No. 700,541. Patented May 20, 1902.

H. B. MURDOCK.

PLOW ATTACHMENT.

(Application filed Aug. 31, 1901.)

(No Model.) 2 Sheets—Sheet 1.

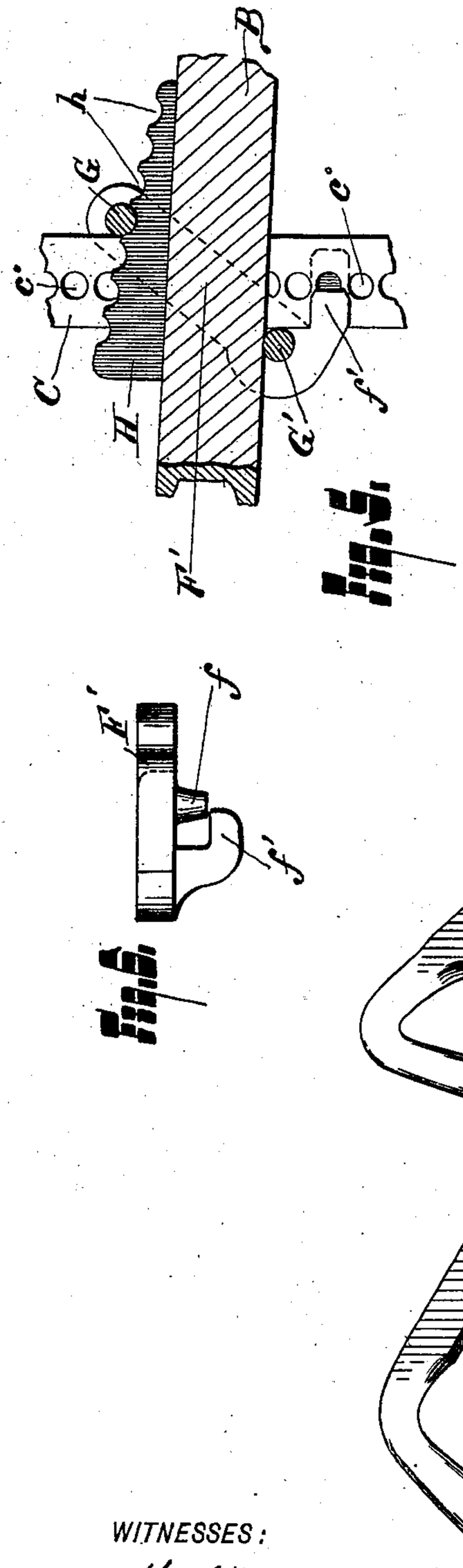

Fig. 1.

Fig. 2.

Fig. 3.

