(No Model.) 2 Sheets—Sheet 1.

H. C. PRATT.

ATTACHMENT FOR CULTIVATORS.

No. 359,518. Patented Mar. 15, 1887.

Fig. 1.

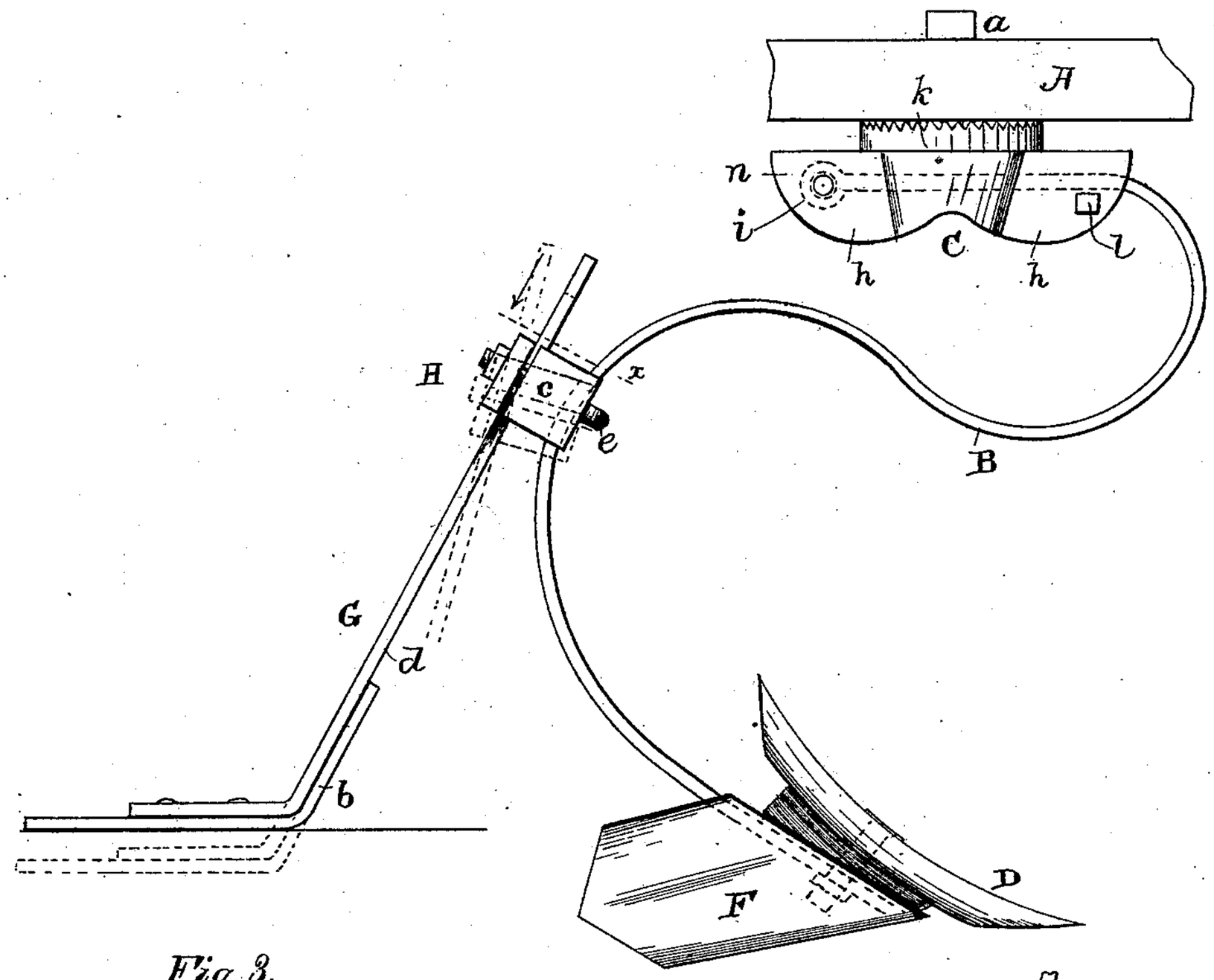


Fig. 3.

