G. G. LOBDELL.

CASTING-PULLEYS

No. 191,690. Patented June 5, 1877.

Fig. 1

Fig. 2

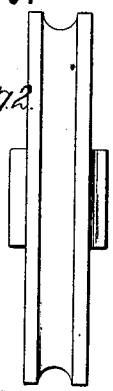


Fig. 3.

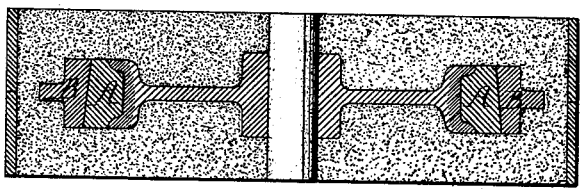


Fig. 4

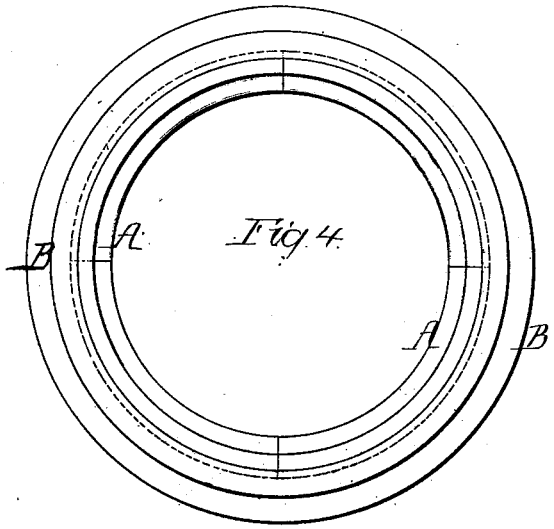


Fig. 9.

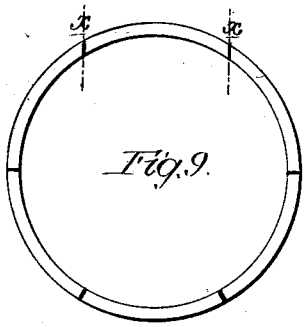


Fig. 5.

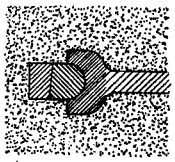


Fig 6.

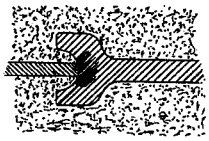


Fig. 7.

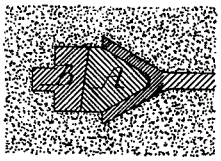
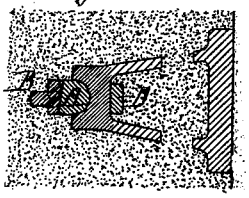


Fig. 8.



Inventor George G. Lobdell.

Witnesses Henry Howson Jr.
Harry Smith

by his Attorneys
Howson and Sons

UNITED STATES PATENT OFFICE.

GEORGE G. LOBDELL, OF WILMINGTON, DELAWARE.

IMPROVEMENT IN CASTING PULLEYS.

Specification forming part of Letters Patent No. **191,690**, dated June 5, 1877; application filed April 21, 1877.

To all whom it may concern:

Be it known that I, GEORGE G. LOBDELL, of Wilmington, Delaware, have invented an Improvement in Molds for Casting Wheels with Chilled Grooves, of which the following is a specification:

My invention consists of improvements, fully described hereinafter, in molds for casting wheels and pulleys with chilled recesses or grooves.

In the accompanying drawing, Figures 1 and 2 represent two specimens of wheels of the class to which my invention relates, Fig. 1 being a double-flanged wheel such as are used for single-rail railroads, and Fig. 2 a grooved wheel, such as is used in rolling tubes, or it may represent a pulley adapted to a rounded rail; Fig. 3, a vertical section of the mold in which the wheel, Fig. 1, is cast; Fig. 4, a plan view of the sectional chill and retaining-ring used in casting the wheel; Fig. 5, a sectional view of part of a mold, showing the arrangement of the chill for a wheel of the class Fig. 2; Fig. 6, a modification of Fig. 5; Fig. 7, a view illustrating the arrangement of the chill for a chain or rope pulley; Fig. 8, part of a hollow wheel, showing the arrangement of inner and outer chills; Fig. 9, a plan view of the inner chill shown in Fig. 8.

The mold, Fig. 3, is prepared from a pattern in the usual manner, and this mold contains an annular chill, A, adapted to the recessed rim of the wheel.

This chill is necessarily made in sections, as shown in Fig. 4, and these sections are confined within a substantial continuous ring, B, placed in the mold. But for this ring the sections of the chill would, under the effect of the hot metal, spring outward and lose their proper segmental form, and would not recover the same. The ring prevents this distortion of the segments.

The ring and chill, where they are fitted together, are made on a taper, as shown, so that, after casting the wheel, there can be no difficulty in removing the said ring, and thereby setting the sectional chill at liberty.

The effect of the chill A will be to render the groove of the wheel hard and durable.

The chilled groove may, if desired, be turned, as described in the reissued Letters Patent, for car-wheels, No. 7,045, April 11, 1876.

In Fig. 5 the chill is adapted to a wheel having a groove of semicircular form—like that of the wheel Fig. 2—this chill being also made in segmental sections, confined by a ring, B.

If the chilling and consequent hardening of the rim has to be restricted to the bottom of the groove, the chill may be comparatively thin, as shown in Fig. 6, the groove in the wheel being formed partly by the sand of the mold and partly by the chill.

In Fig. 7 the invention is applied to the rim of a chain or rope wheel having a deep groove, the sides of which are subjected to great friction. The mode of casting this wheel will be readily understood without explanation.

Fig. 8 shows part of a hollow wheel, in casting which two chills are used—namely, the outer chill composed of sections, confined by a ring, B, and the inner chill D, which is also made in sections, as shown in Fig. 9. One section, at least, of this inner chill must be made with beveled ends, as indicated by the dotted lines *x*, instead of on a radial line, these ends coinciding with similarly beveled ends of the two adjoining sections, so that when the casting contracts the ring may readily yield, the sections being removed with the sand from the interior of the wheel through suitable openings in the side of the same.

I claim as my invention—

1. In a mold for casting wheels with hardened grooves or recesses, the combination of a chill, A, made in segments, with a continuous ring, B, the chill and ring being made on a taper where they are fitted together, all as set forth.

2. The internal chill D made in segments, one or more of which has beveled ends coinciding with similar ends of adjoining sections, as set forth, for the purpose specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GEORGE G. LOBDELL.

Witnesses:

HERMANN MOESSNER,

HARRY SMITH.