

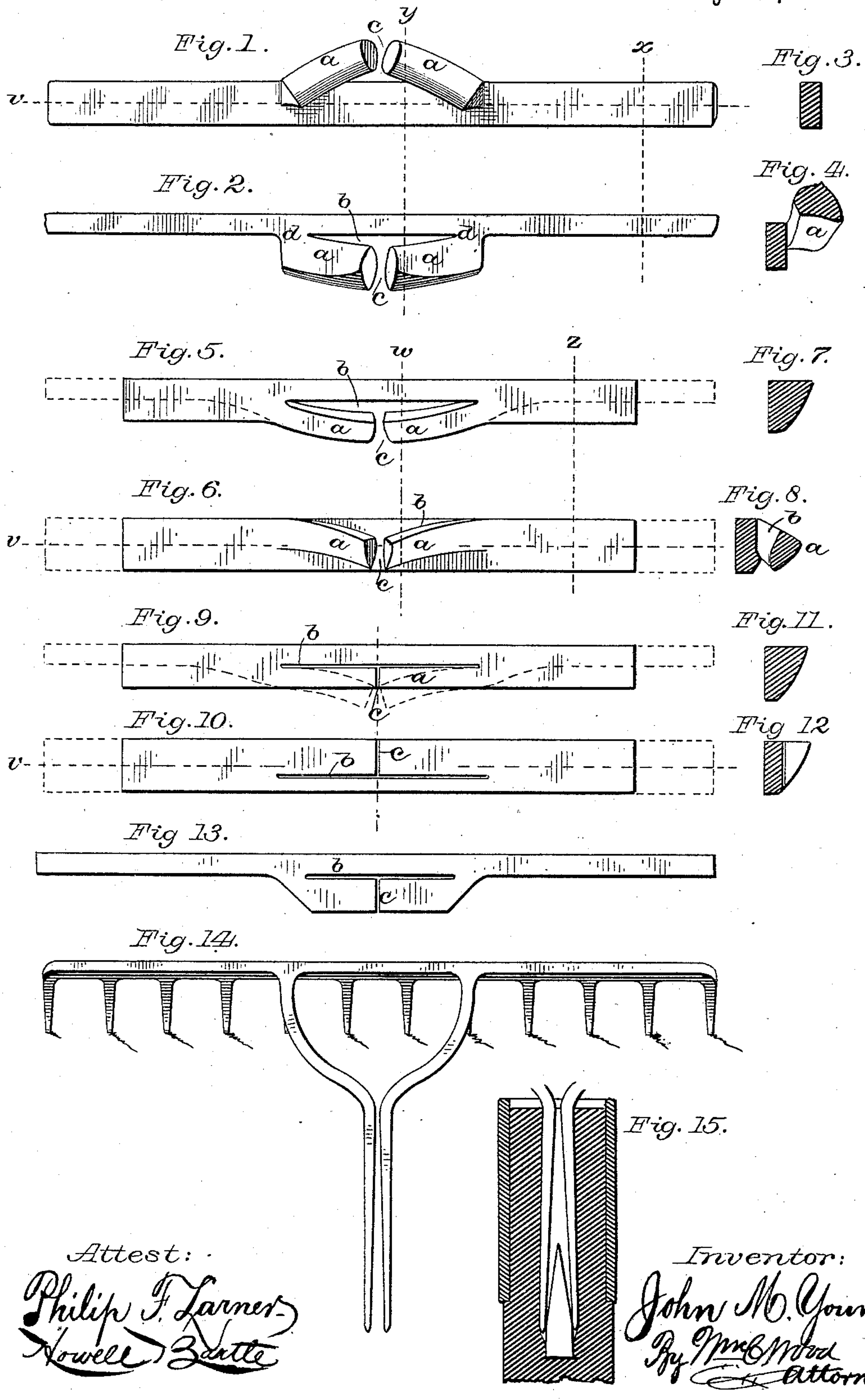
(No Model.)

J. M. YOUNG.

METALLIC RAKE AND RAKE BLANK.

No. 277,529.

Patented May 15, 1883.



Attest:

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# UNITED STATES PATENT OFFICE.

JOHN M. YOUNG, OF BALDWINVILLE, NEW YORK.

## METALLIC RAKE AND RAKE-BLANK.

SPECIFICATION forming part of Letters Patent No. 277,529, dated May 15, 1883.

