N. L. ISGRIGG.

Cultivator.

No. 100,040. Patented Feb. 22, 1870.

Fig: 1.

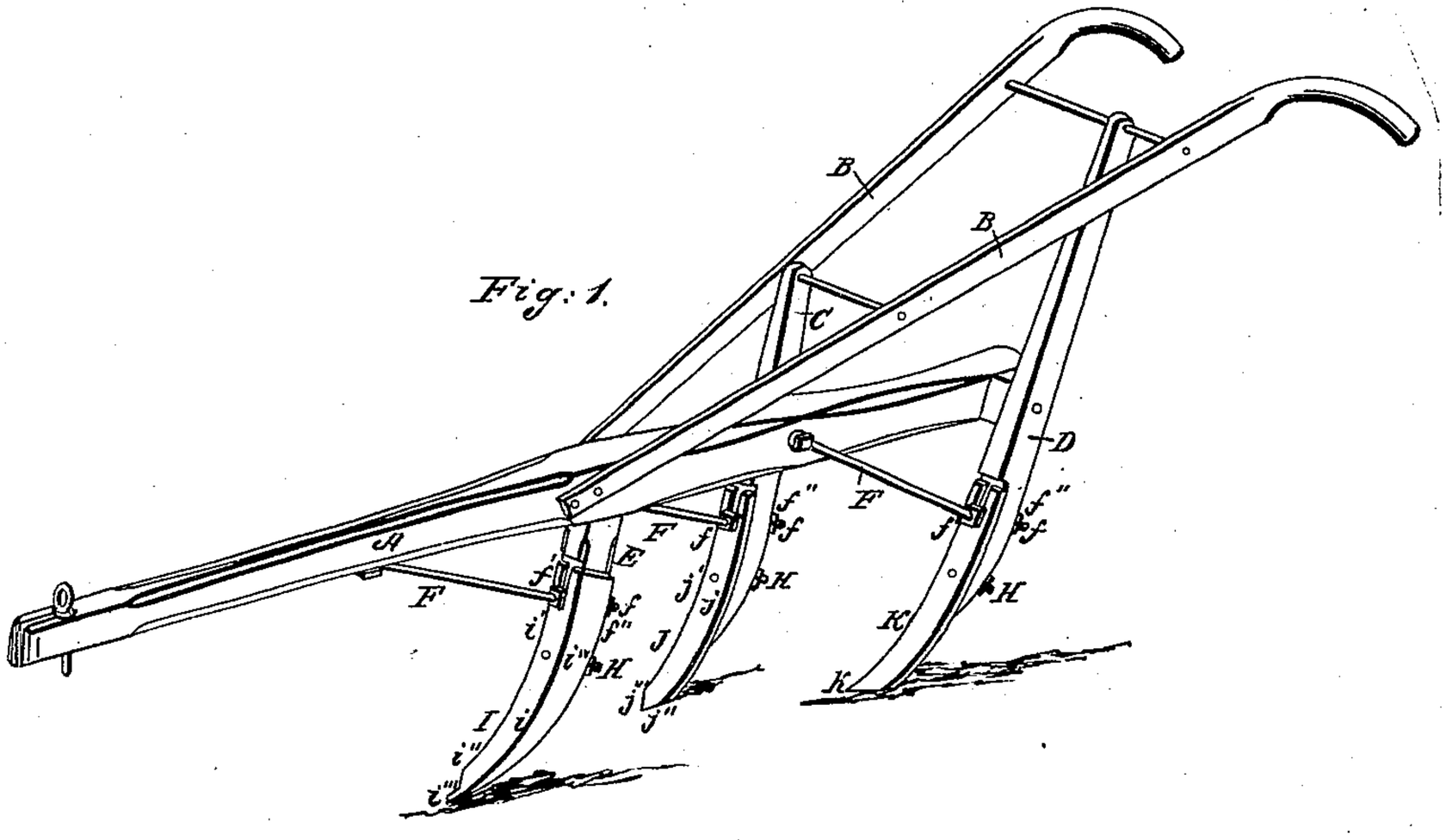


Fig: 2.