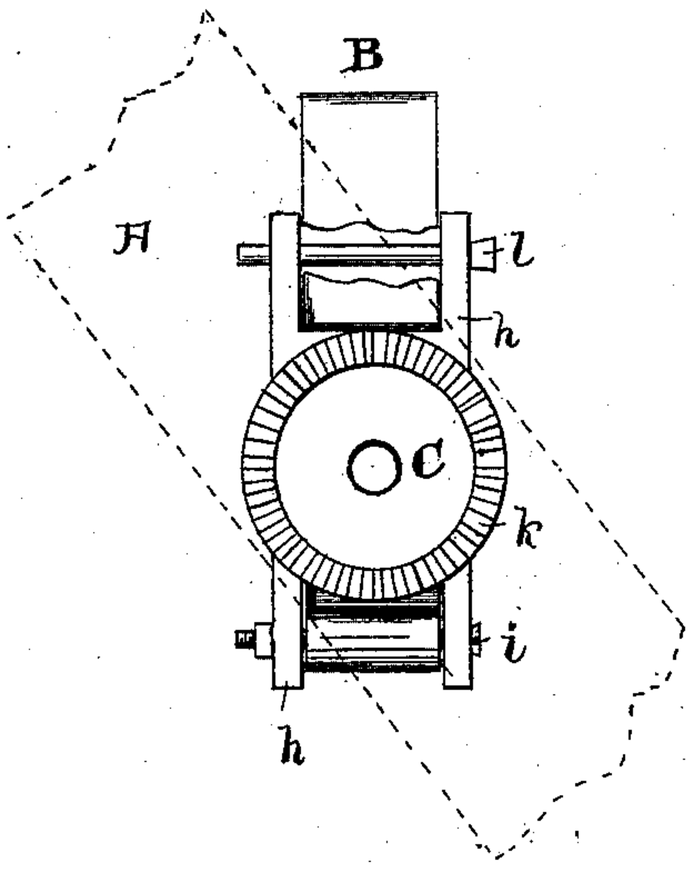


Fig. 2.

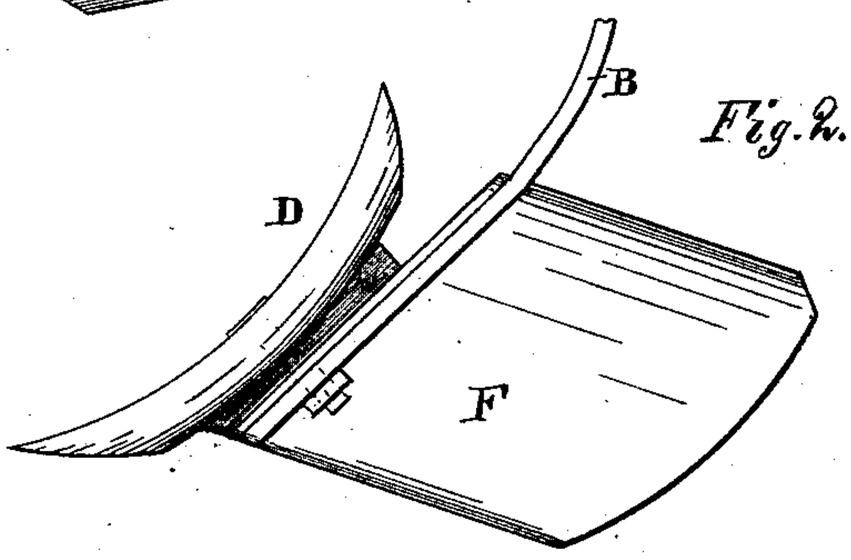
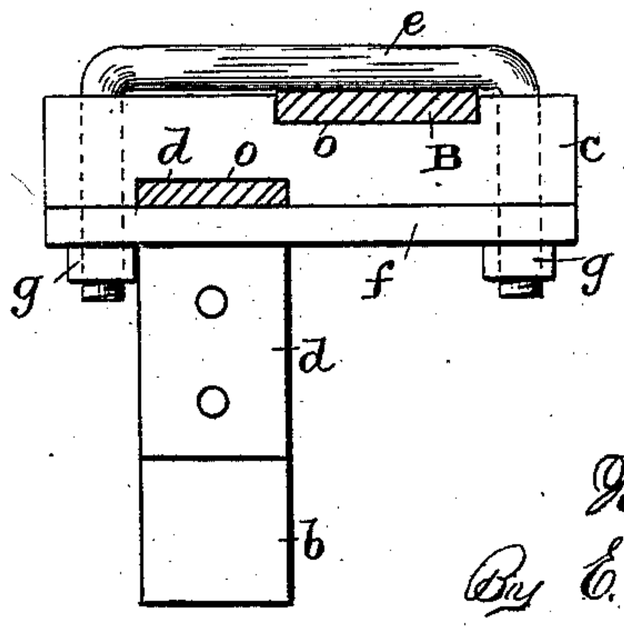


