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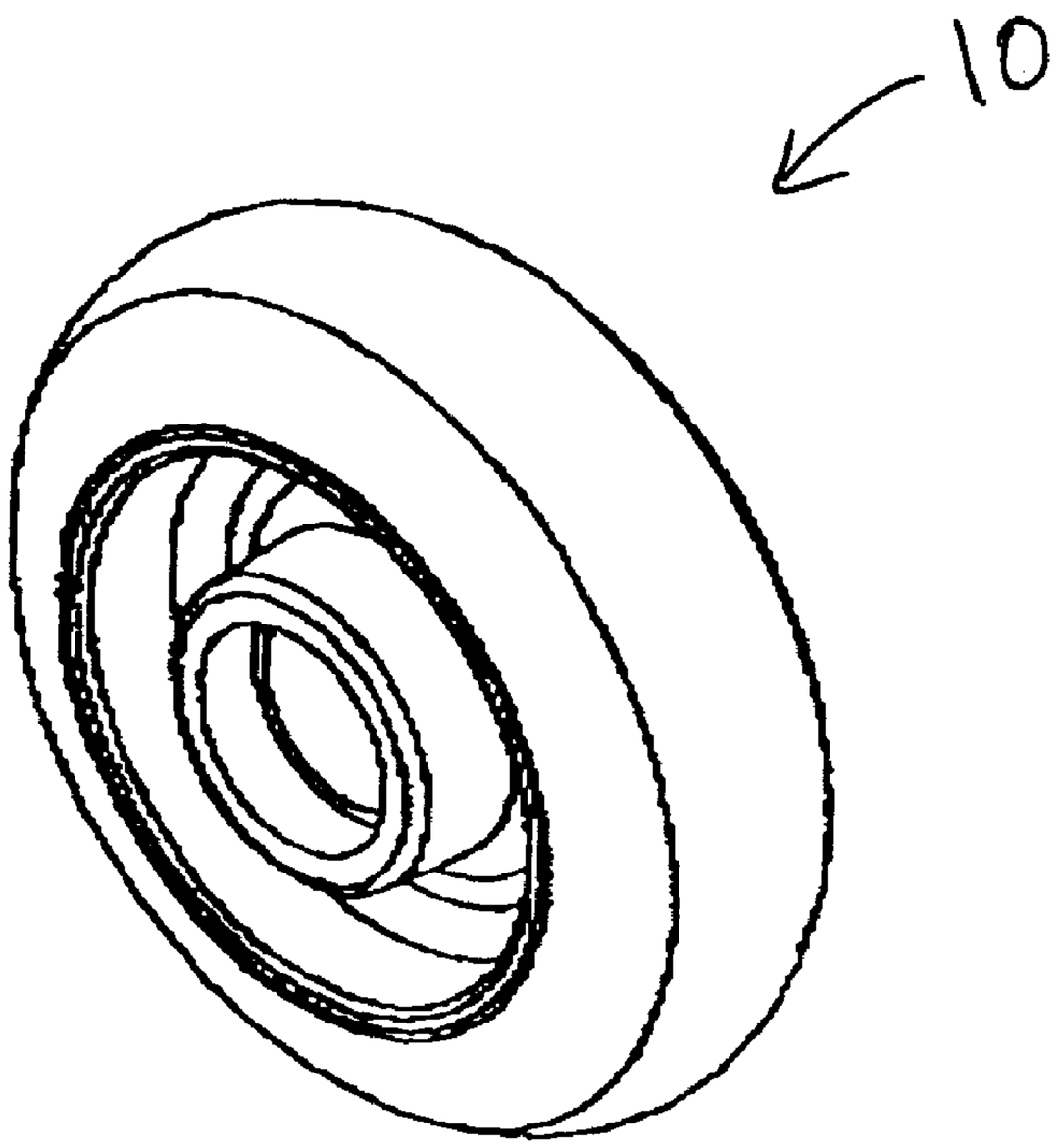
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(54) Titre : STRUCTURE DE ROUE
(54) Title: WHEEL STRUCTURE



WHEEL STRUCTURE

The present invention relates to a wheel structure more particularly, relates to a composite wheel structure.

The use of composite wheels wherein there are provided two different materials forming the same wheel, each for a desired end, is known in the art. Primarily such wheels have been used for inline skates wherein a harder surface is a formed on the center of the blade wherein most of the skating motion occurs while a somewhat softer material is provided about the periphery thereof.

