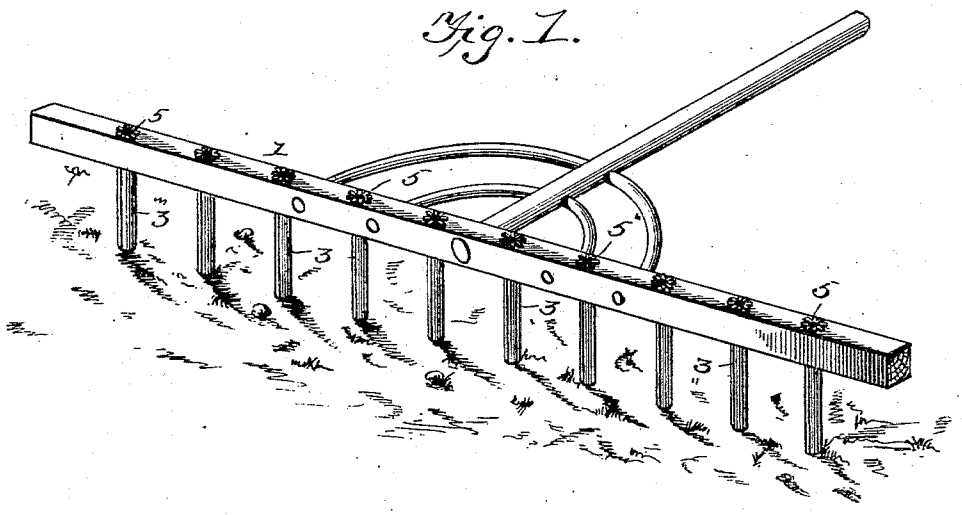
(No Model.)

S. B. GUERNSEY.

HAND RAKE.

No. 563,923. Patented July 14, 1896.

Fig. 1.



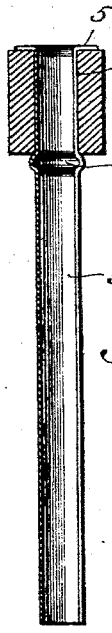


Fig. 2.

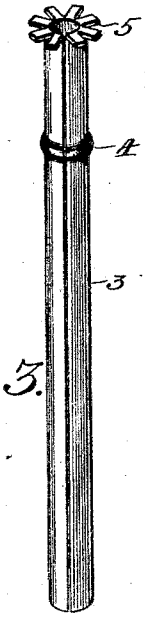


Fig. 3.

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Witnesses
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UNITED STATES PATENT OFFICE.

SAMUEL B. GUERNSEY, OF CORONA, NEW YORK, ASSIGNOR OF ONE-HALF TO WILLIS F. HOBBS, OF BRIDGEPORT, CONNECTICUT.

HAND-RAKE.

SPECIFICATION forming part of Letters Patent No. 563,923, dated July 14, 1896.

Application filed September 4, 1895. Serial No. 561,430. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL B. GUERNSEY, a citizen of the United States, residing at Corona, in the county of Queens and State of New York, have invented a new and useful Hand-Rake, of which the following is a specification.

This invention relates to an improvement in hand-rakes and has for its object to simplify and improve the construction thereof and render the same more durable and efficient by providing a novel form of rake-tooth made from sheet metal and rolled into tubular form, said tooth being formed in the process of manufacture with a hollow circumferential shoulder which bears beneath the rake-head for limiting the upward movement of the tooth relatively to the rake-head, and the upper end of said tubular tooth being extended through the rake-head and spread against the top thereof to prevent the downward escape of the tooth through its respective socket or perforation in the rake-head.

To this end the invention consists in certain novel features and details of construction, as hereinafter fully described, illustrated in the drawings, and finally embodied in the claim.

In the accompanying drawings, Figure 1 is a perspective view of a rake-head, the teeth thereof being constructed in accordance with this invention. Fig. 2 is a vertical transverse section through the rake-head in line with one of the teeth. Fig. 3 is a detail perspective view of one of the improved teeth.

Similar numerals of reference designate corresponding parts in the several figures of the drawings.

Referring to the drawings, 1 designates the rake-head or wooden bar to which the teeth are to be applied. This rake-head, it will be understood, is connected with the usual rake-handle and braced relatively thereto by means of the usual diagonal rods, or in any other ordinary or preferred manner, and said rake-head is also formed with a series of vertical openings 2, into which are fitted the upper ends of a corresponding series of tubular metallic teeth 3. These teeth are formed each from a section of sheet metal, and this sheet-metal blank is passed between suitable rollers and shaped into the tubular form illustrated in Fig. 3. During this operation, or in some previous operation, if preferred, each tubular tooth is formed with an annular ridge or corrugation 4, which when the tooth is in place is adapted to rest beneath and against the lower face or edge of the rake-head or bar 1, and thereby limit the upward movement of the rake-tooth relatively to said head. Each rake-tooth is also made of sufficient vertical extent to pass entirely through the rake-head 1 and project slightly above the same, and that portion which projects above the rake-head is split longitudinally at numerous intervals. After the tooth is pushed upwardly as far as the annular ridge or shoulder 4 will permit, the separated portions 5, included between the incisions in the upper extremity of the tooth, are spread or deflected radially and clenched against or partially embedded in the upper edge or face of the rake-head in the manner illustrated in the drawings, and this effectually prevents the downward withdrawal or escape of the tooth. In the application of the teeth to the rake-head, the seams 6 of the teeth are preferably disposed rearwardly.

The construction above described affords a very light, durable, and efficient rake-tooth which may be readily applied to the rake-head and secured firmly in place. The annular ridge or shoulder 4 and the split and radially-spread upper extemity of the tooth regulate its position with regard to the rake-head, and the entire tooth is capable of being rolled quickly into shape, thus rendering the tooth inexpensive in manufacture.

It will be understood that the teeth may be made of any desired length or diameter and spaced any desired distance apart upon the rake-head and that other changes in the form, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

Having thus fully described the invention, what is claimed as new, and desired to be secured by Letters Patent, is—

The combination with the rake-head, of a

tooth made from a sheet-metal blank rolled into tubular form and swaged during the process of manufacture to form a hollow circumferential shoulder, bearing beneath the rake-head, said tooth being extended through the rake-head and spread against the top thereof, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

SAMUEL B. GUERNSEY.

Witnesses:

WM. J. WALKER,

M. J. BLAKESLEE.