

No. 694,874.

Patented Mar. 4, 1902.

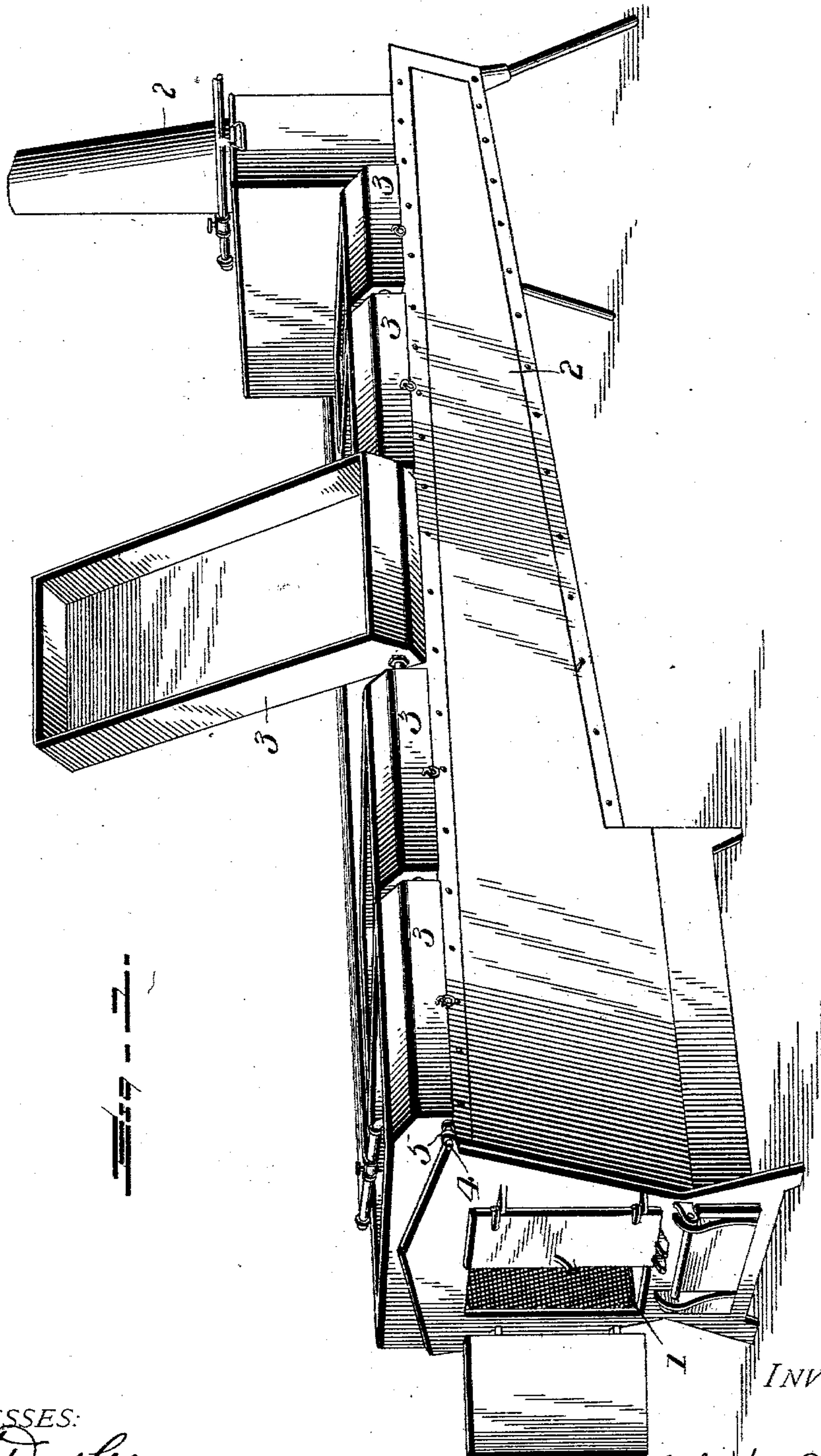
G. A. KING.

TRANSFER AND HINGE FOR EVAPORATING PANS.

(Application filed Apr. 3, 1901.)

(No Model.)

