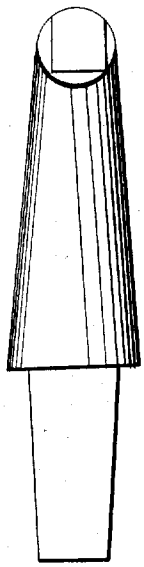
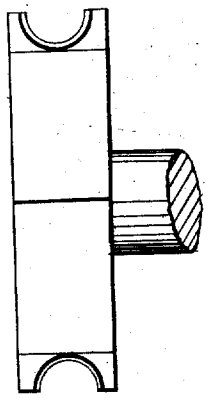
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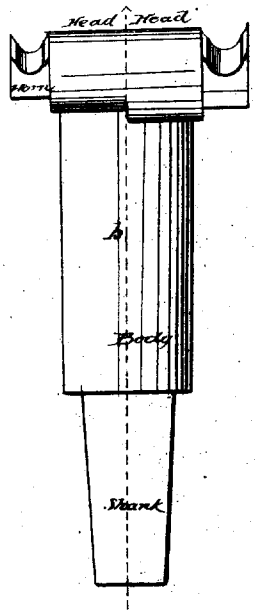
P. White.

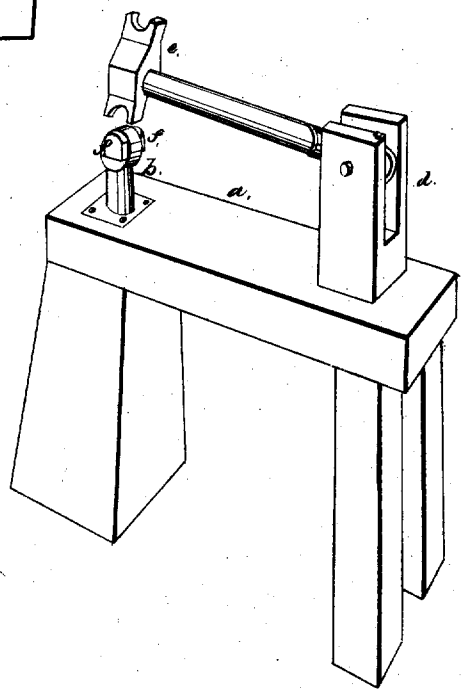
Making Ship Thimbles.

Patented Jul. 1, 1836.









THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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334 July 1st. 1836

Prentiss White of Yarmouth. Massachusetts.

Letters Patent.

The schedule referred to in these Letters Patent and making part of the same, containing a description in the words of the said Prentiss White himself of his "improvement in the machine for making chips thimbles"

Be it known that I Prentiss White of Yarmouth in the County of Barnstable and State of Massachusetts, Blacksmith, have invented a new and useful improvement in the machinery for making chips thimbles, and that the following is a full and exact description of the construction and operation of the machine as invented or improved by me, viz:—

It consists of a bench horned anvil, and hammer, or sledge with appurtenancy,—

1st. The bench in the machine constructed for my own use which I consider as convenient as any size, though it may be varied in any of its dimensions or height as the person using may choose is made of hard wood plank, 2 feet long and 7 1/2 inches wide, and 2 inches thick. The end on which the anvil is placed, is supported by a solid block, of the diameter of the width of the bench and top, and enlarging downward about 2 ft. long, to which it is secured by two screw head bolts which passing through the plank near the sides and being flattened below are secured to the block which is chipped off for the purpose; by bolts, or screws, and the other end by two legs like other benches — across the forward part, directly over the block, and under the anvil, is a plate of iron, 1/4 inch thick and 4 inches wide inlaid and screwed to prevent said screw bolts and anvil from undermining the bench. Near the back part is a post about 6 inches in diameter and about 18 inches

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high, having an open channel or groove at top 2/10 inch wide & 8 inches deep to receive one end of the handle of the hammer, The anvils used by me are made of cast iron which I consider preferable to any other, by reason of their cheapness necessary shape, & hardness by reason of which their shape is longest retained, though it may be made of wrought-iron or steel or other hard material, which is not easily put out of shape by the blow of the hammer or sledge. Before describing the anvil it may be well to premise, that there are several sizes of thimbles, those most in use and the only ones which I have had occasion to make, are numbered from one to sixteen inclusive beginning with one inch and increasing 1/10 inch in size to 2 3/10 inches; and in width or bore with 1/8 inch and increasing by 1/32 inch to 1 27/32 inches each anvil has two horns which are fitted to make and form two sizes of thimbles; and therefore to make the sixteen sizes I use eight anvils, which in several respects as will be shown hereafter, vary in size and proportion according to the size of the thimbles to be made,—

The anvil may be described in four parts viz the shank or foot body, head, and horns

The shank is of the same form and dimensions in all, and in those I use is 1 3/4 inches square at the top and 1 5/8 inches at the other or lower end, and 3 3/4 inches long, and fitted accurately to a socket made through the iron plate and plank into the foot-block. The body of the anvil which is round at the termination of the shank varies in diameter from 2 1/2 inches to 3 inches, in proportion to the strength to the power required to form the thimbles, the smaller sizes being flattened a little towards the head, in front and rear, on account of the less diameter of the head. The height from the foot to the head or I may say from the bench, (when the anvil is set in its socket) to the head is not the same in all on account of the different diameters of the heads, but the distance on

height

height from the bench to the centre of the hollow of the horn on the upper side is the same, in all and that is 7 inches.

