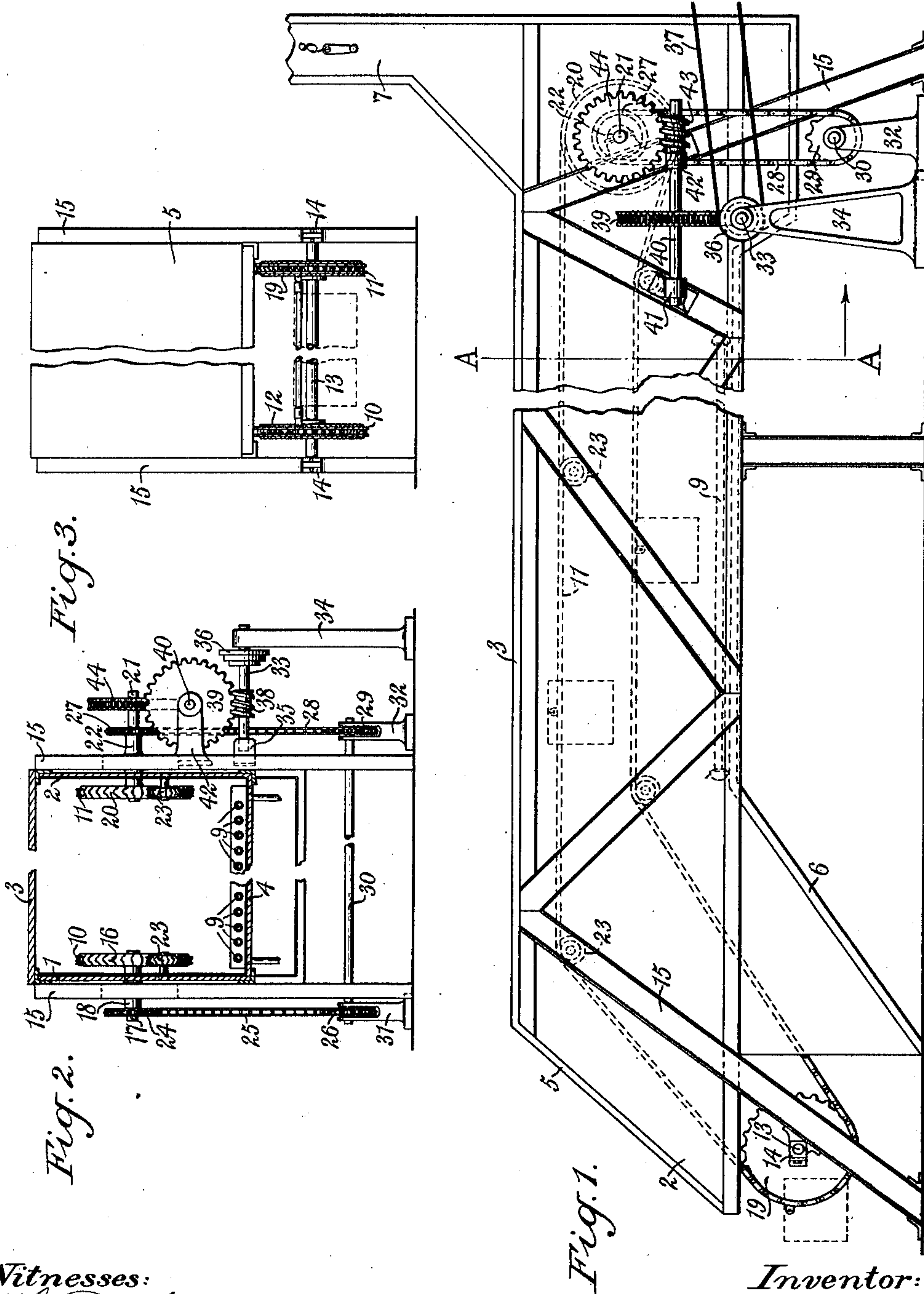


E. ROSENBERG.
 APPARATUS FOR DRYING VARNISHED ARTICLES.
 APPLICATION FILED OCT. 19, 1909.

992,991.

Patented May 23, 1911.

