(No Model.)

A. J. DAVIS.

FRICTIONAL HOISTING DRUM.

No. 304,300. Patented Sept. 2, 1884.

Fig. 1.

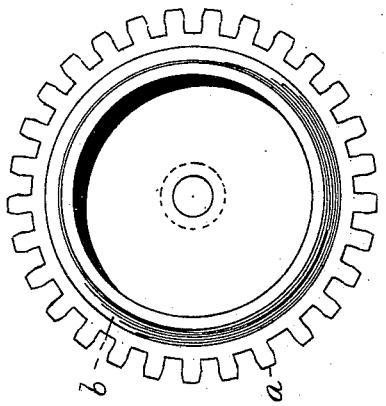


Fig. 2.

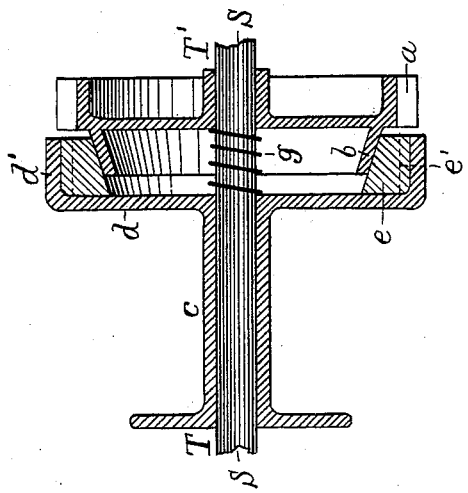
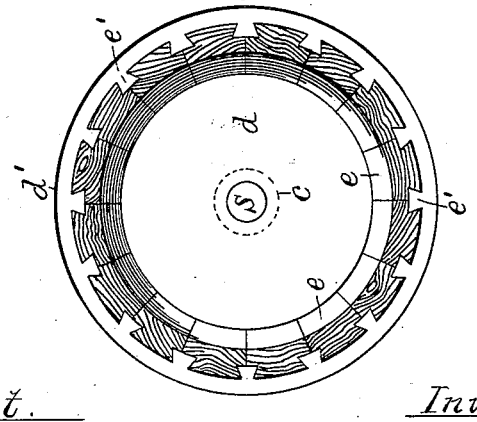


Fig. 3.



Attest.

L. Lee.

H. J. Theberath.

Inventor.

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Thos. S. Crane, Atty.

UNITED STATES PATENT OFFICE.

ALBERT J. DAVIS, OF NEWARK, NEW JERSEY.

FRICTIONAL HOISTING-DRUM.

SPECIFICATION forming part of Letters Patent No. 304,300, dated September 2, 1884.

Application filed July 3, 1884. (No model.)

To all whom it may concern:

Be it known that I, ALBERT J. DAVIS, a citizen of the United States, residing in Newark, Essex county, New Jersey, have invented certain new and useful Improvements in Frictional Hoisting-Drums, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

This invention consists in the combination, with a toothed driving-wheel having a metallic friction-cone attached at one side, of a drum having a ring cast upon one of its end flanges, and wooden blocks secured inside such ring by dovetailed ribs, and turned out internally to fit the metallic cone upon the gear-wheel. This construction is intended to secure certain results not attainable by that patented to me September 23, 1879, as No. 219,922, and in which the wooden friction-blocks were secured inside the rim of the toothed driving-wheel. Such construction was adopted chiefly to economize the longitudinal space occupied upon the drum-shaft by the frictional devices; but it evidently restricted the diameter of the friction-cones by the inner dimensions of the gear-wheel web; and my present invention substitutes for such arrangement one in which the cones may be made of any required diameter, while securing the advantages of the block-holding devices employed in my former patent.

My improvement will be understood by reference to the drawings annexed, in which Figure 1 is a side view of the toothed gear-wheel *a* and metallic cone *b*. Fig. 2 is a longitudinal section of the entire construction, excepting the drum-shaft S and relief-spring *g*. Fig. 3 is an end view of the drum and wooden friction-blocks.

The gear-wheel *a* is provided with a metallic cone, *b*, preferably cast as a hollow shell upon the side of the gear-wheel, and the wooden blocks *e* are secured, by dovetailed ribs *e'*, as in my former invention, inside of a ring, *d'*, which is attached to one end of the drum *c*. Such ring is preferably cast upon the flange *d* at one end of the drum, and the whole construction is therefore produced without any increase in the number of pieces employed in my former invention, while the size of the cones may be determined without restriction by the inner diameter of the gear-wheel web, as in my former construction.

In Fig. 2 the cone *b* is proportioned almost as large as the plate *a'* at the side of the gear-wheel will admit; but where it is desired to make it larger, the plate *a'* may be extended above the teeth of the wheel to any desired extent, and the ring and wooden blocks upon the drum be made of corresponding diameter. The bearings or pillow-blocks for the shaft S would be placed at T and T', outside of the drum and gear, and the latter be pressed together when in action, in the usual way. The space inside the blocks *e* and cone *b*, I utilize for the insertion of a relief-spring, *g*, to separate the iron and wooden cones when not in action, and to thus relieve any rubbing or wear at such time.

I am aware that wooden and metal cones have been used heretofore in hoisting-drums, and do not therefore claim such combination except when constructed as I claim herein.

I am also aware of United States Patent No. 158,967, issued January 19, 1875, to J. S. Munday, for a frictional hoisting-gearing, in which a series of wooden blocks are affixed to the side of the gear-wheel to form a wooden cone, which fits into a hollow iron shell cast upon the drum. I am also aware that the said patent shows a relief-spring located like that in Fig. 2 of my drawings, and I cannot, therefore, claim such spring or its functions as new; but I am also aware, of my own knowledge, that such spring has long been publicly used to perform the same function, in separating the parts of friction driving apparatus, and that no claim can be based upon such a use of said spring.

I am also aware, of my own knowledge, that various combinations of wooden and metallic friction-cones have been in public use with a relief-spring over two years before the date of the said Munday's patent, No. 158,967, and of my former patent, No. 219,922, whereby the scope of each of said patents, as well as of my present application is restricted to the construction shown therein; and I therefore disclaim anything except the construction I have herein specifically set forth, and claim the same in the following manner:

The combination, with the driving gear-wheel *a* and the metallic cone *b*, attached to

its side, of the drum *c*, having at one end the flange *d*, provided with the ring *d'*, and the said ring being constructed with the dovetailed ribs *e'*, and having the blocks *e* secured therein by said ribs, and fitted to the metallic cone *b*, substantially as herein shown and described.

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

ALBERT J. DAVIS.

Witnesses:

THOS. S. CRANE,

C. C. HERRICK.