Fig. 4.



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(No Model.) 2 Sheets—Sheet 2.

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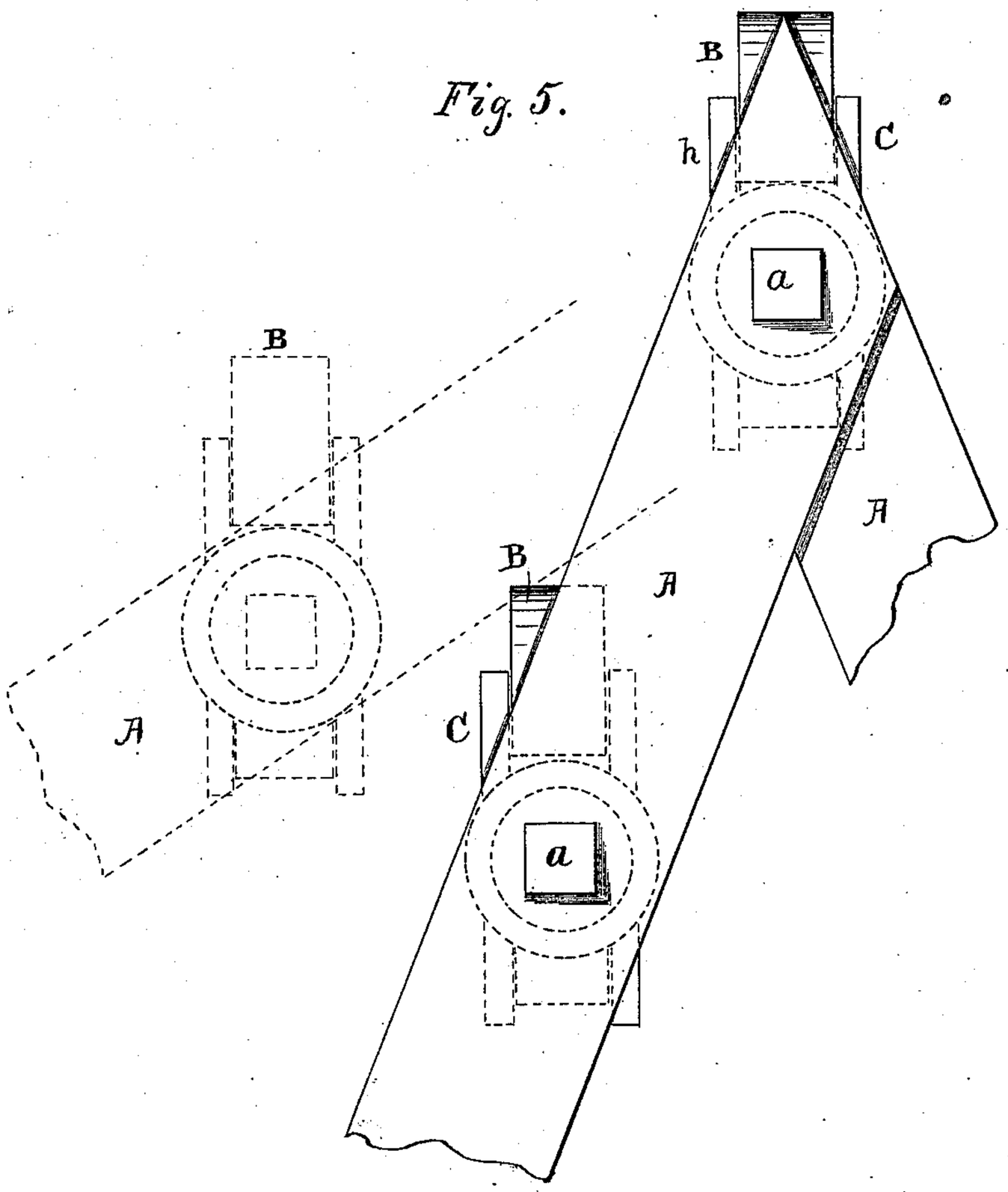
ATTACHMENT FOR CULTIVATORS.