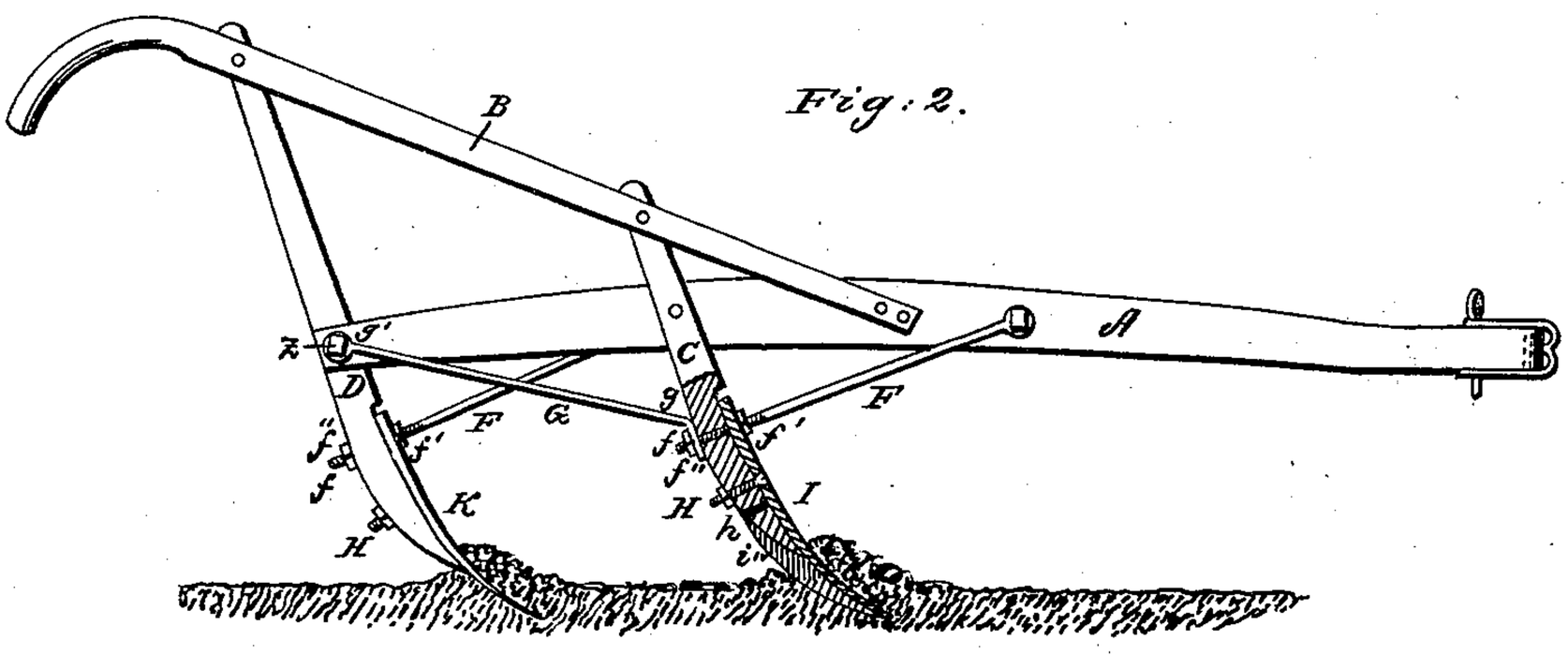


Fig: 3.

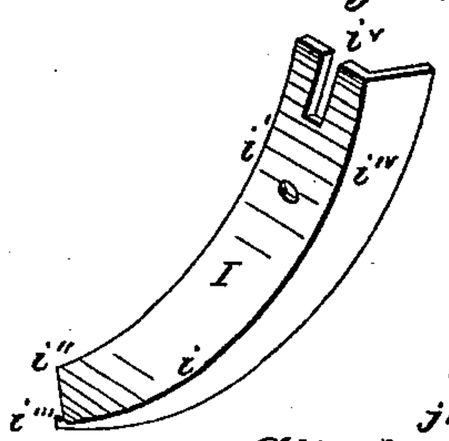


Fig: 4.

