

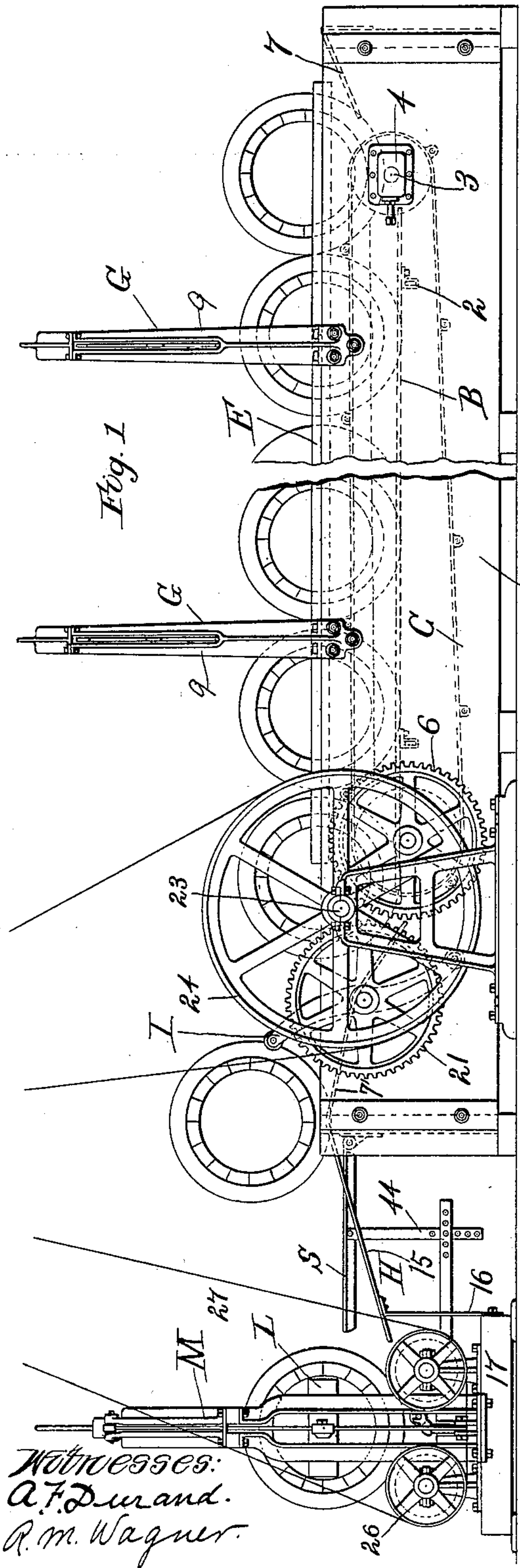
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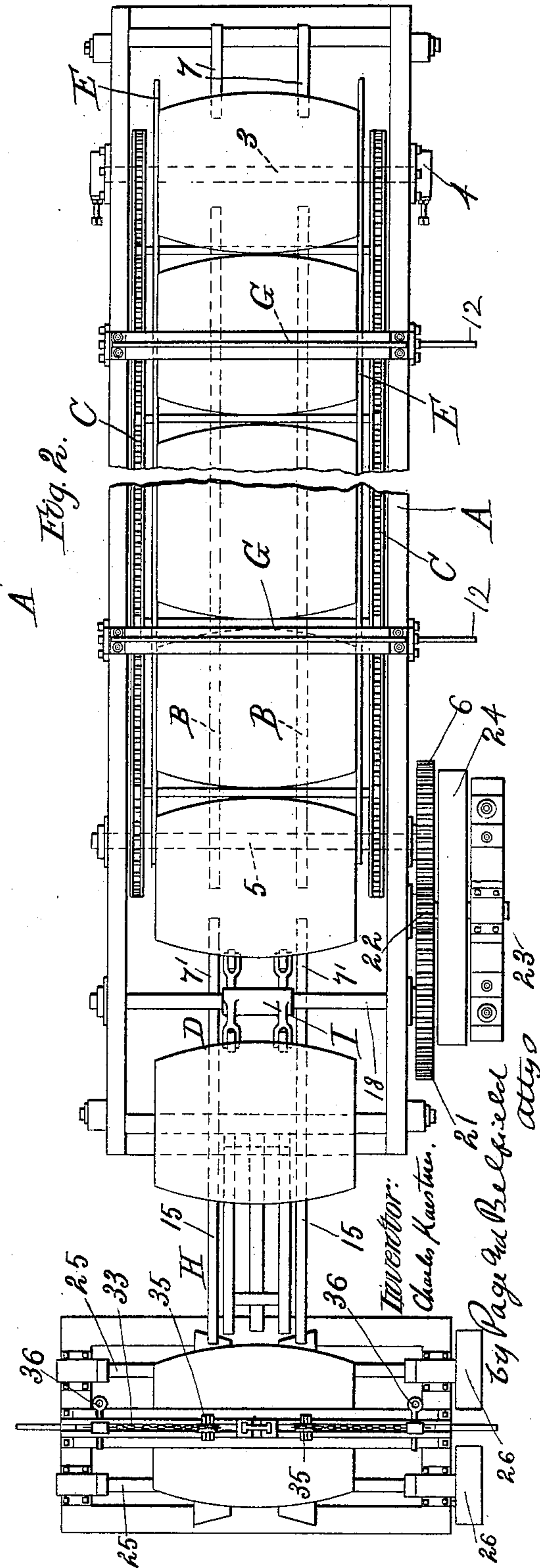
C. KAESTNER.  
BARREL WASHER.