2 Sheets—Sheet 1.



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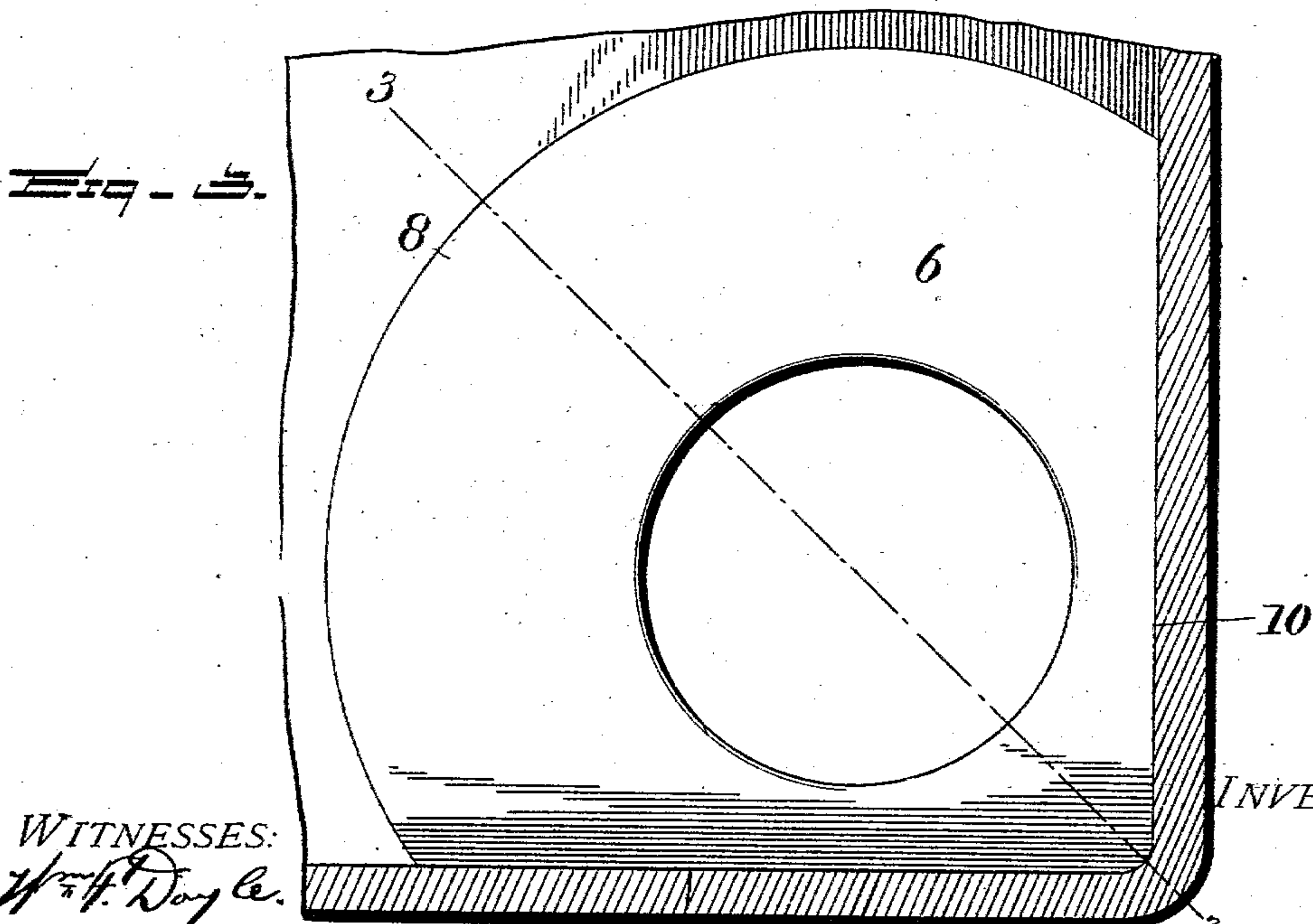
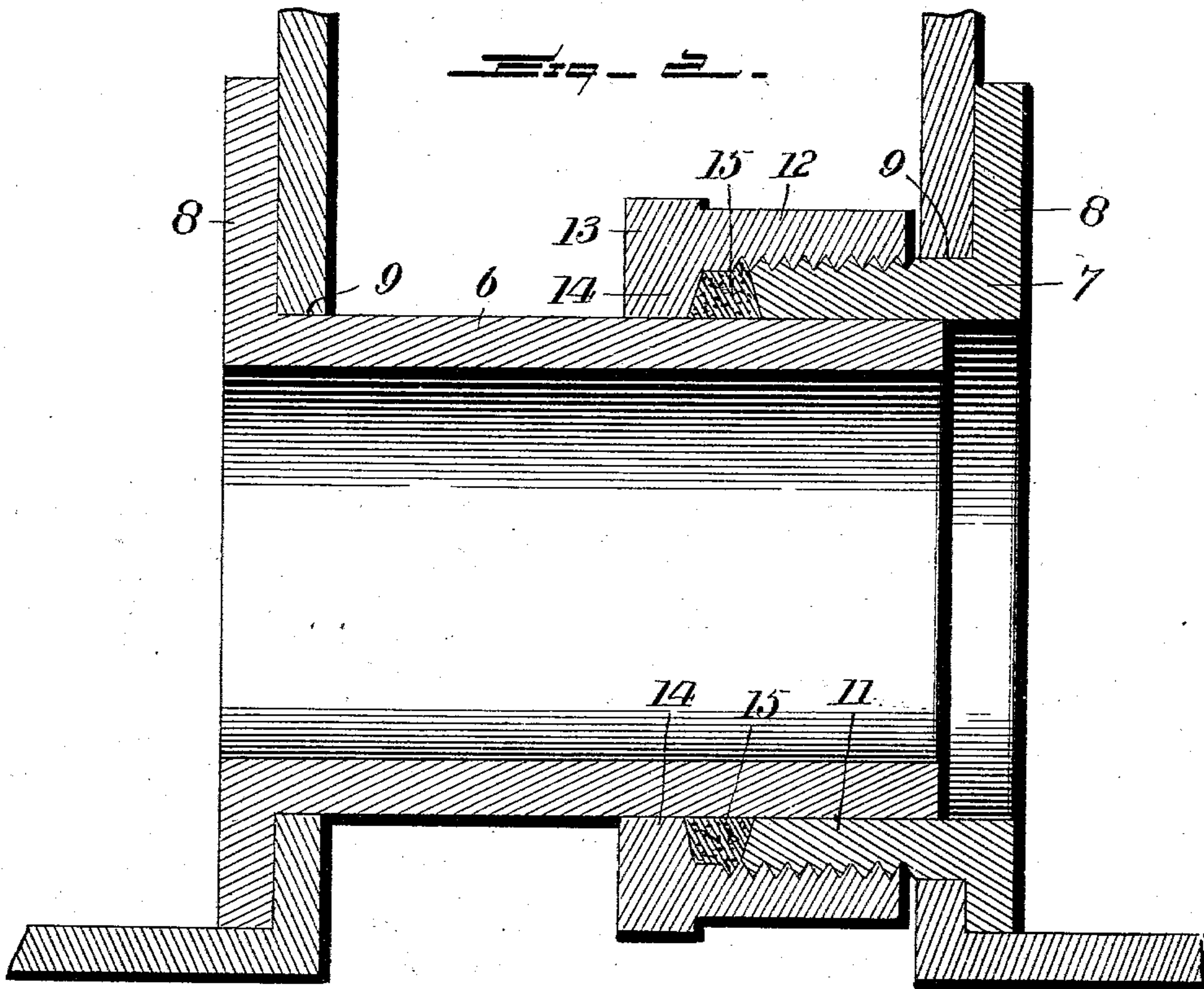
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UNITED STATES PATENT OFFICE.

