E. M. & M. L. KISSELL.

WHEEL CULTIVATOR.

No. 190,972. Patented May 22, 1877.

Fig. 1.

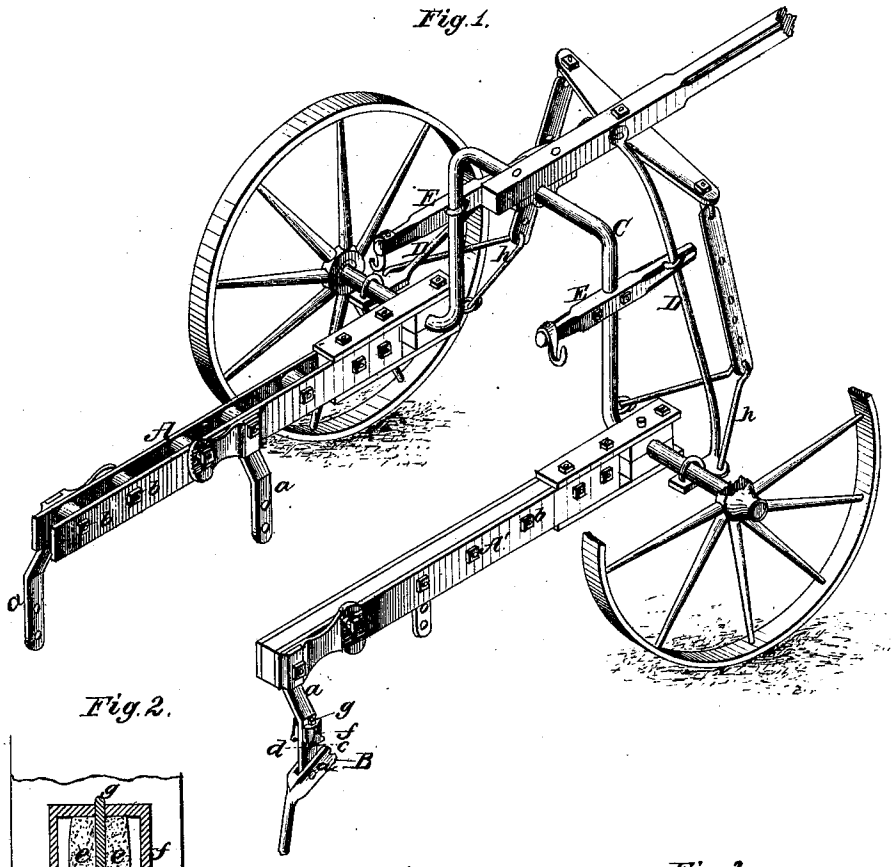


Fig. 2.

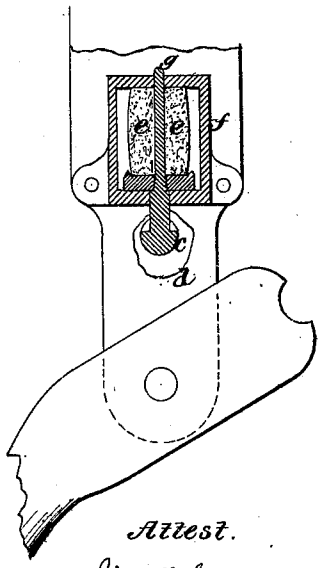
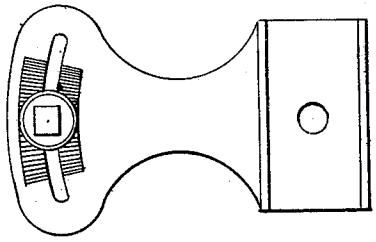


Fig. 3.



Attest.

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UNITED STATES PATENT OFFICE.

EMANUEL M. KISSELL AND MARTIN L. KISSELL, OF SPRINGFIELD, OHIO.

IMPROVEMENT IN WHEEL-CULTIVATORS.

Specification forming part of Letters Patent No. **190,972**, dated May 22, 1877; application filed November 11, 1876.

To all whom it may concern:

Be it known that we, E. M. KISSELL and M. L. KISSELL, of the city of Springfield, Clarke county, Ohio, have invented new and useful Improvements in Wheel-Cultivators, which improvements are fully set forth in the following specification, reference being had to the accompanying drawing.

We construct the beam to which the shovel-standards are attached of two pieces of iron, riveted together through blocks of wood at each end, and at intervening distances along the beam, to make it light and strong. Said beams may be constructed solid by filling all the space between the iron bars with a third bar of wood. Said beams are joined to an arched iron axle, and to said axle are connected strong arched braces, joined to the tongue at their upper ends. To the arched braces are attached hook-bars for hanging up the beams, said bars also serving to stiffen said braces, said hook-bars being also clamped to the arched axle, so as to hold said axle in a firm upright position. The shovel-standards are made with a new and improved safety break-joint, consisting of a movable pin or rivet of iron working in a slot. Said pin is kept in place by the pressure of blocks of gutta-percha or springs of other material and adjustable screw-bolts. Said gutta-percha blocks are inclosed in iron shields firmly bolted to each side of the standard or other beam, with shovels attached, and extending over the ends of the iron pin to keep it in place. To the arched braces, at their lower ends, at the point of their junction with the axle, is attached the hitch-rod, making a better and steadier draft, avoiding the strain on the upright standard now in use, and preventing any lateral motion of the pendant and hitch-rod.

Figure 1 is a perspective view of a cultivator, showing beams A A′, axle C, arched braces D D, safety break-joint B with its several parts. Fig. 2 is a larger view of the safety break-joint B with its several parts. Fig. 3 is a standard-bracket.

Our invention is more particularly described as follows: A is a beam, to which the shovel-standards *a a* are fastened, and hung to axle C. Said beam is constructed of two iron bars clamped together by screw-bolts *b b*, passing through blocks of wood or other material, making a strong, light beam. A′ shows another form of beam, constructed of two iron bars and a bar of wood clamped together in the same manner, making a solid beam. B is a safety break-joint in shovel-standards *a a*, held together by iron pin or rivet *c* moving in slot *d*. The iron pin is held in place by gutta-percha blocks *e e*, placed in iron shields *f f*, and adjustable screw-bolts *g g* regulate the pressure on the pin *c* by the gutta-percha blocks, the elasticity of which breaks the joint. Said shields are screwed securely on the sides of the standard. E E are hook-bars clamped to arched axle C and having their front ends joined to arched braces D D, for the purpose of hanging up the beams A and A′ and attachments. To the arched braces D D, at their base and close to the axle, are attached hitch-rods *h h*.

We are aware that frame-bars have been attached to the sides of an arched axle, with hooks to suspend the plow-beams, in other patents; also, that split tongues have been used for same purpose, and we make no such claim; but

We claim as follows:

1. The safety break-joint B, pin *c*, slot *d*, gutta-percha blocks *e e*, or their equivalents, shields *f f*, screw-bolts *g g*, substantially as described and shown.

2. Hitch-bars E, arched axle C, and brace-rods D, in combination with the beams and tongue of a cultivator, constructed and arranged substantially as shown and described.

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Witnesses:
H. H. CUMBACK,
GEO. W. BROWN.