No. 605,879.

Patented June 21, 1898.



Witnesses:  
A. F. Durand.  
R. M. Wagner.



Inventor:  
Charles Kaestner.

by Page and Belfield  
Attys

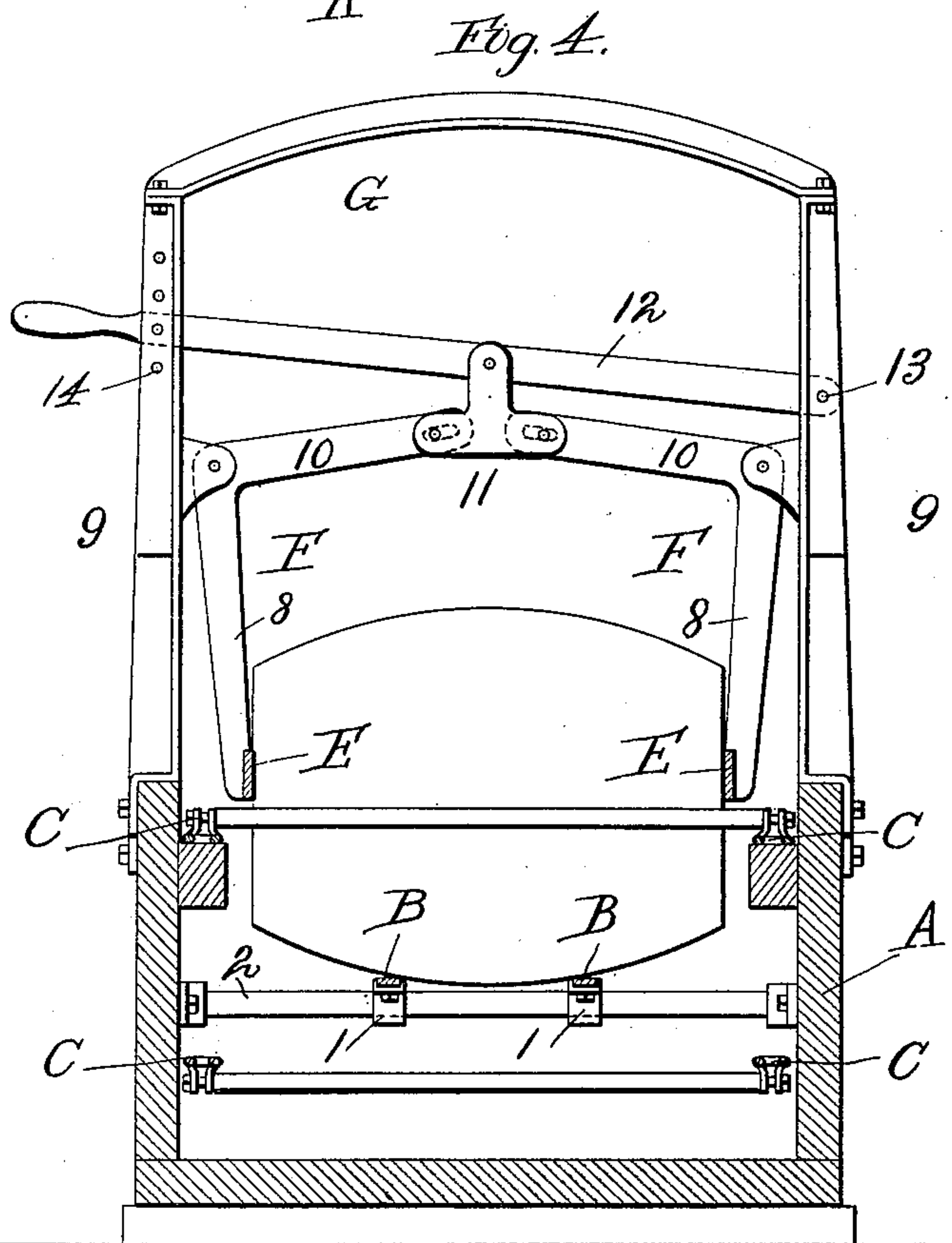