2 SHEETS—SHEET 1.



Witnesses:
 H. G. Heischer
 George Bury

Fig. 1.
 Inventor:
 Edward Rosenberg
 by his attorneys
 Brown & Ward

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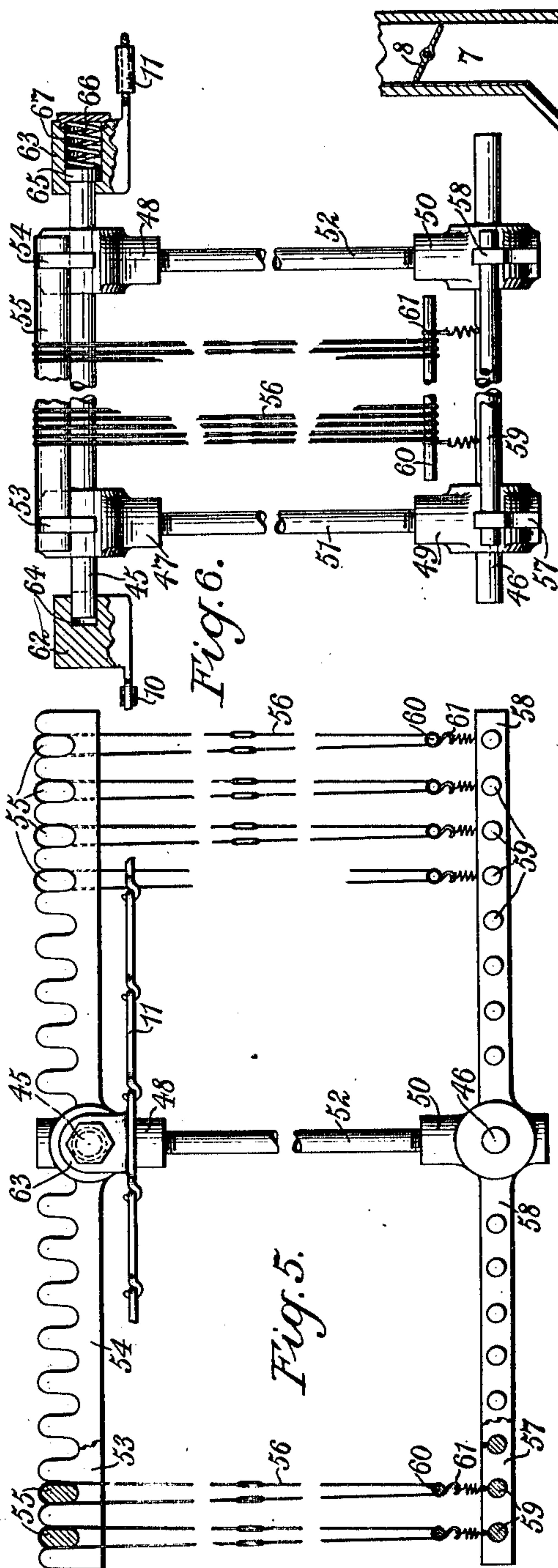


Fig. 5.

Fig. 6.

