(No Model.)

J. BOLICK.

WHEEL.

No. 376,938. Patented Jan. 24, 1888.

Fig. 1.

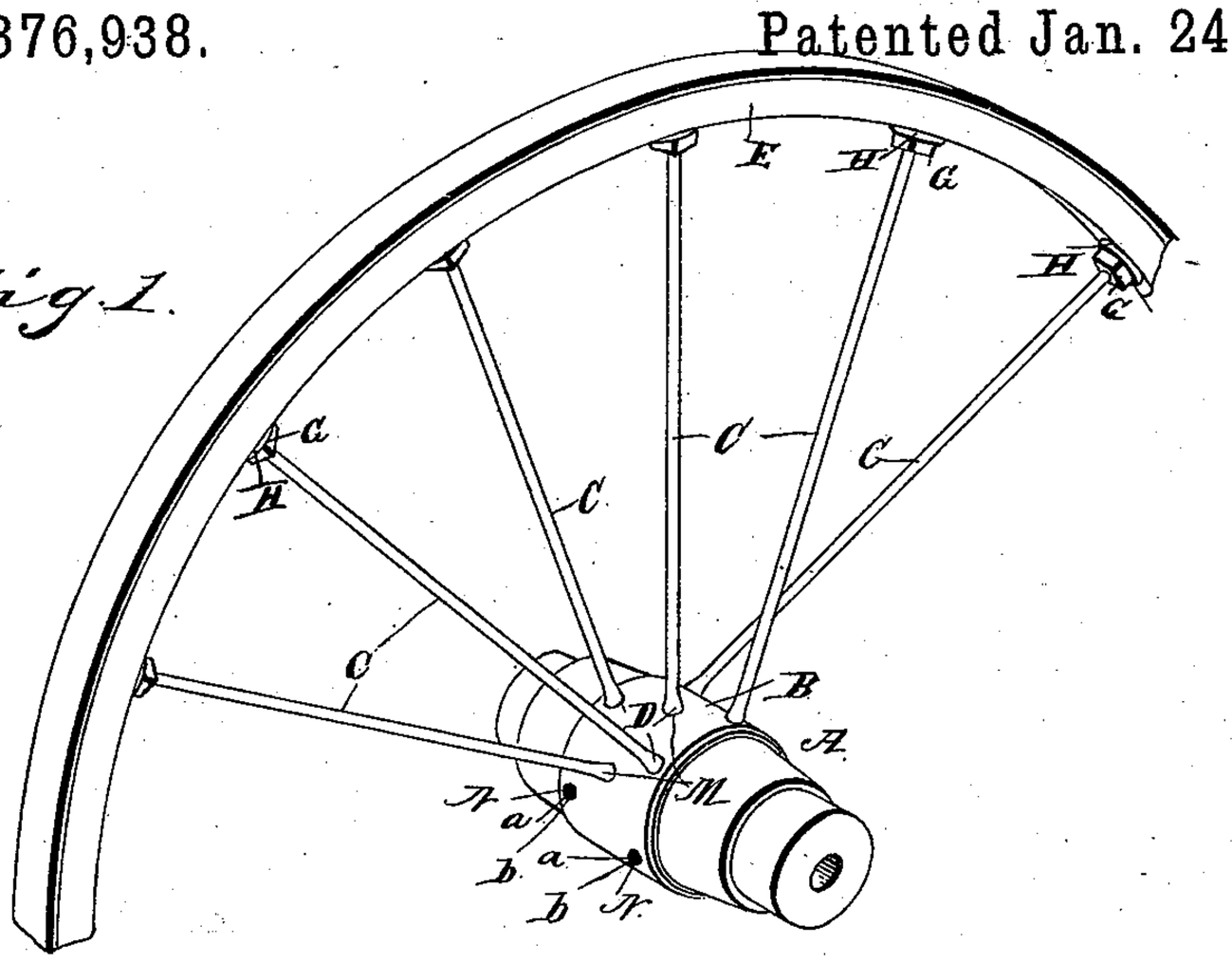


Fig. 2.

