

April 20, 1926.

1,581,352

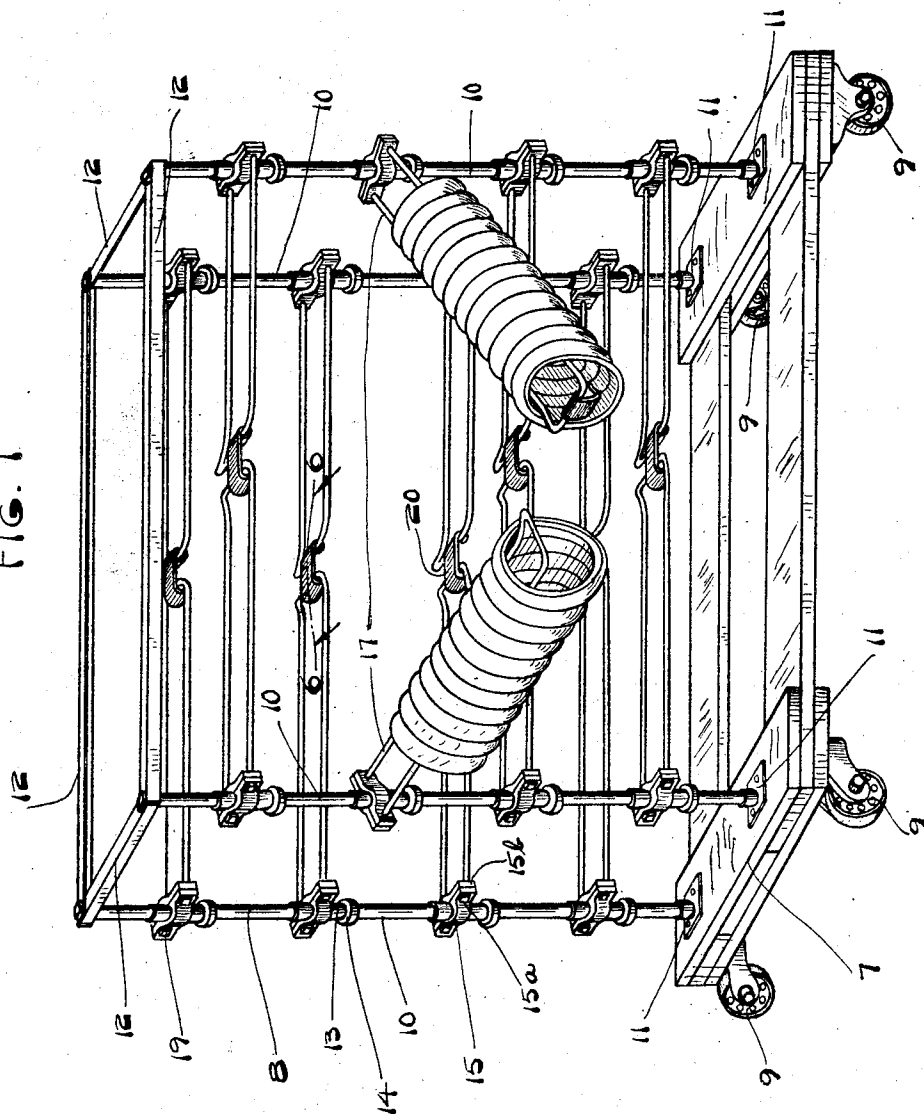
E. A. KUEN

MOVABLE CONVEYER RACK

Filed April 11, 1924

2 Sheets-Sheet 1

FIG. 1



INVENTOR
BY Eugene A. Kuen
Thornton Fogart
ATTORNEY

April 20, 1926.

