

No. 871,870.

PATENTED NOV. 26, 1907.

C. HARRISON.

LIFE NET.

APPLICATION FILED JULY 2, 1907.

Fig. 1.

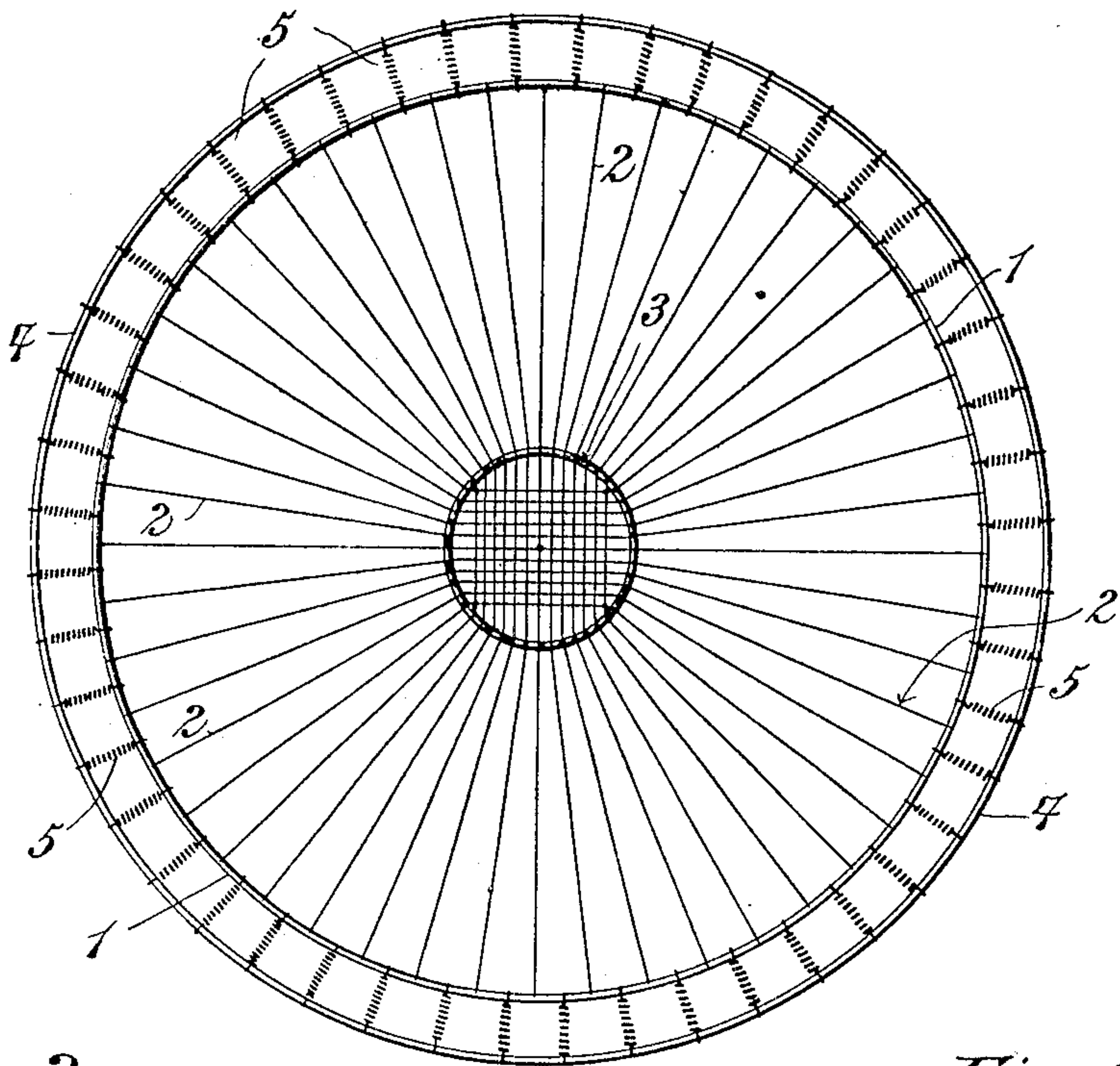


Fig. 2.

