

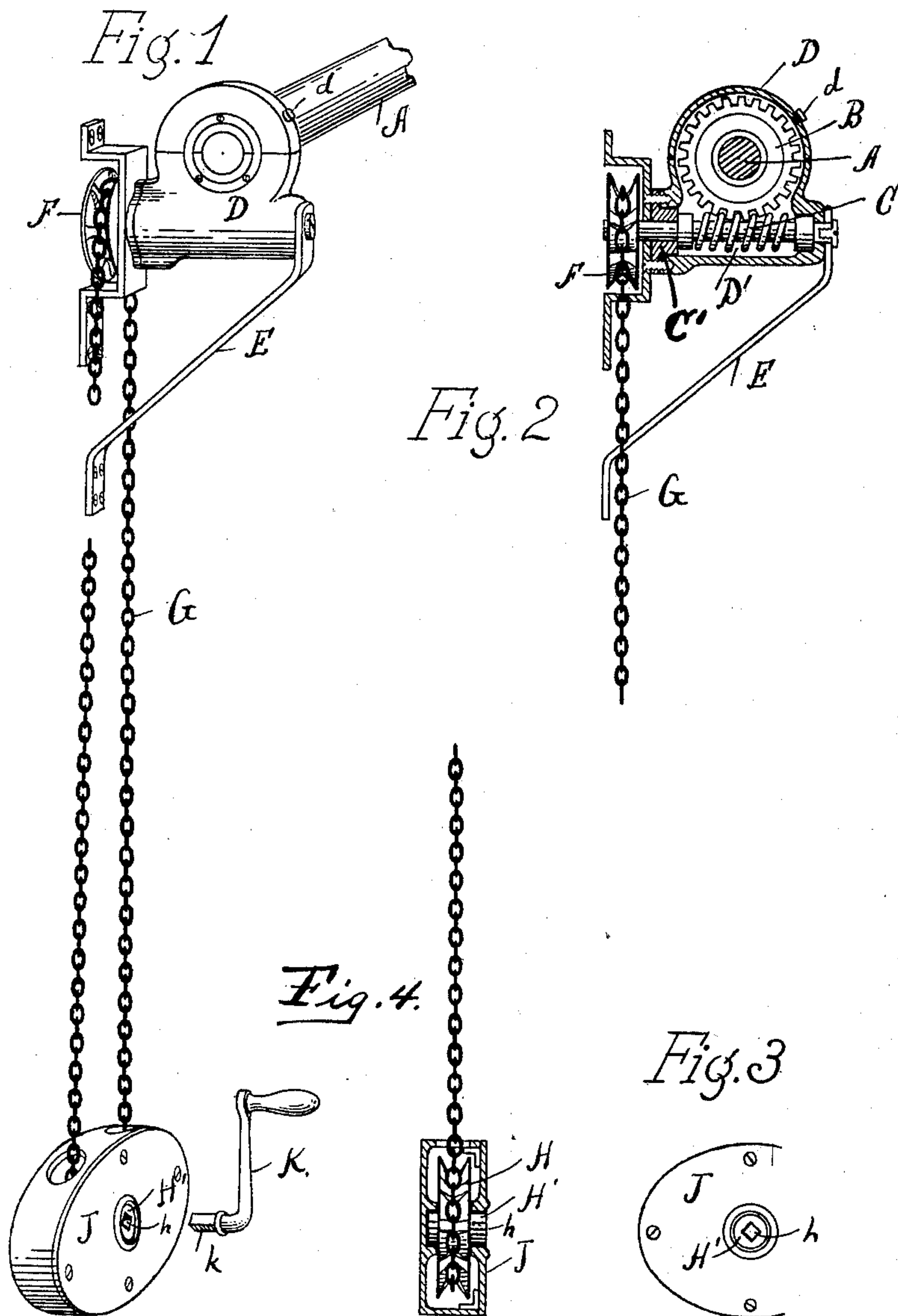
No. 756,454.

PATENTED APR. 5, 1904.

W. ASTRUP.
AWNING.

APPLICATION FILED AUG. 2, 1902.

NO MODEL.



WITNESSES:
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UNITED STATES PATENT OFFICE.

WILLIAM ASTRUP, OF CLEVELAND, OHIO.

AWNING.

SPECIFICATION forming part of Letters Patent No. 756,454, dated April 5, 1904.

Application filed August 2, 1902. Serial No. 118,065. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM ASTRUP, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Awnings; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

My invention relates to awnings, or more particularly to the manner or mechanism for lowering and raising the same.

The object of my invention is to provide mechanism for raising and lowering awnings which is self-locking and one which is easy to manipulate or operate, also a mechanism which can be utilized for raising and lowering awnings of considerable length, necessitating only the employment of one person.

A further object of this invention is to provide a mechanism by means of which the awning is uniformly rolled and one in which the awning may be adjusted and locked at any predetermined elevation.

My invention consists in providing a roller upon which the awning may be wound at one or both ends with a worm-wheel properly mounted and housed and a worm which engages the worm-wheel with means for manipulating the worm.

My invention further consists in the construction and assemblage of parts whereby the best results are attained, all of which will be hereinafter fully set forth and claimed.

