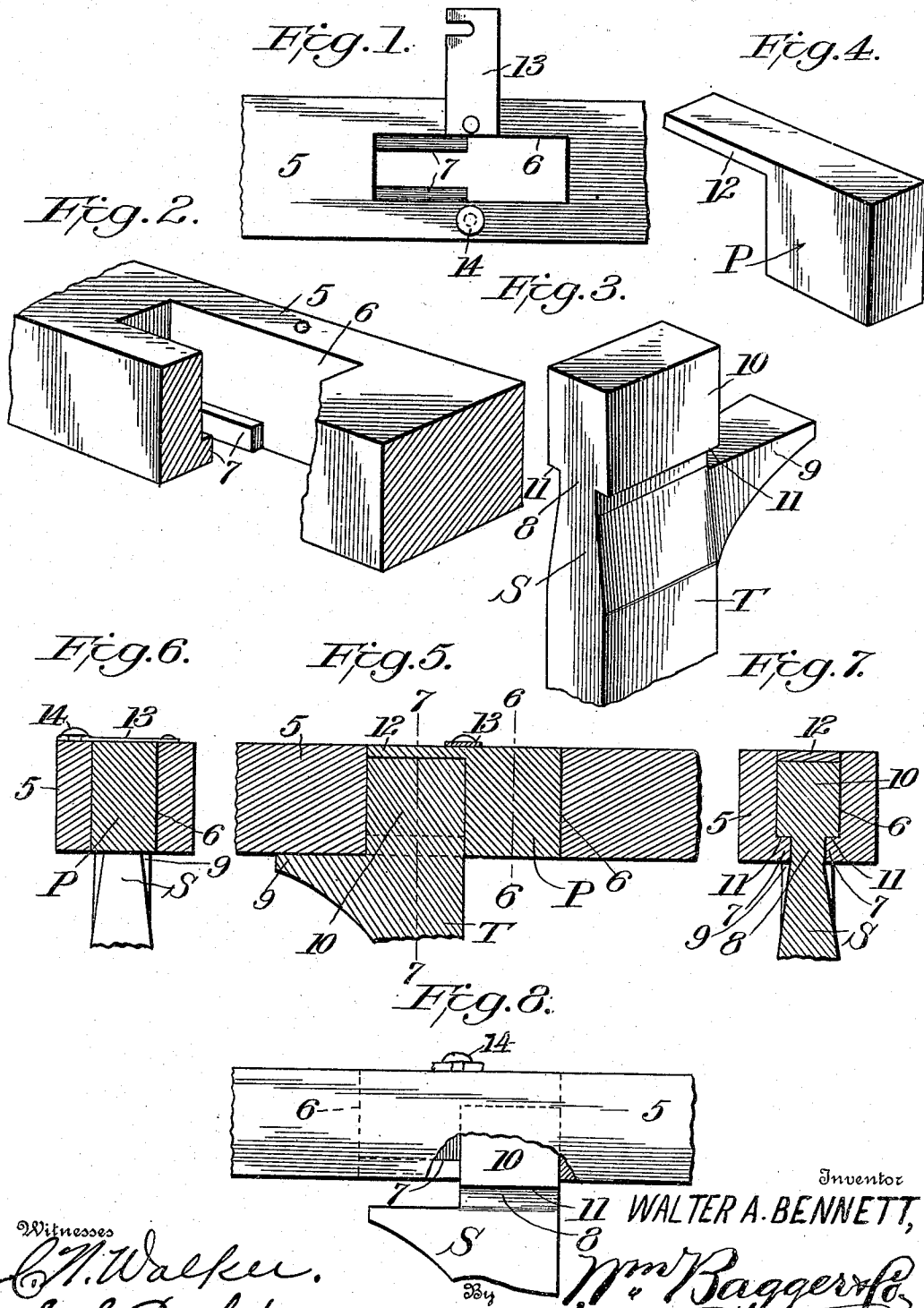


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FASTENING FOR HARROW TEETH, &c.
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Witnesses
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UNITED STATES PATENT OFFICE.

WALTER A. BENNETT, OF WARREN, PENNSYLVANIA.

FASTENING FOR HARROW-TEETH, &c.

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To all whom it may concern:

Be it known that I, WALTER A. BENNETT, a citizen of the United States, residing at Warren, in the county of Warren and State of Pennsylvania, have invented certain new and useful Improvements in Fastenings for Harrow-Teeth, &c., of which the following is a specification.

This invention relates to harrows, cultivators and similar implements for tilling and cultivating the soil, and it has particular reference to that class of implements which are provided with detachable teeth.

The invention has for its object to provide an improved tooth-fastening device which shall be simple in construction and efficient in operation, and of such a nature as to enable the teeth to be quickly and conveniently assembled with the frame-bars of the implement.

A further object of the invention is to provide a construction whereby the parts, when assembled, shall be held very rigidly and securely in proper relation for operation; and a still further object of the invention is to provide a construction which will enable the tooth to be readily detached when, on account of breakage or for any other reason, it shall be desirable to dismember the implement.

With these and other ends in view which will readily appear as the nature of the invention is better understood, the same consists in the improved construction and novel arrangement and combination of parts, which will be hereinafter fully described and particularly pointed out in the claims.

In the accompanying drawings has been illustrated a simple and preferred form of the invention; it being, however, understood that no limitation is necessarily made to the precise structural details therein exhibited, but that changes, alterations and modifications within the scope of the invention may be resorted to when desired.

