

(No Model.)

W. H. COWDERY.
METHOD OF MAKING RAKES.

No. 405,661.

Patented June 18, 1889.

Fig 1-

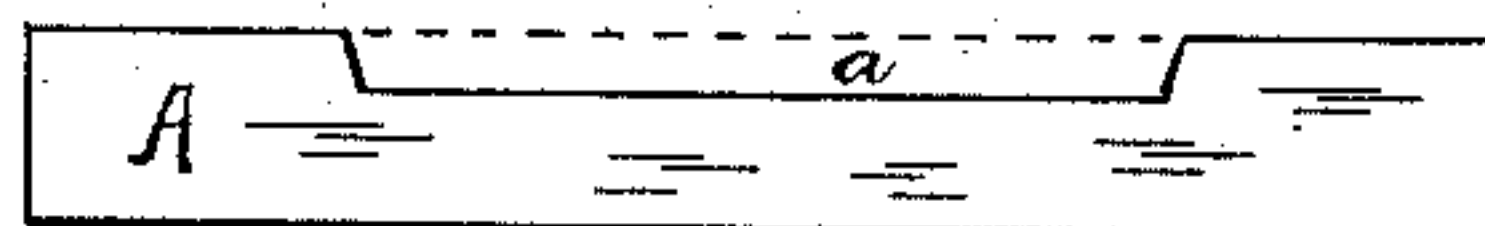