In the drawings, Figure 1 is a view in perspective, illustrating my preferred construction and arrangement as applied to an awning. In this figure a portion only of the awning-roller is shown and the communicating chain is broken away to bring into view certain structural features. This view also illustrates a detachable handle arrangement which I prefer to employ when the awning-manipulating connection is located near the ground. Fig. 2 is a view in cross-section, taken through the worm-gearing mechanism, illustrating the same as I prefer to use it. Fig. 3 is a view in front elevation of a portion of the front plate of a lower sprocket-wheel casing. Fig. 4 illustrates a

vertical sectional view taken through the lower casing illustrated in Fig. 1.

A represents a roller to which the upper end of the awning is secured and around which the awning may be rolled. This roller may be formed of any suitable material and has attached at one end a worm-gear B, the said worm-gear being so attached to the roller as to revolve with it. This worm-gear B is engaged by a worm C, which meshes with it and when revolved turns the said worm-gear and with the worm-gear the roller A. By the foregoing construction it will be seen that as the worm C is revolved in one direction or the other the worm-gear B is also revolved and with it the roller A, thus winding or unwinding the awning any desired or suitable length. The awning may be sustained upon a frame which is so constructed as to adjust itself to position as the awning is raised or lowered. It will also be seen that regardless of the raising or lowering of the awning it will always be locked at any point and cannot be raised or lowered except through the worm C. This feature not only makes it possible for a single person to manipulate or raise and lower the awning, but also prevents any accident through the sudden release or falling of the awning, eliminating entirely both danger to pedestrians or others and damage to the awning, its frame, or mechanism.

In order to provide a suitable construction for housing and lubricating the worm-gear mechanism and sustaining the same in position, I employ a housing D, which entirely incloses the worm-gear mechanism and forms a bearing for this end of the roller A. This casing is provided at its lower portion with outward-projecting cylindrical extensions, through which the ends of the worm C extend. I provide one of these extensions with a removable plug C', through the medium of which the worm can be readily removed from the housing. This housing is secured to the building by suitable brackets or other attaching means and may be supported at its outer end by means of a bracket-bar E. For the purpose of lubricating the worm-gear I form the housing with an oil-well D', within which the worm C revolves and is mounted at the ends,

and for the purpose of supplying lubricants to this oil-well D', I prefer to provide an orifice in the upper portion of the housing at its front side which is closed by means of a small screw *d*. This oil-well D' when partially filled with lubricant keeps the parts lubricated for a long time, making them easy to operate and noiseless.

As is illustrated in Figs. 1 and 2, the worm C
 10 may be operated through a sprocket-wheel F, secured to one end of said worm, the said sprocket-wheel being engaged by a chain G and being in turn manipulated to a sprocket-wheel H in a housing J. This housing J may
 15 be located beneath, to one side, or above the awning, according to conveniences or structural features of the building. I prefer to provide the shaft H' of the sprocket-wheel H with a polygonal orifice *h*, into which is re-
 20 movably inserted the polygonal end *h* of a crank K, thus allowing the crank to be removed, which prevents interference with the mechanism by mischievous or unauthorized persons. However, instead of the employ-
 25 ment of a sprocket-wheel F and chain G other means may be employed and can be employed for manipulating the worm-gearing, and the same may consist of any mechanical intermediate mechanism secured in a convenient po-
 30 sition or desirable position above, beneath, or to one side of the worm-gear mechanism, and I do not wish to limit my invention to the motion-communicating power or mechanism nor the location thereof. Also in regard to
 35 the position of the worm C in its relation to the worm-gear B, I would state that the same may be horizontal, vertical, or inclined, as found desirable or necessary, providing that it acts in conjunction with the worm-wheel B
 40 for the purpose and in the manner set forth.

By my invention as above set forth it will be seen that strength, safety, and economy are all attained both in construction and in operation.

What I claim is—

1. The combination with the casing formed with a pair of extensions, a plug fitted in one of said extensions, and the awning-roller, of a worm-gear secured to said roller, a worm meshing with said gear and having its ends
 50 extending through said plug and the other extension, a supporting means engaging the projecting ends of said worm, and means for operating said worm.

2. The combination with the housing pro-
 55 vided at its lower end with oppositely-arranged cylindrical extensions, of a removable plug secured in the outer end of one of the said extensions, a worm arranged in the said housing, said worm having its ends projecting
 60 through the said housing, an awning-roller having one of its ends journaled in the said housing above the said worm, a worm-gear secured to the said awning-roller and meshing with the said worm, brackets in which the
 65 ends of the said worm are journaled, a sprocket-wheel mounted on one end of the said worm, and means for rotating the said sprocket-wheel.

3. The combination with the casing formed with an opening, and the bracket formed with an opening alining therewith, of a roller, a worm-gear mounted thereon and being arranged in said casing, a worm arranged in
 70 said casing and meshing with said gear and having one end projecting through the opening thereof, and through said bracket, a wheel arranged in said bracket on the end of said
 75 worm, and means connected to said wheel for operating the same.

Signed at Cleveland, in the county of Cuyahoga and State of Ohio, this 22d day of July, 1902.

WILLIAM ASTRUP.

Witnesses:

W. E. DONNELLY,
 W. E. ASTRUP.