

No. 686,441.

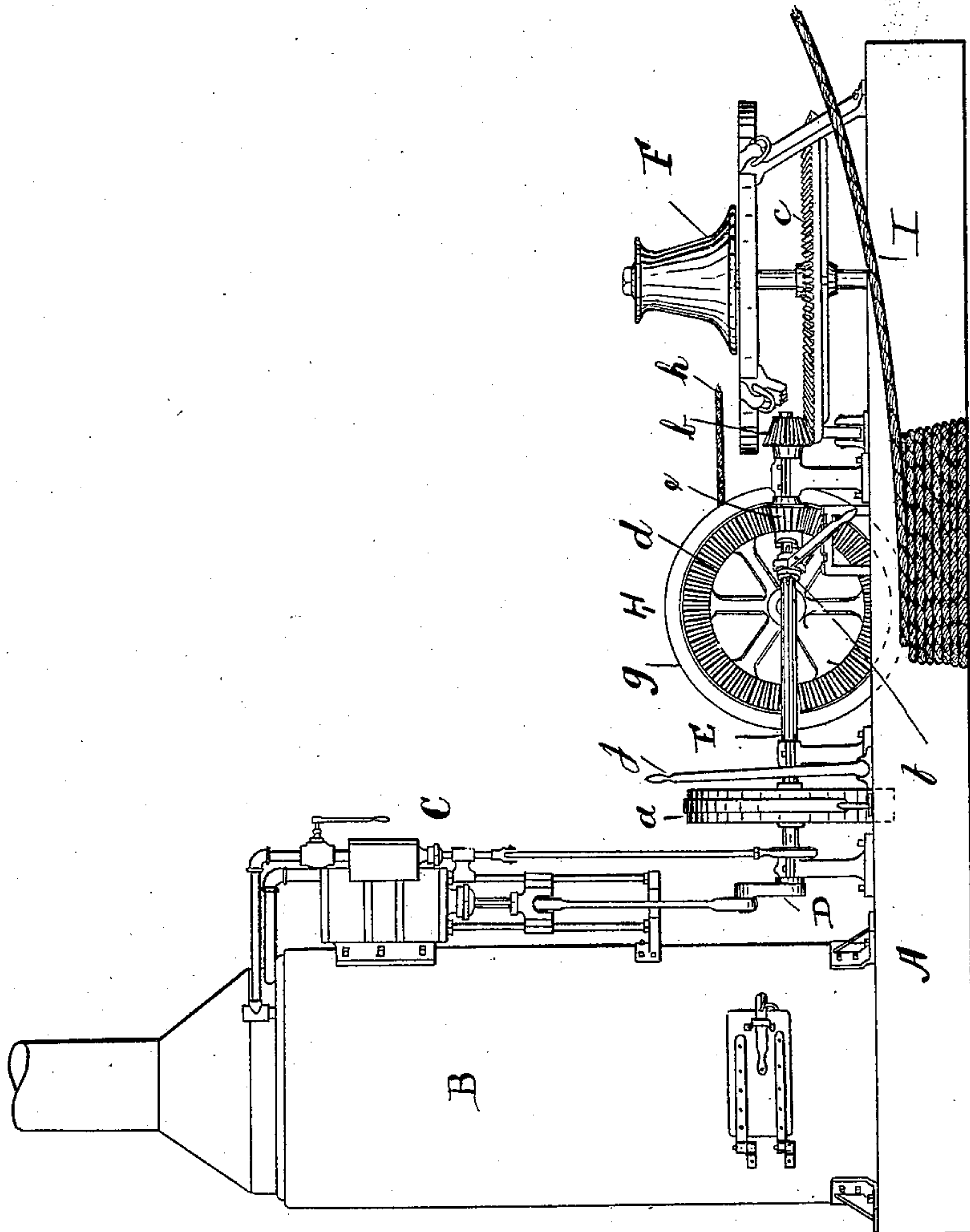
Patented Nov. 12, 1901.

T. G. CANTRELL.
CAPSTAN OR WINDLASS.

(Application filed July 10, 1899.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses

J. D. Haines.

C. Haines.

Fig. 1.

