

No. 619,864.

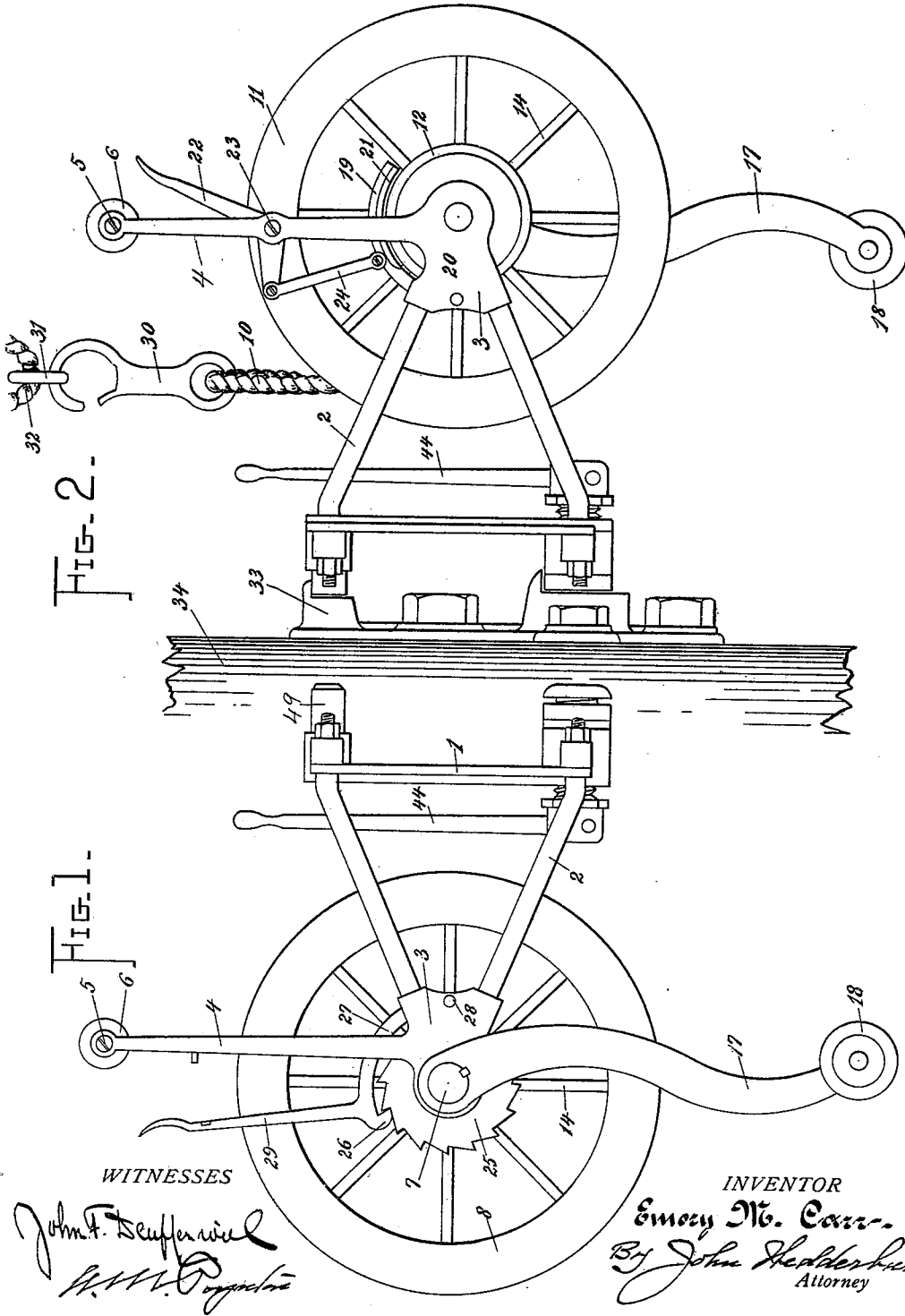
Patented Feb. 21, 1899.

E. M. CARR.
WINDLASS.

(Application filed Jan. 13, 1897. Renewed Oct. 1, 1898.)

(No Model.)

