No. 750,887. PATENTED FEB. 2, 1904.

H. PARKER.

ROLL FOR PAPER MAKING OR LIKE MACHINERY.

APPLICATION FILED JAN. 3, 1903.

NO MODEL.

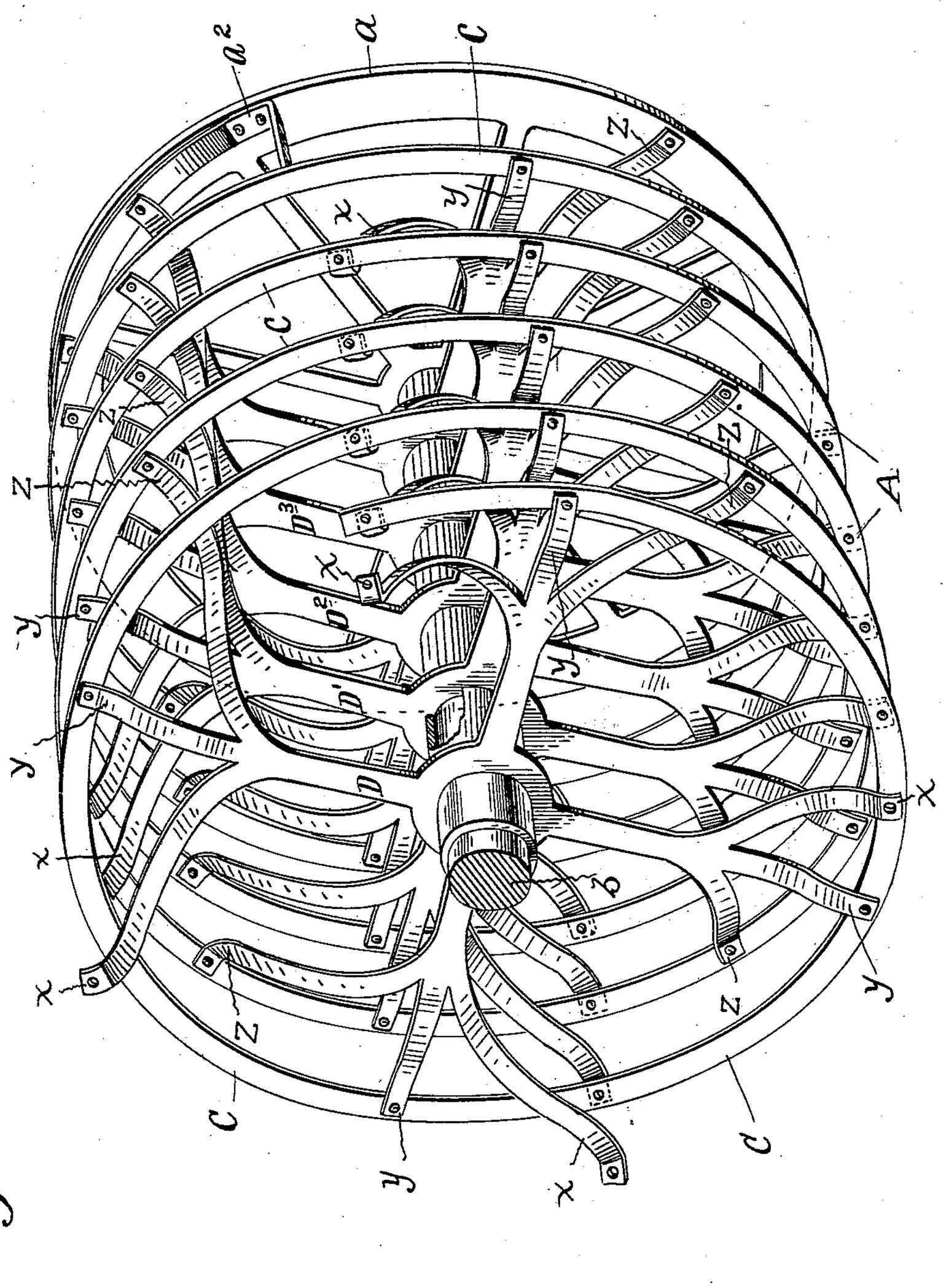

Fig. 1

WITNESSES:

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No. 750,887. Patented February 2, 1904.

