H. LOUD.

Sheave or Pulley.

No. 207,535. Patented Aug. 27, 1878

FIG. 1.

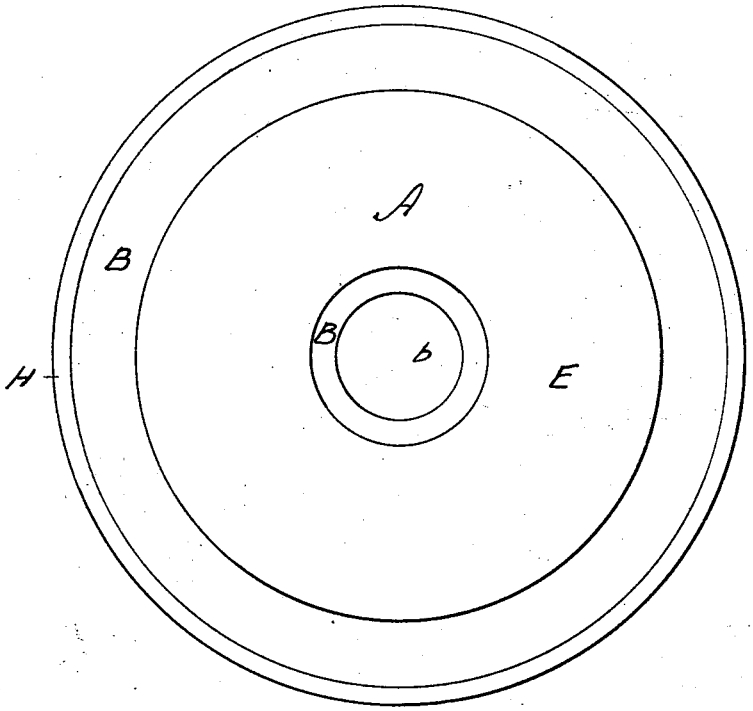


FIG. 2.

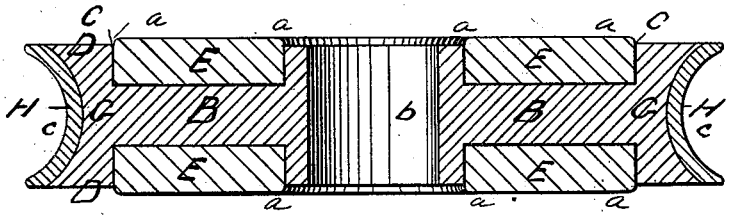
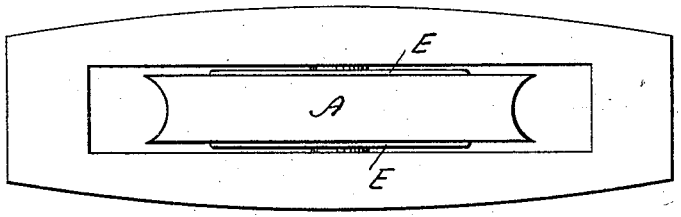


FIG. 3.



WITNESSES.

Geo. H. Earl.

H. Parker Fellows

INVENTOR.

H. Loud

Per Brown Bros

Attorneys

UNITED STATES PATENT OFFICE.

HERBERT LOUD, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN SHEAVES OR PULLEYS.

Specification forming part of Letters Patent No. **207,535**, dated August 27, 1878; application filed July 11, 1878.

To all whom it may concern:

Be it known that I, HERBERT LOUD, of Boston, county of Suffolk, and State of Massachusetts, have invented a certain new and useful Improved Sheave or Pulley, of which the following is a specification:

This improved sheave or pulley is made of metal and wood combined together, substantially as hereinafter described, reference being had to the accompanying plate of drawings, in which—

Figure 1 is a side view, and Fig. 2 a cross-section, of a sheave or pulley constructed according to this invention. Fig. 3 is an edge view of the sheave in its block, on a reduced scale.

In the drawings, A represents my improved sheave or pulley, and B its body, made of cast-iron, with an annular recess, C, in each of its sides D. Into each recess C is tightly driven a corresponding annular block or piece, E, of lignum-vitæ, and each of these wooden blocks is greater in thickness than the depth of its recess C, and to that extent each projects beyond the sides D of the body B, as shown at *a a*.

The metal body B, at its center *b*, is bored to receive the axial pin of the block, and its edge or periphery G is covered with brass H, which brass is cast thereon, and is grooved, as at *c*, for the running of the rope.

A sheave or pulley, made as above described—that is, of a cast-iron metal body with lignum-vitæ blocks let into its sides—combines in itself all the advantages belonging to a sheave or pulley made simply of cast-iron, while at the same time it is lighter than such a sheave; and, again, it combines all the advantages belonging to a sheave made simply of lignum-vitæ, while at the same time it is stronger, stiffer, and more rigid than such a sheave; and, furthermore, by the union of all the advantages of a cast-iron sheave and of a lignum-vitæ sheave in one and the same sheave the disadvantages of each are obviated, and as the lignum-vitæ projects at each side of the sheave the rim of the sheave is kept from contact with the cheeks of the block, which prevents the wear of the cheeks and the sharpening of the edges of the rim, which sharpening, if it occurred, would be apt to cut the rope running on the rim.

It is obvious, of course, that other metals may be substituted for the cast-iron; but cast-iron is preferable, as it is sufficiently durable and yet cheap; and, again, other woods may be substituted for the lignum-vitæ; but lignum-vitæ is preferable for reasons well known and not necessary to recite.

The brass covering H for the periphery of the sheave gives a smoother and better running-surface for the ropes than the cast-iron of itself would, and to that extent it is advantageous to combine it with the cast-iron body, as described; but it may be dispensed with, or other metals substituted for it; and, again, the sheave-body B may be made entirely of brass or of metal that would give a similar running-surface on the sheave for the rope; but as brass and such other metals are expensive compared with cast-iron, and as cheapness in the sheave is desirable, if it can be obtained consistent with other requisites, it is preferable to have the body substantially made of cast-iron, obtaining the other desirable features for the sheave by applying or attaching to such a body such other materials as will secure them—as, for instance, lignum-vitæ and brass, substantially as described.

Obviously the wood and the brass may be attached to the iron body B in other ways than those described, and it is not intended to limit this invention in such regards.

The checking or splitting of the lignum-vitæ, if not wholly, is practically, prevented by its confinement in the sides of the metal body of the sheave, so that no injury will result to the sheave.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A sheave made of metal and having blocks or cheeks of wood inlaid in recesses in its sides, substantially as and for the purpose set forth.

2. A sheave made of metal and of wood,

with the wood projecting at the sides of the metal, substantially as described, for the purpose specified.

3. A sheave made of metal, with an attached metal rim, H, and wooden blocks E, substantially as described, for the purposes set forth.

4. A sheave made of metal, with an attached metal rim, H, and wooden blocks E projecting at each side of the sheave, substantially as described, for the purpose specified.

HERBERT LOUD.

Witnesses:
EDWIN W. BROWN,
ALBERT W. BROWN.