No. 827,922. PATENTED AUG. 7, 1906.

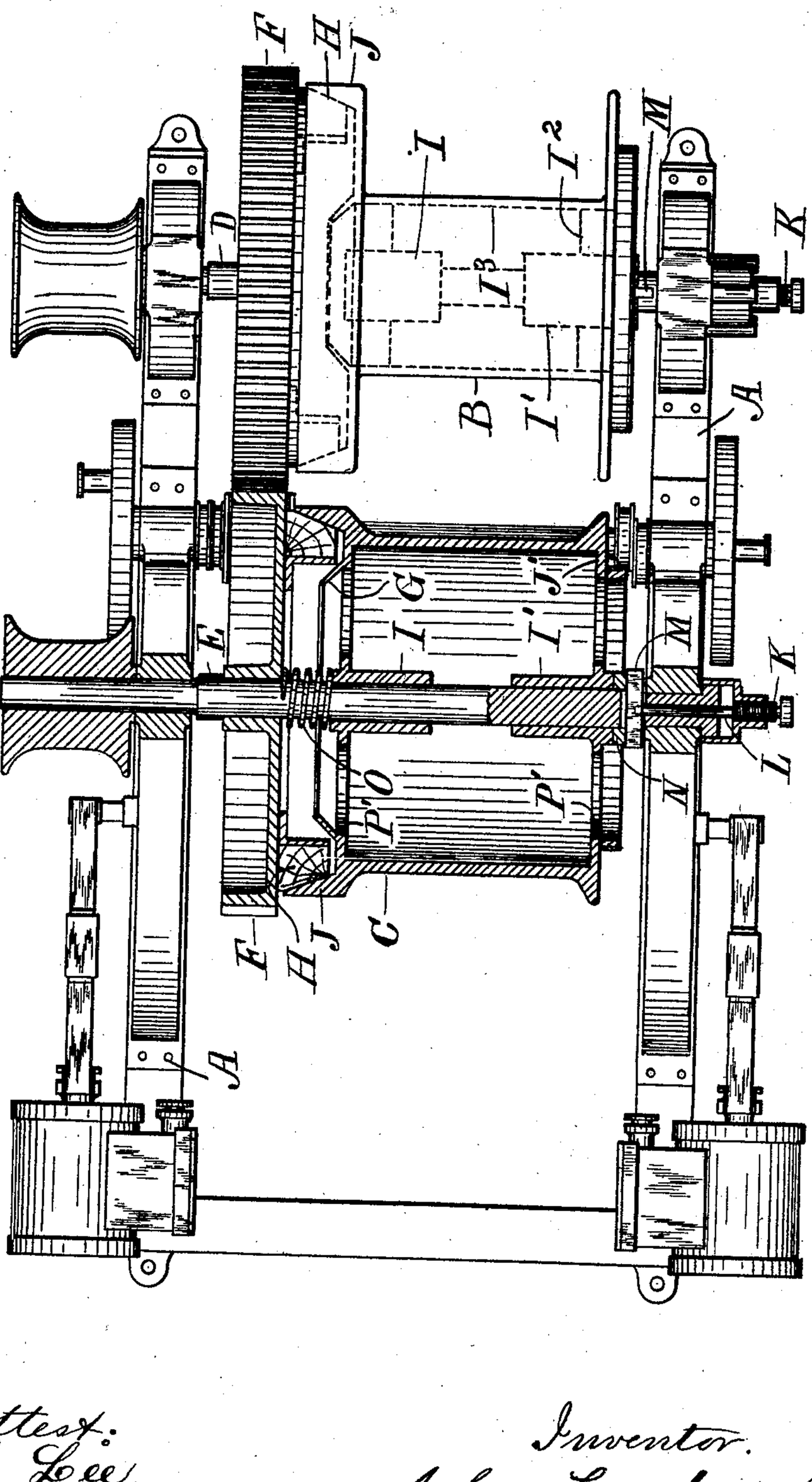
A. LAMBERT.