UNITED STATES PATENT OFFICE.

HOWARD PARKER, OF NASHUA, NEW HAMPSHIRE, ASSIGNOR TO IMPROVED PAPER MACHINERY COMPANY, OF CASTINE, MAINE, AND NASHUA, NEW HAMPSHIRE, A CORPORATION OF MAINE.

ROLL FOR PAPER-MAKING OR LIKE MACHINERY.

SPECIFICATION forming part of Letters Patent No. 750,887, dated February 2, 1904.

Application filed January 3, 1903. Serial No. 137,641. (No model.)

To all whom it may concern:

Be it known that I, HOWARD PARKER, a citizen of the United States of America, residing at Nashua, in the county of Hillsboro and State of New Hampshire, have invented certain new and useful Improvements in Rolls for Paper-Making or Like Machinery, of which the following is a specification.

The roll shown and described herein is particularly adaptable for use in paper-pulp-treating machinery or in paper-making machinery, although its uses are not limited to this class of work.

The object of the invention is to produce a roll having the greatest possible amount of strength throughout its entire length and at the same time be as light as possible. These considerations are of the utmost importance in pulp-treating and paper-making machinery. The roll must be stiff and strong, so that it will not sag at the center and leave the paper wet, and it must be light in order to be readily handled. It has been demonstrated that rolls constructed as herein shown and described fulfil these conditions.

In the drawings I have shown a perspective view of a roll embodying my invention.

The letter A denotes the roll made in the preferred manner. It has the head *a*, mounted on the shaft *b*. A length of metal C of greater width than thickness is bent edgewise spirally, extending from one head to the other head. The ends of this strip of metal are secured to the heads, as at a^2. To brace these coils properly, I have adopted a novel and efficient method, which I will now proceed to describe in its preferred form. Firmly secured to the shaft and separated from one another by bushings are a series of four armed spiders D D′ D^2 D^3. Each arm at its end branches out into three fingers *x y z*, the two fingers *x z* being bent to either side of the central finger out of the plane of the spider. Examining Fig. 1, it will be seen that the central finger of each arm of the spider is secured to one turn of the spiral and that one of the other fingers reaches and is secured to the next adjacent on one side, while the remaining finger reaches and is secured to the next adjacent turn on the other side. This is true of the fingers on all of the arms of all of the spiders, and the arrangement continues throughout the length of the roll. Following out the bracing of the spiral and giving special attention to Fig. 1, it will be seen that each course of the spiral at four different points about its circumference is braced from three different spiders. It is to be understood that this roll is to be covered with a wire screen in a manner common to rolls of this kind.

I am aware that my invention is susceptible of alterations and modifications of construction, and I intend to include herein all such modifications as do not depart from the spirit of the invention.

I claim as my invention—

1. In a cylinder or roll a central shaft and a frame supported thereby, said frame being made up of a strip of metal bent spirally, and a series of spiders supported on the shaft, each spider supporting one turn of the spiral.

2. In a cylinder or roll a central shaft and a frame supported thereby, said frame being made up of a strip of metal bent spirally, and a series of spiders supported on the shaft, each spider supporting one turn of the spiral and laterally bracing adjacent turns of the spiral.

3. In a roll a central shaft, spiders secured thereto and supported thereby, and a strip of metal bent spirally to form the frame of the roll, each spider being secured to two or more adjacent turns of the spiral.

4. In a roll a central shaft, wrought-metal spiders secured to and supported by said shaft and having two or more arms, and a strip of metal bent spirally to form the frame of the roll, each arm of the spiders being secured to three turns of the spiral.

5. In a roll a central shaft, wrought-metal spiders secured to and supported by the shaft, arms on the spiders, fingers formed at the end of each arm, and a strip of metal of greater width than thickness bent edgewise spirally

to form the frame of the roll, the fingers on each arm being secured to three different turns of the spiral, substantially as described and for the purposes set forth.

6. In a cylinder or roll a central shaft and a frame supported thereby, said frame being made up of a strip of metal bent spirally, and a series of spiders supported on the shaft, each spider supporting one turn of the spiral, and spacing-sleeves on said shaft between the spirals, substantially as described.

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

HOWARD PARKER.

Witnesses:
B. A. PEASE,
L. H. OTIS.