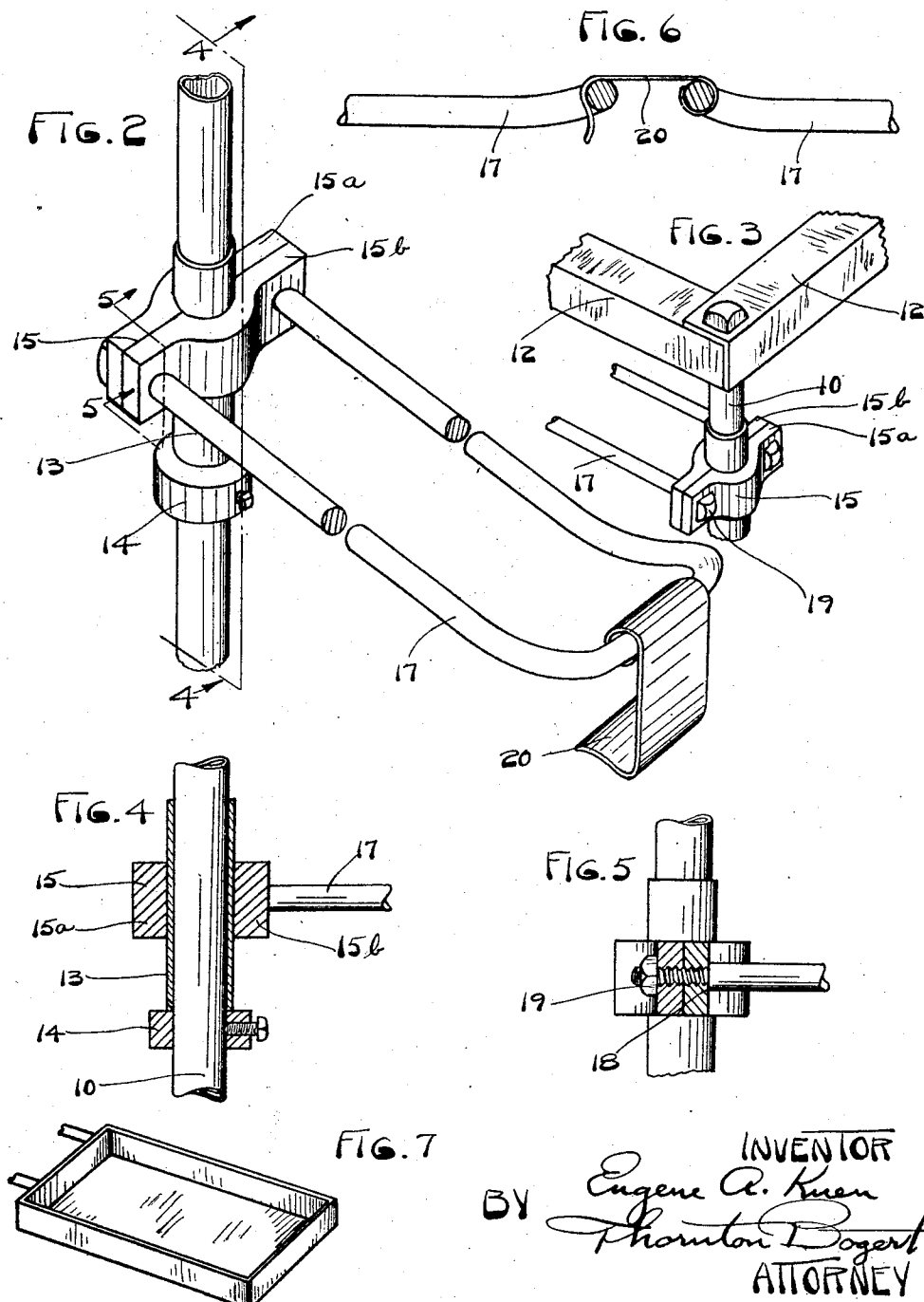
1,581,352

E. A. KUEN

MOVABLE CONVEYER RACK

Filed April 11, 1924

2 Sheets-Sheet 2



INVENTOR
Eugene A. Kuen
BY Thornton Bogert
ATTORNEY

UNITED STATES PATENT OFFICE.

EUGENE A. KUEN, OF CINCINNATI, OHIO, ASSIGNOR TO THE THEOS. J. CORCORAN LAMP COMPANY, OF CINCINNATI, OHIO, A CORPORATION OF OHIO.

MOVABLE CONVEYER RACK.

Application filed April 11, 1924. Serial No. 705,946.