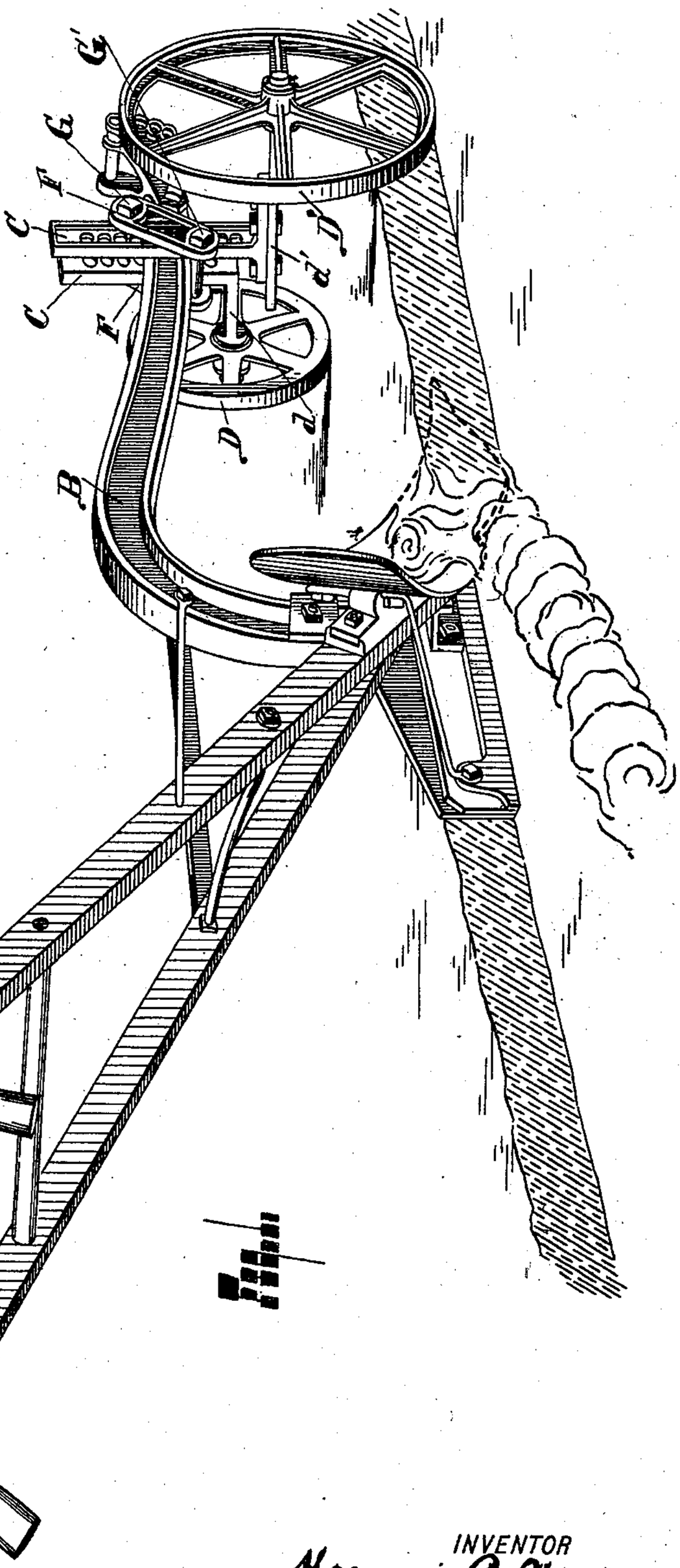

Fig. 4.

WITNESSES:

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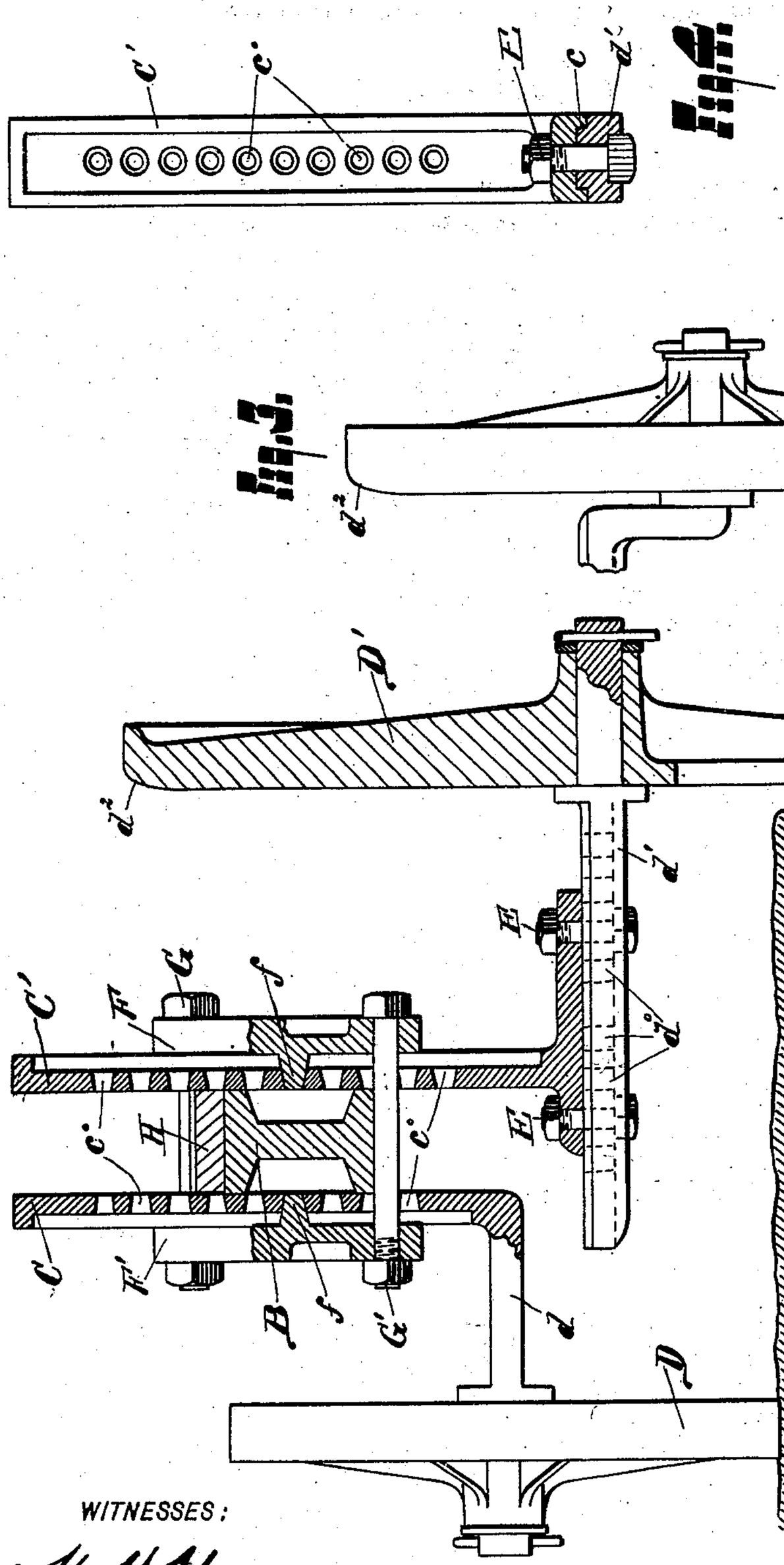

