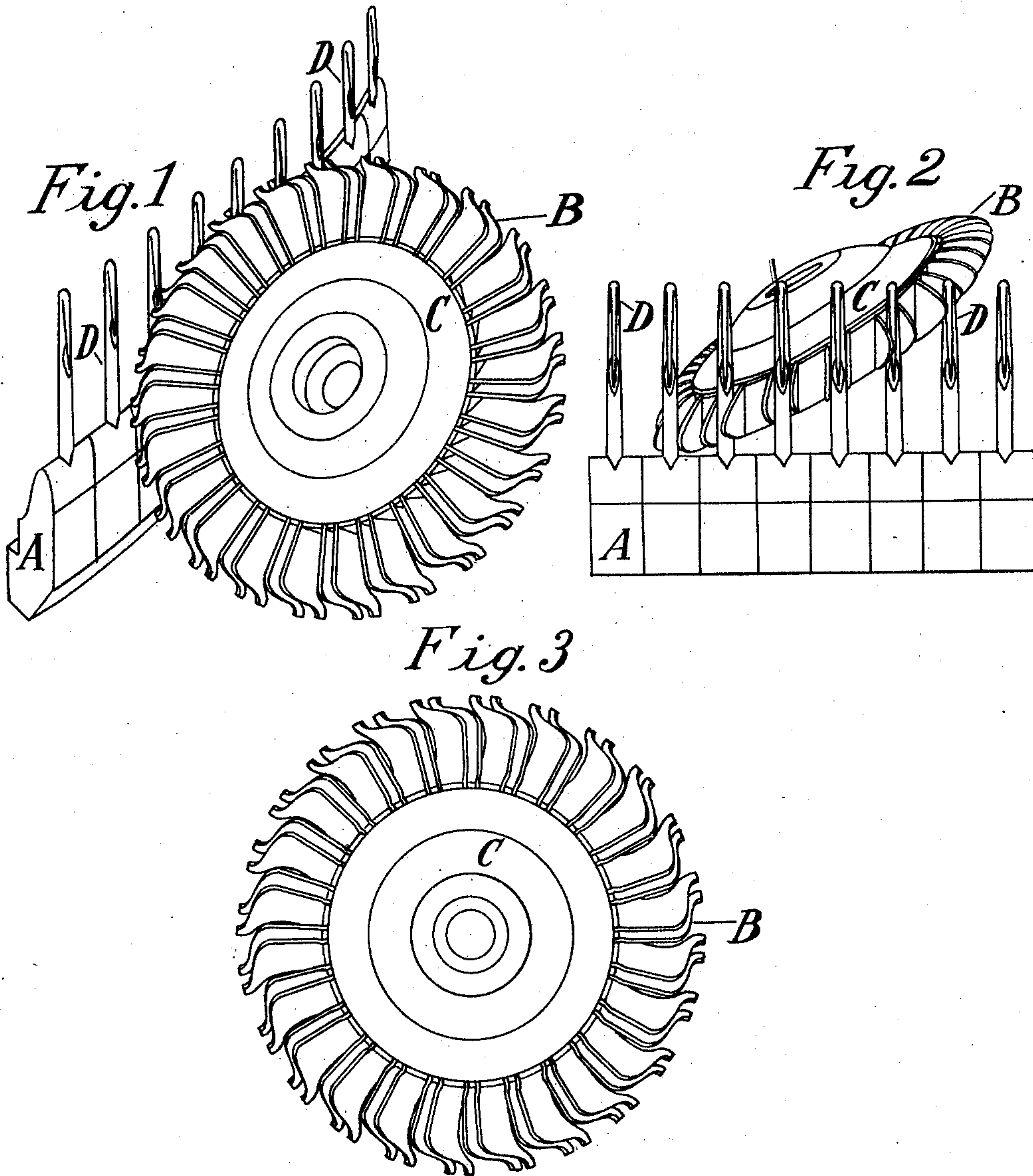


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 BUR FOR CIRCULAR KNITTING MACHINES.
 APPLICATION FILED JAN. 27, 1910.

998,336.

Patented July 18, 1911.



WITNESSES:
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ROBERT W. GORMLY, OF TROY, NEW YORK.