Application filed January 9, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN M. YOUNG, of Baldwinsville, in the county of Onondaga and State of New York, have invented a certain new and useful Improvement in Metallic Rakes and Rake-Head Blanks; and I do hereby declare that the following specification, taken in connection with the drawings furnished and forming a part of the same, is a clear, true, and complete description of the invention.

My improved rake-head blank has a branched or bow tang integral with the head. On blanks of this class integral teeth are also formed. Three methods of producing blanks and rake-heads of this class have heretofore been practiced, and they constitute the subjects of United States Letters Patent heretofore issued. In Letters Patent No. 267,640, issued to me November 14, 1882, I disclosed a method of manufacturing integral branched tangs on rake-head blanks invented by me; and the essence of said invention consisted in the development of integral tang-stubs at the center of a thickened or widened portion of a piece of metal by means of rectangular cuts communicating with each other at or near the middle of the metal, one of said cuts being parallel with the length of the rake-head blank, and the other being at right angles to and midway of said parallel cut, thus forming two separate tang-stubs, integral with the head and projecting laterally therefrom, but toward each other, and it is my novel blank, having the characteristics stated, that is now claimed by me as a specific invention. My improved rake has integral teeth, as heretofore, and an integral branch or bow tang; but instead of welding the branches of said tang, so as to form one solid tang, as heretofore, I bring said branches parallel with each other and leave them separated to serve as a divided tang for entering a handle, for the attainment of certain important advantages hereinafter fully set forth.

To more particularly describe my invention, I will refer to the accompanying drawings, in which Figures 1 and 2 illustrate one of my blanks, respectively in side and top view. Figs. 3 and 4 are sectional views of the same on lines *x* and *y*, respectively. Figs. 5 and 6 are, respectively, top and side views of one of my blanks slightly modified in form. Figs. 7

and 8 are sectional views of the blank, Figs. 5 and 6, respectively on lines *z* and *w*. Figs. 9 to 13 are similar views of another slightly-modified form of my blank. Fig. 14 is a top view of one of my improved rakes. Fig. 15 is a view of said rake attached to a handle, the latter being shown partially in section.

Of the several forms of blank shown I prefer that illustrated in Figs. 1 to 4, inclusive, in which the central upper portion of the bar projects laterally, as is fully described in my aforesaid Letters Patent. The two tang-stubs *a* are developed by cutting through said projecting portion, but not quite from end to end thereof, as at *b*, in a line lengthwise of the blank, or parallel therewith, and also by cutting, as at *c*, in a line rectangular to and communicating with said cut *b*, the tang-stubs thus developed being integrally connected to the body of the blank, as at *d*, and projecting toward each other.

As will be seen by the sectional views, Figs. 3 and 4, the body of the blank is substantially rectangular, and the tang-stub, in section, is of such form as would naturally result from the use of shear-cutters or wedge-shaped cutters in making the communicating cuts *b* and *c*.

The blank shown in Figs. 5 to 8, inclusive, differs from that already described only in that it has no specially-projecting central upper portion, into which the rectangular or communicating cuts *b* and *c* are made; but in making said cuts with a shear or wedge cutter the tang-stubs *a* are at their ends naturally forced outwardly, as indicated in the drawings.

While it is always desirable to obviate waste of metal, and therefore preferable to use shear-cutters, my blanks may be obviously otherwise formed by the use of saws for making the central communicating or rectangular cuts, in which case the blank would present an appearance substantially as indicated in Figs. 9 to 12, inclusive. It will be seen that in this particular type of blank the tang-stubs may be readily bent outwardly and upwardly, as indicated in dotted lines, and that ample stock remains adjacent to the long cut *b* for forming the bar of a rake-head. In Fig. 13 a blank in top view is shown, wherein the communicating saw-cuts *b* and *c* are made in a laterally-projecting portion of the blank, thus forming tang-stubs of considerable size or bulk of metal.



