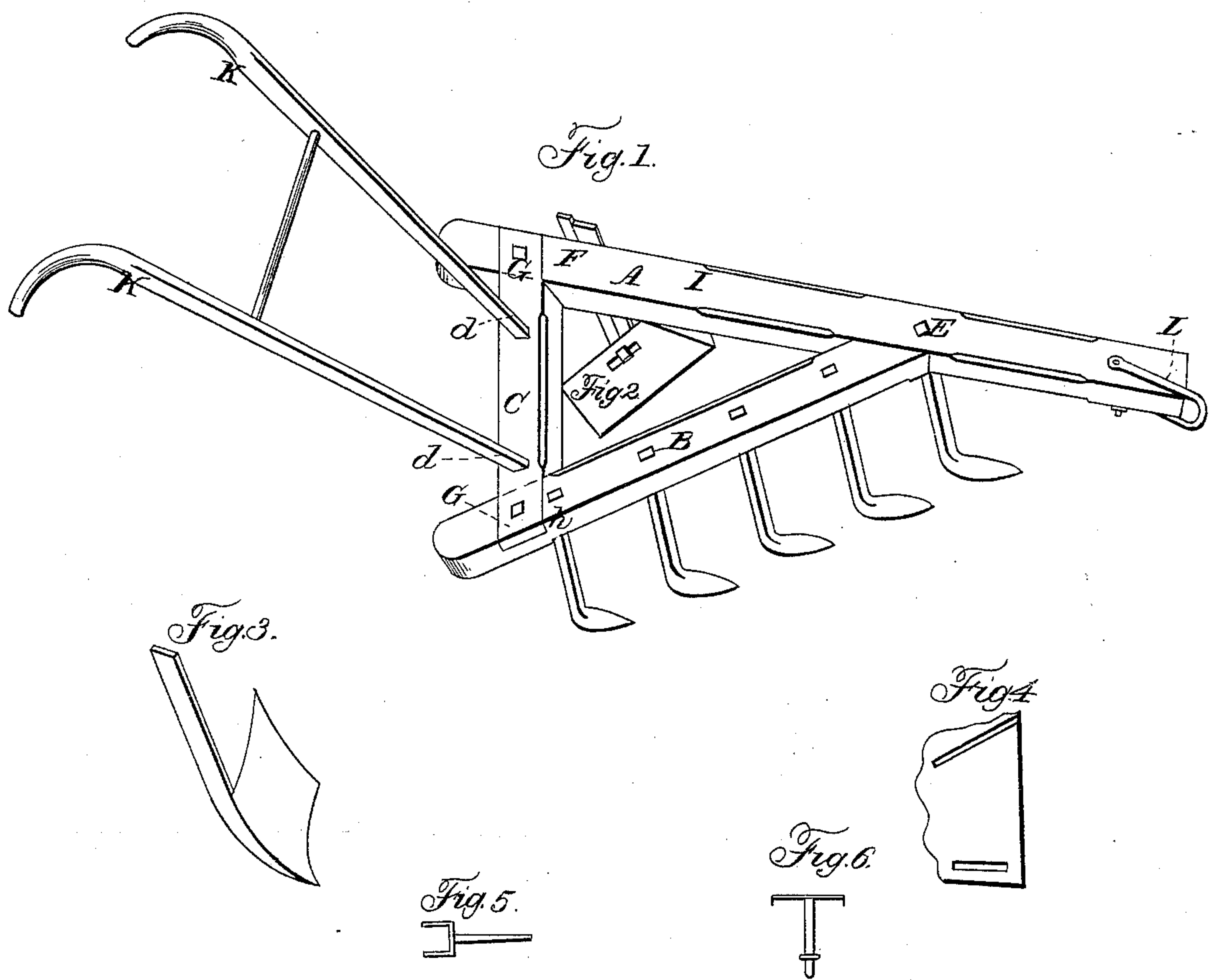


S. W. AIKIN.

Cultivator.

No. 6,204.

Patented Mar. 20, 1849.



UNITED STATES PATENT OFFICE.

SAMUEL W. AKIN, OF MAURY COUNTY, TENNESSEE.

IMPROVEMENT IN COTTON-CULTIVATORS.

Specification forming part of Letters Patent No. 6,204, dated March 20, 1849.

To all whom it may concern:

Be it known that I, SAMUEL W. AKIN, of the county of Maury, and State of Tennessee, have invented a new and useful Machine for the Cultivation of Cotton, to be titled the "Cotton-Cultivator;" and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a perspective view. Fig. 2 is the scraper. Fig. 3 is the adjustable plow. Fig. 4 is the board that keeps the dirt from falling on the cotton. Fig. 5 is the wrench or screw-driver that goes through the nose-iron or clevis. Fig. 6 is a T-headed screw that holds the mold-board to the beam A at letter I. Figs. 2 and 3 are attached to the beam A at letter F, the helvies of the scraper, Fig. 2, and the adjustable plow, Fig. 3, passing up through a mortise in the beam A at F, and made fast by a wedge. Fig. 4 is made fast to the beam A at letter I by the T-headed screw, Fig. 6, passing through the board and beam from the left side, so as to draw the board tight against the fore end of the scraper, Fig. 2, making a groove cut angling across the board, (shown by two black lines drawn on Fig. 4,) fit tight on the scraper, preventing any dirt or rubbish from falling on the cotton, and is only used while scraping the dirt from the cotton. Fig. 5 is the wrench or screw-driver at letter L, answering for a clevis-pin. The teeth in the angling beam B are of different lengths—the fore tooth at letter E being fifteen inches long, falling off one inch each tooth, making the hind tooth at *h* four inches shorter, so as to give pitch to the cultivator, making all the teeth run the same depth into the ground, while if all the teeth were of the same length the horse must be too far from his draft, or the fore tooth would scarcely touch the ground, while the hind tooth and the scraper or plow would run too deep and could not be regulated. By altering the gear on the horse by giving this proportion to the teeth it makes the cultivator manageable, so that the plowman, while scraping, can, by throwing weight on or raising it off, take away just what dirt he wishes. By running the teeth from the cotton it throws the clods and rubbish into the middle of the

row and prepares the ground for both the scraper and plow, leaving nothing but well pulverized soil to be thrown to the cotton, leaving the land in a most excellent condition to prevent washing by heavy rains.