FIG. 3.

FIG. 4.

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UNITED STATES PATENT OFFICE.

HORACE B. MURDOCK, OF DETROIT, MICHIGAN, ASSIGNOR TO THE WONDER PLOW COMPANY, OF ST. CLAIR, MICHIGAN.

PLOW ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 700,541, dated May 20, 1902.

Application filed August 31, 1901. Serial No. 73,971. (No model.)

To all whom it may concern:

Be it known that I, HORACE B. MURDOCK, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Plow Attachments; 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.

My invention relates to improvements in plows, and especially to an improved attachment to be secured to the beam of the ordinary type of plow for regulating the movement of the plow-point for making a furrow of an even depth.

Another feature of my invention resides in the provision of a means for making the furrows in parallel lines and spacing them at a predetermined distance apart.

To more fully describe my invention, reference is had to the accompanying drawings, in which—

Figure 1 is a perspective view of a plow with my invention applied thereto. Fig. 2 is a sectional view through the plow-beam and attachment. Fig. 3 shows a modification of the axle supporting the outer wheel. Fig. 4 is a side elevation of one of the axle-hangers, partly in section and showing the manner of securing the same to the axle. Fig. 5 is a longitudinal section through the plow-beam at the point where the attachment is secured and showing a slightly-modified form of side clamp, and Fig. 6 is a plan view of the modified form of clamp shown in Fig. 5.

A is a plow of any of the well-known types.

To the beam B of the plow I secure my improved attachment, the same being both vertically and longitudinally adjustable with respect to the plow-beam. This attachment consists of the two angle-irons C C′, having a series of perforations c^0 through their vertical webs, constituting the hanger-bars for supporting the axles of the guiding-wheels D and D′. The horizontal web of the axle-hanger C is suitably rounded off and constitutes the axle d of the inner wheel D. The axle-hanger C′ is made longer than the hanger C, and its horizontal web is channeled out, as at c, and is adapted to receive and be bolted to the axle d' of the outer wheel D′, which axle d' is provided with a series of perforations d^0, through which the bolts E are adapted to pass, thus permitting the lateral adjustment of the axle d' in respect to the plow for regulating the distance between furrows. The wheel D′ is rounded off, as at d^2, on the inside of the tread to prevent cutting into the ground. When it is desired to use a smaller outer wheel instead of using the straight axle d', an axle of such a construction as shown in Fig. 3 might be used.

