

1,042,150.

Fig. 1.

Fig. 2.

Fig. 3.

Witnesses:

W. Pauberschmidt

H. F. Strohm

Inventor

Albert Scheible

By G. H. Cragg

W. Paulschmitt
H. F. Strohm

By *H. K. Cragg* *Atty*

UNITED STATES PATENT OFFICE.

ALBERT SCHEIBLE, OF CHICAGO, ILLINOIS.

SUPPORTING MECHANISM.

1,042,150.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ALBERT SCHEIBLE, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Supporting Mechanism, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to supporting mechanisms, and finds useful embodiments in those supporting mechanisms that are employed out of doors (for example, to support lamps), though the invention is not to be limited to its adaptation.

My invention has for its objects the elimination of some of the objectionable features that have hitherto existed in supporting mechanisms including in their formation sheaves or pulleys and housings for such sheaves or pulleys.

In the devices of the prior art, the ropes used therewith had enlargements for the purpose of engagement with the housings to enable the housings to support the lamps, the housings having adjacent openings in their front portions through which the enlargements were adapted to leave and enter the housings upon suitable manipulation of the ropes, the housings, in order to permit of the entry and exit of said rope enlargements, necessarily swinging through wide arcs, thereby necessitating the presence of long openings in the housings through which the ropes passed from the sheaves to suitable anchoring devices, these long openings in the housings permitting of the entry of snow and sleet, which would interfere with the proper operation of the mechanisms within the housings. By means of my invention, these openings may be very materially shortened, inasmuch as the swinging movement of the housing is, by means of the invention, reduced to a minimum, this result being occasioned by providing openings at the front and rear of each housing through which the rope enlargement might pass in entering and leaving such housing.

In devices of the class described, as hitherto constructed, the rope enlargements were caused to strike abutments while moving upwardly, to limit the upward movement of the ropes in entering the housings, these abutments being located directly across the path of the rising enlargements,

so that unless extreme care were taken, these enlargements would have violent contact with said abutments, whereby the ropes would be jarred and the lamp or other structures carried by the ropes would be shaken out of adjustment.

In accordance with another feature of my invention, I eliminate the abutment and substitute therefor a guard formation, preferably in the form of a rib or ribs, having glancing engagement with the rope enlargement, so that the upward movement of said rope enlargement would be gradually checked by the action of friction, which is preferably increased as the rope enlargement continues its ascent.

I will explain my invention in its various aspects by reference to the accompanying drawing, showing the preferred embodiment thereof, in which—

Figure 1 is a side elevation of a structure made in accordance with the invention, one-half of the housing, which is made in two separately cast parts, in the preferred embodiment of the invention, being only shown. Fig. 2 is a front view of the structure shown in Fig. 1. Fig. 3 is a rear view of the structure shown in Fig. 1.

Like parts are indicated by similar characters of reference throughout the different figures.

Any suitable form of supporting element may be employed for carrying the housing *a*, the supporting element illustrated being a clamp *b*, through which a span wire *c* is passed, as is well understood by those familiar with the art. The clamp *b* acts as a pivotal support for the housing *a*, in accordance with the preferred embodiment of the invention, so as to enable said housing to swing when the flexible supporting member or rope *e* is manipulated in order that the load-supporting end thereof may be caused to rise or descend, as, for example, for the purpose of trimming an arc lamp, if such be the load that is carried by the rope. The rope passes through an opening *f* in the upper portion of the housing, which opening, by means of my invention, may be very short, for reasons which will hereinafter be specifically stated, the rope passing over a sheave *g* located within the housing *a* and terminating, in the embodiment of the invention illustrated, at a suitable hook structure *h* which need not be specifically described, the hook structure *h*

serving as the device by which the lamp or other load may be separably attached to the rope. The rope is provided with an enlargement *i*, which is desirably in the form of a bulging ring which is preferably an integral part of an elongated sleeve or tube *k*, of which the catch *h* is preferably an integral extension. The rope *e* passes through the bore of the ring *i* and the tubular structure *k* and is attached to the tubular structure *k* at *l* by a clamping device which is familiar to those skilled in the art, and therefore needs no further description.

