T. A. COLEMAN.

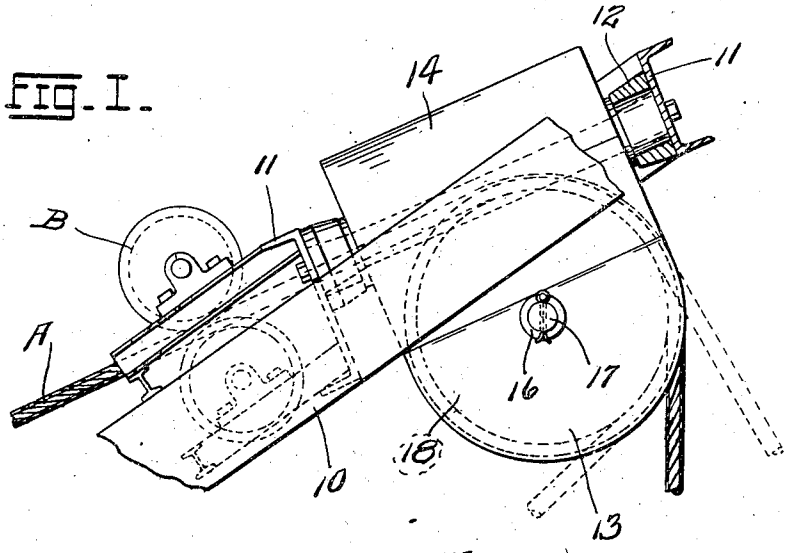
BALANCED SHEAVE.

APPLICATION FILED SEPT. 11, 1919.

**1,351,469.**

Patented Aug. 31, 1920.

FIG. 1.



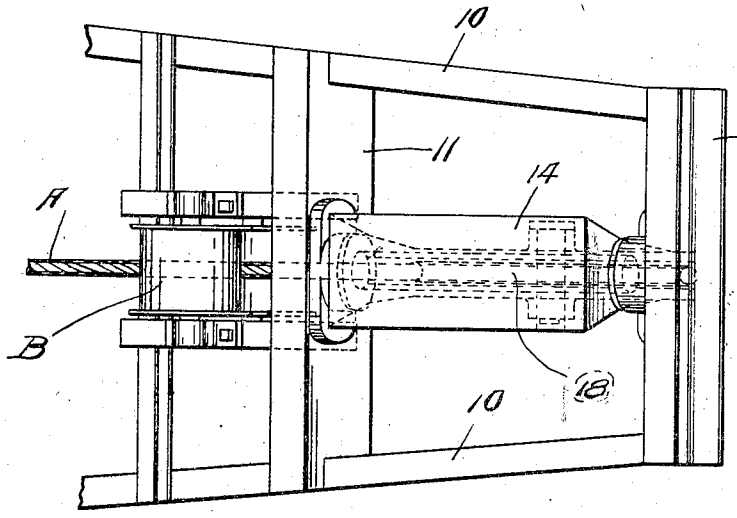




FIG. 2.

FIG. 3.

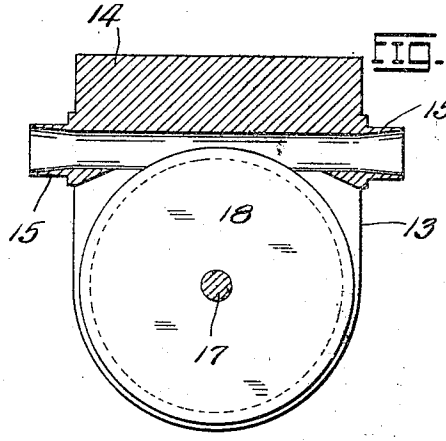
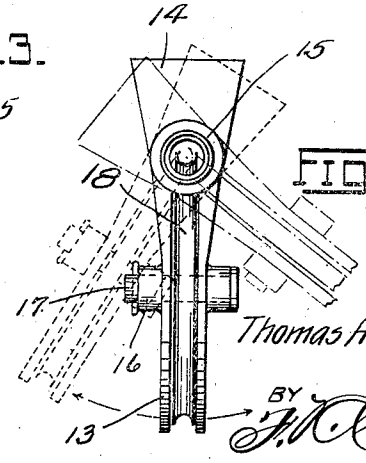



FIG. 4.




INVENTOR.

Thomas A. Coleman

BY

ATTORNEY.

# UNITED STATES PATENT OFFICE.

THOMAS A. COLEMAN, OF BLYTHEVILLE, ARKANSAS.

## BALANCED SHEAVE.

1,351,469. Specification of Letters Patent. Patented Aug. 31, 1920.

Application filed September 11, 1919. Serial No. 323,133.