3 Sheets—Sheet 1.



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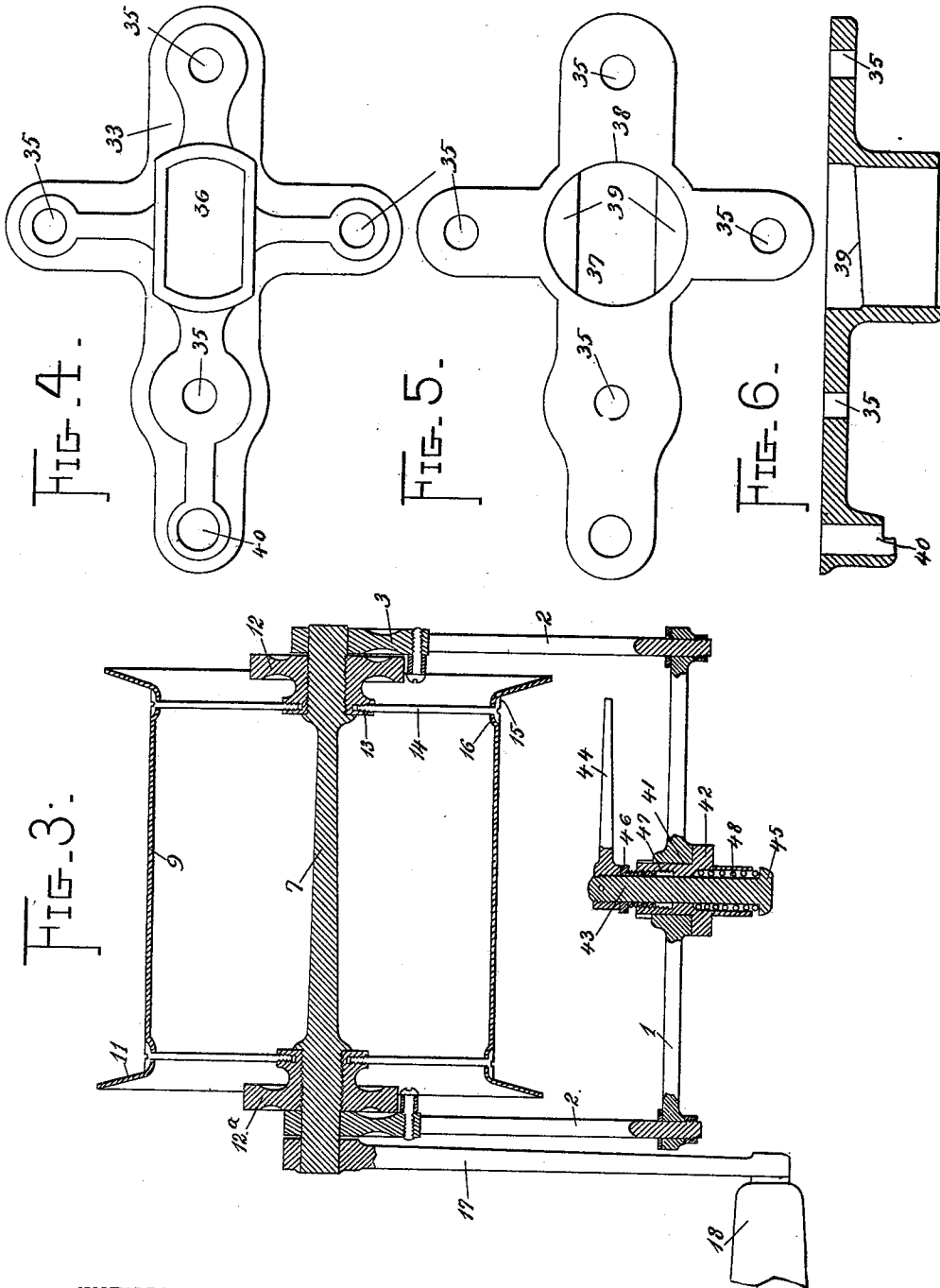
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3 Sheets—Sheet 2.



WITNESSES

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3 Sheets—Sheet 3.

Fig. 7.