FRICTION DRUM OIL GUARD.

APPLICATION FILED JULY 26, 1905.

2 SHEETS—SHEET 1.

Fig. 1.

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2 SHEETS—SHEET 2.

*Fig. 2.*

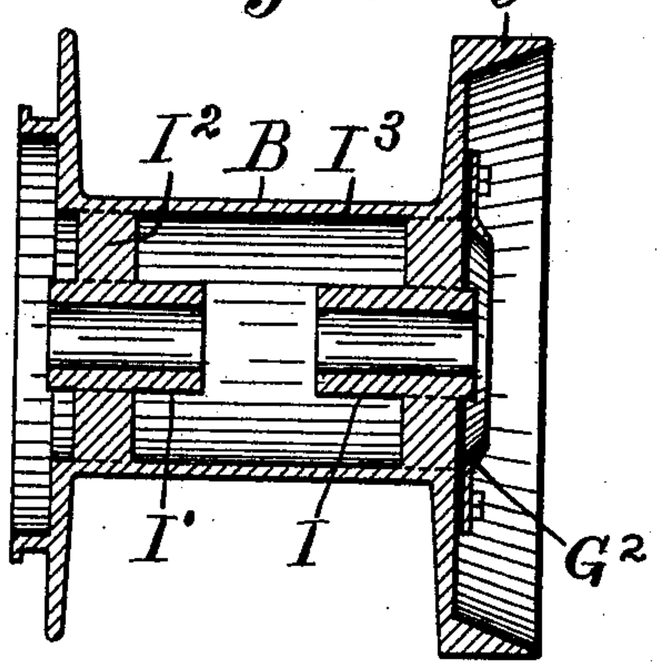
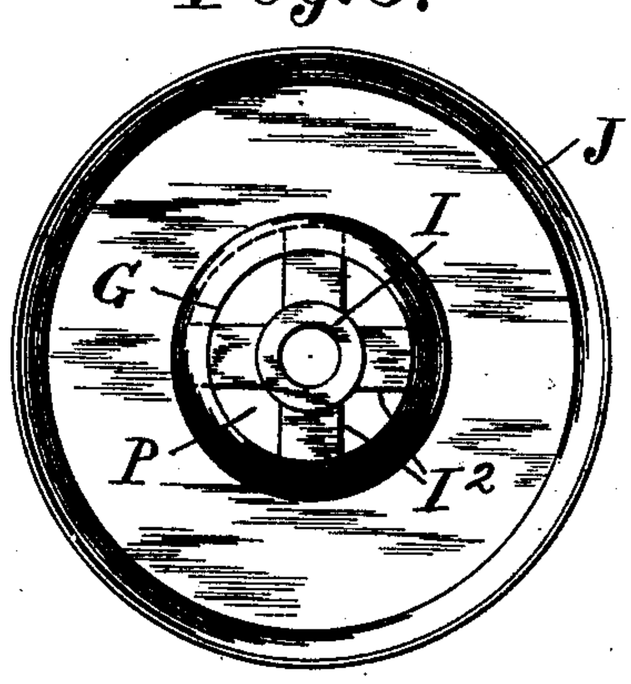