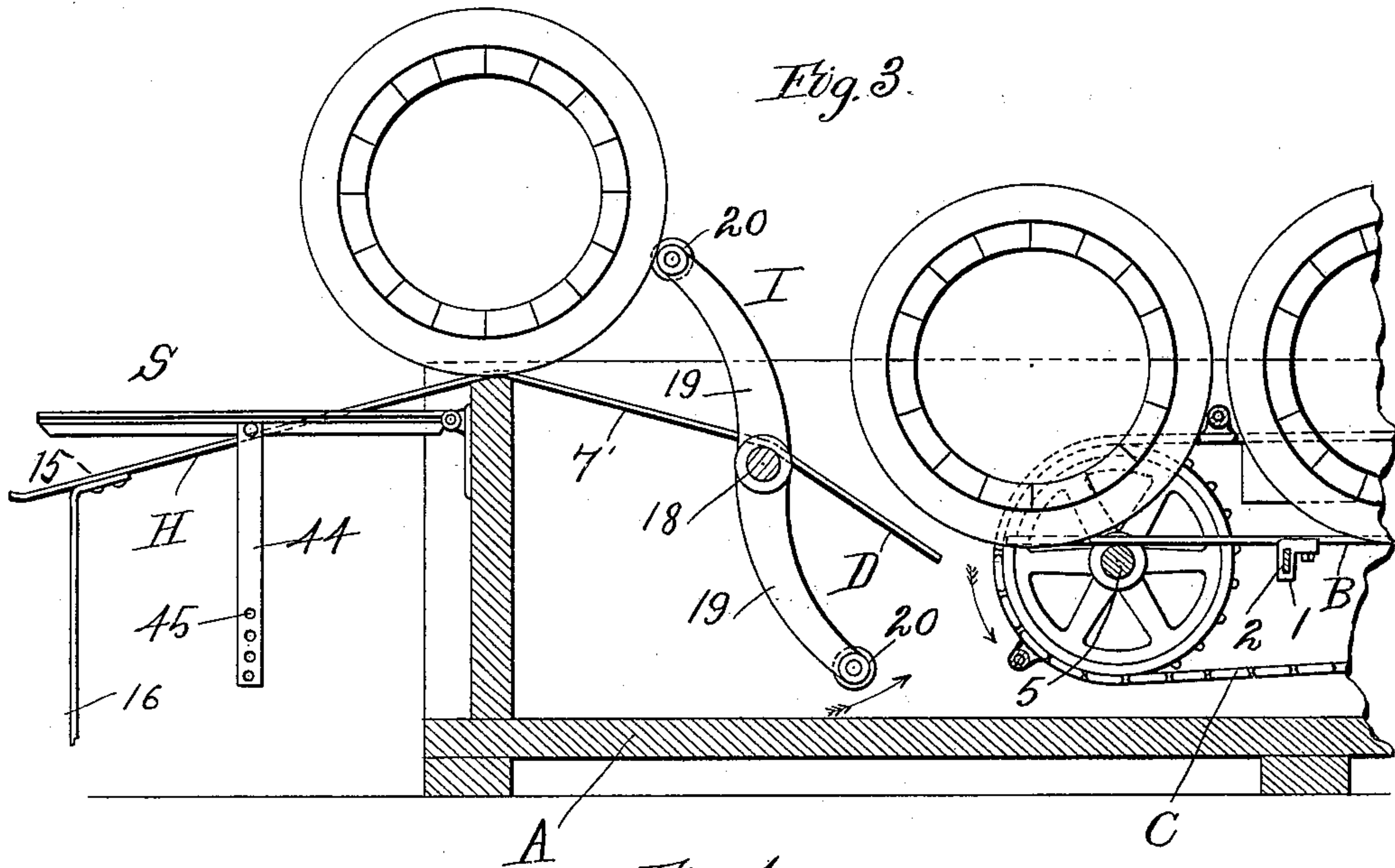
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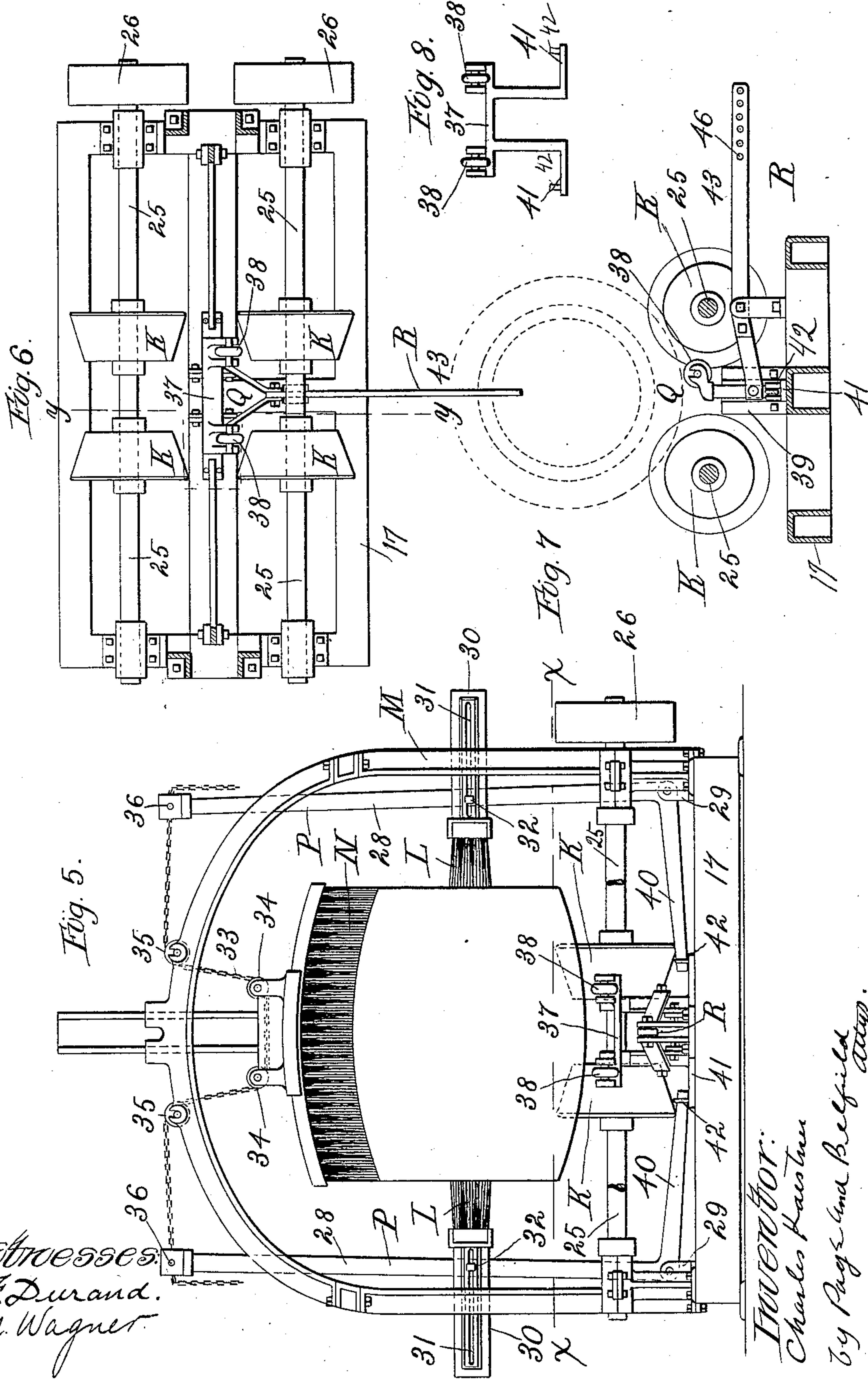
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# UNITED STATES PATENT OFFICE.