Witnesses:
W. H. Fleischer
J. George Perry

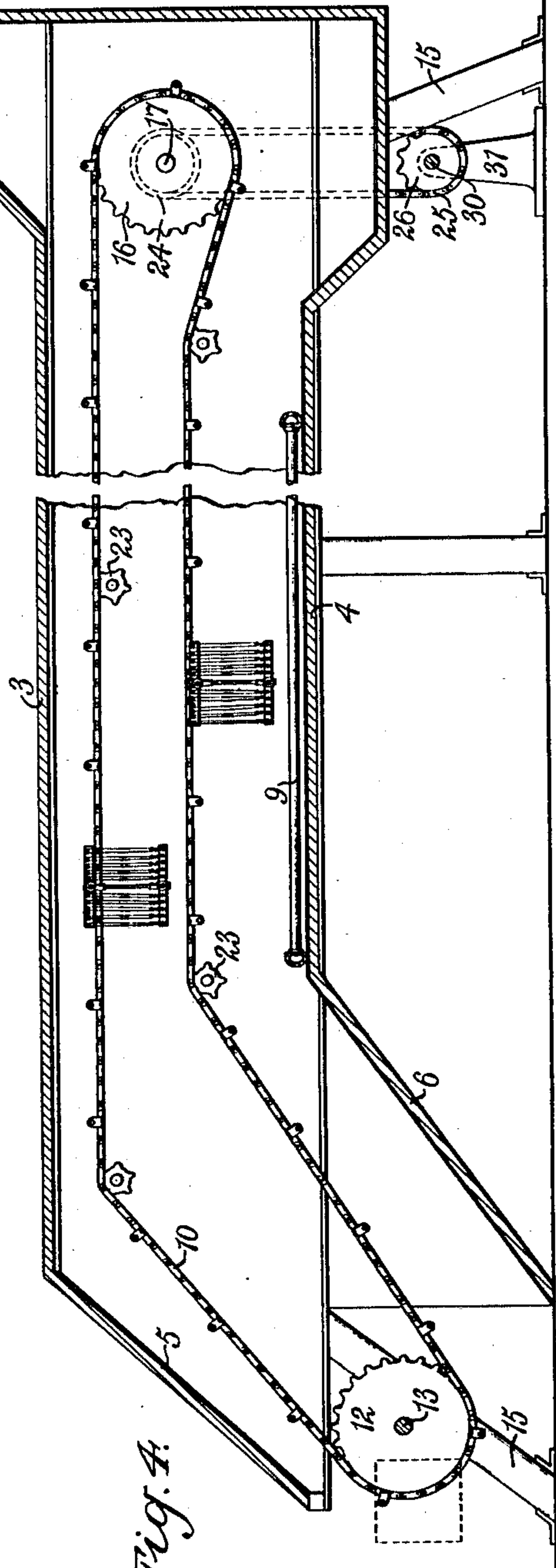


Fig. 4.

Inventor:
Edward Rosenberg
by his attorney
Mowatt, Shurwood & Co.

UNITED STATES PATENT OFFICE.

EDWARD ROSENBERG, OF LONDON, ENGLAND, ASSIGNOR TO STANDARD VARNISH WORKS, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

APPARATUS FOR DRYING VARNISHED ARTICLES.

992,991.

Specification of Letters Patent.

Patented May 23, 1911.

Application filed October 19, 1909. Serial No. 523,504.

To all whom it may concern:

Be it known that I, EDWARD ROSENBERG, a citizen of the United States, and resident of Regents Park, London, N. W., England, have invented a new and useful Improvement in Apparatus for Drying Varnished Articles, of which the following is a specification.

The object of this invention is to provide an apparatus for drying varnished articles such, for instance, as loom healds, which apparatus comprises a horizontally arranged heating box provided with means for supplying external air thereto and means for inducing a draft for causing the rapid escape of the varnish fumes; a conveyer for carrying the articles into and out of the heating box at the desired speed, and means for readily attaching the articles to and removing them from the conveyer at a point exterior to the heating box.

A practical embodiment of this invention is represented in the accompanying drawings, in which—

Figure 1 represents the apparatus in side elevation with an intermediate portion of the same broken away, Fig. 2 is a transverse vertical section taken in the plane of the line A—A of Fig. 1, looking in the direction of the arrows, an intermediate portion being broken away, Fig. 3 is a front end elevation of the apparatus with an intermediate portion broken away, Fig. 4 is a longitudinal vertical section through the apparatus with an intermediate portion broken away, Fig. 5 is an enlarged detail side view partially in section of one of the heald holders, a portion of one of the conveyer chains being shown in connection therewith, and Fig. 6 is a detail end view partially in section of the holder showing it in connection with its two side conveyer chains.

The horizontally arranged heating box is composed of side walls 1, 2, a top wall 3 and a bottom wall 4. This box is open to external atmosphere at one end and an upward draft of air is provided for by inclining the top 3, as shown at 5, and the bottom 1, as shown at 6. An up-take flue 7 is provided at the rear end of the heating box, which up-take is provided with a damper 8 for opening and closing the same. Any suitable means may be employed for heating the interior of the heating box, such, for instance,

as a system of steam pipes 9 located along the bottom of the box.

The means shown for carrying the varnished healds into and out of the heating box are constructed, arranged and operated as follows:—An endless conveyer is composed of two side chains 10, 11. The chain 10 passes around a sprocket 12 fixed to a cross shaft 13 mounted in suitable bearings 14 on the supporting frame 15, which supports the heating box. This chain also passes around a sprocket 16 fixed to a stud shaft 17 mounted in suitable bearings 18 carried by the supporting frame 15 adjacent to the side wall 1 of the heating box. The side chain 11 passes around a sprocket 19 also fixed on the cross shaft 13 at the combined inlet and discharge end of the heating box. This sprocket chain 11 passes around a sprocket 20 fixed to a stud shaft 21 mounted in suitable bearings 22 in the supporting frame 15 adjacent to the side wall 2 of the heating box. These chains 10 and 11 of the conveyer also pass over suitable intermediate idler sprockets 23 within the heating box, which sprockets are so arranged that the heald holders to be hereinafter described may be passed freely to the rear end of the heating box and from thence to the front end of the same. The cross shaft 13 is so placed that access may be readily obtained to the conveyer at the combined inlet and discharge end of the heating box. The stud shafts 17, 21, of the sprockets 16, 20, are in alinement and are driven at the same speed through sprocket and chain connections 24, 25, 26, 27, 28, 29, with a cross shaft 30, suitably mounted in brackets 31, 32, exterior to the heating box.