*Fig. 3.*



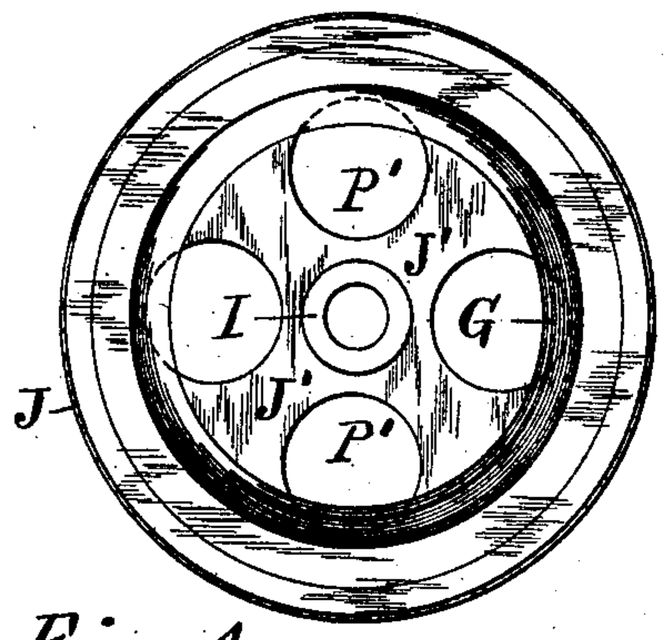




*Fig. 4.*

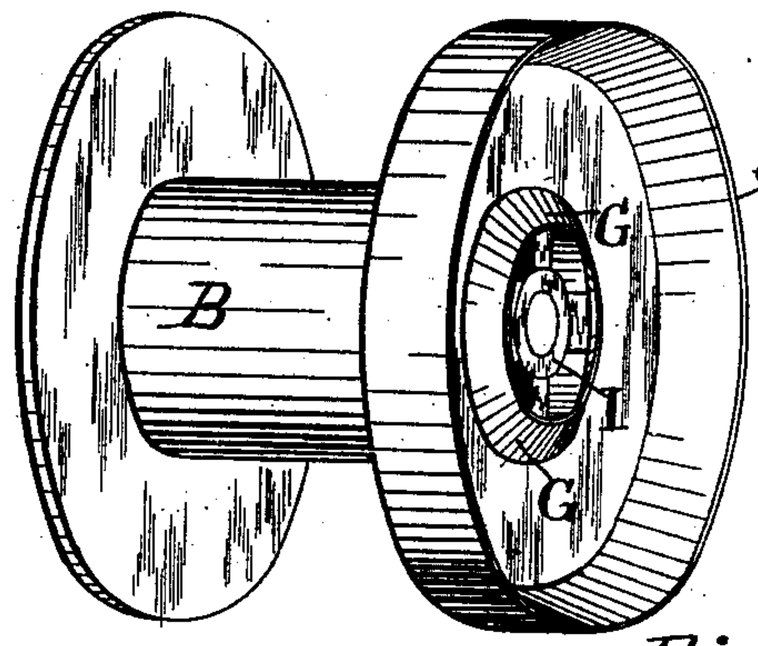



*Fig. 5.*

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# UNITED STATES PATENT OFFICE.

ASHER LAMBERT, OF NEWARK, NEW JERSEY.

## FRICTION-DRUM OIL-GUARD.

No. 827,922. Specification of Letters Patent. Patented Aug. 7, 1906.

Application filed July 26, 1905. Serial No. 271,282.

*To all whom it may concern:*

Be it known that I, ASHER LAMBERT, a citizen of the United States, residing at No. 1 Johnson avenue, Newark, county of Essex, and State of New Jersey, have invented certain new and useful Improvements in Friction-Drum Oil-Guards, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

The present invention relates to the drums and friction-drivers of portable hoisting-machines, in which drums a friction-cone is projected laterally from the head of the drum and an antifriction-driver attached to a gear-wheel is forced into such cone when the drum is required to rotate.

The hub of the drum, which is attached to the head contiguous to the friction-cone, is commonly terminated close to the outer side of the head and is constructed to turn loosely upon the drum-shaft when not clutched to the friction-driver.

The oil required for lubricating the drum when running loosely has heretofore interfered seriously with the continuous working of the drum, as the oil thrown out from the hub by centrifugal force flies directly against the interior of the friction-cone upon the drum-head and causes the drum to slip instead of hoisting the load positively, and such intrusion of the oil has frequently necessitated the removal of the drum from its shaft and the thorough cleaning of the friction-surfaces, as by turpentine, before the hoisting could be resumed. The present invention obviates such interference with the hoister by projecting an annular oil-guard from the drum-head into the space which exists within the annular friction-driver, the oil-guard being attached to the drum-head at the edge of apertures or passages through the head, so that any oil thrown upon the guard from the hub of the drum may be deflected directly and freely into the interior of the drum, where it can cause no interference with the friction-surfaces.