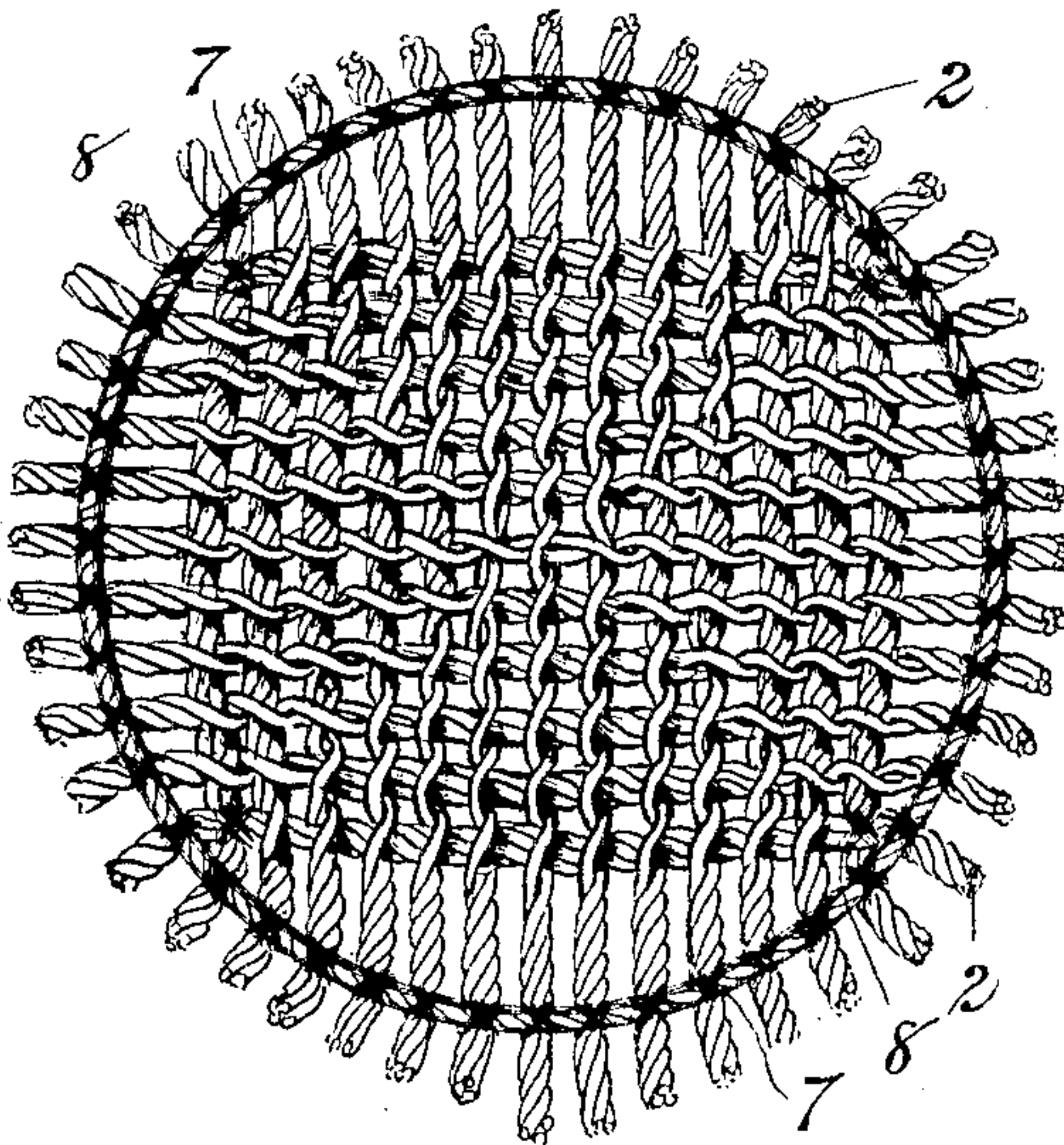
