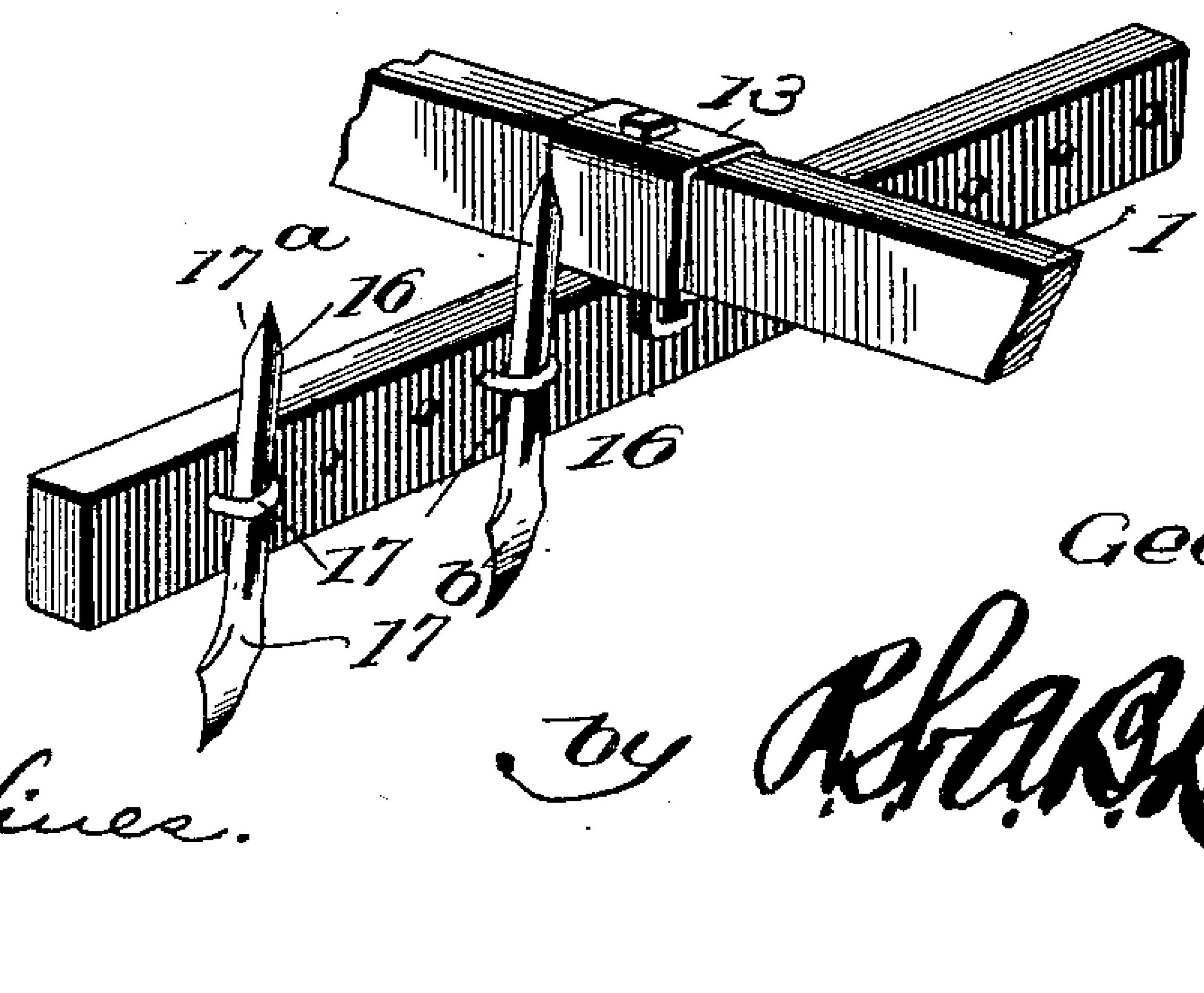


Fig. 7.



Witnesses
Jno Hume
C. C. Hines.

Inventor
George W. Noble

by R.S.&A.B.Lacey his Attorneys

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

GEORGE W. NOBLE, OF LUM, ALABAMA.

CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 633,033, dated September 12, 1899.

Application filed December 15, 1898. Serial No. 699,364. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. NOBLE, a citizen of the United States, residing at Lum, in the county of Lowndes and State of Alabama, have invented certain new and useful Improvements in 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.

This invention relates to improvements in cultivators, and has special reference to certain improvements on the combination-cultivator shown in United States Letters Patent No. 611,644, granted to me October 4, 1898.

The object of the present invention is to adapt the cultivator for a wider range of usefulness by providing adjustable supporting and connecting means whereby the side carrier beams or bars may be adjusted therewith or independently thereof in parallelism toward or from the main beam and also set at any desired angle to said main beam and the undue projection of the ends of the connecting parts beyond the frame avoided, and, further, to provide certain other novel features of construction, which will be fully described hereinafter.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of my improved cultivator as adapted for use as a plow or harrow. Fig. 2 is a bottom plan view of the same. Fig. 3 is a perspective view of one of the side carrier-bars and attachments. Fig. 4 is a top plan view of the cultivator as adapted for use as a gang-plow, harrow, or rake. Fig. 5 is a top plan view of the frame, showing the carrier-bars adjusted at an angle to the main beam. Fig. 6 is a side view of the fender. Fig. 7 is a detail perspective view of parts shown in Fig. 4.

