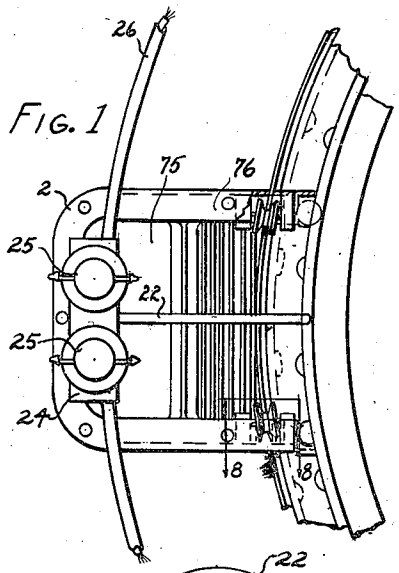
Aug. 6, 1946. C. K. LAMB 2,405,259

WORK CARRIAGE

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FIG. 1



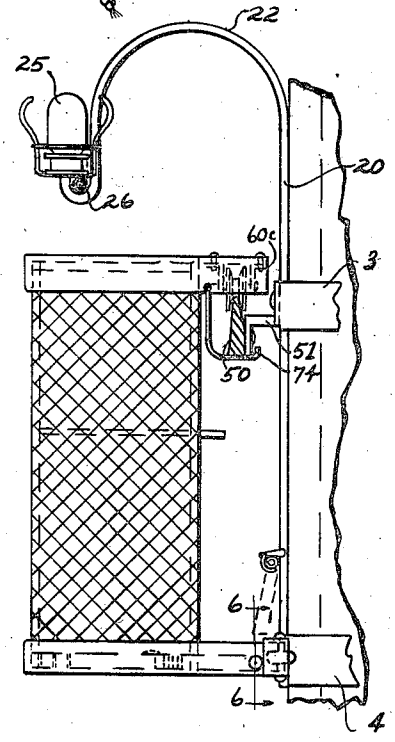


FIG. 2

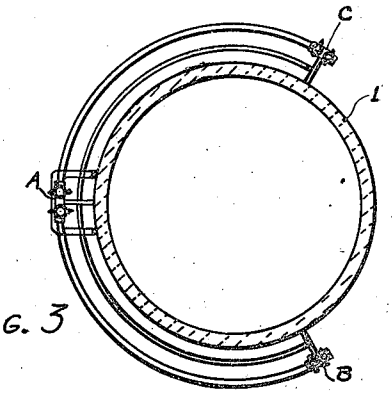


FIG. 3

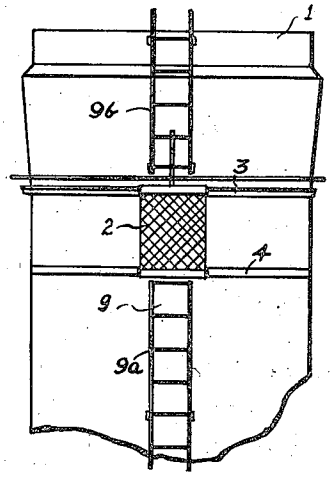


FIG. 4

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WORK CARRIAGE

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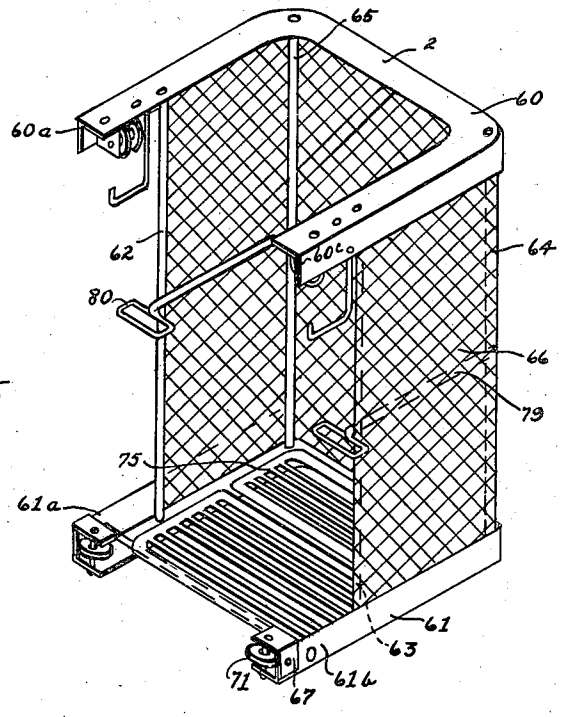


