

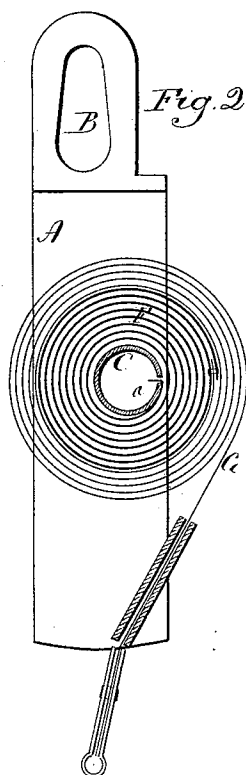
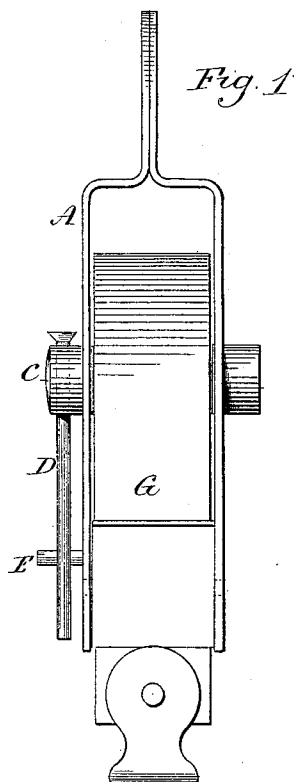
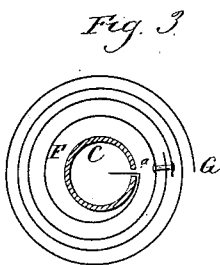
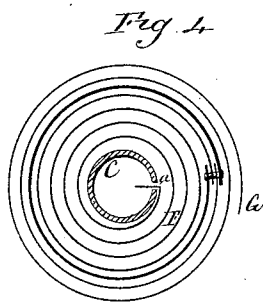
(No Model.)

E. L. BRYANT & E. E. TRUMPBOUR.

SUSPENSION DEVICE FOR LAMPS.

No. 390,837.

Patented Oct. 9, 1888.



Witnesses.
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UNITED STATES PATENT OFFICE.

EDSON L. BRYANT AND EGBERT E. TRUMBOUR, OF ANSONIA, CONNECTICUT,
ASSIGNORS OF ONE-HALF TO WALLACE & SONS, OF SAME PLACE.

SUSPENSION DEVICE FOR LAMPS.

SPECIFICATION forming part of Letters Patent No. 390,837, dated October 9, 1888.

Application filed March 26, 1888. Serial No. 268,528. (No model.)

To all whom it may concern:

Be it known that we, EDSON L. BRYANT and EGBERT E. TRUMBOUR, of Ansonia, in the county of New Haven and State of Connecticut, have invented a new Improvement in Suspension Devices for Lamps, &c.; and we do hereby declare the following, when taken in connection with accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a side view of the suspension device complete; Fig. 2, a vertical central section at right angles to the axis; Fig. 3, a detached view showing the drum as made integral with the spring; Fig. 4, a detached view showing the drum as made by an extension riveted or secured to the outer end of the spring.

This invention relates to an improvement in that class of suspension devices for lamps and like purposes which consists of a coiled spring arranged upon an axis supported in a frame, with a band or other device connected thereto, so that as the said band carrying the thing suspended is drawn downward the spring is wound, and then the reaction of the spring will raise or aid in raising the thing suspended and rewind the band or chain.

In the more general construction of this class of lifting devices a drum is hung upon an axis in the frame, within which a flat or ribbon spring is coiled, one end being fixed to the axis, the axis fixed in the frame, the other end of the spring fixed to the drum, and the band or chain is attached to the outer surface of the drum, so as to be wound thereon or drawn therefrom, as the case may be. The construction of a drum to be supported upon and so as to revolve on the axis and contain the spring is one of the principal elements of cost in the manufacture of such suspension devices.

The object of our invention is to provide a drum which shall contain the spring and upon which the band, or whatever it may be, may be wound, as in the usual construction, but yet so simplify the construction of the drum that it becomes an immaterial part of the cost of manufacture, and also to produce an axle for the spring of cheap construction and to which the inner end of the spring may be easily at-

tached; and it consists in an extension of the outer end of the spring to form a full convolution, the extreme outer end secured to said convolution, so as to form a cylinder surrounding the spring, as more fully hereinafter described.

A represents the frame which carries the spring, and which is constructed with a loop, B, or other suitable device by which the frame may be suspended. Transversely across the frame is the axle C, prevented from rotation by an arm, D, extending from the axle against a projection, E, on the frame, or it may be held by any of the devices usually employed for this purpose.

F represents the spring, which is a flat ribbon of steel or other suitable metal, and such as usually employed in lifting devices. This spring is coiled also in the usual manner. The outer end of the spring is riveted to the first convolution of the spring, as seen in Fig. 3, so that this outer convolution forms a cylinder or drum surrounding the other convolutions which are within the drum. The drum therefore becomes a part of the spring. The inner end of the spring is secured to the axle, so as to remain stationary within the axle, while the drum is free to revolve around the axle; but the drum has no positive axis, as in the usual construction, where the drum is provided with heads and made separate from the spring, but, on the contrary, the drum thus formed as a part of the spring is supported by the spring alone.

The connection with the lifting device, which is here represented as a band, G, is attached to the drum, and this is best done by introducing the end of the band between the outer end of the spring and the next convolution, as represented in Fig. 3, so that the one securing device not only forms the drum, but secures the band, chain, or whatever it may be to the periphery of the drum. By this construction the drum is composed of an integral part of the spring, employing only the outer convolution of the spring in so doing, and therefore its cost in the manufacture is only the securing of the outer end of the spring to the outer convolution.

While we prefer to employ the outer convolution of the spring to form the drum, the drum

may be formed of a separate piece bent into cylindrical shape, so as to bring its two ends to overlap, and then the outer end of the spring introduced between the two ends of this surrounding cylinder and there secured; but it
5 will be observed that this forms substantially the same drum as if the drum were made integral with the spring. In either case there is an extension of the outer end of the spring
10 for a full convolution and the outer end of the extension is secured to the said outer convolution to form the surrounding cylinder or drum. Therefore, while it may be as an integral part of the spring, the drum itself is not
15 a part of the spring so far as the elasticity is concerned.

We claim—

In a suspension device substantially such as described, the combination of the frame, a stationary axle with a spring coiled about the
20 said axle, the inner end secured to the axle, and a drum surrounding the spring, made by an extension from the outer end of the spring, forming a full convolution, the outer end of
25 said extension secured to the said convolution, so as to form a cylinder surrounding the spring within it, substantially as described.

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