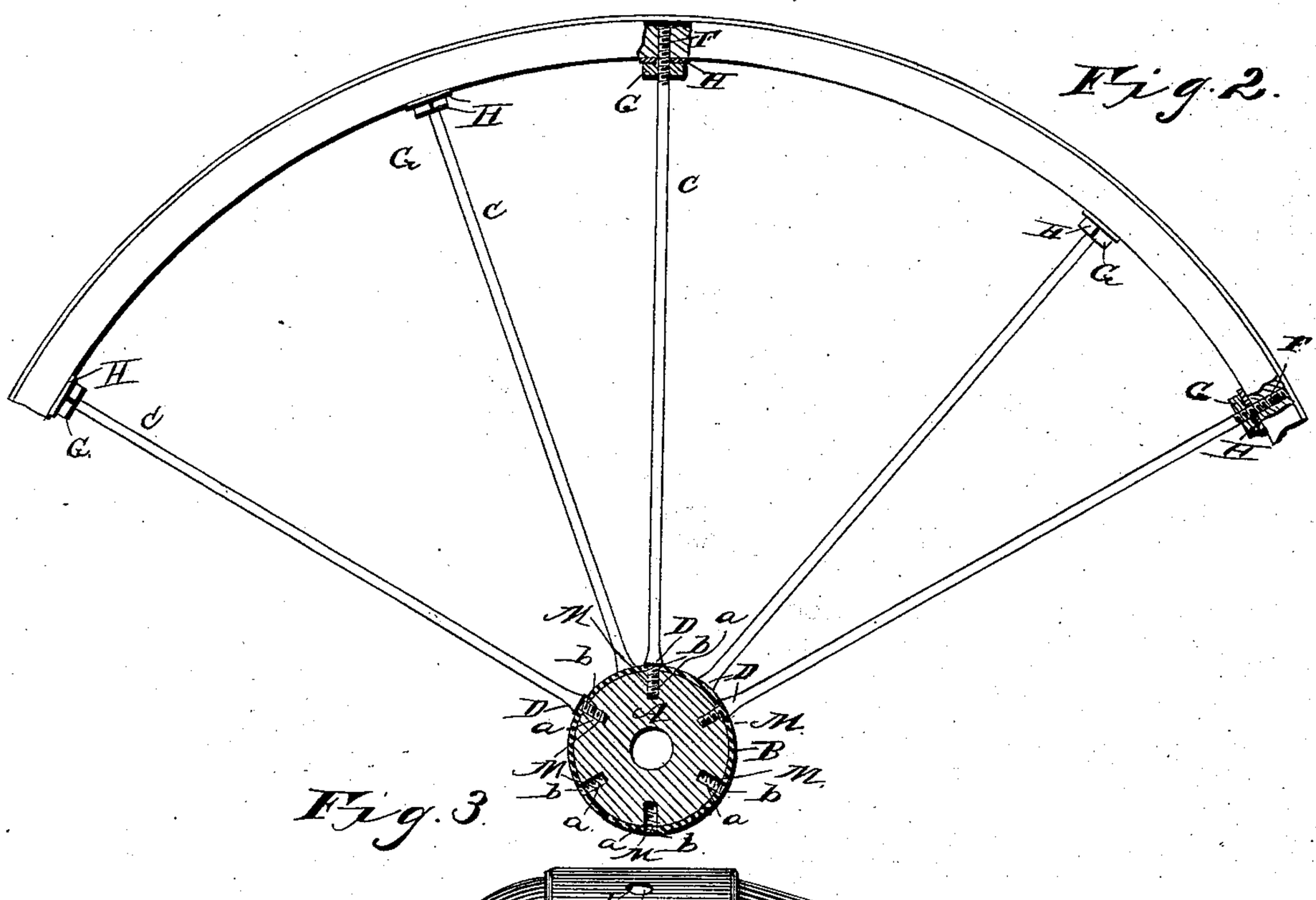
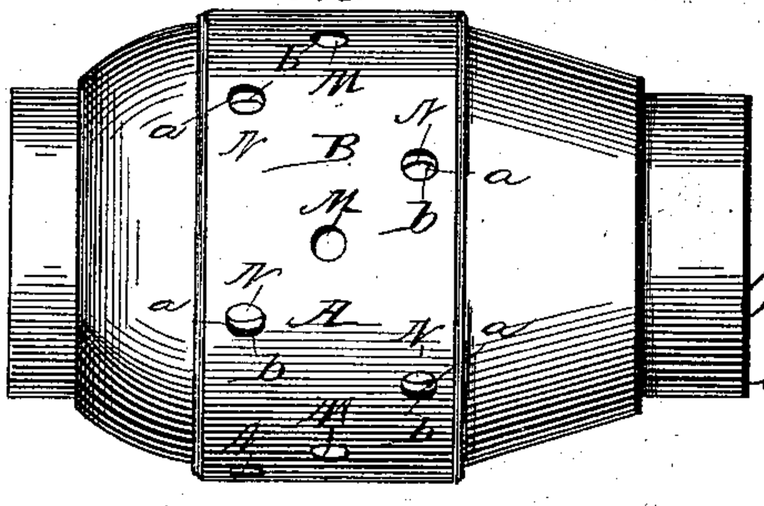


Fig. 3.



Witnesses

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UNITED STATES PATENT OFFICE.

JEROME BOLICK, OF CONOVER, NORTH CAROLINA.

WHEEL.

SPECIFICATION forming part of Letters Patent No. 376,938, dated January 24, 1888.

Application filed October 14, 1887. Serial No. 252,360. (No model.)