FIG. 5

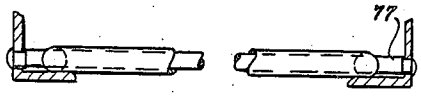


FIG. 6

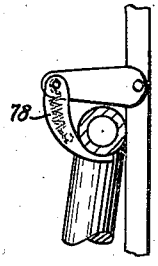


FIG. 7

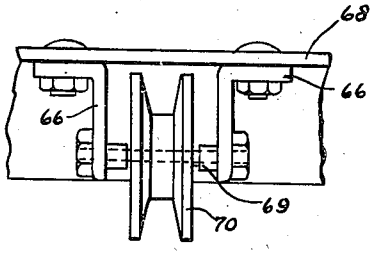


FIG. 8

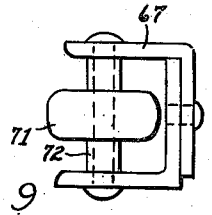


FIG. 9

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Patented Aug. 6, 1946

2,405,259

UNITED STATES PATENT OFFICE

2,405,259

WORK CARRIAGE

Clyde K. Lamb, Cleveland, Ohio, assignor, by direct and mesne assignments, to Airways Lighting Corporation, Cleveland, Ohio, a corporation of Ohio

Application February 22, 1945, Serial No. 579,291

8 Claims. (Cl. 304—13)

1

My invention relates to structures adapted for conveying workmen about a circular work object. It involves particularly the provision of a carriage for carrying workmen circumferentially about chimneys or stacks.

An object of my invention is to provide an improved carriage of the type mentioned which will be adapted to carry workmen circumferentially about such chimneys or stacks at a substantial height above the ground whereby the workmen may be enabled to repair the work structure or service equipment carried thereby.

Obstruction lighting devices visible from both the ground and from the air, useful in warning approaching aircraft of the presence of such obstruction as the stack or chimney structures, may be certain of such equipment.

An example of such obstruction lighting device is that shown in my co-pending application for United States Letters Patent, Serial No. 579,292, filed February 22, 1945, and I contemplate the use of my present invention in connection with the structures therein shown, described and claimed.

Another object of my invention is to provide an improved carriage of the type described which will combine a carriage for the workmen to enable them to work at different positions about the chimney or the stack, circumferentially thereof, and will also provide a secure staging from which they may work.

Another object of my invention is to provide an improved carriage for conveying workmen about the circular work which will combine a means for conveying the workmen about the work with a guard for such workmen while engaged in their work.

Another object of my invention is to provide an improved carriage adapted to be securely affixed to the circular work object and to be locked thereto when the device is not in operative use.

Other objects of my invention and the invention itself will become more apparent by reference to the following description of embodiments of my invention and to the drawings thereof, in which drawings:

Fig. 1 is a top plan view, partially in section, of the improved carriage of my invention as applied to a circular stack carrying obstruction lighting;

Fig. 2 is a side elevational view of the embodiment of Fig. 1;

Fig. 3 is an elevational view of the circular stack and of the obstruction lighting structure and the improved carriage of my invention;

Fig. 4 is a side plan view of the circular stack of

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Fig. 3 showing the carriage in its locked position adjacent the chimney;

Fig. 5 is a perspective view of the improved carriage of my invention;

Fig. 6 is a view taken from the line 6—6 of Fig. 2;

Fig. 7 is an enlarged view of the catch of Fig. 2;

Fig. 8 is an enlarged view taken from the line 8—8 of Fig. 1; and

Fig. 9 is an enlarged view taken from the line 9—9 of Fig. 2.