*To all whom it may concern:*

Be it known that I, THOMAS A. COLEMAN, a citizen of the United States, residing at Blytheville, Arkansas, have invented a certain new and useful Improvement in Balanced Sheaves, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to a sheave or grooved pulley which serves as a support or bearing for a rope or cable, the principal object of my invention being to provide a sheave that is particularly applicable for use on the booms of log skidders and which latter, it will be understood, are utilized for dragging logs from all directions to a central point where they are loaded onto transporting means such as cars.

It will be understood that in operation, the log hauling cable is extended away from the boom of the skidder so as to be connected to logs lying within a radius of several hundred feet from said skidder, and in order that said cable will work to the best advantge, it is essential that the sheave over which said cable travels should be pivotally mounted so as to shift its position or swing toward the direction of pull of the cable, and to this end I propose to mount the sheave in a housing that is provided with alined trunnions and the latter being journaled in suitable bearings on the boom, thus enabling the sheave to swing freely sidewise in both directions.

A further object of my invention is to provide the upper portion of the sheave block or frame with a weight designed to counterbalance the weight of the sheave and the lower portion of the block, thus providing a balanced structure which does not impress any of its weight upon the cable while the same is extended laterally from the boom and is under pulling strains.

With the foregoing and other objects in view, my invention consists in certain novel features of construction and arrangement of parts, hereinafter more fully described and claimed, and illustrated in the accompanying drawings, in which—

Figure 1 is an elevational view partly in section of the outer end of the boom of a log skidder and showing a balanced sheave, of my improved construction in position thereupon.

Fig. 2 is a plan view of the outer end of a log skidding boom and showing my improved sheave in position thereupon.

Fig. 3 is a vertical section taken on a center line through a sheave of my improved construction.

Fig. 4 is an end view of the sheave.

Referring by numerals to the accompanying drawings, 10, 10 designate the side members of a log skidding boom, and 11, 11 a pair of transversely disposed rails or members which are framed to said side members. Formed on or fixed to these transverse members 11 are bearings 12 which are adapted to receive the trunnions on the sheave block or frame and which latter comprises a pair of substantially parallel plates or side members 13, the upper portions of which are connected by a block 14. These side members 13 and block 14 may be formed integral with each other by casting or they may be formed in separate pieces and connected to each other by being welded together or by means of bolts or rivets.

Formed integral with the ends of the block 14 are tubular trunnions 15 which are journaled in the bearings 12, and thus the sheave block or frame is mounted so as to rock or swing laterally while in service.

The side members 13 are provided with centrally arranged bearings 16 which receive a pin or short shaft 17 and carried by the latter is a sheave or grooved pulley 18 of ordinary construction. The diameter of this sheave is such that its peripheral portion travels in a path that is in direct alinement with the openings through the tubular trunnions 15. This sheave receives the usual cable A, which passes through the inner one of the trunnions 15 and through an aperture formed in the inner one of the transverse members 11. This cable is guided by small drums B, the latter being mounted in suitable bearings on the boom adjacent to the inner one of the cross members 11.

A sheave so constructed and mounted has its grooved periphery in direct alinement with that portion of the cable between the outer end of the boom and the winding drum positioned on the body of the skidder and as the sheave carrying block is free to rock

in the bearings 12, said sheave will readily swing from one side to the other to accommodate the pull of the cable under working conditions. By virtue of this arrangement, the wear upon the sheave from the cable during service is minimized.

It will be understood that the weight of block 14 serves to counterbalance the weight of the sheave and the lower portions of the side members 13 of said block, and thus the cable is relieved of all weight of the sheave while in operation and under such conditions, the cable can be readily drawn outwardly away from the boom to be attached to a log.

In the event that the trunnion which is positioned in the inner one of the bearings 12 becomes worn from contact with the cable, the entire sheave can be reversed or turned end for end, thereby bringing the unworn trunnion into position adjacent to the inner one of the transverse members 11.

A balanced sheave of my improved construction is comparatively simple, can be easily and cheaply manufactured, and is very effective in performing its intended functions.

It will be readily understood that minor changes in the size, form and construction of the various parts of my improved balanced sheave can be made and substituted for those herein shown and described, without departing from the spirit of my invention, the scope of which is set forth in the appended claims.

I claim:

1. A balanced sheave comprising a pair of plates, a counterbalancing weight formed integral with and connecting the upper portions of said plates, integrally formed tubular trunnions on the ends of said weight, and a sheave journaled between said plates.

2. A balanced sheave comprising a pair of plates, a counterbalancing weight connecting the upper portions of said plates, tubular trunnions on the ends of said weight, the openings in which tubular trunnions are in direct alinement with each other, and a sheave journaled between said plates.

3. A balanced sheave comprising a counterbalancing weight, a pair of plates spaced apart and depending from said weight, a sheave journaled between said plates, integral tubular trunnions projecting outwardly from the ends of the counterbalanced weight adjacent to the upper outer corners of said plates, the openings in which tubular trunnions are in direct alinement with each other and with the grooved periphery of said sheave.

In testimony whereof I hereunto affix my signature this 8th day of September, 1919.

THOMAS A. COLEMAN.