In the annexed drawings, Figure 1 is a plan of a cableway traversing or hoisting engine with the traversing drum C in section at the center line where hatched. Fig. 2 is a longitudinal section like the drum B of Fig. 1 with an oil-guard bolted on the head of the drum. Fig. 3 is an end view of the drum B. Fig. 4 is an end view of the drum C. Fig. 5 is a perspective view of a drum having the oil-guard integral therewith like the drum B in Fig. 1.

A is the frame of the hoisting-engine, B a small drum for hoisting, and C a large drum for the traversing rope. The drums are mounted upon the shafts D and E, having driving gear-wheels F fastened thereon and provided each on the side next the drum-head with a hollow annular conical friction-driver H. Each of the drums is shown with hubs I I′ within its opposite ends fitted to turn upon its shaft and the head next the friction-driver provided with a hollow friction-cone J, which is projected from the side of the drum-head or from a flat plate extended outwardly therefrom.

The cones J and H form a friction-coupler when the drums are pressed together by the usual means, consisting of the screw K, pin L, cross-bar M, and washer N at the outer end of the drum.

A spiral spring O is shown between the driving-wheel and the adjacent drum-hub I to press the friction-surfaces normally apart. The hubs are lubricated to turn upon the shaft when not engaged with the friction-driver.

In the drum B passages P extend from the bore $I^3$ of the drum between arms $I^2$, (shown in Fig. 3,) and in the drum C holes P′ extend from the bore through the head-plate J′ of the drum.

The oil-guard is shown attached to the head of the drum around the passages through the head either by bolting, as in the guard $G^2$ in Fig. 2, or by casting, as in the guard G in Fig. 3, and projects within the hollow of the friction driving-ring H, as shown in Fig. 1, and the guard is inclined inwardly or is of conical shape, and its inner edge projects beyond the outer end of the hub I, so that oil thrown outwardly therefrom may strike the inclined surface of the guard and be deflected directly into the drum through the passages P or P′.

This construction prevents any oil whatever from accumulating within the guard, and thus secures the friction-surfaces perfectly from contamination by the oil.

As the friction-wheel is attached to the shaft and revolves with it, it does not require any lubrication, and oil can only obtain access to the interior of the friction-rings from the drum-bearing I.

A stationary oil-guard has sometimes been arranged around the hub of a fly-wheel to

catch oil discharged therefrom; but the guard in the present case is a different and special construction in which the space within the annular friction-driver H is utilized to permit the projection of a conical oil-guard from the head of the drum adjacent to such friction-driver, and it is such specific construction that I have claimed herein.

I claim my invention as follows:

1. The combination, with the drum-body having a head and hub in the end, with apertures in the head between the hub and body, discharging directly into the drum, and the head having a flat flange projecting outwardly therefrom with a friction-cone projected laterally therefrom, of an annular oil-guard attached to the face of the flat flange and sloped inwardly away from the drum-head with its inner edge projecting beyond the outer end of the hub, whereby any oil thrown from the hub is deflected by the oil-guard directly into the interior of the drum.

2. In a hoister, the combination, with a drum-shaft, of a drum with hollow body, and heads at the ends with hubs to turn upon the drum-shaft, and passages through the heads around such hubs, a friction-cone projected laterally from the head of the drum, a friction-coupler attached to the shaft and fitted to the said friction-cone, and an annular oil-guard attached to the outer side of the drum-head contiguous to the passages and projected inwardly within such friction-coupler, the inner edge of the guard extending beyond the end of the hub, whereby any oil thrown from the hub is deflected by the oil-guard directly into the interior of the drum.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

ASHER LAMBERT.

Witnesses:

E. M. BURDICK,

THOMAS S. CRANE.