

*L. Rogers,
Cultivator Teeth.*

Nº 74.004.

Patented Feb. 4. 1868.

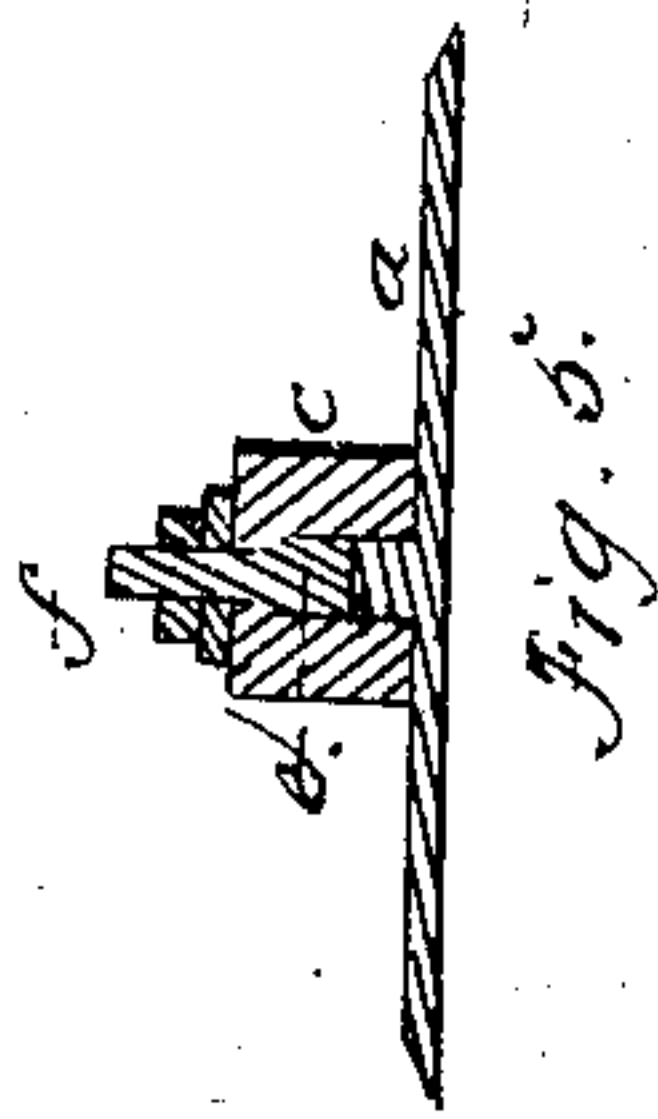


Fig. 2.

