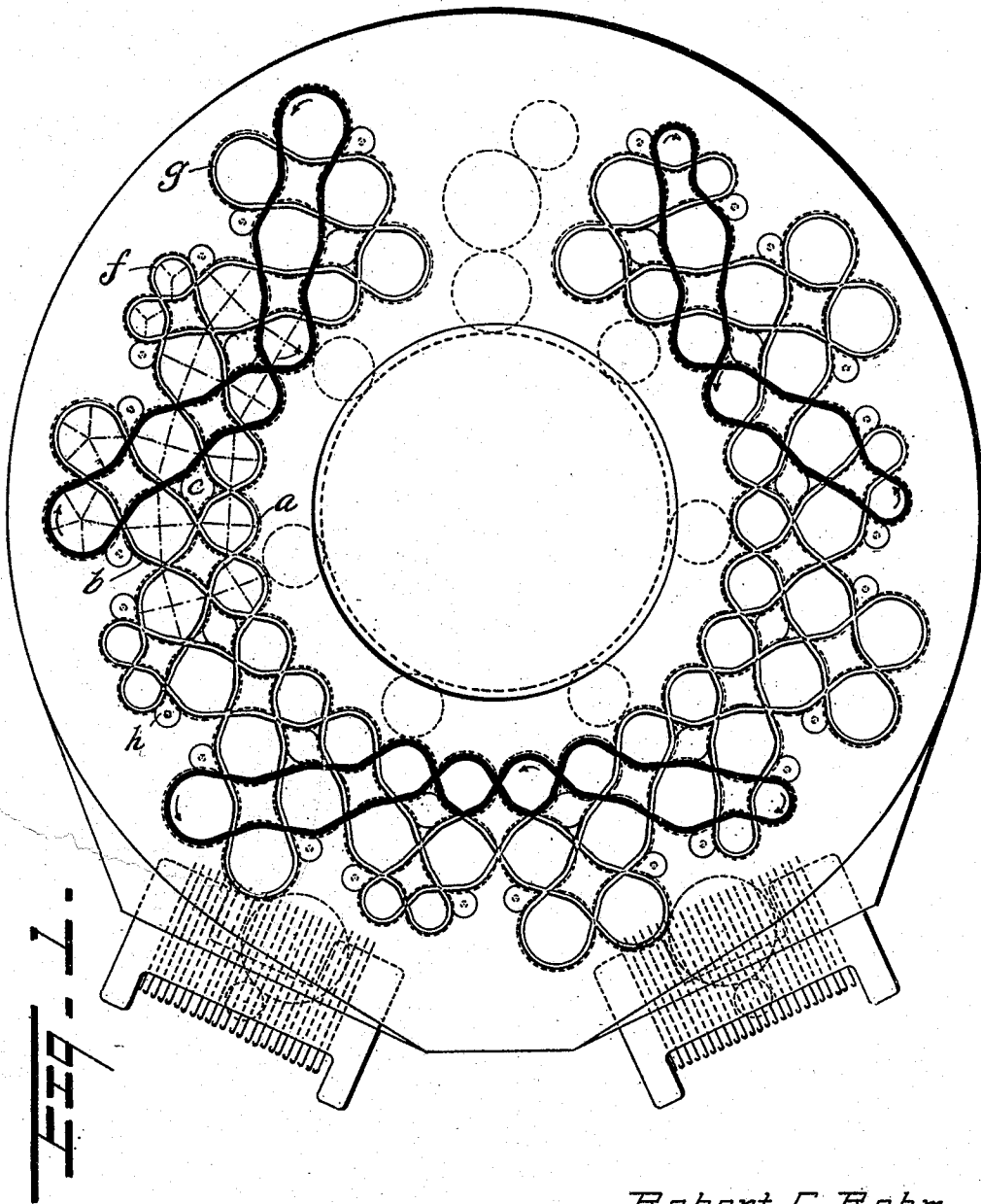


R. C. RAHM.
BRAIDING MACHINE.
APPLICATION FILED MAY 11, 1906.

933,339.