The enlargement *i* upon the rope or flexible supporting member *e* is of such a formation that it may be supported by the housing *a*, to which end said housing is provided with a hook formation *m*, each half of the housing desirably having a similar hook formation, which are correspondingly arranged so as jointly to be adapted to engage with the enlargement *i* so as to enable the housing *a* to support the lower end of the rope *e* and the load attached at *h* to the rope. The enlargement *i* is adapted to enter into the housing *a* through an opening *n* in the front of the housing, said enlargement *i* engaging the housing as it rises, so as to swing the housing upon its pivot, the arrangement being such that when the enlargement *i* clears the hook structure *m* in rising (the hook structure being preferably the portion of the housing which is engaged by the enlargement *i* in order to swing the housing) the housing is adapted for a return swinging movement, in order that the hook structure *m* may occupy a position to receive the enlargement *i* when the rope *e* is slackened to permit a descent of the load-carrying end thereof, there being a channel way extending directly downward from the front opening through which said enlargement may be passed directly downward from the front opening to the means for engaging the enlargement.

In case the upward pull upon the rope *e* should be continued beyond the point where the enlargement *i* separates from the hook formation *m*, I do not cause said enlargement *i* to strike a rigid abutment, as was hitherto the practice, but I substitute for such abutment, a guard formation *o*, preferably in the form of two ribs, one upon each half of the housing, against which the enlargement *i* is adapted to have frictional engagement, the upward movement of the enlargement *i* being limited by its glancing frictional engagement with the guard formation *o*, the friction increasing until the ordinary pull upon the rope will be insufficient to counter-act it, the angle between the portion of the cable or rope carrying the enlargement and the guard formation *o* progressively increasing as the upward movement of the enlargement proceeds, the ma-

nipulator then surely knowing that the load-carrying end of the rope has been elevated sufficiently in order that it may be supported by the housing, the engagement of the enlargement *i* being brought about with the housing when the rope *e* is slackened. The elements *m* and *o* are desirably integrally formed with the housing, as illustrated in the drawing.

When it is desired to lower the loaded end of the rope *e*, said rope is again pulled, but inasmuch as the housing has returned from the position to which it was swung by the engagement of the enlargement *i* with the hook *m* during the upward movement of the enlargement *i* hitherto described, a passage is afforded for the enlargement *i* when the rope *e* is pulled for the purpose of ultimately lowering the loaded end of the rope, the enlargement *i* following a channel in its second upward movement which is formed by the guard formation *o* and a second guard formation *p* that is preferably comprised of ribs that are parallel to the ribs *m* and *o*, it being the formation *p*, however, which actively coöperates with the enlargement *i* in the second upward movement of said enlargement, in which engagement the housing *a* is again swung in the same direction as hitherto until the enlargement *i* clears the formation *p*, whereupon the housing may have a return swinging movement, whereafter the rope *e* may be slackened to permit the enlargement *i* to pass out of the opening *q* at the rear of the housing. A supplemental guard formation *r* may be provided, if desired, to limit the extent to which the enlargement *i* may be raised above the formation *p*.

It will be seen by an inspection of the drawing, that the swinging movements given to the housing *a* are very small, so that the opening *f* may have a minimum length for the purpose of guarding against the entrance of snow and sleet into the housing.

Another feature of my invention resides in the tubular construction *k*, which sufficiently covers the rope portion intervening between the enlargement *i* and the hook *h* to relieve this portion of the rope of that wear to which it was hitherto subject, by reason of the engagement of this portion of the rope with the rib formations in the housings.

While I have herein shown and particularly described the preferred embodiment of my invention, I do not wish to be limited to the precise construction shown, as changes may readily be made without departing from the spirit of my invention.

Having thus described my invention, I claim as new and desire to secure by Letters Patent the following:—

A supporting mechanism including a

sheave; a flexible supporting member passing over the sheave and provided with an enlargement; a housing carrying the sheave and provided with entrance and exit openings for the enlargement; a seat within the housing for supporting the enlargement independently of the flexible supporting member; and substantially parallel ribs within the housing including an outer rib positioned to guide the enlargement to the entrance to the housing, a second rib facing said entrance opening and positioned to have frictional engagement with said enlargement as said enlargement moves up-

wardly gradually to stop the said enlargement upon continuing pull upon the flexible supporting member, and a third rib positioned to guide the said enlargement to the exit opening after it has been stopped by frictional engagement with the second rib and lowered to the seat. 15 20

In witness whereof, I hereunto subscribe my name this 3d day of March A. D., 1909.

ALBERT SCHEIBLE.

Witnesses:

L. C. STROH,
G. L. CRAGG.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