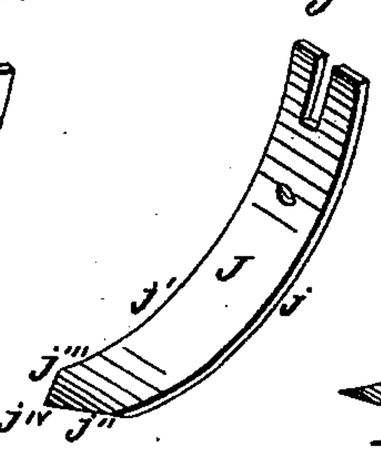


Fig: 5.

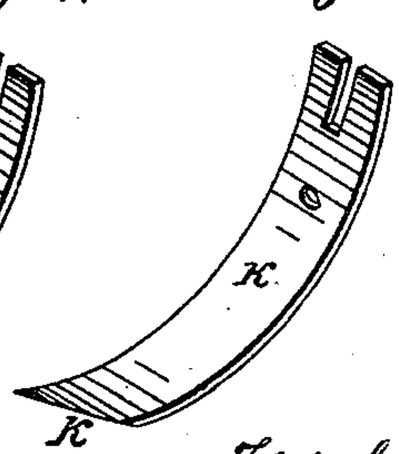
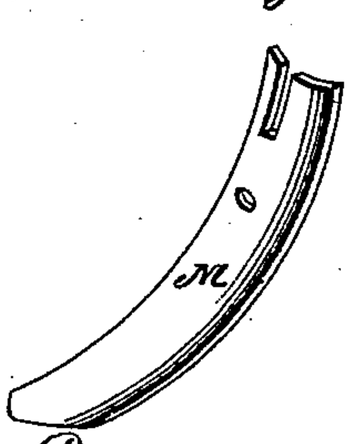


Fig: 6.



Attest:
Jas. H. Layman
Sam'l Knight

Knight Bros.
Attys of N. L. Isgrigg.

UNITED STATES PATENT OFFICE.

NATHAN L. ISGRIGG, OF MOORE'S HILL, INDIANA.

IMPROVEMENT IN CULTIVATORS.

Specification forming part of Letters Patent No. **100,040**, dated February 22, 1870.

To all whom it may concern:

Be it known that I, NATHAN L. ISGRIGG, of Moore's Hill, Dearborn county, Indiana, have invented a certain new and useful Improvement in Corn Plows or Cultivators; and I hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification.

My improvement relates, first, to the attachment of the shares or teeth to the post or standard, and, second, to the general construction and arrangement of the cultivator.

The shares shown vary in minor particulars, but have all the following formation in common, viz: a curved form from the point to the upper end, sides which run parallel the one to the other from the cutting edge or point to the upper end, considerably greater length in proportion to breadth than shares hitherto used, and a slot at the upper end to engage the brace-rod at a point beneath a nut screwing thereupon.

Figure 1 is a perspective view of a three-shared plow or cultivator having my improvement. Fig. 2 is a partly sectionized side elevation of a two-shared cultivator. Figs. 3 to 6, inclusive, illustrate modifications of my improved shares on a somewhat enlarged scale.

A is the beam, B the stilts, and C D E, respectively, the right, left, and middle post or standard. The middle standard, E, is braced by a rod, F, extending forward and upward from the said beam. The rear end, *f*, of the brace F passes through the standard, and is screw-threaded to receive nuts *f'* and *f''*, the former of which is before and the latter behind the standard, which is thus held firmly on the brace by the said nuts. The standards C and D have similar braces, F, serving a similar purpose to that of the standard E.

Secured to the standard E by a bolt, H, is a share or tooth, I, whose sides *i i'* are parallel to each other from the top of the share to its point or cutting-edge *i''*. This cutting-edge is inclined at an angle of about one hundred and twenty degrees with the side *i'*, and extends three-fourths (more or less) across the share to a projection, *i'''*, whose outer side forms a continuance of the side *i*, and whose point or operating-edge is at right angles thereto.

Extending backward from the edge *i'* is a flange, i^{IV}, which may have any angle not in excess of ninety degrees with the face *i i'* of the share. The share is curved lengthwise from point to top, and at the upper end has a slot, i^{V} parallel with the sides, which slot embraces the brace F between the nut *f'* and the standard, and the nut *f'*, being screwed tightly to the share, holds its upper end firmly to the standard.