Patented Sept. 7, 1909.
2 SHEETS—SHEET 1.



Robert C. Rahm,
Inventor

Witnesses
Caleb J. Pieber.
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Attorneys

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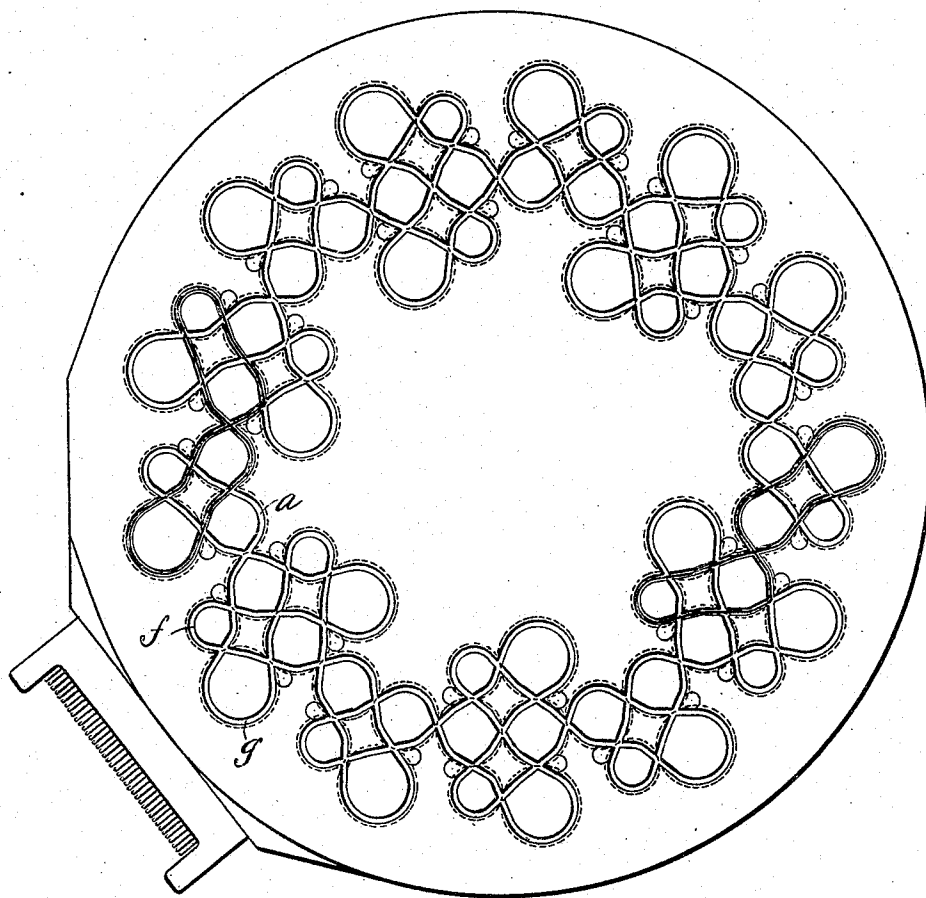


Fig. 2.

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UNITED STATES PATENT OFFICE.

ROBERT C. RAHM, OF WYOMISSING, PENNSYLVANIA, ASSIGNOR TO TEXTILE MACHINE WORKS, OF WYOMISSING, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

BRAIDING-MACHINE.

933,339.

Specification of Letters Patent.

Patented Sept. 7, 1909.

Application filed May 11, 1906. Serial No. 316,236.

To all whom it may concern:

Be it known that I, ROBERT C. RAHM, a citizen of the United States, and a resident of Wyomissing, in the county of Berks, State of Pennsylvania, have invented certain new and useful Improvements in Braiding-Machines, of which the following is a specification.

My invention relates to braiding machines adapted to produce figure effects, and my object is to provide sectional carrier courses embracing predetermined portions only of the main course and upon which certain of the carriers are traversed in cooperation with those upon the main course.