The cotton-cultivator is constructed as follows: The beam A, four feet long; the angling beam B, two feet ten inches, and longer in proportion for rows over three feet wide. The cross-beam C is of different lengths, so as to reach the center of the rows they are intended to cultivate, and attached to the beam A and B at letter G by screw-bolts. The handles K are three feet six inches long, two and one-half inches wide, one and one-fourth thick, bent at the end, so as to form a hand-hold. They are let into the cross-beam C at letters *d d*, the beams strong enough to answer the purpose—say about three and one-half inches square. The teeth are set into the angling beam B, the fore tooth through both beams A and B at F, set at equal distances apart—two feet two inches to the hind tooth, *h*, in the angling beam B for rows three feet wide, and in proportion for wider rows five teeth; the fore tooth fifteen inches long, falling off one inch each tooth, making the hind tooth four inches shorter than the fore tooth, raising the fore end of the beam so as to range with the gear on the horse, making each tooth run the same depth into the ground, and making the draft lighter by bringing it nearer to the horse than it could be if the teeth were of the same length; two feet two inches from the fore tooth, E, to the hind end of the mortise at letter F, where the scraper, Fig. 2, and the adjustable plow, Fig. 3, are fastened in by a wedge. The proportioning the teeth, making one inch difference in length, so as to make the fore tooth four inches longer than the hind tooth, is the most important part in constructing the cultivator by giving each tooth, the scraper, and plow the same pitch or depth, causing the cultivator to run level, performing well with ease to both man and horse. The teeth may be either cast or wrought iron. I prefer wrought-iron, one inch square, flattened down two inches broad, sharp at the point to prevent old grass from gathering on them, bent like a butt-tongue or colter. Each tooth plows its own furrow, also the scraper and adjustable plow. If they were all of the same length, when the draft of

the horse was brought upon them the hind teeth and plow or scraper, as the case might be, would run too deep for the fore teeth, and could not be made to perform the work at all, as no two teeth would run the same depth, and the scraper would not do, as it could not be made to scrape, as it, being behind, would run too deep, and would take more dirt from the cotton than it would bear. While arranged in this proportion the plowman can take just as much or as little as is necessary to cultivate the plant. Another advantage in proportioning the teeth in this way is the depth can be regulated by altering the gear on the horse, making his traces longer or shorter, while if they were all of the same length the horse would be too far from the cultivator, which is a great disadvantage in driving out at the end of the rows, while on the other hand the horse is drawn up close to the cultivator, which makes his draft lighter, and can come out at the end of the rows. The top end of the teeth, where they fasten into the beam, may have a screw or be fastened by a wedge similar to the adjustable plow. Fig. 4 is the board that keeps the dirt from falling on the cotton while scraping. It is fastened on the sloped end of Fig. 2 by a groove, and fastened to the beam A at letter I by a T-headed screw, Fig. 6. The board is about six inches wide, and long enough to reach from letter I to the end of Fig. 2, one inch thick, drawn to an edge on the front side.

The scraper, Fig. 2, is a plate about eight inches broad, laid with steel twelve to fourteen inches long, with a mortise through it three inches from the sloped end three inches long, so as to slip on the screw that screws it to the helve, so as to set it nearer to or farther from the row. The helve is a flat bar of iron two inches wide, one-half inch thick, twelve

inches long, twisted so as to make the scraper, Fig. 2, stand with the angle of a carpenter's rabbit-plane, the twist being close to the top of the plate. The adjustable plow, Fig. 3, is made in a diamond form eight inches on the edge, the same deep, welded on a bar at the fore end, so as to form a helve to fasten it to the beam in the mortise at F, bent like a shovel-plow, only thrown back like a mold-board, turning the dirt all one way. Fig. 5 is a wrench or screw-driver that answers for a clevis-pin. The clevis or nose-iron, with a piece on the left side, is bent in a circle, with two holes through it, so as to turn on the end of the beam A to allow the horse to walk in the middle of the row.

The operation of the cotton-cultivator is, first, to harrow and scrape the cotton, at the same time using the scraper until the cotton wants hilling. I then remove the scraper and board that prevents the dirt from falling on the cotton and put the adjustable plow in their place. I then run round the cotton the same way, harrowing and hilling, performing the same amount of labor with one hand and horse that it takes two hands and horses to do in the usual way, where the harrow is used by itself and a plow has to follow.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The grooved board, Fig. 4, fitted to the scraper and bolted to the beam, for the purpose of protecting the plants from falling clods of earth.

2. The arrangement of teeth in one beam, B, of the cultivator, and constructing them of different lengths, for the purposes set forth.

SAMUEL W. AKIN.

Witnesses:

RADC. SUTTERFIELD,
A. W. POTTER.