The head is cylindrical running transversly with the bench, and of equal length between the horns, in all 6 3/4 inches, ranging in diameter from 1 9/16 inches at the ratio of 9/32 inches to 5 5/8 inches. But it may here be further explained that each horn is adapted to a different size of thimble and that therefore before shaping, the horn the end intended for the smaller thimble is turned down to the proper size for that thimble, being for the smaller size 1 9/32 inches and all the horns thus prepared will vary in diameter 9/32 inches each to 5 1/2 inches.

The horns, of which, as I have said there are two on each anvil one projecting from each end of the head, and adapted to two different sizes of thimbles, can be described most intelligibly by describing the manner of making the block or pattern, from which the castings are made. But I will premise that on each side of the hollow or channel in the horn there is a slant which I call a flam of 45 degrees to facilitate the sliding or rolling of the ring (which is wider than the thimble after it is hollowed and finished) into the channel; and the horizontal width of the flams in the smallest horn is 5/64 inch, and is increased in each number by 1/64 inch making that of the largest No 16. 5/16 inch on each side also, that the width of the thimble when completed, which I call the score, is in the smallest horn 1/8 inch and is increased by 3/32 inch, making the largest No 16 1 29/32 inches. The width of the flams next the hollow is guaged off, then the width of the score and then the outer flam, a channel is then turned out to the depth of the flam, drawing inwards at the angle of 45°: which circle drawn round the horn is in the smallest 1 1/4 inches and increasing by 1/32 inch to No 16. 1 23/32 inches which brings

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it is the width of the score, then the channel which forms the inner surface of the thimble, is turned out in a curve, just fitted to the desired shape of the inner surface and a section in those I have made forms a segment of a circle whose cord is the score, or line drawn across the thimble at the lower margin of the flam, and the height of whose arc in the smallest horn is 5/32 inch which is increased in each succeeding number by 3/64 inch, making the highest No. 16. 35/64 inch and the diameter of circle around the horn cutting the said arc in the centre at right angles, is in my smallest 13/16 inch increasing in each succeeding number 5/32 inch, making No. 16. 3 5/32 inches, The sides of the horn are then cut away, equally and perpendicularly the on the upper surface only a quarter of the last mentioned circle remains, the outer lower corner and the underside of the horn is then cut away not enough to make it too weak but only sufficient to admit the ring freely and give room for the fingers, (which hold and turn the ring) to move between it and the horn, — The Hammers which I use are of cast iron, which for cheapness and durability I consider preferable, to any other, yet they may be made of wrought iron steel, or iron steel faced, they are made with two faces each fitted to form two sizes of thimbles

The faces are hollowed or curved inward towards the centre in the direction of the handle, and this hollow or curve is the segment of a circle whose diameter in the smallest size is 1/4 inch increasing in the larger sizes by 1/16 inch each, and the length of the cord of that segment in the smallest is 7/8 inch which is increased in the larger by 11/16 inch each —

The hammers are shaped like stone cutters tapering like a wedge each way from the centre, nearly to the ears, which forms the face where it continues to the face.

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of equal thickness, and that thickness in the smallest size is 3/16 inch, which width is increased in each succeeding size by 3/16 inch. The curved face is rounded so as to be fitted to form the hollow of the thimble. The length of the chord is the thickness of the face, and the height of the arc, in the smallest size is 3/32 Inch, which is increased in each succeeding size by 3/32 inch. The width of the smallest hammer is two inches which is increased in each succeeding size by 3/16 inch, the height of the hammer is the same in all viz. 6 inches between the two faces. The hammers are firmly and immovably secured to their handle by a screw, which with its application I claim to be my own invention, and which I believe will be found of great utility and convenience in fastening all instruments which have a round handle — The one hand takes it in his fingers and puts it on the horn and with the other plays the hammer at the same time turning the ring, and the thimble is very soon most perfectly shaked. The operation may be varied and the same principle retained by substituting disk for the hammer and horn and by rubbing instead of the hand, horse, steam, or water, power. It may be advised also that the portions of the thimble and consequently of the hammers and anvils may be varied from those given, if the purchaser or maker chooses though those given, are those most in use, and considered most convenient —

The improvement for which I claim a patent, as my invention is the adapting the convex and concave surface of the horns to the form of the interior of the thimble, and the face of the hammers to the outside of the thimble; and the same adaptation of dies, if dies be used to the desired form of the thimble and the manner of hanging and regulating the position and motion of the handle, and the tightening screw, and its application to the same, as mentioned into the handle, — Harmonia June 6th 1836.

Witness
Timothy Reid
Charles B. H. Secondus

Prentiss White

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Prentiss White