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COMMENT ON M/700 RIFLE by E. S. Cathriner

In the design of a stock for a rifle it is impossible to fit everyone, and we became involved with this very deeply in the development of the M/1100 (as well as other rifles and shotguns). It came to the point where Pete Morgan was claiming he could tell the difference between the effect on his shooting position and posture by the use of one thickness of scotch tape around the grip of the shotgun. The same is true with rifles, and when scopes are used probably more so. Therefore it behooves the Design Department to keep abreast of the normal trend of physical development and stature of the average human, and design in this direction, and hope that not too many complaints will occur from those individuals who are not up to standard and average dimensions.

We have three areas which must be considered. The normal or average person who seems to fit our stocks very well, those with thin cheeks and low cheekbones who have difficulty in sighting over our stocks, and people like Mr. Cathriner who has a heavy cheek and which forces his head to the left if he is a right handed shooter and out of line with the sights. When adding a cheekpiece to the rifle his particular situation is aggravated even more. However, we all know that cheekpieces and Monte Carlo stocks have a more aesthetic appeal than the plain stock without the added features, and therefore with a slight increase in cost we seem to enjoy a greater volume in our rifles when providing this additional feature.

For those individuals, then, who are not normal and average, it will be necessary for them to have extra work performed on their stocks and possibly sights to fit their particular dimensions. Fortunately, after making considerable measurements with hundreds of individuals I have found myself as far as face, cheekbone and eye position, to be normal. Therefore, have been able to use my combination as a gauge for the average man. This also applies to the length of one's neck and the shoulder position from center line of the cheek to the supporting area for the butt plate. I have found that our shotguns, rim fire rifles, and bolt action rifles do fit pretty well for the average individual. Fortunately also we have with us here in our Design Section those

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Individuals who vary quite considerably from normal dimensions. One individual for example has thin cheeks with interference caused by an abnormally high cheekbone condition. Others have short necks and fat cheeks which I think would be the category into which Mr. Cathriner would fall.

So unless at some future date we can develop a stock that is inflatable or through a mastic material is self-adjustable to the individual himself, we will have to do as we have in the past and design to the average man, making sure that we keep abreast of the general trend of the stature of the average man. We have gone so deeply into this problem that we have obtained through the cooperation of the Air Force a set of dimensions of the average man and the average woman. And it is no surprise to us to realize that in this country we are gradually growing a race of giants, compared to those of only a few years ago.

I hope this will give you a more detailed picture of the design problems facing us and how we must fit our customers, and perhaps you can answer their questions with this information. Please advise if you need any further details.

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