CHARLES KAESTNER, OF CHICAGO, ILLINOIS, ASSIGNOR TO CHARLES KAESTNER & CO., OF SAME PLACE.

## BARREL-WASHER.

SPECIFICATION forming part of Letters Patent No. 605,879, dated June 21, 1898.

Application filed June 1, 1897. Serial No. 638,979. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES KAESTNER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Barrel-Cleaners, of which the following is a specification.

Prominent objects of my invention are to provide a barrel-cleaner which can be adjusted with reference to kegs or barrels of different sizes, to facilitate the transfer of the kegs or barrels from the soaking tank or trough to a brushing or scouring device, to provide the brushing or scouring device with means adapted for ejecting a keg or barrel therefrom and automatically actuated by the weight of a keg or barrel during its delivery from the soaking tank or trough to such brushing or scouring device, to likewise cause the brush or brushes of the brushing or scouring device to be moved away from a keg or barrel in the latter by the weight of a keg or barrel delivered to such brushing or scouring device, and, further, to thus utilize the weight of a keg or barrel as a motive power for simultaneously moving the brush or brushes away from a keg or barrel, and an ejector for ejecting such keg or barrel from the brushing or scouring device; also, to provide matters of further improvement in construction and detail, as hereinafter set forth.

In the accompanying drawings, Figure 1 is a side elevation of a keg or barrel cleaner embodying the principles of my invention and broken away near its middle portion for convenience of illustration. Fig. 2 is a top plan of the same. Fig. 3 is a longitudinal section through the delivery end of the soaking tank or trough and adjuncts on a larger scale. Fig. 4 is a transverse section, on a vertical plane at one side, of one of the devices for adjusting the side guides. Fig. 5 is an end view showing the brushing or scouring device in elevation. Fig. 6 is a section through Fig. 5 on line *x x*, so as to show the lower portion of the brushing or scouring device in plan. Fig. 7 is an irregular section on line *y y* in Fig. 6. Fig. 8 is a detail view showing in elevation a pair of guides belonging to the brushing or scouring device.

The soaking-trough A is adapted to contain

a suitable quantity of water, in which the kegs or barrels can be soaked preparatory to their transfer to the brushing or scouring device. Said trough is of a length to permit it to receive a number of kegs or barrels and is of a width to permit them to be received within it and rolled from end to end thereof. The trough contains a horizontal track, upon which the kegs or barrels rest and along which they are rolled from the receiving end to the delivery end of the trough. In order to adapt the track to kegs or barrels of different sizes, it is formed by a couple of rails B, which are supported for independent lateral adjustment, and to such end the rails are secured upon holders or castings 1, which are in turn arranged to slide upon bars 2, positioned transversely within the trough and secured at their ends to opposite side walls of the latter.