No. 359,518. Patented Mar. 15, 1887.

Fig. 5.



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UNITED STATES PATENT OFFICE.

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ATTACHMENT FOR CULTIVATORS.

SPECIFICATION forming part of Letters Patent No. 359,518, dated March 15, 1887.

Application filed September 8, 1885. Serial No. 176,508. (No model.)

To all whom it may concern:

Be it known that I, HENRY C. PRATT, of Canandaigua, in the county of Ontario and State of New York, have invented a new and useful Improvement in Attachments for Cultivators, which improvement is fully set forth in the following specification and shown in the accompanying drawings.

This invention has relation to improvements in attachments for cultivators; and it consists in the construction, novel arrangement, and adaptation of devices, as will be hereinafter more fully set forth and claimed.

Referring to the drawings, Figure 1, Sheet 1, is a side elevation of my improved standard with a portion of the frame of a cultivator and attachments for the standard, parts being shown in two positions of adjustment by full and dotted lines; Fig. 2, a view from the opposite direction of the lower portion of the standard with a tooth and wing or blade for hilling; Fig. 3, a plan of a portion of the machine, drawn to further show the standard and its relation to the frame and the notched circular plate designed to rest against the frame, a portion of the latter being shown in dotted lines, and a part of the standard broken away to uncover the breaking-pin; Fig. 4, a transverse section of the standard and gage, taken as upon the dotted line *x* in Fig. 1, drawn to a larger scale to further show the clamp or binder for the parts; and Fig. 5, Sheet 2, a plan of a portion of the frame of a cultivator with the parts of the same represented as in two positions of adjustment by full and dotted lines, showing a standard attached to the frame and shifted to position, in accordance with the positions occupied by said parts of the frame to be parallel with the line of advance of the machine.

Referring to the parts, A is a part of the frame of a farm-cultivator; B, the standard attached to a holder, C, secured to the frame by a clamping-bolt, *a*.

D is a tooth secured to the lower end of the standard, and F side wings, also secured to the standard for throwing dirt around the hills or rows of growing vegetables.

G is a trailing gage secured to the standard by means of a clamp, H, which gage consists of a bar of iron, *d*, bent near its lower end to a horizontal position and provided with a detachable shoe, *b*, to be replaced by another when worn.

The standard B is a flat yielding bar of steel, bent substantially to the form of a letter **S**, and pivoted on a pin, *i*, between parallel vertical plates *h* of the holder C. The clamp or binder H consists of a block or body, *c*, transversely notched at *o*, on opposite sides, to receive the standard and the gage, as shown, a cap-piece, *f*, and a bolt, *e*, having its ends bent to pass through transverse holes in the part *c*, and cap-piece *f* and clamping-nuts *g* being fitted to the threaded ends of the bolt outside of the plate or cap-piece. By tightening the nuts *g* the gage and standard are held rigidly together. The bar *d* of the gage may be slid endwise through the binder, as indicated in Fig. 1, to give the tooth a greater or less depth of cut, and the binder may be moved up or down along the standard to cause the gage to bear upon the ground farther from or nearer to the tooth which it follows, the gage being held rigid in any position of adjustment by the binder being tightened thereon.