In the drawings—Figure 1 is a top plan view of a portion of one of the frame-bars of an implement, such as a harrow, constructed in accordance with the invention. Fig. 2 is a perspective view of a portion of the frame-bar, a portion of the same having been broken away for the purpose of showing the construction more clearly. Fig. 3 is

a perspective detail view showing the upper portion of a harrow-tooth constructed in accordance with the invention. Fig. 4 is a perspective detail view of the plug, which serves to retain the tooth in position in the frame-bar. Fig. 5 is a longitudinal sectional view taken vertically through the parts assembled for operation. Fig. 6 is a vertical transverse sectional view taken on the plane indicated by the line 6—6, in Fig. 5. Fig. 7 is a vertical transverse sectional view taken on the plane indicated by the line 7—7, in Fig. 5. Fig. 8 is a side elevation, partly in section, showing the tooth in the act of being removed from the frame-bar.

Corresponding parts in the several figures are denoted by like characters of reference.

The frame-bar 5, is provided with a vertical slot or mortise 6, the outline of which in horizontal plane is rectangular; the side walls of the slot 6, are provided adjacent to their lower edges with flanges 7, extending forwardly from the rear end of the slot, said flanges being of a length not exceeding one-half of the length of the slot or mortise.

The tooth T, which may be of any desired type and construction is provided with a shank S, adapted to be inserted into the slot or mortise 6, from the under side of the frame-bar; said tooth is also provided with a rearward extending lug 9, constituting a stop which, when the shank S is inserted into the forward end of the slot or mortise 6, will abut upon the under sides of the flanges 7, thereby limiting the insertion of the tooth into the slot or mortise.

The shank of the tooth is provided at its upper end with a head 10, which is of a width equal to the extreme width of the slot or mortise 6; below the slot the width of the shank is reduced to form a neck 8, which is of a width equal to the distance between the inner edges of the flanges 7, upon the side walls of the slot or mortise; the head 10 is formed with shoulders 11, adjacent to the upper end of the reduced portion or neck 8.

P designates a plug, which is adapted to fit in the forward half of the slot or mortise 6; said plug being provided at its upper end with a rearward extending flange 12, adapted to overlies the upper extremity of the shank of the tooth when the latter is ad-

justed in the slot of the frame-bar in position for operation. For the purpose of retaining the plug P in position, there is provided a turn-button 13, which is pivoted
 5 upon the upper side of the frame-bar adjacent to the slot or mortise and which may be extended transversely across the frame-bar and across the slot or mortise in the latter, in which position it may be secured by means
 10 of a small catch 14, of simple construction.

From the foregoing description taken in connection with the drawings hereto annexed, the operation and advantages of this invention will be readily understood.

15 As previously stated, the invention is applicable to various implements used for tilling or cultivating the soil without regard to the construction of the frame of such implement and without regard to the type or the
 20 special construction of the tooth. It is obvious that the frame-bar may be prepared for the reception of any desired number of teeth, although, for the purpose of illustration, only a single tooth has been shown.
 25 The shank of the tooth may be inserted from the underside of the frame-bar into the forward end of the slot or mortise 6, until the lug 9, abuts against the under edges of the flanges 7; the tooth is then slid or moved in
 30 a rearward direction until the shank S abuts upon the rear wall of the slot or mortise, the lug 9 upon the under side of the frame-bar in the rear of the slot or mortise, and the shoulders 11, are supported upon the flange
 35 7. The plug P, is now inserted from the upper side of the frame-bar into the forward end of the slot or mortise, completely filling the latter, and the rearward extending flange 12 of the plug will now overlie the
 40 upper extremity of the shank of the tooth, which latter will thus be secured in position very firmly and rigidly. The turn-button 13 is finally adjusted across the slot in the frame-bar and across the plug P, thus securing the latter against withdrawal, and causing the parts to be very securely and efficiently assembled. To dismember the implement, the operation is reversed as will be readily understood.

50 This improved tooth fastening is extremely simple and is capable of being produced at a very moderate expense; it will be found

to be thoroughly efficient for the purposes for which it is provided.

Having thus described the invention, what 55 is claimed is;

1. A frame-bar having a rectangular slot, the side walls of which are provided with flanges extending forwardly from the rear end of the slot, in combination with a tooth 60 having a shank comprising a head of a width equal to the width, of the slot and a neck of reduced width, and a rearward extending lug, and a plug to engage the forward half of the slot and provided at its 65 upper end with a rearward extending flange adapted to overlie the upper extremity of the shank of the tooth.

2. A frame-bar having a slot, the side walls of which are provided adjacent to 70 their lower edges with flanges extending forwardly from the rear end of the slot, in combination with a tooth having a head adapted to be supported upon the flanges, a reduced neck fitting between the flanges, and a rear- 75 ward extending lug abutting upon the under side of the frame-bar in rear of the slot, and a plug adapted to engage the forward half of the slot adjacent to the shank of the tooth and having a rearward extending flange 80 overlying said shank.

3. A frame-bar having a rectangular slot, the side walls of which are provided with flanges adjacent to their lower edges and extending forwardly from the rear end of the 85 slot, a tooth having a head formed with shoulders supported upon the flanges, a reduced neck fitting between the flanges and a rearward extending lug of a width exceeding the distance between the flanges, a plug 90 adapted to engage the forward half of the slot and having a rearward extending flange overlying the head of the tooth, a turn-button pivoted upon the frame-bar adjacent to one side of the slot, and a turn-button-engag- 95 ing catch upon the frame-bar adjacent to the opposite side of the slot.

In testimony whereof I affix my signature in presence of two witnesses.

WALTER A. BENNETT.

Witnesses:

GEORGE W. JUDE,
 FRED P. TODD.