To all whom it may concern:

Be it known that I, JEROME BOLICK, a citizen of the United States, residing at Conover, in the county of Catawba and State of North Carolina, have invented a new and useful Improvement in Wheels, of which the following is a specification.

My invention relates to improvements in wheels; and it consists in a certain novel construction and arrangement of parts, fully set forth hereinafter, and specifically pointed out in the claims.

In the accompanying drawings, Figure 1 is a perspective view of a wheel embodying my improvements. Fig. 2 is a side elevation, partly in section, of the same. Fig. 3 is a plan view of the hub.

Referring by letter to the drawings, A designates the hub of the wheel, which is provided with sockets *a a* therein. The said sockets are arranged in groups of threes on lines extending obliquely across the hub; but viewing the wheel from the side, the said sockets are equally spaced—that is, all the sockets are radial. Thus there are three series of sockets running around the hub—a central annular series, M, and an annular series, N, on each side of the central series—each of the said series containing a number of sockets equal to one-third of the entire number of sockets in the hub.

B designates a band or sleeve secured around the hub, and having the perforations or openings *b* therein also arranged in groups of threes on lines extending obliquely across the band. The perforations *b* are therefore also arranged in three annular series, similar to the series M N N, and the openings *b* register, respectively, with the sockets *a* in the hub. These registering sockets and openings are screw-threaded or tapped.

C C designate the spokes, which are threaded at the inner ends to screw into the tapped openings *b* and sockets *a*, and the said spokes are also provided a short distance from the inner ends with shoulders D D, adapted to bear on the band B when the spokes are secured in the hub.

E designates the rim of the wheel, which is provided with a series of radial sockets or openings, F F, to receive the outer threaded ends of the spokes, the said sockets being equally spaced.

G G designate nuts or taps on the threaded outer ends of the spokes and bearing against the inner side of the rim, and H H represent washers which are interposed between the outer sides of the said nuts and inner side of the rim, to prevent the former from marring or injuring the latter.

The object of the nuts will be readily seen. To tighten the spokes in the wheel the said nuts are screwed outward against the inner side of the rim, and the effect will be to spread the rim with tremendous force, and thus make the wheel very rigid. The shoulders on the inner ends of the spokes, bearing upon the sleeve or band around the hub, take the strain off the screw-threads on the inner ends of the spokes.

When the wheel becomes loose, owing to changes in the weather, all that is necessary, therefore, is to turn the nuts G outwardly upon the threaded ends of the spokes and the wheel is tightened, and if one of the spokes is broken or damaged and it is desired to replace it by a new one it may be very easily accomplished.

As before described, the sockets in the hub are arranged in groups of threes set in oblique lines running across the hub, and the distance between the last socket of one group and the first of the next is the same as the distance between one socket and the next in the same series. Thus in side elevation the appearance of the wheel is that the spokes are all equally spaced. The inner ends of the spokes are therefore arranged in three distinct annular series, every third spoke belonging to the same series, and therefore the strain upon any part of the wheel is distributed in three different directions. This arrangement of the spokes adds greatly to the lateral strength of the wheel, while at the same time it does not detract from the radial or vertical strength. This is an advantage which wheels not provided with the central radial series of spokes do not possess. The appearance of the wheel is also rendered very ornamental by this novel arrangement of the spokes.

It will be seen that this manner of disposing the spokes in the wheel may be applied to wheels having wooden spokes as well as those

having metal spokes, and the effect will be found beneficial in both cases, owing to the increase of lateral strength as well as radial or vertical, while the spokes are perfectly straight, there being no necessity for a bend at the point where the inner ends thereof enter the hub or where the outer ends enter the rim.

Having thus described my invention, I claim as follows:

1. In a wheel, the combination of the hub A, having the radial sockets *a a* therein arranged in groups of threes extending obliquely across the hub, the spokes having the threaded outer ends and adapted to fit at the inner ends in the sockets *a*, the rim E, having radial openings F therein to receive the outer ends of the spokes, and the nuts G on the threaded outer ends of the spokes, bearing against the inner side of the rim, substantially as and for the purpose specified.

2. In a wheel, the combination of the hub having threaded radial sockets *a a* therein, arranged in groups of threes, the rim having openings F therein, and the spokes threaded at both ends and inserted, respectively, in the sockets *a* and the openings F, substantially as specified.

3. In a wheel, the combination of the hub A, having the sockets *a* therein arranged in groups of threes on oblique lines, the band or sleeve B, secured around the hub and having a series of openings, *b*, also arranged in groups of threes and registering with the sockets *a*, the said registering sockets and openings being tapped, the spokes having threaded inner ends to screw into the sockets and shoulders D to bear on the band B around the openings therein, and the rim E, having radial sockets F F to receive the outer ends of the spokes, all constructed and arranged substantially as and for the purpose specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

JEROME BOLICK.

Witnesses:

J. D. TAYLOR,

GEO. E. COULTER.