

June 7, 1938.

H. LEGLER

2,119,883

STORAGE RACK FOR SPIRITOUS LIQUORS

Filed Nov. 17, 1937

2 Sheets-Sheet 1

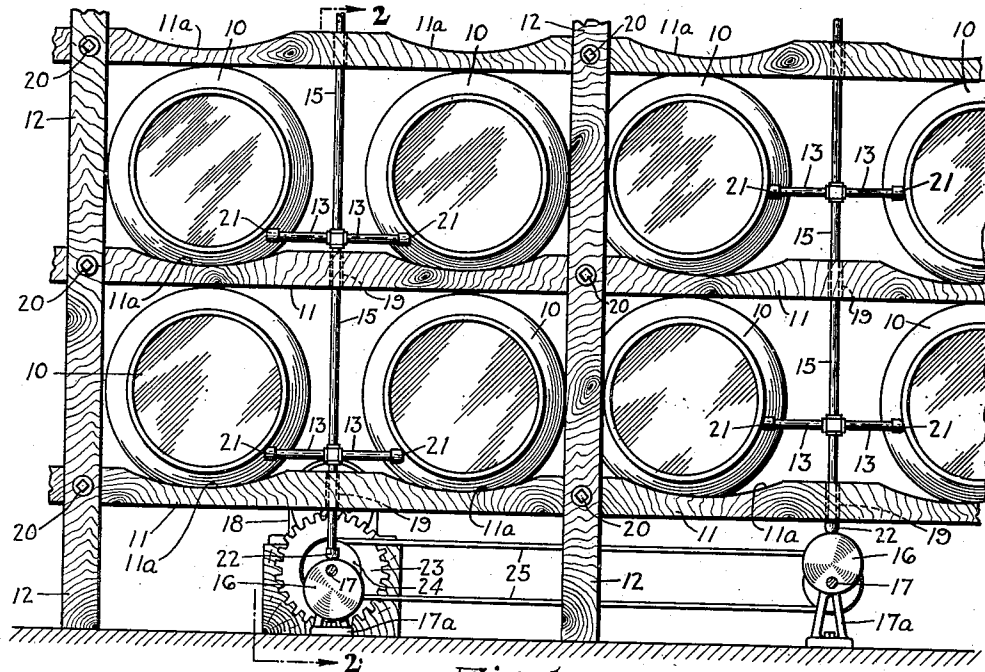


Fig. 1.

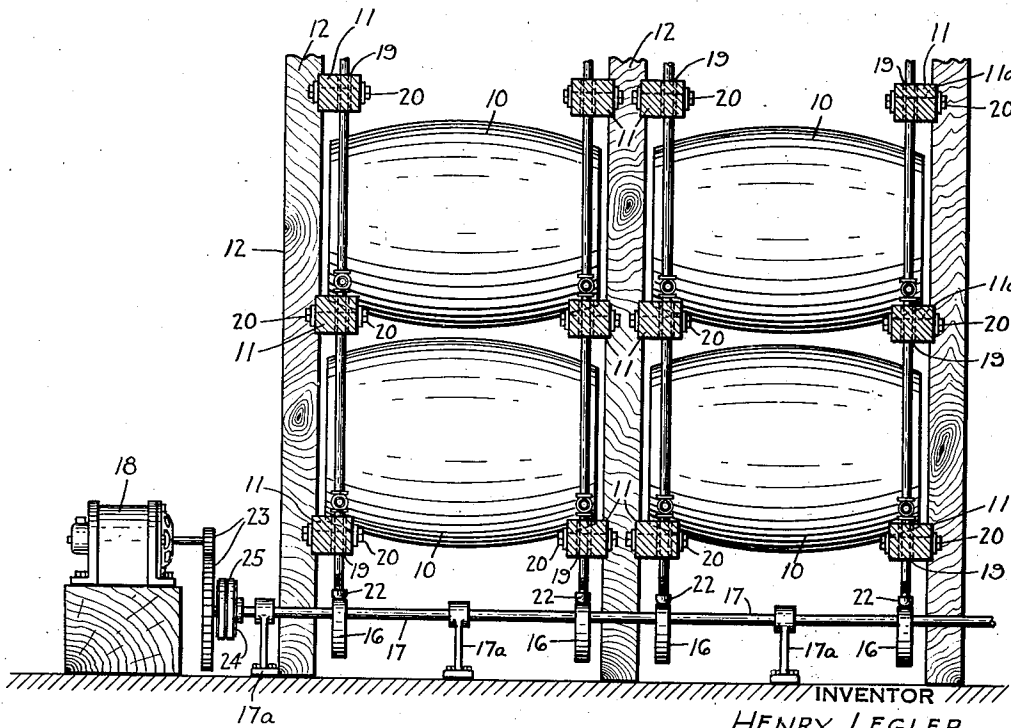


Fig. 2.