Referring now to the drawings, in all of which like parts are designated by like reference characters, at 1 I indicate the stack or chimney structure to which the improved carriage 2 of my invention is secured, as later described, and about which it is movable.

At A, B and C, I indicate the obstruction lighting structures of my aforementioned co-pending application which may or may not be disposed at spaced positions about the stack. It is to be understood that the provision of such lighting equipment is optional and for the purposes of the present application, the improved carriage of my invention is shown in connection with such equipment although other equipment might be substituted therefor or the carriage used for other purposes, as repairing the stack or chimney.

Both the lighting structure and the carriage are secured to the cylindrical work structure by means of circular bands 3 and 4 adapted to be telescoped about the entire circumference of the stack or chimney.

Each of the metallic bands 3 and 4 are preferably composed of a plurality of similar metal bands secured together by couplings which are bolted together to tightly secure the bands to the chimney or stack structure and to secure the light-carrying devices A, B and C thereto.

The obstruction lighting devices, as are more fully described, set forth and claimed in my co-pending application to which I have referred, preferably are three in number and are disposed at spaced intervals about the stack or chimney structure. Each device A, B and C, respectively, comprises a staff or stem portion 20, a curved overhead loop portion 22 and a rectangular cross piece 24, said cross piece carrying a pair of lamps 25—25 adapted to be disposed outwardly from the stack or chimney and functioning as described in the said application to warn approaching aircraft of the obstruction to which they are secured.

An air conduit and electrical cable are provided to furnish electricity to the lamps and air to clean the same.

The improved carriage of my present invention is adapted to pass about the chimney or stack circumferentially thereof beneath the curved overhead portion 22 and the lamps of each of the obstruction lighting devices A, B and C, and to carry workmen about the chimney to service and repair such lighting devices as well as to perform other services upon the chimney or stack, as may be required.

A ladder 9 preferably formed in two sections 9A and 9B and permanently affixed to the chimney is disposed vertically of the stack or chimney, the first section thereof terminating, as is best shown in Fig. 4 herein, a short distance below the circular band 4, and the second ladder section initiating a short distance above the circular band 3 disposed about the stack and terminating at the top of said stack.

The improved carriage 2 of the present invention is adapted to pass around the chimney riding upon a track 50 spaced outwardly from said stack and secured thereto by means of an S-shaped bracket 51 secured to the band 3 and bolted to the chimney structure.

The cage 2 preferably comprises a pair of U-shaped bracket members, one forming the upper cuff 60 for said carriage and the other forming the base portion 61 thereof. A plurality of uprights 62, 63, 64 and 65 are employed to join the cuff and base portions together and are welded or otherwise secured thereto, thus forming a U-shaped frame for the carriage. A metal screen 66, mesh covering, or other preferred covering material, is preferably disposed about the uprights, being secured to the end uprights 62 and 63 and disposed about the outer corner uprights 64 and 65. The uprights 62 and 63 are disposed rearwardly of the free ends 60C—60A and 61A and 61B of the U-shaped brackets 60 and 61, respectively, and said free ends are thus adapted to support wheel carrying brackets 66—66 and 67, respectively. The wheel carrying brackets 66—66 are either bolted to the bracket 60 or bolted to a rectangular plate, loosely journalled to the bracket 60. The brackets 66—66 each carry the wheel axle 69 upon ends of which an H-shaped wheel is adapted to turn.

The said wheels 70—70 are adapted to ride upon the track 50, as best shown in Fig. 2, about the stack and the wheels 71, disposed within the bracket 67 and the U-shaped bracket 61, rotate about their axles 72 at right angles to the direction of rotation of the wheels 70, bearing against the band 4 to exert a counter force to that exerted by the weight and the direction of movement of the carriage.

A pair of depending J-shaped arms 73—73 are further secured to the oppositely disposed ends 60A and 60B of the upper cuff portion of the carriage frame and provided with hooked end portions 74—74 adapted to hook over the brackets 74—74 to securely maintain the wheels 70—70 upon the track.