Referring now more particularly to the drawings, wherein like reference characters designate corresponding parts throughout the several views, the numeral 1 represents the main beam of the cultivator-frame, provided at one end with a clevis 2 and at the other end with handles 3, and the numerals 4 and 5 represent short carrier bars or beams arranged on opposite sides of the main beam and normally parallel therewith, as shown in Figs. 1, 2, and 4. These carrier-bars are supported and adjustably connected to the beam by transverse metallic connecting-plates 6, each consisting of two parts or sections 6^a and 6^b, formed with alined series of bolt-orifices 7 and having their inner ends arranged to overlap and secured by a bolt 8 to the beam and their outer ends secured by bolts 8^a to the carrier-bars.

In the construction shown in my aforesaid patent each connecting-bar is formed of a single piece of metal, which I have found to be objectionable in that the plates cannot be adjusted with the carrier-bars, and consequently the ends of the plates project outward when the bars are moved toward the main beam and not only prevent the cultivator from being operated close up to trees or other obstructions, but are liable to strike and injure growing plants. Another objection is that the carrier-bars cannot be set at an angle to the beam, which is necessary at times, and hence the efficiency of the cultivator is impaired. In the present construction the carrier-bars may be adjusted in parallelism toward or from the beam independently of the connecting-plates by removing the bolts 8^a and sliding them inward on said plates and adjusted with the plates by releasing the bolts 8 and sliding the sections of the plates on one another. When the adjustment is made in the latter manner, the bars preserve their position and the connecting-plates do not project beyond the frame.

When it is desired to set the carrier-bars at an angle to the main beam to form a V-shaped frame and adapt the cultivator for certain kinds of work, the nuts on the confining-bolts of the rear connecting-plate are loosened and the plate-sections turned at an angle on said bolts and the inner ends of the front plate-sections then adjusted inward on each other and set at an angle by turning them on the bolts 8^a, as shown in Fig. 5. By this means the shape of the frame may be conveniently changed to adapt the cultivator for a wider range of usefulness.

The front ends of the carrier-bars are connected to the beam and stayed by braces 9. These braces are slotted at their rear ends and secured to the beam by bolts 10, passing through said slots. The front ends of the

braces are provided with reversely-projecting angularly-disposed arms 11, also having slots for the passage of a bolt 12, securing them to the beam. When the carrier-bars are adjusted, these braces are also adjusted and the angularly-disposed ends thereof move laterally on each other in opposite directions to compensate for the change in position of the bars. By constructing the braces in this manner I avoid the necessity of using slotted braces, which necessarily project beyond the frame when the carrier-bars are moved inwardly, and the parts of the frame are thereby and by the use of the adjustable connecting-plates maintained at all times in compact shape substantially in the plane of the frame.

In Figs. 1 and 2 I have shown a V-shaped auxiliary frame 28 secured to the carrier-bars by box or sleeve castings 13, slidably mounted thereon and provided with adjustable yoke-clamps having depending arms 19, bolted or otherwise secured to the side bars 28^a of said frame. These sleeves and yoke-clamps may be of the form shown in my patent above referred to; but, if desired, they may be dispensed with and the V-frame bolted directly to the cultivator-frame. The side bars of this V-frame are preferably connected at their front ends by a hinge-joint composed of a pintle 14 on one bar adapted to engage an eye 15 on the other bar, so that they may be adjusted with the carrier-bars and also detached from one another and separately applied to the cultivator-frame, as hereinafter described. As shown in said figures, a series of plow-points or harrow-teeth may be applied to the V-frame to adapt the cultivator for use as a plow or harrow. In the present instance I employ a series of reversible implements, each comprising a shank 16, connected to the frame by a U-bolt 17 and formed at one end into a harrow-tooth 17^a and at the other end into a shovel plow-point 17^b, so that by merely reversing the frame the said frame may be converted into a harrow or plow attachment. When the cultivator is employed for plowing, a fender 20 may be applied to the front end of the main beam of the cultivator-frame immediately in advance of the plow-frame to protect the growing plants. This fender is provided with parallel arms 21, pivoted to adjustable plates 22 on the beam, so that the fender may have freedom of movement in a vertical plane to accommodate for irregularities of ground-surface. Braces 23 may be also employed to stay the rear ends of the bars of the V-frame.

In Fig. 4 I have shown the device adapted for use as a rake or gang-plow. In this case one of the bars of the V-frame is applied crosswise of the cultivator-frame, and it may be employed for either of the purposes stated by attaching it so as to present the teeth 17^a or shovels 17^b, as desired, downward. By arranging the bar at an angle to the frame when it is used as a rake, which can be readily accomplished by adjusting the sleeves 13, the rakings will be swept off to one side of the frame. If it is desired to cultivate a large surface of the ground at one operation, the bars of the V-frame may be straightened out and applied transversely of the cultivator-frame in the same manner and used for either of the purposes above stated. The ground may be also plowed and harrowed at one operation by using the V-frame with plow-points downward and applying plow-teeth to the main beam and carrier-bars.

Changes in the form, proportions, and minor details of construction may be made within the scope of the invention without departing from the spirit or sacrificing any of the advantages thereof.

Having thus described the invention, what is claimed as new is—

In a cultivator of the class described, the combination of a main beam, side bars or beams arranged on opposite sides thereof, connecting-plates on which said side bars are adjustably mounted, said plates being formed in sections adjustably connected at their inner ends to the main beam, and braces adjustably secured at their rear ends to the side bars and provided at their front ends with oppositely-projecting arms adjustably secured to the main beam and adapted to move in reverse directions when said side bars are adjusted toward the beam.

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

GEORGE W. NOBLE.

Witnesses:

I. N. JORDAN,

T. J. HAIRSTON.