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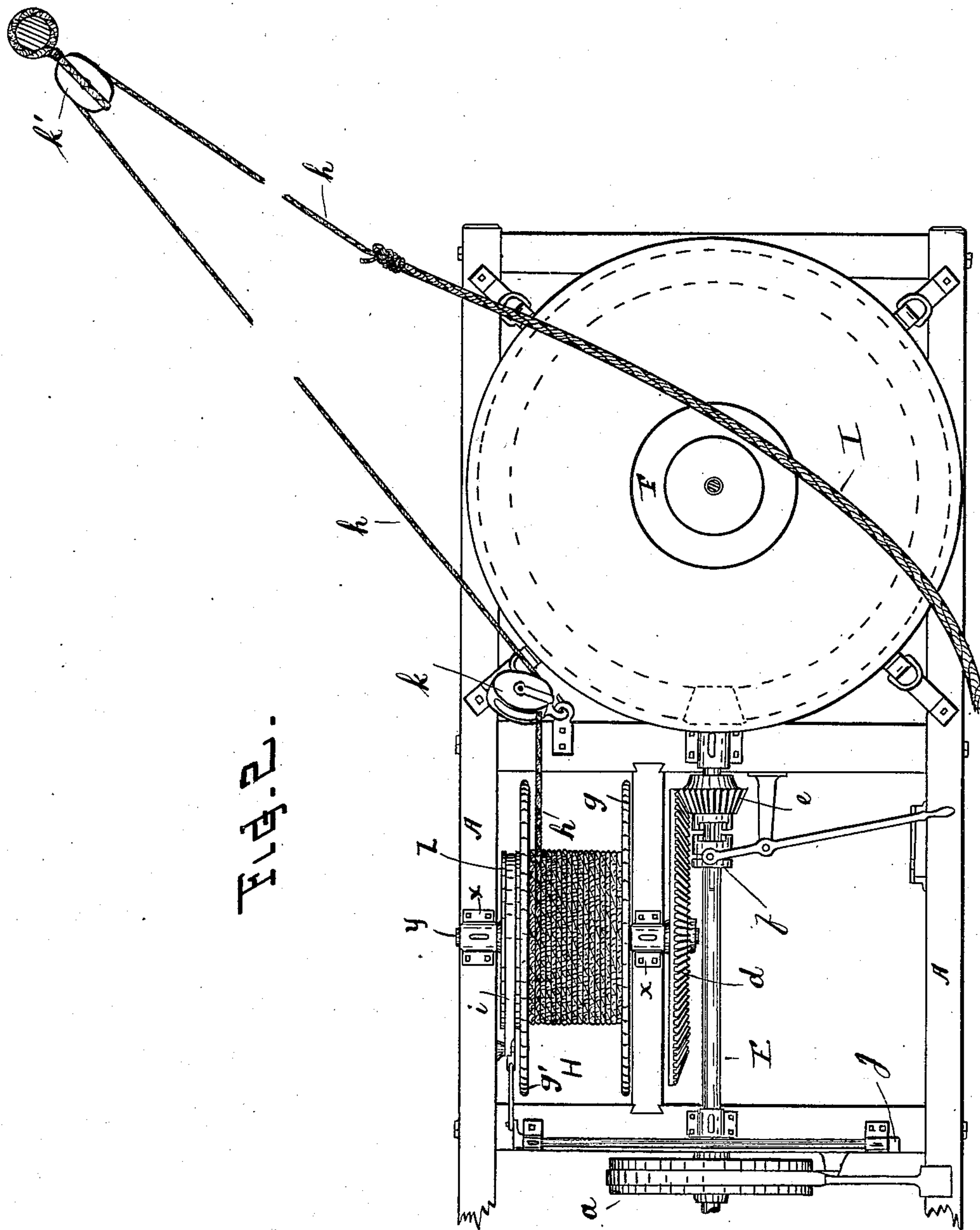
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UNITED STATES PATENT OFFICE.

THOMAS G. CANTRELL, OF SAN FRANCISCO, CALIFORNIA.

CAPSTAN OR WINDLASS.

SPECIFICATION forming part of Letters Patent No. 686,441, dated November 12, 1901.

Application filed July 10, 1899. Serial No. 723,415. (No model.)

To all whom it may concern:

Be it known that I, THOMAS G. CANTRELL, a citizen of the United States, residing in the city and county of San Francisco, State of California, have invented new and useful Improvements in Capstans or Windlasses, applicable to that class of logging-engines which are used for hauling logs or other materials, a cable pulled by a vertical gipsy, more particularly applicable to a logging-engine known as the "Dolbeer" logging-engine, which is protected by Letters Patent of the United States No. 290,755, dated December 25, 1883; and I do hereby declare that the following is a full, clear, and exact description of my invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention is for the purpose of hauling the cable from a logging-engine having a vertical gipsy back to the starting-point by means of a winding-drum mounted horizontally upon the frame or base of the logging-engine and operated through suitable mechanism by the same engine a sheave or snatch-block secured at the extreme point from which it is desired to haul the logs or other materials, and a cable. One end of the cable is secured to the winding-drum and the other end is passed through the sheave at the extreme point and attached to either the back end of the log or to the end of the main cable. When the cable of the logging-engine pulls the logs, it pulls the haul-back after it, and when the log has arrived at its destination the haul-back cable is attached to the end of the main cable, which is then taken off from the gipsy, and upon the drum being set in motion the main cable will be hauled back toward the end sheave or snatch-block to its destination with greater speed than by the means heretofore employed. To transmit motion from the main engine to the winding-drum, any of the main ways which will suggest themselves to the mechanic can be employed. However, I prefer the system which will be fully explained by reference to the accompanying drawings, in which—

