

## LOCATION OF HEADS IN PLANERS AND MOLDERS.

By W. E. S.

If one hundred men were to design one hundred planers, I dare say not two of them could be just alike in all their details. Nor is it desirable that they should be; on the contrary, there should be a difference, taking in consideration the kind of wood and the kind of work they are expected to do. But there are certain principles and details that, to my way of thinking, should be alike on all planers. We will talk a little about the bottom head on a planer or heavy molder.

Glancing over the catalogues of the different manufacturers, we find the bottom head placed in the following positions: (a) Between the first two pairs of feeding-in rolls; (b) after the first two pairs of feeding-in rolls and before the top head; (c) after the top head and before the side cutter heads; (d) after the side cutter heads and before the feeding-out rolls; (e) after the feeding-out rolls or the end of the machine.

Now, from this list there is apparently, among the manufacturers of planers, a difference of opinion as to the proper position of the bottom cutter head. And why? Surely not all of them are right; one of the five ways must be the best way. It can't be that for planing pine the head should be at one end, and for planing mahogany at the other end of the machine. Just because it was first placed at the feeding-out end of planing machines built in this country should be no reason that we should continue to place it there, when by breaking away from custom we can do better work.

The argument advanced is old, but still as good as new. If a person had a board to plane up by hand, he would straighten it, take it out of the mill, and then thickness it. If he did it any other way you would kick him out of the mill. At the same time you have in another part of the mill a machine that thicknesses your lumber before it is faced off.

It is a well-known fact that you cannot thickness lumber with the bottom head on a planer, and yet it is expected to do it where the said head does its cutting after the top head. If you will watch a kinked or warped board passing under the top head you will see that the board does not lay down on the platen in spots, and as it passes to the bottom head the thin places in the board will have a tendency to drop down from the pressure bar and are planed still thinner. Try your calipers on such a board and see for yourself.

In the last few years some of the prominent manufacturers have placed on the market planers with the bottom head just after the top head and before the side head spindles. I do not know why they made this change, unless the idea was to bring the top and bottom heads together as closely as possible. One of the manufacturers has the head, platen and rolls connected and arranged so that they may be raised or lowered for taking a light or heavy cut while the machine is in operation. Imagine a board to be passing through a machine of that kind, and you raise or lower the platen. Don't you see that you will have thick and thin places in your board at distances apart corresponding with the distance between the top and bottom heads, or nearly so? After an extended experience with planers and

heavy molders with bottom head cutting first and last, and with two bottom heads and two top heads, the writer has come to the conclusion that the proper place for the bottom head is just before the top head; also, on molding machines and on planers for certain kinds of work, it is necessary to have a second bottom head at the tail end.

For illustration, we run quantities of oak stepping out of five-quarter stock, plowed on both sides, to receive the risers and molded on one edge. The stock will run from one and three-sixteenths inches to one and one-half inches, kinked and warped so much that it is sometimes necessary to take off a quarter or more one side to clean it up. With such stock in view, and running face side down, don't you see the advantage of having the bottom head placed in front of the top head, and arranged to raise and lower while at work? If necessary, you can take off one-sixteenth inch on one board, a quarter inch on another, or an eighth inch on a dozen boards, thus varying the amount to be taken off to conform to the condition of the lumber. As the board passes on to the top head to be thickened, it will lay down and touch the platen at all points, allowing the top head to do its work smoothly and bring it to a positive thickness. If an extra smooth finish is desired, the second bottom head comes into play.

I prefer, when the greater part of the face of the pattern to be worked is a plane surface, to work the face side down, as in stepping, for instance. Often a board is thin in places and doesn't dress up, and had we been running face side up it would have been thrown out. The bottom side of a step will admit of a little roughness. And so in flooring; if we run the face side down a number of boards will be thick enough which otherwise would have been cast aside.

Nor is this all. We may have a thick board with a knot on one side. If we run the face side up we are not cutting enough off to cut the knot out, and if we run the other side up we will cut into the knot. A notable example of this class of lumber is North Carolina sap pine.

Were I to build my model flooring machine, I would have two bottom heads, one just before the top head and one at the tail end of the machine. I would have the first bottom head to raise and lower by a screw at the feeding-in end of the machine, convenient for the operator, and with a gauge to indicate the exact amount taken off at all times. I would run my flooring face side down, and hollow out the back side, even on the soft woods.

But, hark! I hear some one say: "You are putting too much work on your flooring. We don't get paid for that work." But I say to you fellows who are "hogging" out the work, while it may take me a little longer to keep my machine in order, I am doing better work than you are. I get a little more per thousand than you do, and my customers like my flooring. I can get more out of a board by taking a light cut off the best side for the face and leaving the excess come off the back side.

I have not originated this idea; it is an old one, followed in European countries as long as planers have been built, from all I can learn. If you were to attempt to sell an Englishman an American planer with bottom head cutting last

he would laugh at you. Don't infer that I think an English planer superior to an American planer for general planing. I am speaking of the location of the heads.

Some few American manufacturers have been building planers with bottom heads cutting first, but why they do not take I cannot understand. I can recollect the first one I saw. I did not like the looks of it, but it was not long until I found out its advantages.

Admitting that the proper position for the bottom head is just before the top head, we must also admit that the inside cutter head, or the one next the guide, should cut first on a molding machine, and for the same reasons. I have yet to talk with the man, experienced in this matter, who says that a bottom head cutting first is not a good thing.—Wood-Worker.

## REQUISITES OF THE SUCCESSFUL FOREMAN.

The first requisite of the successful foreman is absolute and unimpeachable honesty. I do not like to hear a foreman tell his men certain things and then warn them not to tell the "old man." I have not time to mention all the undignified subterfuges to which some foremen resort by which to ingratiate themselves with their men, but will simply say abandon this line of tactics altogether and apply yourself to mastering all the details of the line of work it is your duty to direct.

Men very soon learn all your weaknesses and you may rest assured that they will not be slow to direct them to their own ease and advantage. Laboring men do not respect a foreman who does not understand his business, and the control of your men is greatly impaired by any weakness in this direction. The entire respect of your men is a very important adjunct to the successful and profitable accomplishment of your work, and to secure and retain it you must be honest. Men don't respect a dishonest foreman, even when the trait is exercised in their favor.

We will assume, of course, that the question of ability has been settled by your appointment to the position. Now let me enjoin the importance of dignity; but do not confound dignity with arrogance. A great many people imagine themselves dignified, when the truth is they are afflicted with a decided case of arrogance, or, in plainer words, the "big head." You do not have to be haughty and overbearing to be dignified; in fact, you can laugh and joke and be the very embodiment of good humor, and still be dignified. But true dignity will not permit undue familiarity, nor stooping to the recital of obscene stories; neither will it permit you to disparage your men in their absence.

Do not tell one man about the shortcomings of another; tell the man himself in a plain dignified way, and never under any consideration allow the idea to get into your head that your position is a "soft thing" or a "snap." If you have any such idea, dispel it at once, for you are surely neglecting your duty. I have just looked away out in retrospection over an immense industrial field for the place that is faithfully administered that can be called a "snap." Well, I couldn't find it. I don't think there is any such place; you can always find something profitable at which to busy yourself if you will try.

It is not very long ago that a foreman told me that he could do much better work if he was