

## Hitch Not Right

Now we have come to the last source of trouble and probably the cause of more plow trouble than all the rest put together. Therefore, we will be justified in going into some of the factors underlying the draft of plows. They must be thoroughly understood, if we are to hitch intelligently to a plow. From the questions asked and the interest shown it may be safely said that farmers are at least interested and anxious to hear the subject discussed. After this point the battle is won. When you hear of a new idea you do not pass your opinion upon it right away, but if you find that it may be of value you most likely adopt the new plan.

When hitching four horses to a wagon would you consider it good practice to put three on one side of the tongue and one on the other? You hitch to the centre of your stoneboat. Why? For the simple reason that it pulls straight. Why do you not hitch to the centre of your plow? If you plow tandem or four abreast with one horse on the plowing, one in the furrow and two on the unplowed ground you do hitch to the centre, but if you put one in the furrow and three on the land you do not. If you have a good farm and can get on a good half mile furrow let me show you why you should plow tandem. Take a board and bore a hole in the centre and when you attach a string and pull it along you will notice it pulls straight. Bore another at an angle. The centre line is the loadline or centre of draft line and is fixed for the board and the stoneboat. But you say what has this to do with the plow? Where is this centre line in the-plow?

It is about two inches inside the landslide of the plow bottom (see figure 4A). You will see the loadline for each plow bottom marked as well as the centre of draft line for the plow, 19 inches from the furrow wall. Why is the load line not in the centre of each furrow? Because it takes 50 per cent. of the total draft of the implement to cut the furrow slice, and therefore the load line is nearer the landslide. You cannot hitch four abreast (and further reference to four abreast means three on the land and one in the furrow) and hitch at a point 19 inches from the furrow wall. You have to hitch further to the land and the result is the plow pulls at any angle. To overcome this twisting effect you give your front furrow wheel "lead" away from the land. Is that not so? It takes power to hold the plow straight. If you do not think it does try putting wheels at an angle on a wagon similar to a disc harrow and then you will agree with this line of thought. With patent eveners "to remove side-draft" go easy and make sure they do so before you buy. They will hold the plow straight, I grant you but they do so at the expense of power. In other words, the team holds the plow straight. Under the most ideal conditions the centre of a four abreast hitch will be about 27 inches from the furrow and with the centre of the plow fixed and immovable at a point 19 inches from the furrow wall you can now see that there must be a tendency to twist the plow towards the plowed ground or what is known only too well as "sidedraft."

It wears out wheel boxings and horseflesh to an alarming extent. The solution is plow tandem and then the centre of draft for your team and the centre of the plow will be in the same straight line and everything will run well. Some say that it takes so much more power, because the team is farther away from the work. The lead team is not far enough away to make any material difference, and the power that would be consumed in overcoming sidedraft is eliminated altogether. This clinches the argument for the man who wants the best way.