(Model.)

I. SMITH.

ROLLER SKATE WHEEL.

No. 330,630. Patented Nov. 17, 1885.

Fig 1

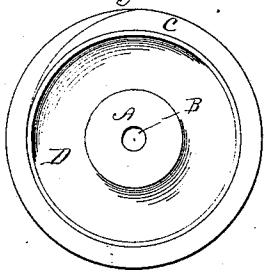


Fig 2

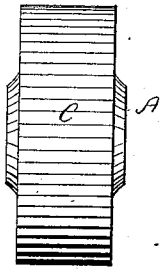


Fig 3

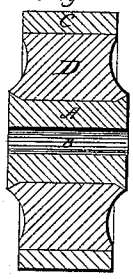


Fig 4

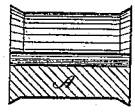


Fig 5

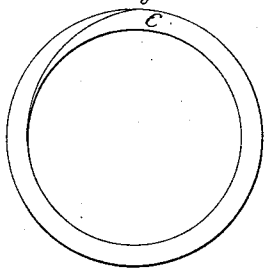


Fig 7

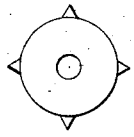


Fig 6

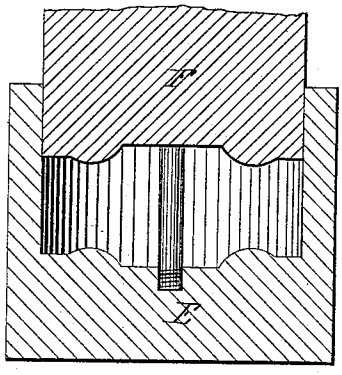
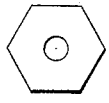


Fig 8



Witnesses
Jos. C. Earle
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N. PETERS, Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

ISAAC SMITH, OF NEW HAVEN, CONNECTICUT.

ROLLER-SKATE WHEEL.

SPECIFICATION forming part of Letters Patent No. 330,630, dated November 17, 1885.

Application filed August 4, 1884. Serial No. 139,552. (Model.)

To all whom it may concern:

Be it known that I, ISAAC SMITH, of New Haven, in the county of New Haven and State of Connecticut, have invented new Improvements in Wheels for Roller-Skates; and I do hereby declare the following, when taken in connection with accompanying drawings, and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a side view of the wheel; Fig. 2, a face view; Fig. 3, a longitudinal central section; Fig. 4, the hub detached; Fig. 5, the rim detached; Fig. 6, the dies in which the wheel is made; Figs. 7 and 8, modifications of the hub.

This invention relates to an improvement in the manufacture of wheels for roller skates, with special reference to that class of wheels in which the periphery presents a leather or like flexible surface. In the usual method of manufacturing this class of wheels several disks are cut from leather or like material, having a concentric opening through the center, a metal box introduced through the central opening, and a flange applied upon two sides of the wheel to bind the several disks of leather together and secure them to the hub; or in case of a single ring of leather or like material it has been applied and secured in substantially the same manner.

The object of my invention is to produce a wheel having a metallic center, a leather or flexible face, with an intermediate body of non-metallic material; and in such a wheel my invention consists, and as more fully hereinafter described.

The center or hub A of the wheel is made of metal, of a spool-like shape. Centrally through it is a hole, B, through which the axle passes; C, a ring of leather or similar flexible material, in width corresponding to the face of the wheel. This ring is made from a strip of leather, its two ends chamfered and overlapped, as seen in Fig. 5, the lap secured by suitable adhesive material to form the ring complete.

D is the body portion of the wheel, which is made from any suitable composition which, worked in a plastic form, will become hard. The best composition for this purpose is one of the many in which wood sawdust forms the body, and which in a plastic state may be compressed into any desirable shape, and hardened so as to become rigid or inelastic, either by the process of compression in molds or subsequent curing, such compositions being too well known to require particular description; but to indicate a suitable composition for this construction of wheel, take a solution of gum-shellac and mix with it fine wood sawdust until it becomes about the consistency of putty. This composition will readily mold into any form, and under pressure and dried becomes exceedingly hard.

A die is prepared, the interior of which corresponds to the exterior of the wheel to be produced, the die made in two parts, as seen in Fig. 6, the one part E having the cavity. Into this cavity the ring of leather is introduced, and the center or hub also set in position. Then the space between the rim and hub is filled with plastic material. This done the second part F, or follower, is forced into the die to press the plastic material between the hub and the rim. This material under such pressure firmly adheres to the inner surface of the leather rim, and interlocks with the flanges of the hub. The hub may be made cylindrical, and provided with ribs, as seen in Fig. 7, upon which the composition will close, and so as to prevent the rotation of the hub independent of the body of the wheel; or it may be made of irregular or polygonal shape, as seen in Fig. 8. When properly pressed, the wheel is removed from the die, and if the material be of such a nature as to require a curing process, after such pressure, the material is treated in the usual manner for such curing.

The composition center is not affected by the atmosphere, and therefore retains the perfect cylindrical shape which is given to the wheel by the die, thereby overcoming a difficulty experienced in the use of wood wheels, which by shrinking lose their cylindrical shape. The leather periphery is firmly united to the wheel, and presents a desirable surface for skate-wheels, in that it will properly cling to the floor, and avoids the rumbling noise of a wood wheel. The metal hub is more firmly fixed than it is possible to make it in wood wheel. In fact, the wheel complete is as firm and solid and durable as if made in one single piece, the parts being so united as to be substantially integral one with the other.

While I have designed this wheel with spe-

cial reference to roller-skates, it is applicable to other purposes, as furniture-casters, &c.

I am aware that wheels have been constructed presenting a leather surface, and also that an elastic sleeve has been introduced between the material which forms the periphery and body of the wheel, and bearing at the center; but I make no claim to such construction of wheel.

I am aware that wheels have been made with a metal rim and a metal hub, the space between the two filled with a non-metallic material. I do not, therefore, claim such a wheel.

I claim—

The herein-described wheel consisting of the spool-shaped metal center A, the rim C, made from a strip of leather, the two ends chamfered, overlapped, and secured together, the space between the rim and the hub filled with an adhesive plastic composition, which hardens after its introduction to the wheel, and so as to become non-elastic, the said adhesive plastic composition adapted to adhere to the inner surface of the rim C and make a firm union therewith, substantially as described.

ISAAC SMITH.

Witnesses:
JOHN E. EARLE,
JOS. C. EARLE.