Movement is imparted to the conveyer at the desired speed through the following geared connection:—A shaft 33 is supported at one end in a bracket 34 and at its other end in a bracket 35. This shaft is provided with a stepped pulley 36 engaged by a driving belt 37 driven from any suitable source of power, not shown herein. This shaft 33 has a worm and gear connection 38, 39, with a longitudinally arranged shaft 40 mounted in suitable bearings 41, 42, on the supporting frame 15. This shaft 40 has a worm and gear connection 43, 44, with the shaft 21. By this connection, a very slow speed may be imparted to the conveyer.

The holder for the loom healds is constructed as follows:—Top and bottom cross rods 45, 46, are provided with pairs of side brackets 47, 48, and 49, 50, respectively, which side brackets are connected by vertical rods 51, 52. The upper brackets 47, 48, are provided with horizontally arranged recessed bars 53, 54, arranged to removably support the ends of cross bars 55 over which the tops of the healds 56 are passed. The lower brackets 49 and 50 are provided with horizontally arranged side bars 57, 58, carrying a horizontal series of cross rods 59. The lower ends of the healds 56 pass around cross bars 60 which are drawn downwardly for keeping the healds taut by spring tension hooks 61 carried by the cross rods 59. The heald holder is removably engaged with the side chains 10, 11, of the conveyer by providing the side chains with oppositely arranged socket pieces 62, 63, for receiving the ends of the top cross rod 45 of the holder. This cross rod 45 is yieldingly held with one of its ends in a socket 64 of the socket piece 62 by a spring pressed plunger 65 in the socket piece 63, the spring 66 of which plunger is located in a recess 67 in the socket piece 63. To release the holder, the top cross rod 45 is moved a sufficient distance to withdraw its end from the socket 64 by forcing the spring pressed plunger 65 along its recess 67 against the tension of its spring 66. It is to be understood that the conveyer is provided with any desired number of these oppositely arranged pairs of socket pieces 62, 63.

In operation, as the conveyer chains pass slowly around the sprockets 12, 19, at the combined inlet and discharge end of the heating box, the holders carrying the groups of healds may be inserted into position in their socket pieces for attaching the same to the conveyer chains. The holders are then carried diagonally upwardly into the interior of the heating box, thence horizontally along the same to the rear end of the box. They are then carried forwardly for a distance and then diagonally downwardly to the combined inlet and discharge opening of the box. As they reach this front end of the box, they are detached from the conveyer chains.

By providing an up-take flue for the heating box and also by providing an inlet for fresh air, it will be seen that the fumes

from the drying varnish will be carried rapidly away out of the box thus materially increasing the rapidity of the drying process. This result is particularly desirable where articles such as loom healds have to be dried after repeated coatings of varnish. The holder shown in detail in Figs. 5 and 6, forms the subject-matter of a co-pending application filed by me October 19, 1909, its serial number being 523503.

What I claim is:—

1. An apparatus for drying varnished healds, comprising a heating box provided with an upwardly inclined fresh air intake and a varnish fumes uptake, a conveyer for carrying the healds into and out of the heating box, heald holders and means for attaching the holders to and releasing them from the conveyer.

2. An apparatus for drying varnished healds, comprising a horizontally arranged heating box provided with an upwardly inclined fresh air intake and a varnish fumes uptake, a conveyer for carrying the healds into and out of the heating box, heald holders and means for attaching the holders to and releasing them from the conveyer.

3. An apparatus for drying varnished healds, comprising a heating box provided with a fresh air intake at one end and a varnish fumes uptake at its other end, an endless conveyer arranged to carry the healds into and out of the heating box through said fresh air intake, heald holders and means for attaching the holders to and releasing them from the conveyer.

4. An apparatus for drying varnished healds, comprising a horizontally arranged heating box provided with a fresh air intake at one end and a varnish fumes uptake at its other end, an endless conveyer arranged to carry the healds into and out of the heating box through said fresh air intake, heald holders and means for attaching the holders to and releasing them from the conveyer.

In testimony, that I claim the foregoing as my invention, I have signed my name in presence of two witnesses, this 15th day of October, 1909.

EDWARD ROSENBERG.

Witnesses:

W. ROSENBERG,
MAX WOLF.