INVENTOR
HENRY LEGLER
BY *Richards & Seier*
ATTORNEYS

June 7, 1938.

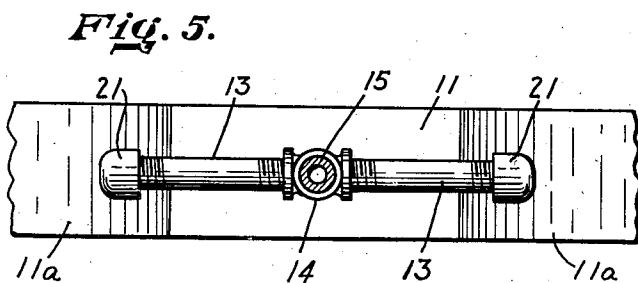
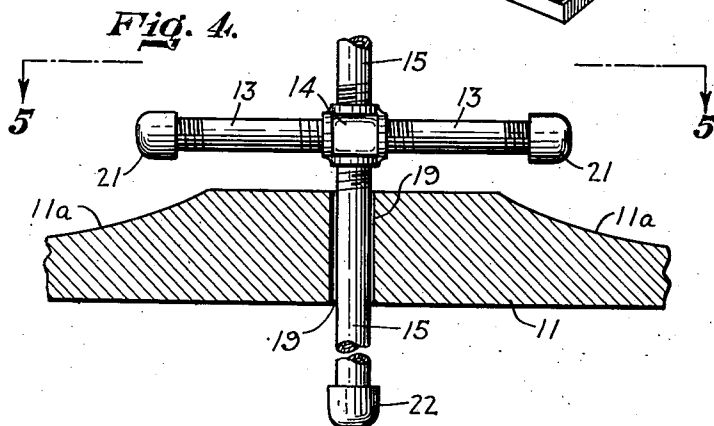
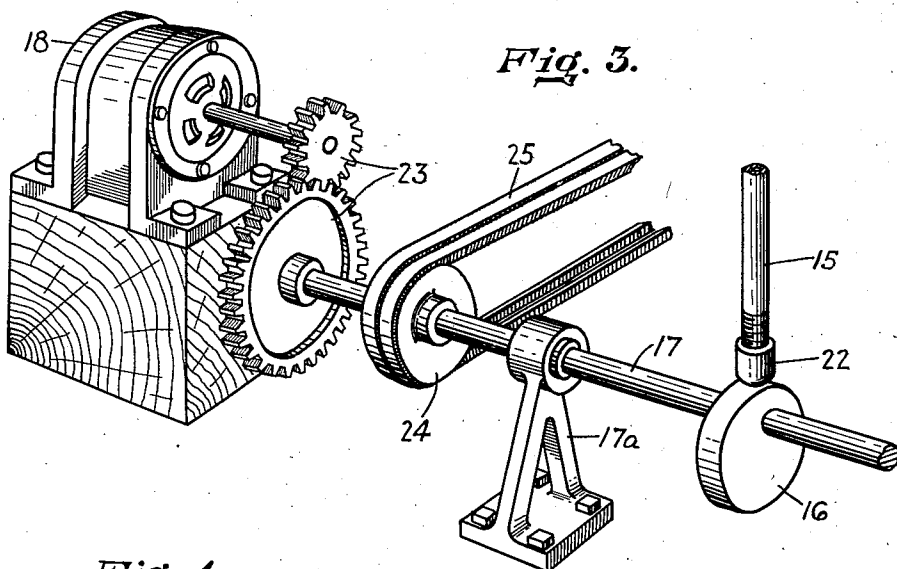
H. LEGLER

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INVENTOR
HENRY LEGLER
BY *Richards & Seier*
ATTORNEYS

UNITED STATES PATENT OFFICE

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STORAGE RACK FOR SPIRITOUS LIQUORS

Henry Legler, Larchmont, N. Y., assignor of
fifty percent to H. Paul Warwick, New
Rochelle, N. Y.

Application November 17, 1937, Serial No. 175,047

4 Claims. (Cl. 259—56)

This invention relates to methods and means for improving spiritous liquors and the like and more particularly to a rack construction for storing barrels and the like containing the liquors.

5 It is well known that constant agitation of spiritous liquors during the aging period improves and mellows the product considerably. Thus, it has been an age old custom to store barrels containing spiritous liquors in the hold of a
10 ship so that the rolling of the ship will agitate the contents.

It is now the object of the present invention to provide a rack construction for storing barrels containing spiritous liquors during the aging
15 process and in which the barrels may be rolled or tumbled at will to agitate the contents.

Another object is to provide a rack construction for storing barrels and the like of simple and efficient construction and which can be easily
20 adapted to the conventional warehouse construction.