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TRANSFER AND HINGE FOR EVAPORATING-PANS.

SPECIFICATION forming part of Letters Patent No. 694,874, dated March 4, 1902.

Application filed April 3, 1901. Serial No. 54,157. (No model.)

To all whom it may concern:

Be it known that I, GALUSHA A. KING, a citizen of the United States, residing at Linesville, in the county of Crawford and State of Pennsylvania, have invented certain new and useful Improvements in a Combined Transfer and Hinge for Evaporating-Pans; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates particularly to that class of evaporators employed in the manufacture of sugar and syrup, and has special reference to an improvement in the means which are utilized to maintain communication between the entire series of pans in order that the process of evaporation may be properly carried out.

To this end the invention contemplates an improved transfer or circulating connection between adjoining evaporating-pans comprising means for not only permitting circulation from one pan to the other at the proper point, but which also acts in the capacity of a hinge for the pans, whereby the pans can be individually raised and lowered, as is necessary in the handling thereof for emptying and other purposes.

In such transfers as have heretofore been used ground joints and screw-joints have largely been utilized in effecting a connection between the transfer members; but an objection to the ground joint resides in the fact that joints of this character occasionally stick when a pan is raised, and thereby wrench or break a hole in the same, while with the screw-joint it is very difficult to construct the same, so as to obviate leakage. The present invention contemplates an improved construction involving a packed joint so arranged as to entirely obviate the objections to the ground and screw joints, besides permitting the transfer to constitute an easy and perfect acting hinge for the pans.

With these and other objects in view, which will more readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination, and arrangement of parts hereinafter more fully described, illustrated, and claimed.

While the invention is necessarily suscep-

tible to some modifications, still the preferred embodiment thereof is shown in the accompanying drawings, in which—

Figure 1 is a perspective view of the maple-sugar evaporator, showing one of the pans thereof raised or elevated upon the combined transfers and hinges contemplated by the present invention. Fig. 2 is an enlarged sectional view of the adjacent portions of two adjoining evaporating-pans and the combined transfer and hinge connecting the same. Fig. 3 is a sectional view on the line 3 3 of Fig. 2 of the drawings.

Like numerals of reference designate corresponding parts in the several figures of the drawings.