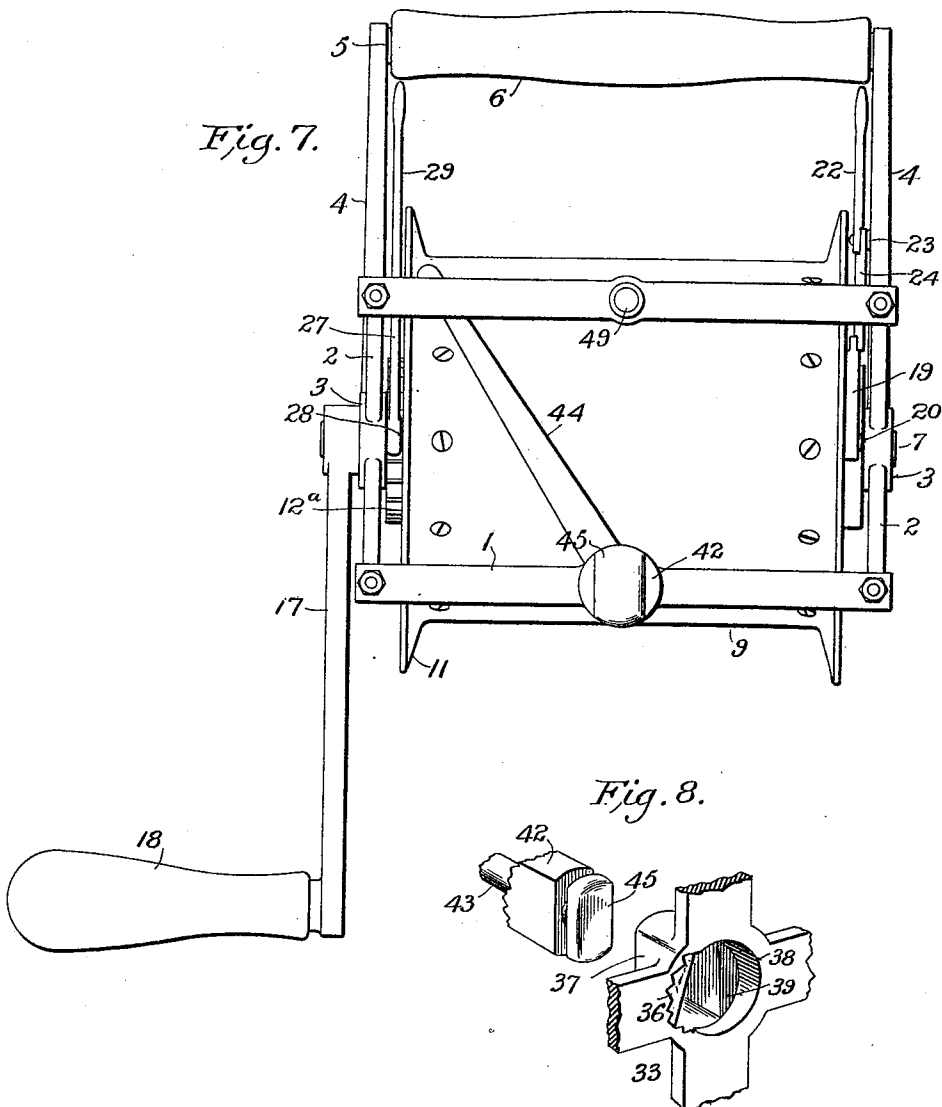
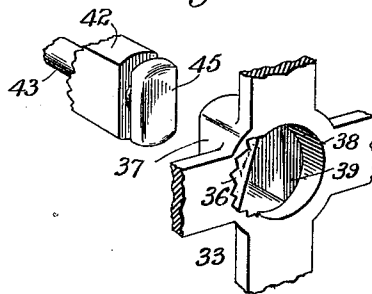


Fig. 8.



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UNITED STATES PATENT OFFICE.

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WINDLASS.

SPECIFICATION forming part of Letters Patent No. 619,864, dated February 21, 1899.

Application filed January 13, 1897. Renewed October 1, 1898. Serial No. 692,444. (No model.)

To all whom it may concern:

Be it known that I, EMORY M. CARR, a citizen of the United States, residing at New Castle, in the county of Henry and State of Indiana, have invented certain new and useful Improvements in Windlasses; 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 appertains to make and use the same.