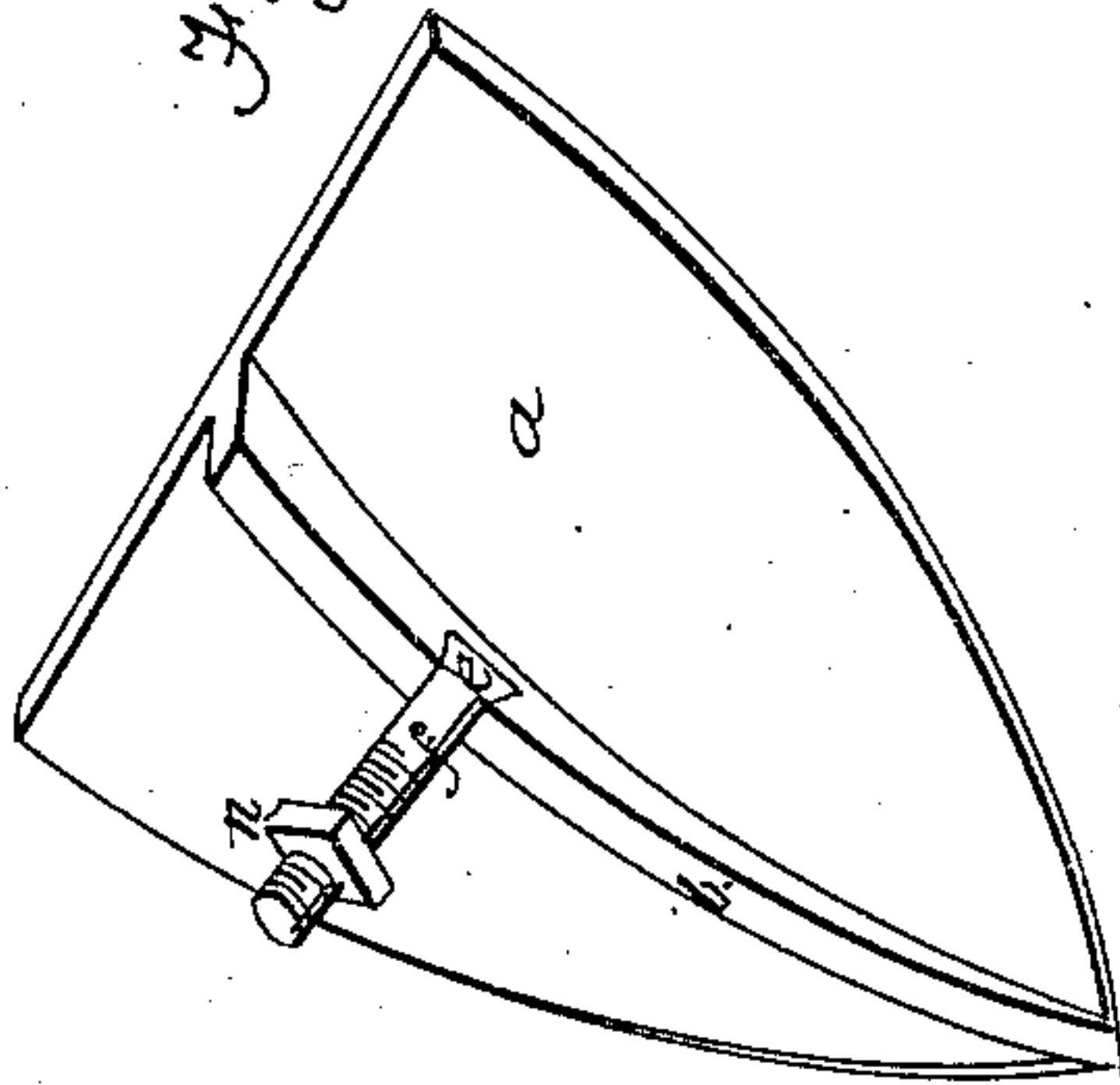


Fig. 1.

