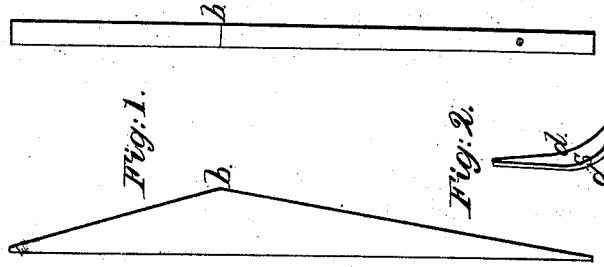
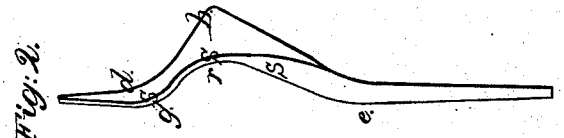
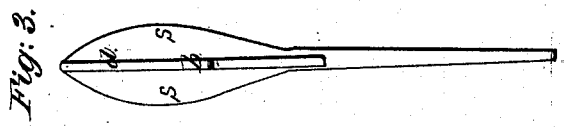
B. F. Gladding.

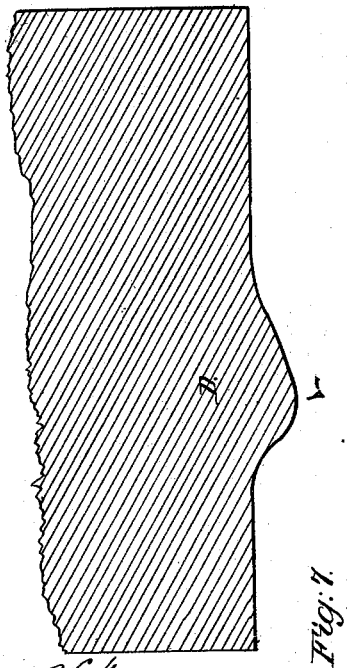
Plumber's Hook Blank.

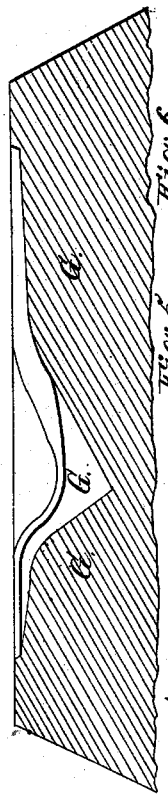
No. 49,343. Patented Aug. 8, 1865.

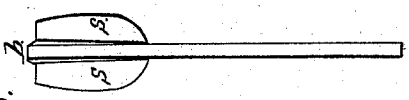


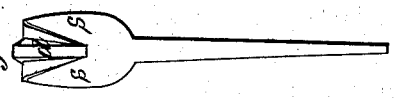


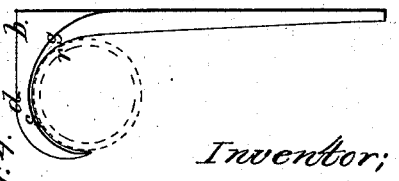












Witnesses;
Isaac A. Bronson
Samuel Barras

Inventor;
Benjamin F. Gladding

UNITED STATES PATENT OFFICE.

BENJAMIN F. GLADDING, OF PROVIDENCE, RHODE ISLAND, ASSIGNOR TO ELLIOTT P. GLEASON, OF NEW YORK CITY.

IMPROVED PLUMBER'S-HOOK BLANK.

Specification forming part of Letters Patent No. **49,343**, dated August 8, 1865.

To all whom it may concern:

Be it known that I, BENJAMIN F. GLADDING, of Providence, in the county of Providence and State of Rhode Island, have invented a new and Improved Plumber's-Hook Blank; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 represents the form of the blank piece of metal from which the hook-blank, Figs. 2 and 3, is formed. Figs. 4, 5, and 6 represent the plumber's hook from the improved blank. Fig. 7 represents a vertical section of the former and die used to make the hook-blank, Figs. 2 and 3, from the blank piece Fig. 1.

Similar letters of reference indicate corresponding parts in all the figures.

Heretofore the article of plumbers' hooks—such as are used by plumbers and others for supporting and fastening leaden pipe and plumbing fixtures and apparatus in and about buildings and structures of various kinds—have been separately forged from a straight rod of metal in the form of a straight tapering shank suitable for driving into the timbers and walls of buildings, &c., with a flat support or hook extending at right angles from the driving end of the shank, which support, after being driven into its place, was bent over the pipe or fixture in the form of a hook. By the method of thus fastening the said hook by means of a hammer it is rendered weak and liable to break at the junction of the shank and hook-piece above mentioned in consequence of the form of the hook at this point necessarily resulting from the operation of drawing out and bending the metal above the shank flat and at right angles thereto, as above described, to form the hook-piece, the effect being to deprive this part of the hook of that fullness and strength of material which is preserved in the shank just below, as well as a liability to form what is called a "cold-shut" or crack in the bend of the metal, which is not likely to be discovered until the hook is driven or otherwise used.

This difficulty is entirely overcome by working the metal in the form of a blank containing the requisite quantity of material to form a single hook, which is so disposed as to afford a fullness and depth at the bend to form a solid driving-shoulder of sufficient strength, and in combination therewith a flat hooked surface of more or less extent as a suitable support, such blank constituting a new article of manufacture of my invention.

This blank is shown in Figs. 2 and 3, and is formed from the angular piece of metal shown in Fig. 1, which may be clipped or punched from a sheet of metal of the requisite thickness, the angle at *b* furnishing the requisite quantity and prominence of material at that point to form the fullness of the driving-shoulder desired. This blank piece, while red-hot, is placed edgewise in the die G, Fig. 7, under a drop-hammer, with a suitably-shaped former, D, and with a blow of the latter forced into the shape shown in Figs. 2 and 3, with the bend *r* at right angles, constituting the driving-shoulder, and formed without hammering or otherwise displacing the fibers of the metal so as to produce the cold-shut mentioned, at the same time insuring that fullness and strength of material in this part of the hook which is required to resist the force applied thereto in driving the shank into the material intended. The excess of material over what is required to form the driving-shoulder is flattened out upon the sides thereof, forming the flattened surface S of the hook, after which the said blanks are again heated and the shank straightened at *e* and the hook curved at *g*, thus converting the blank into the improved hook shown in Figs. 4, 5, and 6, in which it will be seen that from the square shoulder *b* the shank merges into a stout rib, *d*, extending and curving at right angles therefrom over the flattened hook or support S, which is thus embraced within the angle so formed by the shank and rib, said hook presenting more or less extent of surface to embrace the soft leaden pipe, for which it is chiefly intended, and said rib *d* serving to stiffen the hook, as well as, by its formation, in conjunction with the shank, affording thereby such a fullness and strength of material at the driving-shoulder as will resist any force that may be necessary to apply to drive the shank into the material intended or to withdraw the

same therefrom, if desired, repeatedly, the hook thus formed being obviously more substantial and serviceable than the construction heretofore in use.

I claim—

As a new article of manufacture of my invention, the plumber's-hook blank, with a disposition of its material substantially as described.

BENJAMIN F. GLADDING.

Witnesses:
ISAAC A. BUNNELL,
SAMUEL BARRETT.