For the purpose of illustrating the utility and application of the invention there is shown in the drawings a sugar-evaporator embodying in its general organization a furnace 1, having the usual elongated flue 2 and supporting within the top portion thereof the series of evaporating-pans 3, which preserve the same general relation and arrangement as the evaporating-pans of the ordinary types of sugar-evaporators. As already explained, the present invention contemplates specially an improved construction of transfer or circulating connection between adjoining pans, which will also constitute a hinge for such pans, so in the construction of the evaporator the pans 3 are seated within the top portion of the furnace and its flue, so as to be capable of being individually raised and lowered. In order to make suitable provision for the proper hinging of the outside corners of the terminal or end pans of the series, such terminal or end pans have fitted to their outside corners at one end thereof trunnions or pintles 4, loosely engaging in bearing-brackets 5, fitted upon the furnace contiguous to the trunnions or pintles 4, as plainly shown in Fig. 1 of the drawings. The combined transfer and hinge is necessarily used between the adjoining pans and is arranged at the corners of the pans contiguous to one end thereof, also in longitudinal alinement with the terminal trunnions or pintles 4 in order that the hinges for all of the pans will be uniformly arranged at one side of the evaporator, thus facilitating the emptying of the pans.

Referring particularly to the construction of each of the combined transfers and hinges, the same comprises separate tubular members 6 and 7, respectively, telescoping one within the other, so as to provide a continuous passage-way therethrough, while at the same time permitting one member to turn on the other as an axis when the pans are raised and lowered, it of course being understood that one member of the transfer and hinge is carried by one evaporating-pan, while the other member is carried by the directly adjacent pan. The tubular member 6 of the combined transfer and hinge is elongated and extends practically across the space between two adjoining pans, and therefore constitutes the main supporting portion of the device, so the same may be properly termed the "journal" member, while the other member 7 constitutes the sleeve member fitting over the portion of the said journal member 6 between the pans.

Each of the members 6 and 7 of the combined transfer and hinge is provided at its inner end within the pan, to which it is attached with a securing-flange 8. The securing-flanges 8 of the said members 6 and 7 are designed to be soldered or otherwise rigidly fastened to the inner sides of the pans, while the shanks or tubular portions of the members extend through side openings 9, formed in the pan-walls, and to provide for positioning the transfer members as closely as possible to the bottom corners of the pans contiguous to one end of such pans the flanges 8 are preferably of a sector shape, the same having truncated angular side portions 10 fitting in the corners of the pans, as plainly shown in Fig. 3 of the drawings. When the parts are assembled, the member 6, as already explained, extends practically across the space between two adjoining pans and fits inside of the short neck portion 11 of the sleeve member 7, and said neck portion 11 exterior to the pan is exteriorly threaded to receive thereon the interiorly-threaded collar portion 12 of an adjustable packing-nut 13, provided with an inwardly-projecting joint flange 14, closely fitting upon the exterior surface of the tubular journal member 6. Within the nut 13 and upon the exterior of the journal member 6 is arranged suitable packing 15 of candle-wicking or equivalent material, which is designed to be compressed between the joint-flange 14 and the outer end of the sleeve-neck

11. This construction provides a packed joint between the adjoining pans, and by reason of the adjustability of the nut 13 the joint between the members or sections can be made perfectly tight, besides producing an easy and perfect-acting hinge upon which the pans can be individually raised and lowered. Furthermore, the location of the nut 13 intermediate of the two pans renders the same easily accessible.

From the foregoing it is thought that the construction, operation, and many advantages of the herein-described transfer and hinge will be readily apparent without further description, and it will be understood that changes in the form, proportion, and minor details of construction may be resorted to without departing from the spirit or scope of the invention.

Having thus described the invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In an evaporator, the combination with the series of evaporating-pans, of a combined transfer and hinge arranged wholly inside of the space between adjacent pans and extending across such space or interval, said combined transfer and hinge providing a straight-away passage from pan to pan and comprising a tubular elongated journal member having a flanged end fitted to one pan, a tubular sleeve member also having a flanged end fitted to the corresponding side of the adjoining pan, and packing arranged about the journal member at the outer end of the sleeve member.

2. In an evaporator, the combination with the evaporating-pans, of a combined transfer and hinge comprising a tubular elongated journal member fitted to one pan, a tubular sleeve member fitted to an adjoining pan and receiving therein an end portion of the journal member, said sleeve member having a threaded portion, and an adjustable packing-nut closely fitting the exterior of the sleeve member and having a threaded collar engaging the neck of said sleeve, and packing arranged within the collar of the nut and against the outer end of the sleeve member.

In testimony whereof I affix my signature in presence of two witnesses.

GALUSHA A. KING.

Witnesses:

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W. H. STOCKTON.