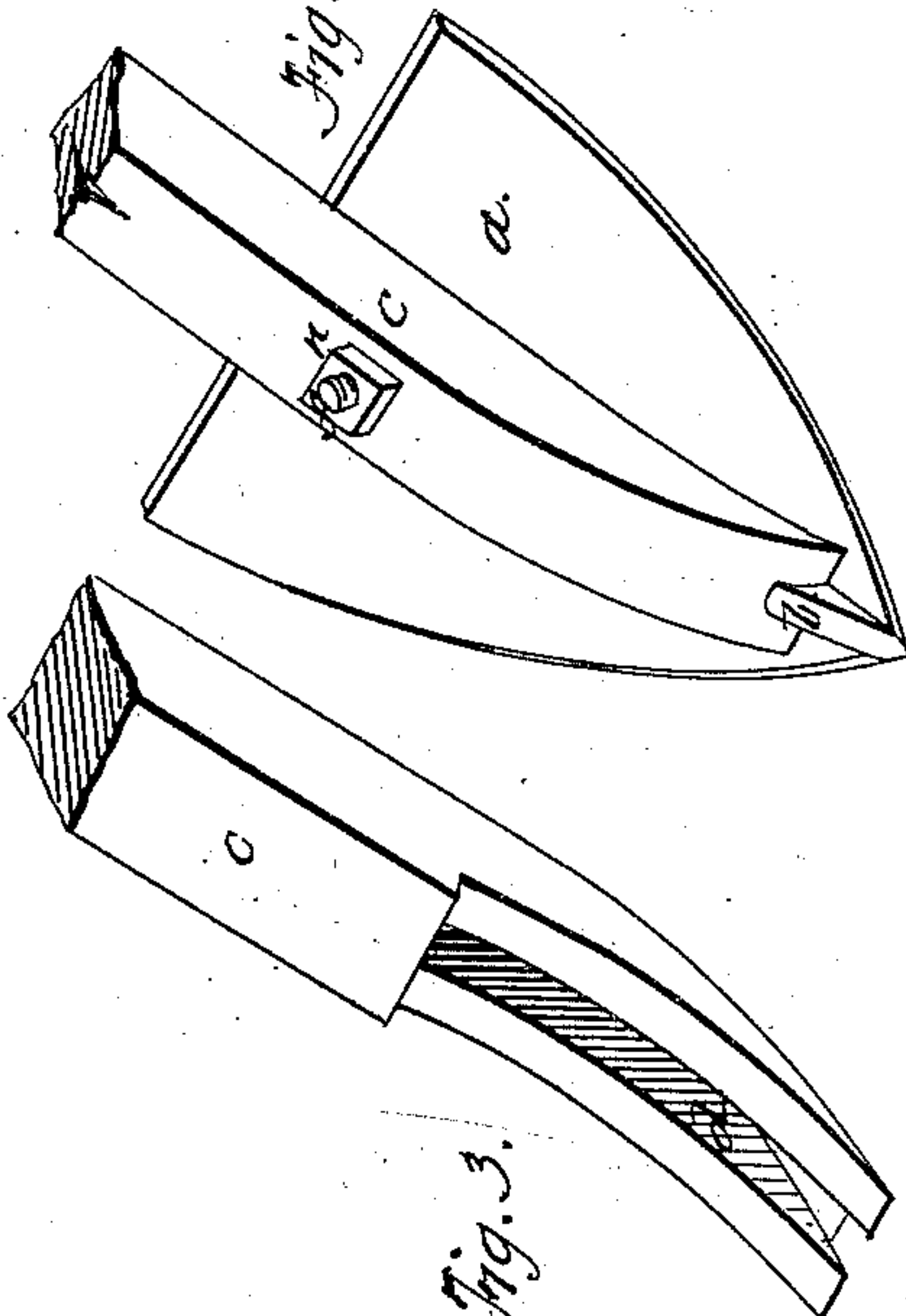


Fig. 4.

Fig. 3.

Attest:

W. D. Lewis

W. B. Cashing

by his attorneys

Inventor:

Samuel Rogers

Bakewell & Christy.

United States Patent Office.

LUMAN ROGERS, OF PITTSBURG, PENNSYLVANIA.

Letters Patent No. 74,004, dated February 4, 1868; antedated January 23, 1868.

IMPROVEMENT IN CULTIVATOR-TEETH.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, LUMAN ROGERS, of the city of Pittsburg, in the county of Allegheny, and State of Pennsylvania, have invented a new and useful Improvement in Teeth or Shovels for Cultivators; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawing, forming part of this specification in which—

Figure 1 is a perspective representation of a shovel-plough blade attached to its standard.

Figure 2 is a representation of a shovel-plough blade without the standard.

Figure 3 is a representation of the standard of a shovel-plough adapted to the blade or shovel shown in fig. 2.

Figure 4 is an end view of the head of the plough-blade or shovel.

Figure 5 is a cross-section through the plough-blade and standard in the line *xx* of fig. 2.

In the several figures like letters refer to similar parts.