Fig 2-



Fig 3-

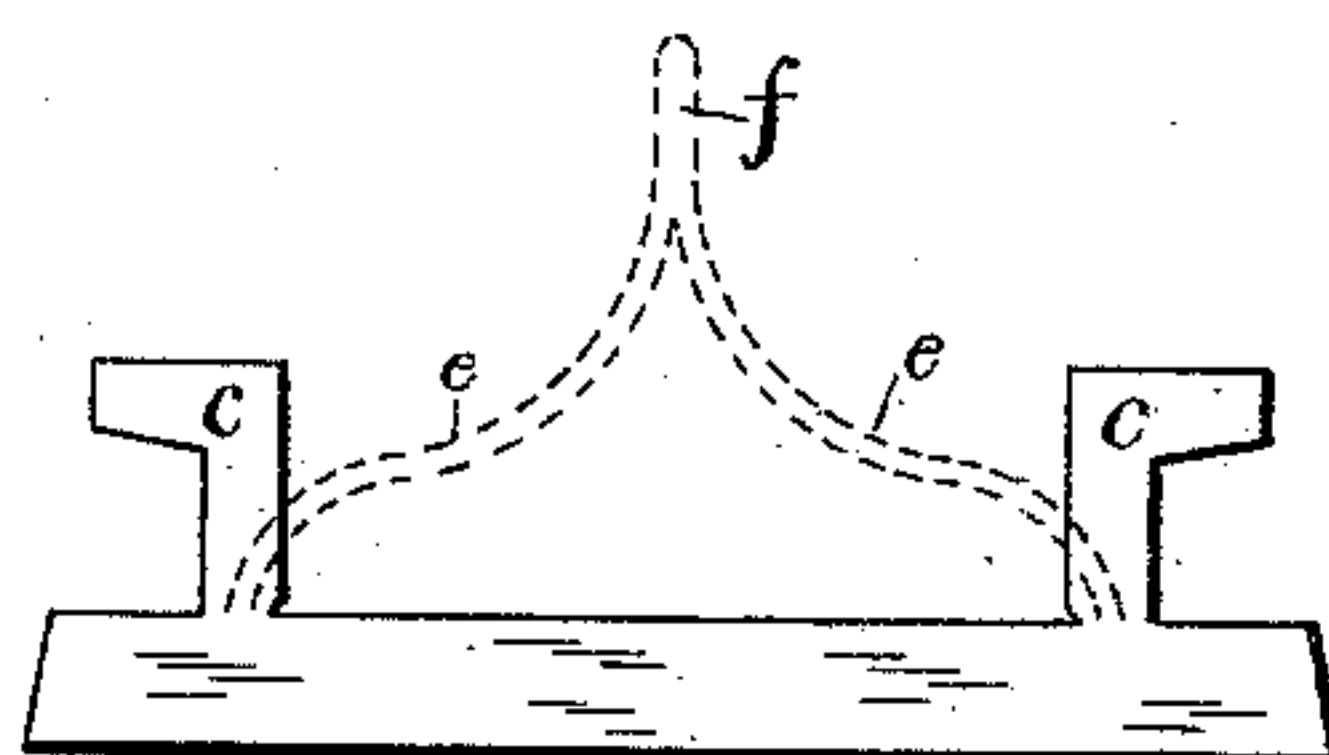
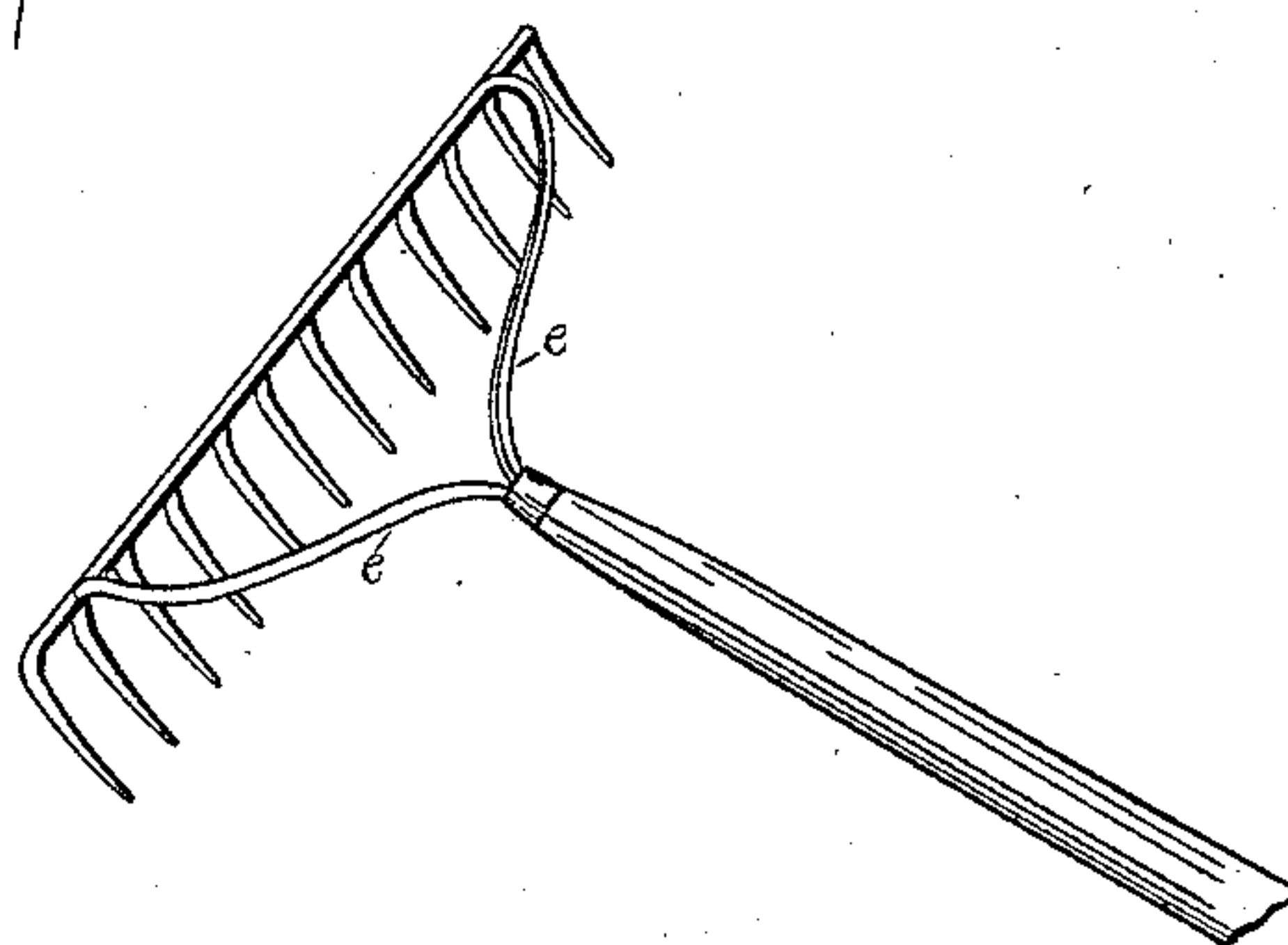