Figure 1 represents a side elevation of a Dolbeer logging-engine with vertical drum provided with my improvement. Fig. 2 is a top plan view of the same with a portion

broken away, showing particularly my improvement in position.

Similar letters refer to similar parts throughout both views.

A is a frame or base, upon which are mounted boiler B and engine C, with its crank D connected to the driving-shaft E, provided with suitable brake *a* and pinion *b*, by which the power is transmitted from the engine to bevel-gear *c*, which is keyed to the upright shaft, on the end of which is secured the vertical drum *f*, all of which are parts of a Dolbeer patent logging-engine with vertical drum as constructed and arranged for the purpose of hauling logs or other heavy bodies.

Upon frame A are mounted bearings X X, supporting shaft Y, upon which is keyed winding-drum H, having flanges *g g'*, and brake-wheel Z and bevel-gear *d*, which engages bevel clutch-pinion *e*, loosely mounted upon driving-shaft E, on which is also feathered the clutch *f*.

I is the brake-band on brake-wheel Z, operated by hand-lever *j*.

k is a loosely-held block to guide the haul-back rope *h* upon winding-drum H irrespective of the direction from which it comes.

k is a snatch-block secured to some stationary object, such as a tree or stump, near or beyond the point to where it is desired to bring back the hauling-cable I.

The diameter of bevel-gear *d* of the winding-drum H is much smaller than that of the bevel-gear *c* of the vertical drum F, and the diameter of the winding-drum H is much larger than that of drum F, so that the speed of the haul-back cable *h* is very much greater than it could be if said haul-back cable *h* were pulled by taking a few turns around vertical drum F.

If it should be desired to dispense with gear wheels and pinions, friction devices may be employed without departing from the spirit of my invention.

The operation and usefulness of my invention will be apparent by looking at Fig. 2. When desiring to haul back the logging-cable I, the haul-back cable *h* is passed through guide-block *k* and snatch-block *k'*, the end attached to the end of hauling-cable I, the other end of the haul-back cable *h* being fastened to winding-drum H. Upon the ma-

chinery being set in motion the end of the hauling-cable I will be speedily pulled back to the point desired.

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

1. In combination with an engine, a shaft revolved by the engine, two pinions carried by said shaft, a horizontally-journaleḍ drum or capstan operated by the inner pinion, and a vertically-journaleḍ capstan or drum operated by the outer pinion.

2. In a capstan or windlass, a frame, a shaft journaled therein, a pinion carried upon the outer end of said shaft, another pinion mounted upon the shaft intermediate of its length, a windlass vertically mounted in said frame and connected with the outer pinion of the shaft, and a winding-drum horizontally mounted in the frame and connected to the intermediate pinion.

3. In a capstan, a framework, a shaft mounted in said framework and adapted to be operated by any well-known power, a stationary pinion carried upon the outer end of said shaft, a loosely-mounted pinion mounted upon the shaft intermediate of its length, a clutch

mechanism to make the pinion movable with the shaft, a windlass vertically mounted in said frame and geared with the outer pinion of the shaft, and a winding-drum horizontally mounted in the framework and geared with said loosely-mounted pinion and adapted to be revolved by the shaft when the mechanism is operated.

4. In a machine of this character, a frame, a shaft mounted in said frame, pinions upon said shaft, intermediate of its length and upon its outer end, a horizontal shaft mounted in the frame, a gear-wheel and a drum mounted upon said shaft, said gear-wheel meshing with the outer pinion, a vertical shaft mounted in the frame, a winding-drum or capstan carried by said vertical shaft, and a gear mounted on said vertical shaft and meshing with the pinion intermediate of the shaft.

In testimony whereof I have affixed my signature, in presence of two witnesses, this 27th day of June, A. D. 1899.

THOMAS G. CANTRELL.

In presence of—

H. J. CAMPBELL,
L. C. MARSHUTZ.