BUR FOR CIRCULAR-KNITTING MACHINES.

998,336.

Specification of Letters Patent.

Patented July 18, 1911.

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To all whom it may concern:

Be it known that I, ROBERT W. GORMLY, a citizen of the United States, residing in the city of Troy, in the county of Rensselaer and State of New York, have invented a new and useful Improvement in Burs for Circular-Knitting Machines, of which the following is a specification.

This invention relates to improvements in knitting machines, and more particularly the construction of the bur wheel.

The object of the invention is to provide a specially constructed bur wheel, to co-operate with the knitting needles the latter being so spaced apart as to coöperate with the blades of the bur wheel, to knit cloth of a coarse gage.

According to my invention, the blades of the bur wheel are arranged in pairs, or groups, each group adapted to fit between two adjacent needles, the spaces between the needles being much greater than the spaces between the needles on knitting machines now in use. By arranging the needles in groups the needles can be thus spaced, and yet fit snugly against each needle during the operation of knitting, which permits of a very coarse stitch hence the production of a coarser cloth.

In the drawings: Figure 1 is a detail perspective view of a portion of a knitting machine, and illustrating the use of my improved bur wheel. Fig. 2 is an elevation of the needles, illustrating the bur wheel co-operating therewith. Fig. 3 is a detail plan view of the bur wheel.

The letter A indicates a portion of the needle cylinder of a circular knitting machine, provided with the usual vertically disposed needles D, each having a beard. The needles are spaced farther apart, than the spacing of needles on the ordinary knitting machine, so as to permit of the use of coarse yarn.

C indicates my improved bur wheel, provided with the angularly disposed blades B, which coöperate with the needles D. The blades are arranged in spaced groups of two or more, and the blades forming each group are also spaced apart. The space between each group of blades, is greater than the space between the two blades forming a group. The blades are formed of thin metal and are somewhat resilient, to permit them to more readily adapt themselves in the

spaces between the needles during the knitting operation.

In operation, each group of blades fit between two adjacent needles, the distance between the blades forming each group being sufficient to fit in the unusually wide spaces formed between said needles, so that when knitting coarse gage cloth the yarn is as adeptly manipulated by the blades to form loops, with the needles as with the needles closer together and the employment of a single blade when knitting cloth of a fine gage.

In the present arrangement of the knitting needles and a bur wheel having single blades to coöperate with a pair of needles if the needles were spaced wider apart than usual, and a single blade bur wheel be employed it follows, the blade will not fill the space between the needles, which causes lost motion between the parts, resulting in the formation of leashes or snares and consequently inferior cloth. But by arranging the blades in groups, an inexpensive means is provided for knitting with coarse yarn, as it is essential that the spaces between the needles be substantially filled by the group of blades in order to obtain perfect cloth, coarser than about 8 gage. The thin blades fitting close to the needles, support the yarn stretched between the needles, so that said yarn is lifted evenly with little or no strain with the top of the beard of the needles, and thereby insuring of the proper formation of the loops.

Claims.

1. In a knitting machine, the combination of circularly arranged widely spaced needles, a bur wheel coöperating with the needles, and comprising a hub and spaced apart groups of blades extending from the hub, the spaces between the respective groups of blades being greater than the spaces between the blades forming each group, each group of blades fitting between two of the widely spaced needles in the revolution of the needles and the bur wheel.

2. In a knitting machine, the combination of circularly arranged widely spaced needles, a bur wheel coöperating with the needles, and comprising a hub and spaced apart pairs of blades extending from the hub, the space between adjacent pairs of blades being greater than the space between the blades forming each pair, each pair of blades fitting

between two of the widely spaced needles in the revolution of the needles and the bur wheel.

3. In a knitting machine, the combination
5 of circularly arranged widely spaced needles, a bur wheel coöperating with the needles and comprising a hub and spaced apart pairs of yielding blades extending from the hub, the space between adjacent pairs of yielding

blades being greater than the space between 10 the blades forming each pair, each pair of yielding blades fitting between two of the widely spaced needles in the revolution of the needles and the bur wheel.

ROBERT W. GORMLY.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