My invention is designed to be applied not only to the shovels or blades of shovel-ploughs, but also to cultivator-teeth; and consists in an improvement in the structure of such teeth, shovels, or blades, and in the devices employed for attaching them to the standard or frame by which they are held or supported. It is peculiarly adapted to the teeth or shovels of cultivators when they are made of steel; but is also useful when they are made of wrought or cast iron. Steel cultivator-teeth and plough-blades are usually made of sheet steel, rolled to the proper thickness, and then formed into proper shape. In order to attach such cultivator-teeth or plough-shovels to their standard, two or more holes are punched in the plate through which bolts are inserted, which project through the standard, and are secured on the rear side by a screw-nut. The bolt must have a head in order to hold the tooth or shovel securely, which head must be countersunk into the face of the tooth or plough-point, so as to leave no projection, it being highly important that these teeth or shovels should be smooth and polished. As the surface of the tooth wears away by use, the bolt-head also becomes worn, and its hold on the steel plate gradually diminishes, so that when a new tooth or shovel has to be attached to the cultivator or plough, the old bolts cannot be used again. It is also difficult to get the bolt-heads to fit nicely in the steel plate so as to form a smooth finish; and after a little use, the unequal wear of the steel plate and of the bolt-head causes an unevenness of surface which is injurious to the implement. By my invention I overcome these difficulties, obviating the necessity of perforating the plate forming the tooth or shovel of the cultivator or plough, and thus securing an unbroken surface susceptible of a high polish; I also dispense with the necessity of using more than one bolt, and secure a much firmer attachment to the standard. My improved teeth or shovels are much stronger at the point where they need the greatest strength than those made in the ordinary way, and the bolts not being exposed to wear on the head, may be used, as long as the frame or standard lasts, with a succession of teeth or shovels.

To enable others skilled in the art to construct and use my improved cultivator or plough-teeth or shovels, I will proceed to explain my invention more fully, and in so doing will describe its application to shovel-plough blades.

In the drawing, *a* is a blade for a shovel-plough, made of a plate of steel, rolled of the proper thickness. In rolling the plate a rib, *b*, is formed, projecting a short distance from the surface of the back of the plate, and extending from the point upwards to the top of the blade, equidistant from either side. This rib *b* is tapered off at the point, as shown in figs. 1 and 2. The standard *c* has a rebate or groove, *d*, at its lower end, of the depth and width proper to receive and fit the rib *b* of the steel blade, when the blade *a* is attached to the standard *c*, as shown in fig. 1. In the rib *b*, at a suitable point between the top and point, is a dove-tail notch to receive the wedge-shaped head *e* of the screw-bolt *f*, which is formed to fit the notch exactly, the head of the bolt being inserted into the side of the rib *b*, so that when the bolt is passed through the standard *c*, the sides of the groove *d* prevent the bolt from slipping out, and hold it securely in place. The blade *a* being placed on the standard *c*, with the rib *b* inserted into the groove *d*, and the bolt *f* projecting through the standard, as shown in fig. 1, the nut *h* is screwed on the end of the bolt, and holds the shovel or blade firmly in place. By this means the shovel or blade is so securely attached to the standard that it cannot shake loose or move from its position, and as the bolt is inserted in the rib *b*, on the back of the blade, it is entirely unnecessary to make any perforation in the surface of the blade, or to use more than a single bolt. If preferred, the rib *b* may be welded on to the

blade, but I prefer to roll the blade, whether of steel or wrought iron, with the rib on it. The rib need not be continued all the way up the blade, but I prefer to do so, as it adds to its strength, and enables the blade to be made of a thinner plate, if desired. In place of the continuous rib, two or more projections may be formed on the back of the blade, into one of which the bolt-head may be dove-tailed or screwed.

The mode of applying my invention to cultivator-teeth, whether U-shaped or otherwise, is obvious; the rib being rolled on the back of the blade before it receives its proper shape.

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

1. The rib *b* on the back of cultivator-teeth, or of blades for shovel-ploughs, for the purpose of adding strength to the blade, or for forming a means of attaching it to its standard or frame.
2. Attaching cultivator-teeth or blades of shovel-ploughs by means of a bolt inserted into a rib or projection on the back of the tooth, which fits into a recess or groove in the standard or frame, substantially as and for the purposes described.

In testimony whereof, I, the said LUMAN ROGERS, have hereunto set my hand.

LUMAN ROGERS.

Witnesses:

A. S. NICHOLSON,
W. BAKEWELL.