The lower portions of these blanks below the dotted lines *v*, Figs. 1, 6, and 10, are cut at intervals, in a manner well known, for developing integral stubs from which the integral rake-teeth are formed; but my present improvement does not relate thereto. The two ends of the blank on each side of the tang-stubs may be variously drawn out and developed, as indicated in dotted lines in Fig. 9, for instance, without departure from this portion of my invention, which relates to the development of the integral tang-stubs by rectangular cuts at the middle of the blank, however said cuts may be made, and regardless of the particular form or proportions of other portions of the blank. It is well known that rakes vary in the length and the number of teeth, according to the uses intended—as, for instance, one variety of garden-rake contains twelve teeth three inches long, while a clam-digging rake of the same weight of metal would have, say, five teeth six or eight inches long, and it is desirable to furnish as few sizes of blanks as possible, and to provide in each size for the development of the greatest possible variety of finished rakes therefrom, and therefore rake-head blanks are as desirable in stock among rake-makers as blanks are known to be in other branches of metal-working. Blanks with the tang-stubs as shown may be equally available for making rakes or farm-forks of various kinds, wherein a double or branched tang is desirable. The practical value of the integral branched or double tang for a rake-head, as compared with the single or ordinary tang, is generally conceded, and, so far as my knowledge extends, the stubs for such double tangs have been formed either by shearing or cutting the metal from each end of the blank toward the center, or by bending inwardly extensions of metal provided for the purpose at each end of the blank, or by central rectangular cuts, as herein set forth, and as in my prior patent.

In working the blanks in the most practicable manner the tang-stubs are first drawn out, and then the tooth-stubs are cut, and as the metal is preferably steel it is obvious that undue heating should be obviated in developing the tangs.

It will be seen that my blanks can be placed with both tangs wholly exposed to a tuyere-blast, and be properly heated without liability of unduly heating other portions of the blank, and with a consequent saving of fuel, whereas a blank having tang-stubs which project from near the middle of the blank toward each end thereof, as in prior rake-head blanks, must be wholly heated in order to properly heat the stubs; and with a blank as heretofore made, having the tang-extensions at each end thereof, each end must be heated separately, or the entire blank heated.

It will also be seen that in a blank having tang-stubs formed by the rectangular central communicating cuts there is no surplus metal between the tangs, as is the case when the

stubs are formed by cuts from each end of the blank toward the middle, thus enabling with my blanks desirable results, with a minimum weight of metal and the economy attendant thereon.

It will further be seen that in bending the drawn tangs inwardly to form the bow-brace the metal at the junction of each with the bar is subjected to less abrupt displacement in my blanks than is the case when the tang-stubs are developed by end cuts, as heretofore.

It is also obvious that the tang-stubs of my blank may be simultaneously bent outward during the initial operation preparatory to drawing them out, because they project toward each other and have their outer ends closely adjacent, thus affording a saving of time on each rake-head, which, in the aggregate of a day's product, results in substantial economic advantage.

It is to be understood that the stubs on my rake-head blanks may be developed into a solid bow-brace tang by welding, if desired, as heretofore; but my improved rake is novel, in that the two branches of the bow-tang are not welded, but are left separate and parallel with each other, as shown and described in my prior patent.

So far as my knowledge extends, a separate integral branched or bow tang constituting a divided tang on metallic rakes or similar implements is a novel feature, and one of great practical value for the following reasons: First, such a rake can be more rigidly and firmly connected to its handle than one with the solid welded tang, because when used with a metallic wedge, as shown in Fig. 15, it is practically impossible to separate the rake and handle; secondly, the tangs being each rectangular in cross-section and separated, as shown, a more extensive contact is had between the divided tang and the sides of the hole in the handle than is possible with a welded tang of the same length and same weight of metal, and therefore the liability of the rake to twist or turn in the handle is reduced to a minimum; thirdly, the two parallel separate tangs, operating as one divided tang within the handle, are stronger than a solid welded branch tang of the same weight of metal, because either or both of the two tangs can spring without being set, whereas if the solid welded tang be sprung or twisted it would be liable to remain in its twisted position; and, moreover, the divided tang, being of steel and not welded, is apt to be stronger than it would be if welded solid, the liability of weakening steel by undue heating in welding being well known to persons skilled in the art of working steel. In addition to all of these advantages, the cost of labor and fuel incident to welding is obviated by me, enabling my improved rakes to be produced more economically than those having welded tangs.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The rake-head blank having at the mid-



dle thereof the two central communicating cuts, forming two integral tang-stubs, substantially as described.

5 2. The rake-head blank, substantially as hereinbefore described, having a pair of integral tang-stubs which project from the body of the blank toward each other, as set forth.

3. The improved metallic rake, substantially as hereinbefore described, having bow-tangs

integral with the rake-head, parallel with each other, and constituting a divided tang for entering a rake-handle, as and for the purposes specified.

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Witnesses:

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