The kegs or barrels can be rolled along the track by means of any known or suitable construction of endless carrier, the construction selected by way of illustration being a couple of endless chains or belts C, supported by suitable sprockets and arranged to pass over and under the track. These endless belts or chains are connected together at intervals by cross-bars set apart so as to afford spaces in which the kegs or barrels can be received. The chain-sprockets at the receiving end of the track are secured upon a rotary shaft 3, having its bearings arranged for adjustment in boxes 4. The chain-sprockets at the delivery end of the horizontal track are secured upon a rotary power-driven shaft 5, having one of its ends extended through one side of the trough and provided with a gear 6, to which power suitable for operating the endless carrier can be applied.

The receiving end portion of the trough is provided with a short incline 7, arranged to receive and direct the kegs or barrels onto the horizontal track, and at the opposite or delivery end portion of the trough is an incline D, comprising a couple of rail-sections 7', which receive the kegs or barrels from the delivery end of the horizontal track and form a way along which the kegs or barrels are delivered from the trough.

In order to further adapt the trough for



kegs or barrels of different sizes and permit the same to be rolled steadily and evenly along the track, the trough is provided with a couple of horizontally-arranged and longitudinally-extending bars E, which are adjustable laterally and independently, in which way the bars, which serve as guides between which the kegs or barrels are received while supported upon the track, can be adjusted so as to vary the space between them, and also positioned with reference to the adjustment of the rails, which form the track upon which the kegs or barrels are supported.

As a means for laterally adjusting the side guides or rails E, I provide one or more, but preferably a couple, of adjusting devices, each comprising a couple of bell-cranks or bent levers F, which are pivotally supported at points above the top level of the trough and arranged to work in vertical planes transverse to the length of the trough. These levers are conveniently pivoted to the sides or standards 9 of frames G, which rise from the sides of the trough at suitable intervals. The pendent arms 8 of the levers are secured to the guides or bars E, and while the levers could be severally adjusted by any suitable independent means I prefer as a matter of further improvement to provide means for simultaneously adjusting each pair of levers. To such end the upper arms 10 of each pair of levers are connected with and synchronously operated by a hand-lever 12 common to both. As a simple and suitable connection between each hand-lever and the pair of bell-crank levers it is employed to operate, the upper arms 10 of each pair of bell-crank levers are hinge-connected by a T casting or connection 11, which latter is in turn pivotally attached to a hand-lever 12. Each hand-lever 12 is at one end pivoted to one of the standards 9, as at 13, and is arranged to swing in a vertical plane. By operating these levers the guides E can be simultaneously and uniformly adjusted in opposite directions. Each lever can be temporarily locked in any suitable way—as, for example, by a pin inserted in any one of a series of holes in each lever and in one of the standards, as in Fig. 4, in which one of the standards is shown provided with a series of holes 14.

After a keg or barrel has been rolled up the incline D it is delivered onto a second incline H, which slopes downwardly from the delivery end of the trough to the brushing or scouring device. This incline H comprises a couple of rail-sections 15, having their high ends supported by the trough and having their low ends supported in any suitable way—for example, by supports 16, secured to the base 17 of the brushing or scouring device.

The horizontal track which is formed by the rails B terminates at one end short of the delivery end of the trough, but adjacent to the low end of the incline D, whereby kegs or barrels can be readily rolled from the former onto the latter. This transfer from the hori-

zontal track to the incline D is effected by a rotary transfer device I, arranged at the delivery-end portion of the trough and adapted to successively take the kegs or barrels from the horizontal track and roll them up the incline D. This rotary transfer device comprises a rotary shaft 18, having radially-extending arms 19, which are arranged in pairs and provided at their ends with small rolls 20, which engage the kegs or barrels. The rotary transfer device can be operated by power applied in any convenient way, and during operation its arms will be successively brought under the kegs or barrels at the delivery end of the track, so as to take them and move them up the incline D. By providing the arms of the rotary transfer device with rollers which engage the kegs or barrels the latter will not be injured, and in place of sliding they will readily roll along the incline.

As a convenient driving arrangement rotary shaft 18 of the transfer device is provided with a gear 21, which is engaged and driven by a pinion 22 on the axle 23 of a belt wheel or pulley 24, and with such organization the pinion 22 can also engage and operate gear 6, hereinbefore described in connection with the endless carrier.