This invention relates to windlasses, and has for its object to provide a windlass especially adapted for the raising and lowering of electric lamps, the same windlass being adapted to be detachably connected to the pole from which the lamp is suspended.

The improved windlass is intended to be carried by the lineman or lamp-trimmer and to be connected to the various poles along the line successively, each pole being for this purpose provided with a socket for the reception of the frame of the windlass.

The detailed objects and advantages of the invention will appear in the course of the subjoined description.

The invention consists in certain novel features and details of construction, as hereinafter fully described, illustrated in the drawings, and incorporated in the claims.

In the accompanying drawings, Figure 1 is a side elevation of the improved windlass detached and ready for transportation. Fig. 2 is a similar view taken from the opposite side and showing the windlass connected to the socket of a pole. Fig. 3 is a horizontal section through the windlass. Fig. 4 is a front elevation of the socket which is attached to a pole. Fig. 5 is a rear elevation of said socket. Fig. 6 is a vertical sectional view of the socket. Fig. 7 is a rear elevation of the windlass. Fig. 8 is a detail view showing the rectangular head and reversely-inclined shoulders which act thereon.

Similar numerals of reference designate corresponding parts in the several figures of the drawings.

Referring to the drawings, 1 designates the base-plate of the windlass-frame, to each side of which are rigidly connected the divergent ends of a pair of arms 2, said arms extending

outwardly therefrom and being connected to a siamese coupling 3, provided with an upwardly-projecting arm 4. The arms 4 at each side of the windlass-frame are connected at their upper ends by a rod 5, surrounded by a sleeve or handle 6, forming a grip by means of which the windlass may be carried from place to place.

7 designates the windlass-shaft, which is journaled at its opposite ends in the couplings 3 and upon which is rigidly mounted the windlass 8, comprising a drum 9, upon which the rope 10 of the windlass is wound, said drum being provided at its opposite ends with circumferential flanges 11 for confining the windlass-rope thereon. At the ends of the shaft 7 are wheels 12 and 12^a, the same being preferably threaded thereon, as shown, and provided with threaded sockets 13, in which are secured the inner ends of a series of spokes 14, which connect at their outer ends to the drum 9, being provided at such outer ends with tapering heads 15, which fit into recesses 16 in the periphery of the drum. At one end the shaft 7 is provided with a crank 17, fast thereon and having a handle 18, by means of which the crank may be turned for rotating the windlass and winding or unwinding the windlass-rope for raising and lowering the lamp.

The wheel 12 at one end of the shaft 7 constitutes a friction or brake wheel adapted to receive the application of a brake-shoe 19, of segmental form, pivotally connected at one end to the coupling 3, as indicated at 20, and lined, as to its working surface, with a piece of leather or other suitable material 21. The brake-shoe is operated by means of a hand-lever 22, of elbow-form, fulcrumed at 23 on the adjacent arm 4, said lever being connected with the brake-shoe 19 by means of an interposed pivot-link 24. By vibrating the lever 22 in the proper direction the brake-shoe 19 may be thrown into frictional engagement with the wheel 12 for regulating the rapidity with which the lamp may be lowered. The wheel 12^a at the opposite side of the shaft 7 is provided on its periphery with ratchet-teeth 25, adapted to be engaged by a lip 26 of a pawl or detent 27, pivoted at 28 to the coup-

ling 3 at that side of the windlass and extended to form a handle or lever 29, by which the pawl may be thrown out of engagement with the ratchet-wheel. The pawl is so arranged that it will normally gravitate into engagement with the ratchet-disk, so as to prevent the windlass from unwinding in the event of the operator's hands slipping off the actuating-crank, which would otherwise result in the demolition of the lamp. The windlass-rope 10 is provided at its extremity with a hook 30, adapted to engage with a ring 31 on the lower end of the lamp-rope, (shown at 32.)