To all whom it may concern:

Be it known that I, EUGENE A. KUEN, a citizen of the United States of America, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Movable Conveyer Racks, of which the following is a specification, reference being had therein to the accompanying drawing.

In the manufacturing of some articles but one operation is necessary, while in the manufacturing of other articles a number of operations are necessary to complete them. In the latter case greater efficiency of production is obtained by dividing a factory into departments, each of which is arranged to take care of but one operation. For instance in the manufacturing of automobile lamps, the lamp door which fits over the open end of the lamp body, has to be passed through several operations before it is completed and ready for assembly with the body. In the making of such a lamp door, a piece of metal of a shape and size calculated to prevent waste, is put upon a draw press and drawn into the desired general shape. This constitutes one operation. The partially finished door must now be transported to another department where the door rim receives a buffing operation, in which the metal is cleaned and freed from scale. After the cleaning operation the door is provided with the necessary rivets or other fastening devices. Following this it is enameled, or plated, or both, which, like the preceding operations, must be done in other departments equipped for the work. Having completed these manufacturing operations the lamp door must again be transported, this time to the assembling department where the door is equipped with a glass or lens and assembled with the lamp body. As may be seen, at the end of each operation in the manufacturing of this article, it was necessary to move the article from one department to another. If this is not done carefully the article is damaged and loss of time and increased cost of production is the result.

I have therefore provided a movable conveyer rack comprising a base, uprights mounted at the corners of the base and connected by frame members, and rotatably

mounted shelves or racks located adjustably at intervals on the uprights and adapted to be swung into an accessible position to receive the articles and to be returned to a safe and compact position within the rack for transportation from one department to another.

The advantages of my movable conveyer rack, lie in some of the objects of my invention which are to produce a rack affording convenience and ease in loading, as well as safety against damage to the articles in transporting them to and from the various departments, a further object being to increase the rapidity of movement through the departments of the factory with the effect of bringing about a greater degree of efficiency and reduced cost of production.

A further object of my invention is to produce a conveyer rack movable in any direction and having rotatably mounted shelves or rack members adapted to be swung outwardly and loaded and to be thereafter swung back into closed position.

A further object in my invention is to produce a movable conveyer rack so designed and arranged that it may be conveniently and easily unloaded on one side while it is being reloaded on the previously unloaded side, or, in other words to produce a conveyer rack which may be, under some conditions of usage, loaded and unloaded simultaneously.

Another object of my invention is to produce a movable conveyer rack in which the rotatably mounted shelves may be made adjustable to the transportation of any article of manufacture and which may be so adjusted as to accommodate the rack to articles of different sizes and shapes.

These and other objects are attained in the rack described in the following specification and illustrated in the accompanying drawings in which:

Fig. 1 is a prospective view of my movable conveyer rack, showing two of the shelves or rack members in position for unloading or ready for movement to loaded position after the articles have been placed thereon.

Fig. 2 is a prospective view upon an enlarged scale, of a supporting member and means whereby it is rotatably mounted and adjustably located.

Fig. 3 is a prospective view upon an enlarged scale, of an upper corner of my improved rack.

Fig. 4 is a sectional view on line 4—4 of Fig. 2.

Fig. 5 is an enlarged sectional view on line 5 of Fig. 2.

Fig. 6 is a sectional view upon an enlarged scale, taken on the line 6—6 of Fig. 1.

Fig. 7 is a prospective view upon a somewhat reduced scale, of a modified form of supporting element or member.

My invention of which I have given a brief description, has a movable base 7 and a framework 8. The base 7 is of wood or metal construction and is mounted upon a number of rollers 9. I have shown in the drawings four rollers, one of which is positioned at each corner of the base. To provide a means of steering the device I have used rollers of the caster type at one end to permit the conveyer to pivot at the opposite end, thus enabling an operative to direct it as he desires.

The framework 8 comprises a number of uprights 10 mounted on the base and secured thereto in threaded sockets 11, fixed to the base, and held together at their other or upper ends by cross bars 12.

The shelf supporting means consists of primary and secondary elements in cooperation, such that the shelf may be adjusted vertically if desired and may be capable of a rotatory motion with respect to the frame.