After a keg or barrel has been caused to traverse the soaking-tank and has been ejected or removed from the delivery end of the latter by means such as hereinbefore described or by any desired suitable means for such purpose it is transferred or caused to pass to the brushing or scouring device T. The brushing or scouring device comprises a couple of pairs of beveled or tapered rolls K K, arranged over the base 17 and mounted upon parallel and horizontally-positioned rotary shafts 25 25, as best shown in Fig. 6. These rolls receive and support the kegs or barrels and revolve the same, and to such end the shafts 25 are driven by suitably-applied power. For example, they can be provided with belt-pulleys 26, to which power-driven belting 27 can be applied. When a keg or barrel is in position upon these beveled rolls, its ends can be brushed or scoured by brushes L L, arranged at opposite sides of an upright frame M, while simultaneously therewith its sides or periphery can be brushed or scoured by one or more, but preferably by one, comparatively long brush N, having a curved face.

The overhead brush N, which acts upon the sides or periphery of a keg or barrel, is supported for vertical adjustment, while the brushes L, which act upon the ends of the keg or barrel, are adjustable horizontally. As a simple and efficient organization the brushes L are arranged upon the upwardly-extending long arms 28 of a couple of elbow or bell-crank levers P P, which are pivoted at their bends to bearings 29 on the base of the brushing or scouring device, as best shown in Fig. 5. By operating these levers the brushes L can be moved toward or away from



a keg or barrel on the beveled rolls, and by synchronously moving said levers the brushes can be simultaneously moved away from or be brought into position to engage the keg or barrel, as occasion may require. Each brush L can also be shifted in position relatively to the lever upon which it is held, and to such end these brushes have shanks or holders 30, provided with slots 31 for set-screws 32, which latter extend through the slots and engage the levers. The brush N is also desirably raised and lowered by the action of the levers P, whereby its movements will be synchronous with the movements of the brushes L. To such end a cord or chain 33 is attached to the upper ends of said levers and extended under pulleys 34 on the brush N. This cord or chain also passes over guide-pulleys 35 on the top portion of the frame M and has its end portions adjustably attached to the levers by pins 36. By such arrangement the brush can be set for different sizes of kegs or barrels, it being observed that the brushes L can by reason of their connection with the levers P be set for a like purpose. By passing the chain 33, which upholds the brush N, under pulleys on the latter the strain on the levers P will be equalized, it being understood that the brush N will be weighted or made comparatively heavy, so as to cause it to properly act upon a keg or barrel, and obviously such weight of the gravity-brush N will cause the upper arms 28 of levers P to swing toward the keg or barrel when the levers are free to be thus operated.

As a means for discharging a keg or barrel from the brushing or scouring device an ejector Q is arranged between the two pairs of beveled rolls which support and revolve the keg or barrel. This ejector comprises a slide having its top portion 37 (see Fig. 8) provided with small rolls 38 and having its side portions arranged to slide in guides 39, which rise from the base 17 of the brushing or scouring device. When the ejector is raised, its rolls 38 will engage the keg or barrel at one side of a vertical plane through the middle or axis of the latter, whereby the keg or barrel will be lifted and rolled over one of the pairs of beveled rolls.

As a means for moving the brushes synchronously with the ejector Q the lower arms 40 of the bent levers P, which control the brushes, engage upon the ends of the base portions 41 of the ejector and extend between pins 42 on such base portion of the ejector, so as to have a sliding connection therewith. By such arrangement the upward movement of the ejector will cause the arms 40 of levers P to swing upwardly, and thereby cause arms 28 of such levers to swing away from the keg or barrel, and in so doing cause all of the brushes to also move away from the keg or barrel upon which they have been cleaning. When, however, the ejector drops back to its normal position, the weight of brush N will cause the upper arms of levers P to swing

toward one another, and hence permit all of the brushes to close upon another keg or barrel, which can be transferred from the trough at a time to at once take the place of a keg or barrel ejected from the brushing or scouring device. The ejector, which is thus arranged to rise, so as to eject or throw a keg or barrel from off the rolls, and then drop, so as to permit another keg or barrel to take the place of the one which has been ejected, is automatic—that is to say, it is actuated by the weight of a keg or barrel delivered to the brushing or scouring device, in which way, by employing suitable means for transferring kegs or barrels from the trough to the brushing or scouring device, the action of the ejector can be successively and automatically attained. Also the brush or brushes is or are automatically adjusted with reference to a keg or barrel upon the rolls, and to such end the brush or brushes is or are caused to move away from a keg or barrel upon the rolls by the action of the weight of a keg or barrel which is being delivered to such rolls. This movement on the part of the brush or brushes takes place at a time when the ejector is in action as a means for ejecting a keg or barrel which has been brushed or scoured by the brushing means, and hence the brush or brushes will move away from the keg or barrel, so as to allow the latter to be ejected by the ejector and also so as to permit the delivery to the rolls of the keg or barrel which has momentarily supplied motive power for both moving the ejector and the brush or brushes. As soon as this fresh keg or barrel is upon the rolls the brush or brushes close upon such keg or barrel, so as to brush or scour the same, such return of the brush or brushes into working position being desirably effected by gravity, as hereinbefore set forth. As a simple arrangement for thus operating or adjusting the brush or brushes and the ejector an incline H, already mentioned, is arranged to extend from and deliver the kegs or barrels from the delivery end of the trough to the rolls of brushing or scouring device. During the travel of a keg or barrel down this incline it encounters and is opposed by a movable abutment, which, however, yields to the weight of the keg or barrel and transmits moving power to the ejector and also primarily to the brushes, it being observed, however, that, as illustrated, the upward movement of the ejector causes the brushes to move away from a keg or barrel upon the rolls, as hereinafter more particularly described. The movable abutment shown is in the nature of a swinging track or lever S, hinged at one end to the trough and having a jointed connection with a lever R, which is in turn connected with the ejector. The link or bar 44, shown as a connection between the levers S and R, is hinged to said levers and can have any suitable adjustable connection with one of them—as, for example, lever R may have a series of holes 46, Fig. 7, for a pivot-pin connecting it with the