In a number of uses, it is desirable for a wheeled item to be relatively easy to move while, when stopping, providing stability. Thus, one could utilize such a structure on various types of trolleys and the like wherein it would be desirable to have a relatively soft portion when the trolley is stationary and at the same time, providing an easy rolling capability.

It is an object of the present invention to provide a composite wheel which has a combination of properties achieved by using materials having different hardnesses in a composite structure.

According to the present invention, there is provided a wheel, which wheel has a central aperture designed to receive an axle, and a first portion and a second portion, extending about the periphery of the wheel, the first portion being formed of a first material having a first hardness, and a second portion forming a ground contacting surface, said second portion having a hardness less than the hardness of said first portion, said second portion forming at least 50% of the ground contacting surface.

Having thus generally described the invention, reference will be made to the

accompanying drawings illustrating an embodiment thereof, in which:

Figure 1 is a perspective view of a wheel according to an embodiment of the present invention;

Figure 2 is a cross sectional view thereof and;

Figure 3 is an enlarged view of the periphery of the wheel.

Referring to the drawings in a greater detail and by reference characters thereto, there is illustrated a wheel generally designated by reference numeral 10.

Wheel 10, as may be seen in Figures 1 and 2, wheel 10 includes a central hub generally designated by reference numeral 12 and which has an aperture 14 extending there through to receive an axle. Naturally, a bushing or a bearing structure may be provided.

Wheel 10 includes a central portion generally designated by reference numeral 15 and which surrounds aperture 14. Portion 15 is preferably formed of a metallic material such as aluminum and will include an inner portion 16 which defines the aperture and an outer portion 18. Inner portion 16 and outer portion 18 are connected by bridging central portion 20. As may be seen in Figure 2, there also provided locking elements 22 which are secured or extend outwardly from outer portion 18 and are designed to engage the plastic portion as will be discussed in greater detail hereinbelow.

Located about outer portion 18 is a relatively hard plastic portion 26 which preferably is formed of a material such as polyurethane and has a hardness of at least 70D.

Hard plastic portion 26 includes inwardly extending vertical portion 28 to engage with outer portion 18 of central member 15. Similarly, there are provided inwardly extending flanges 22 to lock the plastic to the central portion 15.

Extending outwardly about hard plastic portion 26 is a softer plastic portion 32 which also is preferably formed of a material such as polyurethane. However, softer plastic portion 32 preferably has a hardness of between 80A and 87A and forms at least a major portion of the surface contacting portion of wheel 10. As may be noted, softer portion 32 includes a pair of abutments 34 to engage harder plastic portion 26. An adhesive may be used to secure the components together.

It will be understood that the above described embodiment is for purposes of illustration only and that changes or modifications may be made thereto without departing from the spirit and scope of the invention.