Fig 4-



Witnesses

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WARREN H. COWDERY, OF ASHTABULA, OHIO, ASSIGNOR OF ONE-HALF TO
SAMUEL R. HARRIS, OF SAME PLACE.

METHOD OF MAKING RAKES.

SPECIFICATION forming part of Letters Patent No. 405,661, dated June 18, 1889.

Application filed March 14, 1889. Serial No. 303,276. (No model.)

To all whom it may concern:

Be it known that I, WARREN H. COWDERY, a citizen of the United States, and a resident of Ashtabula, county of Ashtabula, and State of Ohio, have invented certain new and useful Improvements in Methods of Making Rakes, of which the following is a specification, the principle of the invention being herein explained and the best mode in which I have contemplated applying that principle, so as to distinguish it from other inventions.

My invention has for its object an improvement in the method of forming rakes, wherein an angular cut is made at each end of the blank, said angular cut consisting of a transverse cut extending from the lower edge of the blank transversely toward its upper edge and of a longitudinal cut extending from the upper end of said transverse cut longitudinally toward the center of the blank and turning back and drawing out into tangs the cut end portions.

Referring to the drawings, Figure 1 is a plan view of a bar of metal cut into proper length to form a rake-pattern, the dotted line showing the blank before its central portion is swaged or otherwise reduced, the full line showing the central portion after being swaged or reduced. Fig. 2 is a plan view of the pattern with its central portion reduced, also showing the transverse and longitudinal cuts at the two ends to form the tang portions. Fig. 3 is a plan view of the blank with the portions to be drawn into tangs bent back ready for drawing, the dotted lines representing said tang portions as drawn into tangs and welded together at their free extremities. Fig. 4 is a perspective view of the finished rake, the handle being broken away.

A represents a metal bar cut into proper length for a rake-pattern. The central portion *a* is first swaged and reduced to required thickness, or it may be cut away until the required thickness is attained. An angular cut is then made at each end of the blank, said angular cut consisting of the transverse cut *a'*, extending from the lower edge of the blank

transversely toward its upper edge, and of the longitudinal cut *b*, extending from the upper end of said transverse cut longitudinally toward the center of the blank, forming the cut end portions *c*. The partially-dissevered end portions *c* formed by said cuts are then turned back, as shown in Fig. 3, and drawn into tang portions *e* in the customary manner. The free ends of said tang portions may be, and preferably are, welded together into one tang extremity *f*.

By this method of forming rakes the tang portions join the head of the rake at points where the very best effect is obtained as a brace, and also an easier balance is obtained in the handling of the rake than as though the tang portions extended from the ends of the head or from a position nearer the center of the head. The teeth of the rake are cut and drawn out in the usual manner.

I may cut away or swage the central portion of the blank intermediate of the tang portions, and I do not confine myself exclusively to either plan. So, too, I may either weld the drawn-out tang portions together or leave them separate, as may be most desirable.

I claim—

An improvement in the method of making rakes, consisting of the following steps: first, making an angular cut at each end of the blank, said angular cut consisting of the transverse cut *a'*, extending from the lower edge of the blank transversely toward its upper edge, and of the longitudinal cut *b*, extending from the upper end of said transverse cut longitudinally toward the center of the blank, forming the cut end portions *c*, and, second, turning outward said cut end portions *c* and drawing them into tangs, substantially as set forth.

In testimony that I claim the foregoing to be my invention I have hereunto set my hand this 8th day of March, A. D. 1889.

WARREN H. COWDERY.

Witnesses:

S. R. HARRIS,
LESTER DAVIS.