The adjustments of the gage are of advantage in cultivating in different kinds of soil and in wet and dry land; also, in cultivating among roots of tender or more rugged growth.

The holder C for the standard is formed with a horizontal part, *k*, formed upon its upper face with radial notches or teeth in position to indent the timber of the frame when held thereto by the center clamping-bolt, *a*. The vertical plane of the standard needs to be always parallel with the line of advance of the implement, and when the timbers of the frame are expanded or contracted at their rear ends, as shown and above stated, the planes of the standards are necessarily thrown away from said parallelism. The swivel movement of the standards upon the frame and bolts *a* enables the operator to adjust them upon the frame as occasion may require, so the teeth shall truly face in the direction in which the cultivator moves. When a standard, by means of its holder, is firmly clamped to the frame, the toothed plate *k* prevents its turning thereon when in use.

At its upper end the standard is formed with a loop or eye, *n*, and made straight for some distance, and fitted to rest horizontally within

the holder C, to which it is held by a pivot-pin, *i*, said standard passing thence over a safety pin or stop, *l*, inserted horizontally through the plates *h* at a point distant from the pin *i*, which is passed through the plates *h* and the loop *n*, as shown. This safety-pin is made of wood or other comparatively frail material, and it is designed to break and give way to let the standard swing backward and pass over an obstacle should the tooth encounter such unyielding obstacle—as, for instance, the root of a tree or a firmly-set stone. By this means the standard is saved from being broken, which might occur were it held rigidly to the holder or frame.

The standard is made preferably of flat bar-steel, and yields to the more moderate strains upon it when in use, and being made in a double or reverse curve there is considerable length given it between the end held by the pivot-pin and the free end holding the tooth. On this account it is enabled to yield to a greater extent to the pressure upon the point or tooth, which is desirable in making the cultivator of easy draft and causing it to do better work. Cultivating is done in soft soil, or soil previously thrown up by the plow, and the design of cultivating is to work over the surface-soil without cutting deeply therein.

I am aware that it is not new to provide a rigid plow-standard with a yielding gage or coverer; but I am not aware that any one has heretofore provided a spring standard with a rigid trailing gage adjustably upon the standard, and I attach importance to the employment of such, as it will be seen that when a spring-standard is used it is not necessary to raise the entire plow-frame in order to adjust the point of the standard.

I am also aware that it is not new to arrange a shoe on a spring-tooth to travel in advance of its point.

What I claim as my invention is—

1. In combination with the frame of a cultivator, a standard-holder formed with a serrated head, the teeth or ridges of which bear directly against the timber of said frame, said holder being further formed with upturned parallel sides or plates forming a channel or rest in which the standard rests, a spring-standard occupying said channel and held therein and to the sides of said head by a pivot-bolt passed through said sides of the head and the standard, upon which pivot-bolt said standard may turn, and a tooth secured to said standard, substantially as shown and set forth.

2. A frame of a cultivator, in combination with a spring-standard and tooth secured thereto joined to said frame, and a trailing gage for regulating the depth of cut of said tooth secured adjustably to said standard, said gage being provided with a detachable shoe, substantially as shown.

3. The combination, in a cultivator, of a spring-standard for holding a tooth, the bar of a gage secured to said standard, a clamp or binder for holding said standard and said bar together, consisting of a block or body notched on opposite sides for receiving said standard and bar, a cap-piece, and a clamping-bolt to bind said standard, block, bar, and cap-piece together, substantially as described.

4. The combination, with a spring-cultivator tooth or standard, of a rigid trailing gage adjustably attached thereto, substantially as specified.

5. The combination, with a spring-cultivator tooth or standard of approximately **S** form, of a rigid trailing gage adjustably attached to the lower bend or curved portion of the said standard, substantially as specified.

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Witnesses:
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