F F are clamps on each side of the plow-beam, to which the axle-hangers C and C′ are adjustably secured through the medium of the lugs f, which engage in the perforations c^0 of the hangers. These clamps F F are held firmly in position by the tie-bolts G and G′, which pass above and beneath the plow-beam and support and firmly hold the various parts in place.

In Figs. 5 and 6 I have shown a slight modification of these clamps. In order to reduce the lateral strain on the hangers C C′, I provide the lower ends of the clamps F′ F′ with the inwardly-projecting lug f', which is bent to rest against the inner faces of the hangers C C′.

In order that my improved device might the more readily be attached to a plow-beam of any height and for the purpose of the more securely clamping the attachment to the beam, I provide the wedge H, having an inclined corrugated surface, in the grooves h of which the upper tie-bolt G is adapted to be supported. As this wedge can be forced along the plow-beam, it is readily seen that it provides a very secure means for fastening the attachment to the beam.

The upright webs of the axle hanger-bars C C′ and the side clamps F F are preferably made of channel-iron bars for the purpose of securing lightness in construction.

The smaller wheel D travels on the unplowed surface of the land, and the larger wheel D′ is adapted to travel in the next adjacent furrow, acting as a gage to the plow-point and keeping the same pointed in a straight line. In this connection it might be noted that the axle on which the larger outer wheel D′ is mounted is laterally adjustable,

which allows the wheel D′ to be moved in toward or away from the plow, thus regulating the distance between the furrows. The smaller inner wheel D always remains in the same relative position to the plow. Both of these wheels D are adjustably mounted in the vertical plane through the medium of the axle-hangers C and C′, which permits of their being raised or lowered to regulate the depth of the furrow to be plowed.

Although I have described my invention as applied to plows for the purpose of plowing fields in furrows, it is obvious that my improved device is applicable to plows used for the purpose of plowing over the whole surface. This is readily accomplished by the proper adjustment of the outer wheel D′ with respect to the plow-point.

I do not wish to limit myself to the exact details of construction as described, as it is obvious that many modifications might be made without departing from the spirit of my invention.

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

1. The combination with a plow, of a hanger-bar carrying a wheel mounted on one side of the plow-beam, a second hanger-bar provided with a grooved horizontal web mounted on the opposite side of the plow-beam, an axle, carrying a wheel, engaging the groove in said horizontal web, means for adjusting said axle laterally in said groove, and means for clamping said hanger-bars to the plow-beam.

2. The combination with a plow, of a pair of clamps located on each side of the plow-beam, a pair of hanger-bars secured between said clamps and plow-beam, one of said hanger-bars having an axle formed integral therewith for carrying a wheel, the other said hanger-bar provided with a grooved horizontal web provided with bolt-holes, a perforated axle, carrying a wheel, engaging said groove, the perforations in said axle adapted to aline with the bolt-holes in said horizontal web for securing the lateral adjustment of said axle.

3. The combination with a plow of a pair of perforated hanger-bars carrying wheels located on each side of the plow-beam, clamps having lugs engaging in said perforations, and tie-bolts for tying said clamps and axle-hangers together on the plow-beam.

4. The combination with a plow of a pair of hanger-bars carrying wheels located on each side of the plow-beam, clamps engaging said hanger-bars, tie-bolts mounted above and beneath the plow-beam and engaging said clamps, and a wedge adapted to be inserted between said upper tie-bolt and plow-beam for securely attaching the said hanger-bars to the plow-beam.

5. The combination with a plow, of a pair of hanger-bars carrying axles and wheels located on each side of the plow-beam, clamps engaging said hanger-bars, tie-bolts mounted above and beneath the plow-beam and engaging said clamps, and a corrugated wedge adapted to be inserted between said upper tie-bolt and plow-beam for securely attaching the said hanger-bars to the plow-beam, substantially as described.

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

HORACE B. MURDOCK.

Witnesses:
CHAS. E. WISNER,
H. H. HAGER.