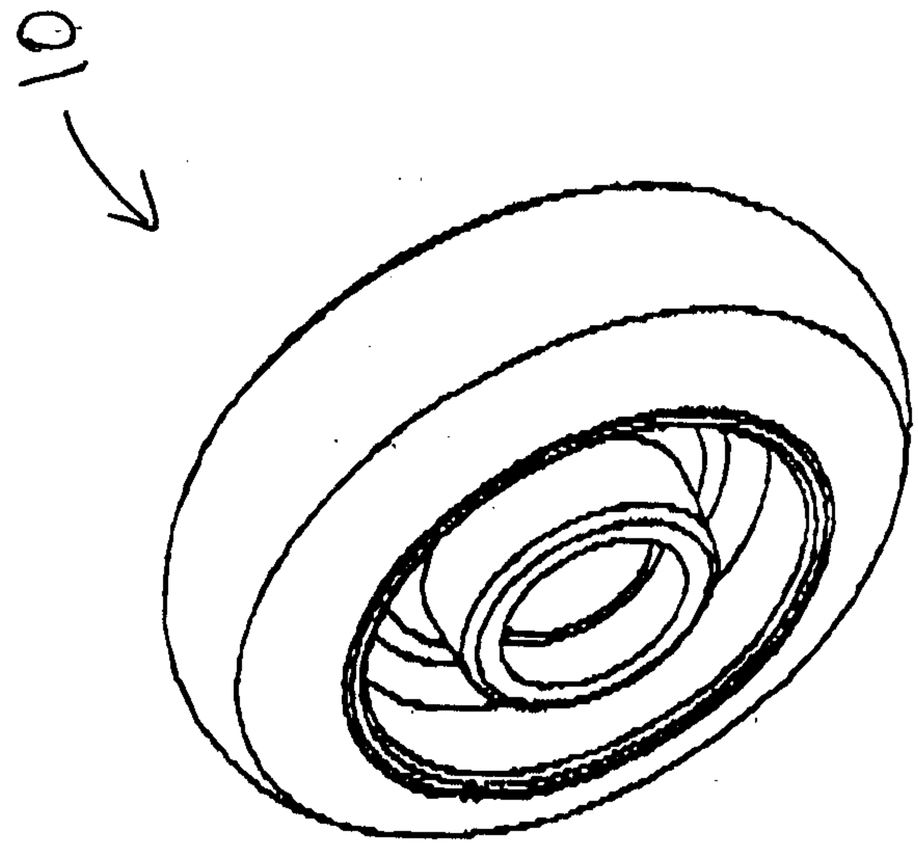


Fig. 1



Fig. 3

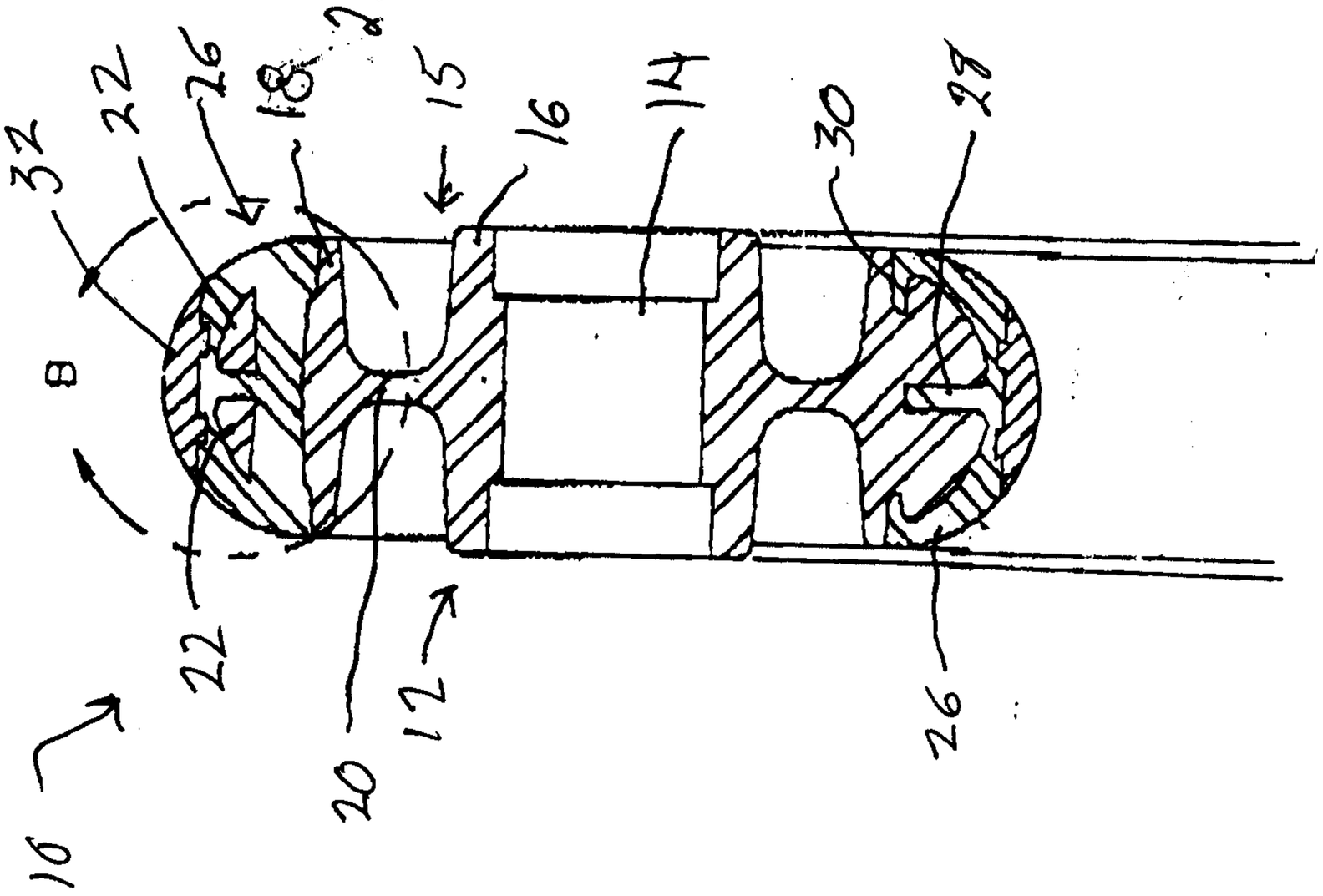