Attached to the standard C is a share, J, whose sides *j j*, like those of I, are parallel from top to point, but which is devoid of the side flange. The cutting-edge has two inclined portions, *j'' j'''*, meeting in a central point, j^{IV}, having an angle of about ninety degrees. The working-face of this share has, like I, a concave curve from point to top, and is flat transversely. The standard D has a share, K, similar in form and attachment to the share J, except that the cutting-edge has but one incline, *k*. The standard D, Fig. 2, has a share, K, formed and attached similarly to that K, Fig. 1. The standard C, Fig. 2, has a share, I, similar in all respects to the share I, Fig. 1.

Extending backwardly and upwardly from the standard C (see Fig. 2) is a brace-rod, G, having at each end an eye, *g g'*, through which pass, respectively, the end *f* of the brace-rod F and a bolt, L, by which the standard D is secured to the beam A, the ends of the brace F being held on said screw-rod by the nut *f''*.

The construction of the share I is more clearly shown in Fig. 3. The construction of the share J is shown in Fig. 4, and that of K in Fig. 5. The face of all the aforesaid shares is flat transversely a horizontal section of the same, (when in working position,) being in form of a rectangle in the case of J and K and having an L form in I.

Fig. 6 shows the form of a share, M, which differs from J only in having its face curved transversely.

When it is desired to mix a portion of the subsoil with the surface-soil, any of the forms of share I J K may be used, and they are attached to their standards so that their faces shall be transverse to the line of draft, so as to give no side inclination to the moving earth, but to raise a certain portion of it to the top.

When, as sometimes, it is desired to retain all the surface-soil at the surface and to merely stir and pulverize the subsoil, the shares may be slightly inclined to one side, so as to move

the earth sidewise, instead of raising it to the top. In this case the different shares would be inclined to the right and left, respectively, so as to cause no side draft on the implement. This position of the shares may be gained by the insertion of a small wedge beneath one side. The form M, as shown in Fig. 6, is also intended for use when it is not desired to throw up the subsoil upon the surface, the earth with this share being thrown off on each side.

The form I shown in Fig. 3 would be preferably made of cast metal, and that, as well as the other forms, might have a detachable point, which could be cast with its cutting-edge "chilled" or made of sheet-steel, or of sheet or plate iron "laid" with steel.

The forms of shares J K M might be readily made from sheet-steel, or iron laid with steel, or provided with a detachable point.

It will be understood that in shares having a flat conformation transversely it is necessary to have two points of attachment, as otherwise there would be nothing to prevent the share from turning on its single point of attachment, the share having no side bearing on the standard. The lower attachment is by means of the usual bolt, H, which passes through the standard and share. The upper attachment is by means of a slot, which allows the upper portion of the share to embrace the brace-rod, and by a nut upon the brace-rod, which nut is screwed down upon the share. Thus it will be seen that the share may be taken off by the removal of one nut and the loosening of another.

The shares are readily adjustable on the standards by having two or more bolt-holes, *h*, in the said standards for the bolts H, the slot of the upper attachment allowing the adjustment of the share upward and downward.

In the form of cultivator shown in Fig. 2 the front share, I, may be arranged to throw the earth from the corn or other plant, and the share K to return the loosened earth thereto, thus closely imitating the operation of hand-hoeing in the best style.

I reserve the right to couple two of my cultivators together, either with or without a frame supported on wheels or otherwise.

Two of the shares may be attached to a single standard, and so inclined as to form a "double mold-board plow" to throw the ground to both sides in digging potatoes or the like.

I claim herein as new and of my invention—

1. The nut *f'* upon the brace-rod F, serving, with the nut *f''*, the double purpose of securing the share to the standard and both to the brace, as set forth.

2. The combination and arrangement of the beam A, standard C, brace F, nuts *f' f''*, and slotted share I J K, substantially as and for the purpose described.

In testimony of which invention I hereunto set my hand.

NATHAN L. ISGRIGG.

Witnesses:

GEO. H. KNIGHT,

JAMES H. LAYMAN.