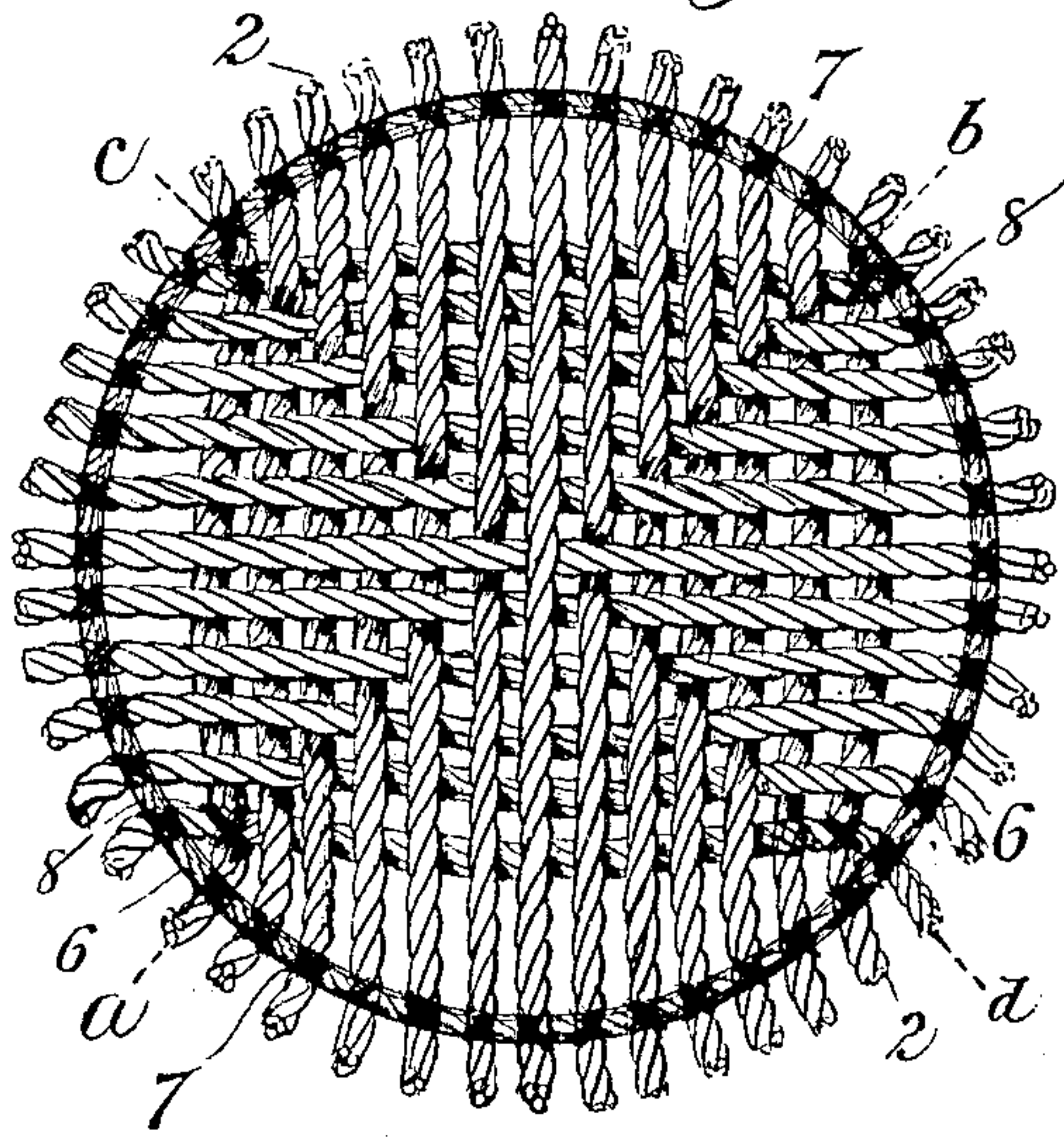