link 44. The lever R is suitably fulcrumed upon the base of the brushing and scrubbing device and has its short arm hinge-connected with the ejector Q. When, therefore, a keg or barrel is caused to roll down the incline H, it will roll upon and depress lever S, which normally lies up and in the path of such keg or barrel, and this depression of lever S will operate lever R and cause the latter to lift the ejector. Such rise on the part of the ejector will cause it to eject a keg or barrel from the brushing and scouring device. The ejector will then drop, and the lever S will again assume the position shown in Fig. 1. When the ejector rises to eject a keg or barrel from the brushing or scouring device, the brush or brushes will be moved away from the keg or barrel upon which the ejector thus acts. Primarily this action is derived from the weight of a keg or barrel upon lever S, the action of the latter being conveyed to the brushes through intervening connections. As a matter of detail, however, the rise of the ejector, regardless of the primary power employed, serves to move the brushes through the medium of connections between the brushes and ejector, and to such end the arms 40 of levers P bear upon and have sliding connections with the base 41 of the ejector, and hence when the ejector is caused to rise the levers P will be operated. As a simple arrangement the base 41 of the ejector is provided with guides, such as pins 42, arranged in pairs, and the arms 40 of levers P extend between such guide-pins and bear upon the base 41 of the ejector.

What I claim as my invention is—

1. In a keg or barrel cleaner, a trough along which the kegs or barrels are moved; means for moving the kegs or barrels; longitudinally-extending guides arranged to lie opposite the ends of the kegs or barrels and adjustable with reference to kegs or barrels of different sizes; and means for simultaneously adjusting the guides, substantially as described.

2. In a keg or barrel cleaner, a trough along which the kegs or barrels are moved; means for moving the kegs or barrels; longitudinally-extending guides arranged to lie opposite the ends of the kegs or barrels and adjustable laterally with reference to kegs or barrels of different sizes; and means for adjusting the guides, comprising bent levers having pendent arms to which the guides are attached, and means for operating and holding the levers in adjustment, substantially as described.

3. In a keg or barrel cleaner, a trough along which the kegs or barrels are moved; means for moving the kegs or barrels; longitudinally-extending guides arranged to lie opposite the ends of the kegs or barrels and adjustable laterally with reference to kegs or barrels of different sizes; and means for adjusting the guides comprising a pair of pivotally-supported bent levers P having pendent arms to which the guides are attached; a hinge connection between the upper arms of

the levers; and an adjustable operating-lever connected with the hinge connection between said upper arms of the bent levers, substantially as described.

4. In a keg or barrel cleaner, the trough containing a track which is adjustable in width and along which the kegs or barrels are moved, means for moving the kegs or barrels along the trough and guides arranged to lie opposite the ends of the kegs or barrels on said track and adjustable laterally, whereby the track and guides can be correspondingly adjusted with reference to kegs or barrels of different sizes, as set forth.

5. In a keg or barrel cleaner, the trough containing a longitudinally-extending track; means for moving the kegs or barrels along such track; a rotary transfer device comprising a plurality of arms arranged to engage the kegs or barrels and deliver them in succession from the soaking-trough; suitable means for rotating said transfer device, and an incline along which the kegs or barrels are rolled by the transfer device, as set forth.

6. A keg or barrel cleaner comprising a brushing or scouring device provided with a brush or brushes and means for revolving a keg or barrel which has been delivered to the brushing or scouring device; and an ejector arranged to eject a keg or barrel from the brushing or scouring device and automatically actuated by the weight of a keg or barrel delivered to the brushing or scouring device, substantially as described.

7. A keg or barrel cleaner comprising a soaking-trough wherein the kegs or barrels are soaked; a brushing or scouring device provided with a brush or brushes and means for revolving a keg or barrel which has been delivered to the brushing or scouring device from the soaking-trough; means for successively transferring kegs or barrels from the soaking-trough to the brushing or scouring device; an automatic ejector arranged to eject a keg or barrel from the brushing or scouring device; and means for successively operating the automatic ejector by the weight of the kegs or barrels passing from the soaking-trough to the brushing or scouring device, substantially as described.