Other objects and advantages will become apparent as the specification proceeds and when taken in conjunction with the accompanying
25 drawings, which illustrate a preferred embodiment of the inventive idea and in which:—

Figure 1 is a view of a storage rack construction according to the invention.

30 Figure 2 is a view taken along the line 2—2 of Figure 1.

Figure 3 is a detailed view of the drive for imparting the rolling motion to the barrels.

Figure 4 is a detailed view of the mechanism for tumbling the barrels and

35 Figure 5 is a view taken along the line 5—5 of Figure 4.

In terms of broad inclusion the invention contemplates the combination with a rack construction, of means for reciprocating the barrel to agitate the contents.
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In carrying out this object, the barrels 10 rest in grooved supports 11 which in turn are arranged in tiers on the uprights 12 and connected thereto by standard bolts 20. It will be noted that
45 supports 11 are so grooved that a limited movement may be imparted to the barrel and at the end of which it will immediately roll back to its original position. The movement to the barrels is imparted by means of the arms 13 which are
50 adjustably mounted in cross fittings 14 of conventional construction on the shafts 15. The shafts 15 are reciprocated in a vertical direction by means of the cam 16 mounted on a shaft 17 and which in turn is driven by the motor 18.
55 The opposing arms are so adjusted that when

the barrels rest in their normal position in the grooves 11a of the supports 11, they will abut against the sides of the barrels adjacent the grooves.

Because of the circular contour of the barrels, 5 the arms when reciprocated upwardly will push the barrels aside in opposite directions. The reciprocating movement of the shaft 15 is limited to the extent that the opposing arms 13 will not go beyond the widest portion of the barrel. On the
10 other hand, when said arms reach this point, the barrels will be resting on the opposite slope of the groove, as shown in one of the sections of Figure 1. Thus, when the shaft 15 is again lowered, the barrel will by itself roll back to its normal resting
15 position in the groove 11a. By repeated reciprocation of the shaft 15 the barrels will be rolled back and forth in the grooves.

The shafts 15 are preferably supported in guide channels 19. The ends of the arms 13 are
20 preferably screw threaded and provided with adjustable caps 21 to reduce the friction produced by the engagement with the side of the barrels.

The end of the shaft 15 may also be provided with a cam engaging cap 22 which rides on the periphery of the cam. The end of the shaft 15
25 as well as the cap 22 may also be screw threaded so that the arms 13 may be adjusted from a single point in addition to being individually adjustable.

It will be understood that a number of cams 30 16 may be mounted on the same shaft and a corresponding number of shafts 15 may be supported on the uprights 12. It is desirable to have a shaft and a set of arms 13 arranged at each end of the barrel. If the barrels are arranged in several
35 rows, twice as many shafts as there are rows of barrels may be provided and the number of arms 13 are dependent upon the number of tiers in which the barrels are stored. The shaft 17 may be journaled in pillow blocks 17a.
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Because of the relatively slow rolling motion to be imparted to the barrels, reduction gears 23 may be provided.

It will also be understood that a number of shafts 17 may be driven from the same motor 18
45 by arranging a pulley 24 on a shaft 17 from which other shaft units may be driven by means of a conventional V-drive 25. However, in view of the fact that two transverse rows of barrels may be rolled by reciprocation of the same shaft,
50 the number of shafts 17 will only be half the number of transverse rows.

It will be understood from the foregoing that the present invention may be easily installed in standard warehouses without the necessity of a
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particular modification. It will also be understood, however, that the invention is not necessarily limited to the specific means described and illustrated but includes possible modifications within the limitation of the following claims.

What is claimed is:

1. The combination with a rack construction for storing barrels and the like having grooved supports for said barrels, of means reciprocally supported in said rack construction frictionally engaging each of said barrels for displacing them toward one side of said groove, whereby said barrels will be rocked back and forth on said rack upon reciprocation of said means.

2. The combination with a rack construction for storing barrels and the like, having a series of grooved supports for said barrels; of a plurality of shafts reciprocally mounted in said supports between said grooves, transverse arms carried by each of said shafts and engaging the sides of adjacent barrels below the widest portion thereof, and means for reciprocating said shafts, whereby said barrels will be rocked back and forth.

3. The combination with a rack construction for storing barrels and the like; of means supported in said rack construction for reciprocation in a direction transverse to the longitudinal sides of the barrels and transverse to the plane upon which said barrels rest and frictionally engaging said barrels whereby the same may be rolled on their longitudinal sides on said rack, and means for returning said barrels to their original position.

4. In a rack construction for storing barrels and the like, a plurality of shafts reciprocally supported in said rack construction and frictionally engaging the longitudinal sides of the barrels, means for reciprocating said shafts in a direction transverse to said longitudinal sides and transverse to the plane upon which said barrels rest whereby said barrels may be rolled on their longitudinal sides on said rack, and means for returning said barrels to their original position.

HENRY LEGLER.