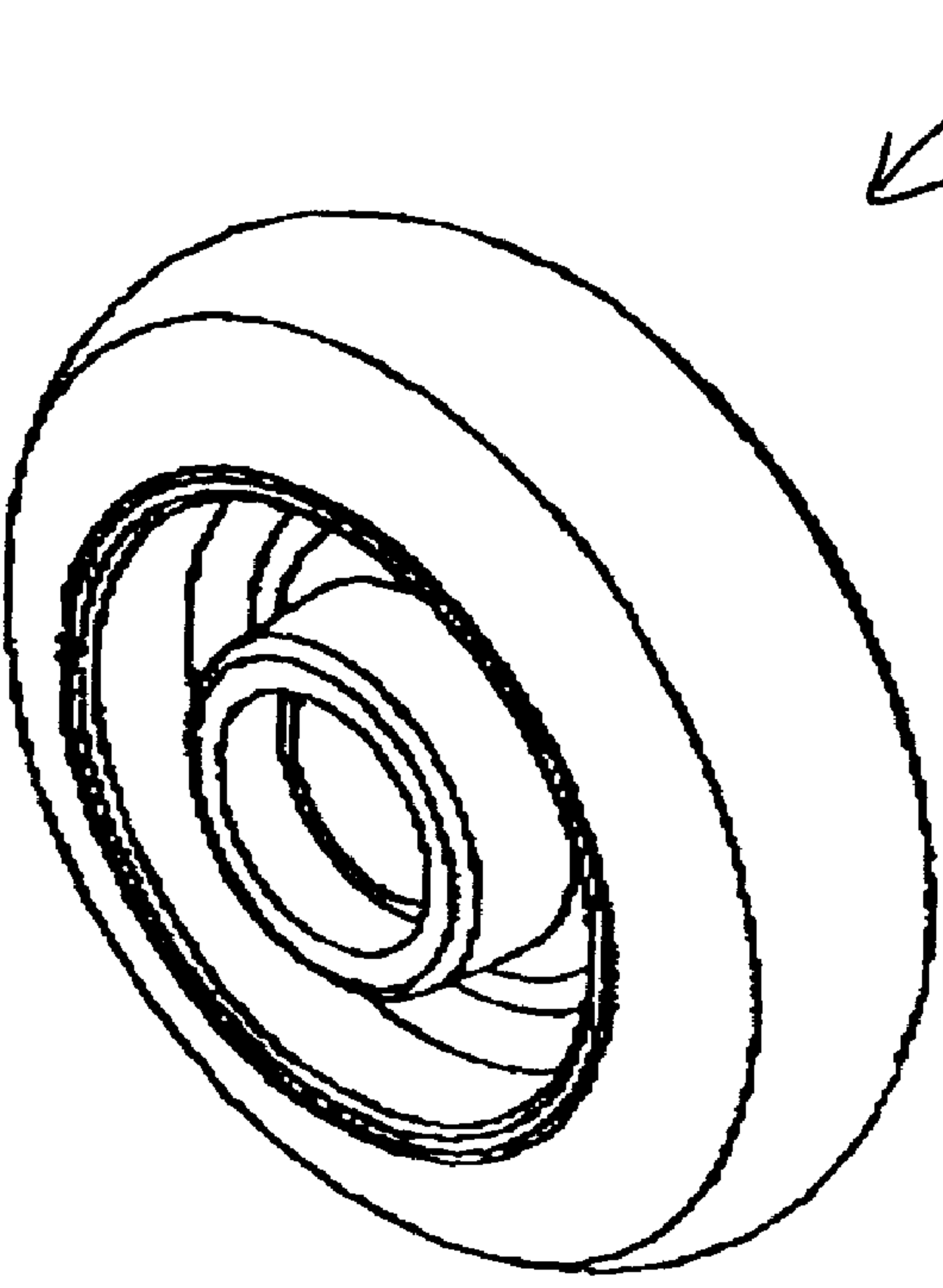


Fig. 2


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