Fig. 3.



Witnesses:
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UNITED STATES PATENT OFFICE.

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LIFE-NET.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, CHARLES HARRISON, a citizen of the United States, residing in the city, county, and State of New York, have
5 invented a certain new and useful Improvement in Life-Nets, of which the following is a specification.

Those nets which are used by firemen to save the lives of those who are forced to leap
10 from the windows of a burning house are usually constructed with a circular rim and radial cords or ropes extending to a central portion surrounded by a metal ring to which said radial ropes are fixed. The metal rings
15 so used cause danger of injuries to persons falling into the net and striking against these rings, and, moreover the large number of separate points of attachment present as many points of possible weakness, due to
20 careless construction or other causes. Besides this, any accidental occurrence of unequal strains is likely to deform the ring, and when this occurs further shocks will necessarily be transmitted unevenly to the
25 hands of those holding the net, thus throwing more weight upon some than others.

My present invention has particular relation to an improved construction for the centers of nets for the above named purpose,
30 whereby these objections are obviated.

The invention is illustrated in a preferred form in the accompanying drawing wherein Figure 1 is a diagrammatic view of the general arrangement of ropes, Fig. 2 is a plan
35 view of one side of the improved center in detail and Fig. 3 is a similar view of the opposite side of the same.

In Fig. 1, the general construction of a circular life net is shown. Here the circular
40 rope edge of the net is shown at 1, and the radial ropes or cords forming the body of the net are shown at 2. These ropes are carried to the circular center 3, where, after being interwoven substantially as hereinafter described with each other, these ropes are in-
45 dividually continued without break back to the circular rim or edge 1.

As preferably constructed, these nets are provided with an exterior circular hand rope
50 4 which is connected to the rim 1 by means of springs 5, placed at suitable intervals all around the net. The persons holding these nets grasp the outer rope 4 and the blow delivered by the falling body is transmitted

through the springs 5, lessening the violence
55 of the shock. No details of these springs are shown, as they form no specific part of the present invention.

It will be observed from Fig. 1 that each
60 of the radial ropes 2 is continuous from one point on the circumference to another. Two of these ropes in the preferred form shown, bisect each other at right angles at the center of the circle, forming four quad-
65 rants. The remaining ropes are preferably arranged as follows:—The intermediate ropes terminating in each quadrant may be divided into two groups. Each rope in one group passes through the central circle and is continued so as to lie symmetrically in the
70 next quadrant, say to the right, while each rope in the second group, also passing through the central circle, is continued so as to lie symmetrically in the next quadrant
75 on the left. Thus, in each semicircle, the two ends of each rope are attached at equal angular distances from the diameter, while the ropes occupying each quadrant are divided into two groups belonging respec-
80 tively to the two semicircles having said quadrant in common. Through the central circle, all the intermediate ropes lie parallel to one or the other diametral rope, and a rectangular gridiron arrangement is thus
85 produced.

At the circular center the construction and arrangement are as follows:—The limits of this center are marked by a circular rope, 6, and the transverse ropes 2 are all secured to this rope 6, preferably passing through it,
90 between its strands and being further held by lashings 7. The radial ropes 2 enter the circular center at equidistant intervals and are interwoven within the circle, passing out of the circle again and extending to the cir-
95 cular edge, as heretofore described.

The relative arrangement of ropes within the circle may be varied without departing from my invention, but I prefer that shown in Figs. 2 and 3. Here, one of the two diam-
100 etral ropes which meet at the center passes through the other, leaving two strands on one side and one strand on the other as shown. The intermediate radial ropes are divided into two groups, the members of one
105 group passing across the circular center parallel to one diametral rope, and those of the other group passing across parallel to the

other diameter. Each group is further divided into two equal divisions disposed respectively on opposite sides of the corresponding diameter. A rectangular gridiron design is thus formed and the members of each group are passed between strands of members of the opposite perpendicular group, substantially as shown in the drawing.

Where one rope passes through another the divided rope has one strand on one face of the center and two strands on the opposite face. Fig. 2 shows that face of the net on which the single strands of the divided ropes appear, while in Fig. 3 is shown the opposite face.

As made clear in Fig. 3, the preferred arrangement results in division of the center into quadrants separated by the lines *a—b* and *c—d*. In the opposite quadrants between *c* and *b* and between *a* and *d* all of the ropes passing from left to right in Fig. 3 pass between strands of the ropes perpendicular thereto; while, conversely, these latter ropes pass through the former within the opposite quadrants between *a* and *c* and between *b* and *d*. At the corners of the interlaced square thus formed, the crossing ropes are preferably secured by an additional lashing.

My invention is not limited to the use of ropes of three strands or to their division ex-

actly as described, nor am I limited to the interlacing on the general plan described.

What I claim is—

1. A life net comprising an edge rope and continuous ropes secured at their opposite ends to said edge rope and interwoven near the center of the net, substantially as described.

2. A life net comprising an edge rope, continuous ropes secured at their opposite ends to said edge rope and interwoven near the center of the net, and a rope surrounding the interwoven portion and secured to said interwoven ropes, substantially as described.

3. In a life net, a central portion comprising interwoven ropes passing across the same in two groups arranged so that members of each group pass through and are traversed by members of the other group, substantially as described.

4. In a life net, a central portion comprising a limiting rope, ropes crossing the limiting rope at equidistant intervals and interwoven within the space inclosed by said rope and means for fastening said radial ropes to said limiting rope, substantially as described.

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