

and begin 2nd row which is composed of figures of 4 rings each. Make 1st ring of 24 d. s. and 7 p. each separated by 3 d. s.; draw up tight, and make 2nd ring like 1st ring, except that you join 1st p. to last p. in 1st ring, and 4th p. to 5th p. of 1st large ring in 1st row; finish ring with 3 p., draw up tight. Make 3rd and 4th ring of figure same as 1st ring except that you join 1st p. to last p. of last ring. To join 4th ring to 1st ring of figure, pull shuttle thread through last p. of 4th ring, then the same loop through 1st p. of 1st ring; pass shuttle through loop and draw tight; fasten thread to under side of figure. Leave thread 1 inch long and begin 2nd figure; make 1st ring joining 4th p. to

4th p. in 3rd ring of 1st figure. Make 2nd ring, join 1st p. to 7th p. of last ring, join 4th p. to 5th p. of 3rd large ring in 1st row; finish figure same as 1st figure. Continue figures until same length as 1st row.

Make 3rd row of figures the same as last row except that you join the middle of figure to middle p. of last row of figures. Continue length of lace.

The fourth row or points of rosettes are joined between 1st and 2nd and 3rd and 4th figures of 3rd row; continue points to end of row, which finishes the edging. This is a very dainty design and looks better when made of fine thread.

## IS BICYCLING INJURIOUS TO WOMEN?

By C. A. VON RAMDOHR, M. D., PROFESSOR OF OBSTETRICS IN THE NEW YORK POST GRADUATE MEDICAL SCHOOL AND HOSPITAL.

The wheel has come to stay, for women have taken to it with an ardor that promises unwavering constancy. It is true a certain number have taken up the machine only because it is in fashion, considering it a fad which they are already prepared to replace by a newer one, but the great majority use the bicycle knowing and appreciating its value more and more every day.

Whether women go riding for pleasure, for health, as an easier and cheaper method of locomotion or whether they make their living as professional riders or aspire to become mounted amazons, they ought always to remember that a woman's system cannot and will not sustain the same amount of work every day of the month as will that of a man.

There is at the present time no outdoor exercise so well adapted to promote health and beauty in woman as wheeling. The only other sport at all worthy to be compared with it in this respect is horseback riding. But in order not to overdevelop one side of the body, right and left side saddles must be used alternately. Then, too, the wheel is much more convenient and economical and involves, on the whole, less risk than a frisky mount. These facts outweigh for the average woman the more dashing appearance of the equestrienne.

Any entirely healthy woman may safely begin when she will to learn to ride a bicycle if she keeps in mind this golden rule: "Always stop before becoming tired out." An ailing woman may do herself just as much injury in essaying this sport without proper advice and restrictions as she can by taking unknown medicines without the advice of her physician. There is absolutely, so far as we are at present aware, no organ or function of a woman's body that is improperly affected by wheeling, when the rider is properly seated and properly dressed and does not over-exert herself. A great deal of unnecessary discussion has been indulged in, chiefly by non-medical theorists and non-riders, about this simple and so far incontrovertible assertion.

Most women will, as a matter of course, follow their own tastes in dressing for the wheel. From a medical and hygienic standpoint bloomers and corset-waists are to be preferred to skirts and the regulation corsets. Still, from a man's point of view—at least, from one man's point of view—a woman looks more graceful and—may I add?—more lady-like when wearing a skirt than in bloomers only. To secure the best aesthetic effect, the skirt ought to reach to just a little above the ankles and stay there during riding. Nothing spoils a good appearance on the wheel more than a flapping skirt. As for foot and leg wear, the only advice I have to give as a physician is: do not confine the circulation; everything else is left to individual taste. If the rider has accustomed herself to the support of a corset, I have been told and am convinced that a short, well-fitting and only snugly applied corset is an absolute necessity for her comfort.

The choice of the wheel itself is a matter of the greatest importance. A so-called high-grade wheel may be and usually is better than a lower priced one, but "the proof of the pudding lies in the eating." The first few accidents will show what the machine can stand. All other machines have a great deal more power of resistance than the actual everyday work necessitates, but in the effort to secure lightness the makers of bicycles seem unwilling to concede that this is advisable. Always ride with a brake. It may save you from a dangerous accident and no amount of practice will make up for its

absence. As far as the choice of the saddle is concerned, the only vital medical principle involved requires that it shall have no pommel. Whether it shall be single or duplex, covered with cane, perforated leather or chamois, is largely a matter of fancy, each style having its feminine adherents.

As to the proper posture, most women look like a wheel than do men, because they sit more nearly upright. On horseback an absolutely vertical position of the trunk is *de rigueur*, for here the elbows are held close to the sides and the chest is thrown out. The same pose characterizes the so-called English style of walking. On the bicycle, since the arms are continually stretched forward, a vertical position will not permit the full expansion of the chest but keeps the lungs more or less compressed. Then, again, such a position does not permit the use of the abdominal muscles nor lend the help of the weight of the body in propelling the machine. Finally, sitting bolt upright will make the rider use the saddle, not as a light rest and a help to balancing, but as an actual seat, for which it is certainly not intended. The proper position is a slight inclination forward, such as you will see in the well-seasoned rider going along comfortably at the rate of six to eight miles an hour and, perhaps, returning from a thirty mile trip without showing the least sign of fatigue. Try for yourself how far this inclination forward will help to make you feel more comfortable and to make your work easier. No woman should ever allow herself to assume the pose of the scorcher, as she would thereby lose her good looks. As soon as she has learned to keep her balance fairly well and can ride alone, she must begin to pay attention to her posture. She will avoid a heated saddle by not sitting too close to it, and she should never take her hands off the handles, as she constantly needs their light support. Only when she has established herself in a proper method of riding will she be able to inhale in deep draughts the pure and invigorating air that constitutes the best tonic in the whole pharmacopœia.

With each movement of the pedal the ankle joint should have free play. This cannot be the case when the rider sits too low in the saddle. The downward tread should extend the foot and yet allow its ball to keep a firm hold on the pedal. If the foot be not properly extended, the muscles of the calf do not get their due share of exercise. Keeping the ball of the foot steadily on the pedal is of the utmost importance in riding over a rough road or over obstacles such as car-tracks. You may have noticed—even if you have not frequented a gymnasium yourself and, therefore, know from actual experience—that a jumper always tries to land on the ball of the foot. Why? Because the shock is thereby distributed among the bones of the foot and is weakened before it is conveyed to the trunk through the leg. Impact on the heel has broken many a leg. Now notice a beginner wheeling over car-tracks; instead of almost standing upon her pedals, she simply propels the machine so as to make it cross slowly, receiving the full jar of each drop of the wheel on her pelvis. This style of riding has injured many a woman and will doubtless injure many more.

In cycling, as in a good many other things, "it is the pace that kills." Six miles an hour, double the pace of a good walker, will certainly suffice for a beginner on the wheel. For some women it will be fast enough for all ordinary riding. In wheeling for health, eight miles an hour ought only exceptionally to be made for any distance. Few men ride at the rate of ten miles an hour, unless in a century run. Unfortunately inex-