The platform for the carriage is preferably formed in two sections and the rearmost of such platform sections 75 is rigidly secured to the bracket 61, as by welding. The foremost of such platform sections 76 rests upon the horizontally disposed portions of the bracket member 61 and is pivotally journalled upon a rod 77 disposed between the oppositely disposed free ends of the bracket 61 and secured thereto. The pivoted section 76 may thus be raised to the dotted line position shown in Fig. 2 and the spring catch 78 may be snapped thereover to hold the carriage in locked engagement with the stack.

In the form of my invention, herein illustrated and described, the catch is preferably secured to a lower portion of the staff 20 adjacent the obstruction lighting device A and the ladder. Hence, when a workman ascends the chimney on the ladder section 9A, he enters the carriage, which is locked to the chimney structure, through the opening provided by the lifted position of the platform section 76, stepping from the ladder rung to section 75 of the platform. By releasing the catch 78, he drops section 76 of the platform and an entire platform is thus provided for his use when working upon the chimney of any obstruction lighting fixtures mounted thereon or for whatever purpose he employs the carriage.

To enable the workman to ascend to the top of the chimney or stack, a U-shaped reinforcing element 79, disposed medially of the carriage and secured thereto in spaced relation to said upper cuff and lower base portions of the carriage, is provided with a pair of steps 80—80 formed by bending the ends of such element, as best shown in Fig. 5.

In operation, when employing the carriage as a means of transportation about the chimney, the workman will cause such carriage to be moved in the desired direction by pulling the same by means of a "hand-over-hand" action on the conduit 26. It is to be noted that the portions 22 disposed above the carriage at spaced positions about the chimney are of such height with relation to the carriage that the workman may remain in standing position while traveling to and working adjacent thereto. Also, the back and side frame portions of the carriage act as a protection to such workman during his work on the chimney or in servicing the equipment as well as when he is being transported about the circular stack.

Although I have described the obstruction lighting devices of my said co-pending applications in connection with the carriage provided by my present invention, I am aware that the present invention might be utilized as a means of transporting workmen about a cylindrical work or to and from various positions about a structure, and I am aware that numerous and extensive departures may be made from the embodiments herein described and shown, without, however, departing from the spirit of my invention or the scope of the appended claims.

I claim:

1. A movable carriage adapted for movement about a work structure with which it is associated, said work structure having a track mounted thereon, and said carriage having wheel means adapted to ride upon said track and wheel means spaced therefrom and disposed at right angles thereto, and bearing against said work structure whereby the said carriage is retained upon said track, said carriage including a platform, a back and side rail member, and locking means whereby the carriage may be locked to said work structure.

2. A movable carriage adapted for circumferential movement about a cylindrical work structure with which it is associated, said work structure having a track mounted thereon and disposed about the outer periphery of said cylindrical work structure, and said carriage having wheel means adapted to ride upon said track and wheel means spaced therefrom and disposed at right angles thereto, and bearing against said work structure

whereby the said carriage is retained upon said track, said carriage including a platform, a back and side rail member, and locking means whereby the carriage may be locked to said work structure.

3. A movable carriage adapted for circumferential longitudinal movement about a cylindrical vertically disposed work structure, said work structure having a pair of spaced cylindrical bands disposed longitudinally around the same and secured thereto, a track secured to the uppermost cylindrical band spaced outwardly from said work structure, the carriage comprising a pair of spaced U-shaped frame members, a plurality of uprights joining said frame members, the uppermost said U-shaped frame members carrying wheel means adapted to ride upon the aforesaid track, and the lowermost of said U-shaped members carrying wheel means adapted to bear against the lowermost cylindrical band telescoped about the cylindrical work surface whereby said carriage is adapted to move around said cylindrical work surface.