33 designates socket-pieces, one of which is secured to each pole 34. This socket-piece is of cruciform shape and provided with a series of openings 35 for lag-screws or other fasteners by means of which the socket is secured to the pole. At the intersection of the crossed arms of the socket the latter is provided with an opening 36, the front end of which is substantially rectangular, as indicated at 37, and the rear portion of which is substantially circular, as indicated at 38. By making the opening 36 in this form oppositely-located segmental shoulders 39 are provided, and the rear surfaces of said shoulders are reversely inclined, as shown in Fig. 6, for a purpose that will hereinafter fully appear. The socket is also provided at its upper end with an opening 40 for the reception of the end of a brace on the windlass-frame.

The base-plate 1 of the windlass-frame is provided about centrally and adjacent to its lower edge with an opening 41, in which is fitted a thimble 42, forming a bearing for a rock-shaft 43, actuated by means of a handle 44, fast on the inner end of said rock-shaft. At the opposite end of the rock-shaft the latter is provided with a suitable rectangular head 45, which is adapted to pass through the portion 37 of the opening 36 in the socket, after which, by turning the handle 44, the head 45 is caused to rotate behind and in engagement with the shoulders 39, which being reversely inclined cause the head 45 to frictionally engage therewith and bind thereon, thus forming a tight connection between the windlass-frame and the socket on the pole.

46 designates a bushing which is screwed into a threaded socket 47 in the inner end of the thimble 42 and which is thereby made adjustable, so that the bushing 46 may be moved inward or outward with relation to the thimble and caused to bear against the hub portion of the handle 44 for enabling the head 45 to be brought to bear with the required pressure against the shoulders 39 of the socket. The outer end of the thimble 42 is recessed to admit a spiral spring 48, said spring surrounding the rock-shaft 43 and exerting its tension against the head 45 thereof, so as to maintain said head at the proper distance from the thimble 42 for enabling the shoulders 39 to pass between the head 45 and the thimble 42.

The base-plate 1 is also provided about centrally and adjacent to its upper edge with a block or stud 49, which enters the opening 40 in the upper end of the socket 33, thus forming a second bearing for the windlass-frame with relation to the socket and serving to brace the windlass-frame and take the upward strain thereon produced by the weight of the lamp while the same is being raised or lowered.

By means of the construction above described it will be seen that by means of the engaging portions, consisting of the head 45 and stud 49, the windlass may be quickly and easily connected to any electric-light pole provided with one of the sockets described and that it may be as readily detached therefrom and carried to successive poles, thus enabling one windlass to perform the work of many. The device is a great labor-saver and enables the lamp to be quickly raised or lowered, while the windlass-rope is always in proper position for use and wound on the drum. The device also renders unnecessary long ropes, which are now in use and which are necessary to enable the lamp to be lowered and also saves the hands of the lamp-tender from injury, as it is unnecessary to handle a rope covered with ice and snow, &c. The device is also safe in use, as the windlass cannot unwind and allow the lamp to drop to the ground on account of the pawl or detent 27. The windlass is also very simple and light in its construction and may therefore be easily carried from pole to pole without inconvenience.

Having thus described the invention, what is claimed as new, and desired to be secured by Letters Patent, is—

1. The combination with a socket adapted to be secured to a suitable support, of a windlass provided with engaging portions spaced apart and adapted to be connected detachably with said socket, substantially as described.

2. A socket, provided with an opening and having oppositely-located shoulders within said opening, in combination with a windlass having a rotatable head adapted to engage said shoulders, a handle for turning said head, and a spring bearing against said head, substantially as and for the purpose described.

3. A socket comprising spaced shoulders, in combination with a windlass, a rock-shaft on said windlass, a head at one end of said shaft for engaging the shoulders of the socket, a handle on said shaft for turning it, a thimble in which said shaft has its bearing, and a bushing adjustably fitted in said thimble and surrounding said shaft, the said parts being combined and arranged substantially as and for the purpose described.

4. The combination with a windlass-shaft provided at or near its opposite ends with wheels having inwardly-extending hubs

formed with threaded sockets as described, of
a drum surrounding said shaft and provided
in its periphery with recesses, and a plurality
of spokes having tapering heads fitted flush
5 in said recesses, the said spokes having their
inner ends threaded to engage said sockets,
substantially as described.

In testimony whereof I have signed this
specification in the presence of two subscrib-
ing witnesses.

EMORY M. CARR.

Witnesses:

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F. L. WAYMAN.