The invention is fully described in connection with the accompanying drawing and the novel features are specifically pointed out in the claims.

Figure 1 is a diagrammatic plan view of a braiding machine having my invention applied thereto. Fig. 2 is a similar view showing modifications.

My invention is particularly applicable to double-course braiding machines such as described in my pending application, Ser. No. 228,393, filed October 4th, 1904, the purpose being to greatly increase the variety of patterns producible thereon. In Fig. 1 my improvements are shown applied to such a machine, the double-course being made up of communicating inner and outer series of race-circles, *a* and *b* respectively, with switches *c* between them governing the movement of the carriers from one series to the other as fully described in said prior application.

My present improvements consist in providing for the reversal of desired carriers at different points in the main course, and for traversing such reversed carriers for desired periods in sectional courses embracing determined portions only of the main course, and in cooperation with other carriers traversing the main course. This main course is shown arranged to produce a "plain braid", being provided with carrier drive gears of four horns for each of the connected series of race-circles. In connection with this main course I provide side-track race-circles *f* and *g*, of different diameters, with three horn and five horn drive gears respectively, and located at different points of the main course. These side track race-circles as shown, are either arranged in alter-

nating order with a small and a large one (*f g*) directly connected, as in Fig. 2, or in alternating pairs *f f* and *g g*, as in Fig. 1. In connection with each of these side track race-circles *f* and *g*, a switch *h* is provided to control the direction given to successive carriers, either to continue the latter in the main course or to divert them into the connecting side-track circle for reversal into the sectional course of which said side-track circle forms a part. In a complete machine providing for a maximum number of sectional courses, the total number of side-track race-circles (*f* and *g*) will be equal to the number of directly connecting race-circles in the main course.

The operation of the controlling switches to govern the course traversed by the different carriers is automatically effected by suitable jacquard mechanism. Several of the numerous sectional courses possible are indicated in the drawing by heavy serpentine lines which include the side track race-circles employed therefor. The double main course shown in Fig. 1, multiplies the variety of patterns which may be produced, though the side-track race-circles may obviously be employed in connection with the ordinary single main course, as in Fig. 2. The variety of sectional courses attainable may be further increased by duplicating the side-track race-circles and switches, upon the inside as well as the outside of the main course as indicated in Fig. 2.

In applying the invention to a so-called "hercules" machine, in which six-horn drive-gears are employed in the main course, the side-track race-circles (*f* and *g*) are adapted for five-horn and seven-horn drive gears respectively, instead of three-horn and five-horn as previously described; and in either type of machine the main course may be arranged for forming tubular braid with a capacity for changing to flat by using any selected side-track circles as terminals, thus permitting the flat braid to be made of any width provided within the full circle. Or multiple braids of disconnected narrow widths can be simultaneously produced by using different of the side-track circles as terminals for each of such narrow braids or strips; all of the carriers being in such case traversed in the sectional courses so formed instead of retaining some of them on the main course to unite the sections as previ-

ously described. These and other variations of the specific construction shown may obviously be made without departing from my invention.

5 What I claim is:—

1. A braiding machine having two parallel communicating race-circle courses, and connected side-track race-circles each provided with a drive-gear having an odd number of carrier-engaging horns and with a controlling switch, whereby sectional carrier courses may be formed each employing two of said side-track race-circles as terminals, substantially as set forth.

15 2. A braiding machine having two parallel communicating race-circle courses, con-

nected side-track race-circles arranged in pairs at different points of the parallel courses and each provided with a drive-gear having an odd number of carrier-engaging horns, and a controlling switch, and carriers adapted to be traversed either in said parallel courses or in sectional courses having terminals formed by said side-track race-circles, substantially as set forth. 20 25

In testimony whereof, I affix my signature, in the presence of two witnesses.

ROBERT C. RAHM.

Witnesses:

D. M. STEWART,
W. G. STEWART.