The upright 10 and an adjustable collar 14 embody the primary supporting elements, while the secondary supporting elements consist of a sleeve 13, a collar 14 and a block or clamp 15. The sleeve 13 is adapted to fit the upright 10 loosely enough to permit its movement on the upright and may be held at the desired height by the movable collar 14 engaging the lower end of the sleeve. The clamp 15 consists of two separate parts 15^a and 15^b which grip the sleeve 13 when they are brought together.

The shelves that I have used in this conveyer for the transportation of auto lamp doors embody U shaped members 17 over which the doors may be hung, as I have illustrated in the drawings. The supported ends of the U members are reduced in diameter, to form shoulders 18, so that when the clamp members 15^a, 15^b are located on these reduced ends, the nuts 19 will force the parts 15^a and 15^b of the clamp 15 toward the shoulders 18 to engage the clamp with the wall of the sleeve 13. Thus have I produced a rigid, adjustable and rotatable shelf. As a means of retaining the shelves or rack members in a closed and aligned position while the conveyer is being moved I have provided a clip 20 rotatably secured to the end of one of the shelves and adapted to be hooked over the end of the shelf opposite it.

Although I have described my invention as being provided with the arms or shelves 17, it may as readily be understood that flat surfaced members or trays, as shown in Fig. 7, may be provided if desired. Such a modification would render the rack usable for other articles. I do not intend it to be understood that I confine myself to the specific forms of article supporting elements disclosed, but have merely illustrated the two forms with the idea of showing the adaptability of my invention to all article transportation purposes.

I have described and illustrated this movable conveyer as being one adaptable to the transportation of annular members. However with very slight alteration of the extended portion of the shelf the conveyer may be made adaptable to the support and transportation of articles of any shape or size.

In the use of my improved rack, the articles, such as the lamp door I have chosen as an example, having been formed in the first step or manufacturing operation, are placed, one at a time, by the operative of the press, upon the shelves or arms which he has previously swung toward him one at a time for the reception of the articles. As each shelf is filled it is swung to the closing position until the one side of the rack is entirely loaded. It may then be turned with the opposite side to the operative so that when this side also is filled it may be quickly moved to the next department and replaced by another conveyer. Following the conveyer to the next department the operative there may swing the rotatably mounted shelves outwardly one at a time, as before and unload them one at a time until the one side of the rack is unloaded whereupon he may turn it around and unload the other side while another operative may reload the side which was first emptied, with the more completed article. Or, an operative may have a rack located upon each side of him, one of these racks being filled with articles to be worked upon and the other one being empty ready to receive the articles after the operative has performed the desired operation upon the article he removed from the first mentioned rack. Thus as may be seen, a continuance of operation results from the use of my improved movable conveyer rack, which is one of the principal elements entering into increased efficiency in factory operation and decreased production cost.

Having thus described my invention what I claim is:

1. A movable conveyer rack comprising a base, a frame mounted on the base, a primary shelf supporting means adjustably mounted on the frame, a secondary shelf supporting means rotatably supported on the first mentioned supporting means, said secondary means comprising a sleeve, and

a clamp upon the sleeve, said sleeve being rotatably attached to the frame, said primary supporting means consisting of a collar adapted to form a bearing for the lower
5 end of the sleeve and to be fixed to the frame at the desired position, said clamp being adapted to encircle the sleeve and to be clamped tightly thereto, and a shelf or rack member mounted on the clamp.

10 2. A movable conveyer rack comprising a base, a frame mounted on the base and having a pair of uprights supported in substantially parallel relation to each other, a series of sleeves rotatably mounted upon each
upright, a collar beneath each sleeve and 15 mounted for adjustable clamping on each upright to hold the sleeves the desired distances apart and simultaneously to support them rotatively on the uprights, a clamp
upon each sleeve adapted to be clamped 20 thereto, an article support extending from each clamp, and means adapted detachably to connect the supports when they are swung toward each other between the uprights.

In testimony whereof I have hereunto 25 affixed my signature.

EUGENE A. KUEN.