8. In a keg or barrel cleaner, rolls for rotating a keg or barrel; suitable means for operating the rolls; a brush or brushes for acting upon the keg or barrel while the latter is under rotation; means for bringing the brush or brushes into position to thus act upon the keg or barrel; an ejector which serves both to move the brush or brushes away from the keg or barrel and to eject the latter from the rolls; and means for operating the ejector from the weight of a keg or barrel passing to the rolls which serve to rotate the keg or barrel, substantially as described.

9. In a keg or barrel cleaner, means for rotating a keg or barrel; an ejector for removing the keg or barrel from the rotating means; means for operating the ejector; an incline



leading downwardly to the latter; and a movable abutment arranged in the path of a keg or barrel rolling down from the incline, and connected with the ejector-operating means, so as to operate the same when actuated by a keg or barrel rolling upon the incline, as set forth.

10. In a keg or barrel cleaner, means for rotating a keg or barrel; a vertically-movable ejector adapted for lifting the keg or barrel from the rotating means and provided with an operating-lever; an incline leading downwardly to the latter; and a vertically-swinging track-section having its free end arranged normally in the path of a keg or barrel passing down the incline and connected with the operating-lever of the ejector so as to operate the same when it is swung downwardly by a keg or barrel upon the incline, substantially as described.

11. In a keg or barrel cleaner, means for rotating a keg or barrel; a brush or brushes for acting upon the ends of the keg or barrel; an overhead gravity-brush for acting upon the sides of the keg or barrel; vibratory levers supporting the side brushes and having upwardly-extending arms; and a chain or cable attached to the said arms of the vibratory levers and passing both over guide-pulleys upon a suitable support, and under guide-pulleys upon the said overhead gravity-brush, substantially as described.

12. In a keg or barrel cleaner, rolls for supporting and rotating a keg or barrel; an ejector Q arranged to rise and fall between the rolls; a lever for operating the vertically-sliding ejector; and a tilting track connected with the said lever and arranged to deliver a keg or barrel to the rolls, substantially as described.

13. In a keg or barrel cleaner, rolls for supporting and rotating a keg or barrel; an ejector arranged to rise and fall between the rolls; means for operating the ejector; levers connected with and operated by said means; brushes upon said levers; and a gravity-brush connected with the upper ends of said levers which latter are caused to swing in a direction to remove the brushes from a keg or barrel upon the rolls when the ejector is moved upwardly, substantially as described.

14. In a keg or barrel cleaner, means for rotating a keg or barrel; a vertically-movable ejector provided with rolls 38 and having a base 41; means for moving the ejector and the base; elbow-levers P having their lower arms 40 connected with the base of the ejector by shifting connections; and a set of brushes operated by the elbow-levers, substantially as described.

15. A keg or barrel cleaner comprising a soaking-trough and a brushing or scouring device; means for successively delivering the kegs or barrels from the soaking-trough to the brushing or scouring device; a track for rolling the kegs or barrels from the soaking-trough to the brushing or scouring device; a movable abutment normally in the path of a

keg or barrel passing from the soaking-trough to the brushing or scouring device; an ejector arranged for successively ejecting kegs or barrels from the brushing or scouring device and means for moving the ejector connected with and operated by the movable abutment when the latter is actuated by the weight of a keg or barrel passing from the soaking-trough to the brushing or scouring device, substantially as described.

16. A keg or barrel cleaner comprising a soaking-trough in which the kegs or barrels are soaked; means for moving the kegs or barrels along the soaking-trough; means for successively transferring the kegs or barrels from the soaking-trough to a device for brushing or scouring the kegs or barrels; a brushing or scouring device having means for rotating a keg or barrel which has been transferred from the soaking-trough; a brush or brushes for brushing or scouring such keg or barrel while under rotation; and an ejector arranged to eject a keg or barrel from the rotating means; means for automatically operating the ejector from and by the weight of a keg or barrel passing from the soaking-trough to the brushing or scouring device; and means for automatically moving the brush or brushes away from a keg or barrel upon which they have been operating, simultaneously with the ejector serving to eject such keg or barrel, substantially as described.

17. In a keg or barrel cleaner, the rotary beveled or tapered rolls for rotating a keg or barrel in a horizontal position; a vertically-adjustable brush adapted for application to the side of the keg or barrel; a couple of horizontally-adjustable brushes arranged opposite the ends of the keg or barrel, and adapted for application thereto; a vertically-movable ejector adapted for lifting the keg or barrel from the rotary rolls, and provided with an operating-lever; a couple of pivotally-supported bell-crank levers having vertically-arranged swinging arms to which the horizontally-adjustable brushes are attached, and to whose upper ends the vertically-adjustable brush is connected by means of a flexible connector and having also horizontally-arranged swinging arms connected with the operating-lever of the ejector so as to withdraw the brushes from the keg or barrel being cleaned when the ejector is actuated; an incline leading downwardly toward the rotary rolls; and a vertically-swinging track-section having its free end arranged normally in the path of a keg or barrel rolling down the incline, and connected with the operating-lever of the ejector so as to actuate the same, and thereby withdraw the brushes from the keg or barrel being cleaned when it is swung downwardly by a keg or barrel upon the incline, substantially as described.

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