4. A movable carriage adapted for circumferential longitudinal movement about a cylindrical vertically disposed work structure, said work structure having a pair of spaced cylindrical bands disposed longitudinally around the same and secured thereto, a track secured to the uppermost cylindrical band spaced outwardly from said work structure, the carriage comprising a pair of spaced U-shaped frame members, a plurality of uprights joining said frame members, the uppermost said U-shaped frame members carrying wheel means adapted to ride upon the aforesaid track, and the lowermost of said U-shaped members carrying wheel means adapted to bear against the lowermost cylindrical band telescoped about the cylindrical work surface whereby said carriage is adapted to move around said cylindrical work surface, a plurality of staff members adapted to be secured to said cylindrical work surface by said bands and adapted to have a portion spaced upwardly a considerable distance above said track and carrying an obstruction lighting structure, said carriage adapted to pass under said obstruction lighting structure.

5. A movable carriage adapted for longitudinal movement about a cylindrical vertically disposed work structure, said work structure having a pair of spaced cylindrical bands disposed longitudinally around the same and secured thereto, a track secured to the uppermost cylindrical band spaced outwardly from said work structure, the carriage comprising a pair of spaced U-shaped frame members, a plurality of uprights joining said frame members, the uppermost said U-shaped frame members carrying wheel means adapted to ride upon the aforesaid track, a J-shaped hook carried by said upper frame member and disposed beneath said track to maintain the said wheel means in riding contact with said track, and the lowermost of said U-shaped members carrying wheel means adapted to bear against the lowermost cylindrical band telescoped about the cylindrical work surface whereby said carriage is adapted to move around said cylindrical work surface.

6. A movable carriage adapted for circumferential longitudinal movement about a cylindrical vertically disposed work structure, said work structure having a pair of spaced cylindrical bands disposed longitudinally around the same and secured thereto, a track secured to the uppermost cylindrical band spaced outwardly from said work structure, the carriage comprising a pair of spaced U-shaped frame members, a plurality of uprights joining said frame members, the uppermost said U-shaped frame members carrying wheel means adapted to ride upon the aforesaid track, and the lowermost of said U-shaped members carrying wheel means adapted to bear against the lowermost cylindrical band telescoped about the cylindrical work surface, said second wheel means being disposed at right angles to the direction of rotation of the wheel means carried by the uppermost member whereby said carriage is adapted to move around said cylindrical work surface.

7. A movable carriage adapted for longitudinal movement about a cylindrical vertically disposed work structure, said work structure having a pair of spaced cylindrical bands disposed longitudinally around the same and secured thereto, a track secured to the uppermost cylindrical band spaced outwardly from said work structure, the carriage comprising a pair of spaced U-shaped frame members, a plurality of uprights joining said frame members, the uppermost said U-shaped frame members carrying wheel means adapted to ride upon the aforesaid track, and the lowermost of said U-shaped members carrying wheel means adapted to bear against the lowermost cylindrical band telescoped about the cylindrical work surface whereby said carriage is adapted to move around said cylindrical work surface, a plurality of staff members adapted to be secured to said cylindrical work surface by said bands and adapted to have a portion spaced upwardly a considerable distance above said track and carrying an obstruction lighting structure, said carriage adapted to pass under said obstruction lighting structure, a platform consisting of at least two sections carried by the lowermost frame member, said platform having a section thereof in hinging engagement with the frame member whereby said section of the platform may be displaced from the remainder of the platform and adapted to be engaged with locking means secured to said staff member.

8. A movable carriage adapted for longitudinal movement about a cylindrical vertically disposed work structure, said work structure having a pair of spaced cylindrical bands disposed longitudinally around the same and secured thereto, a track secured to the uppermost cylindrical band spaced outwardly from said work structure, the carriage comprising a pair of spaced U-shaped frame members, a plurality of uprights joining said frame members, a reinforcing element disposed medially of said carriage between the upper and lower frame members thereof and adapted to be secured to said uprights, said reinforcing element being U-shaped and the ends thereof being formed into step members, the uppermost said U-shaped frame members carrying wheel means adapted to ride upon the aforesaid track, and the lowermost of said U-shaped members carrying wheel means adapted to bear against the lowermost cylindrical band telescoped about the cylindrical work surface whereby said carriage is adapted to move around said cylindrical work surface.

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