

UNITED STATES PATENT OFFICE.

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BARGE-LOADING DEVICE.

SPECIFICATION forming part of Letters Patent No. 701,053, dated May 27, 1902.

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To all whom it may concern:

Be it known that I, WILLIAM L. KILLEBREW, a citizen of the United States, residing at Cape Girardeau, in the county of Cape Girardeau and State of Missouri, have invented certain new and useful Improvements in Barge-Loading Devices, of which the following is a specification.

My invention relates to devices for facilitating the loading of barges, rafts, flat-boats, and other types of freight-floating carriers from docks or the elevated banks of navigable streams and other bodies of water. In order to facilitate the loading of boats and barges under these circumstances, it has hitherto been customary to provide a hinged or swinging platform, the hinged edge of which is connected with the end of the dock or wharf, while the free end is supported by suitable guy-ropes connected with uprights on the dock or shore, and in some cases this platform has also been provided on the under side thereof with a float, serving to support the bulk of the weight of the platform and its load directly upon the underlying body or stream of water.

My invention relates generally to the last-mentioned type of loading devices, and has for its principal objects to provide a barge-loading device characterized by simplicity of construction, ease of adaptation to any situation where its use is desired, and more especially facility of operation, permitting much more rapid loading than earlier devices of this type with which I am acquainted.

To this and other ends my invention consists in a barge-loading device which is in the nature of what I may term an "auxiliary barge," adapted to be anchored to the dock, wharf, or bank of the river or other body of water between the shore and the barge to be loaded and provided on the shore side thereof with a pair of gang-planks, one for the loaded carts or teams and the other for the empty ones, and having on the opposite side a suspended platform adapted to overhang the barge to be loaded and of such a shape and construction as to facilitate the distribution of the load over and throughout practically the entire hold of the boat or barge to be loaded. In the preferred form of my inven-

tion both the gang-planks and platform are hinged to the sides of the auxiliary barge in such a manner that they may be lowered and raised therefrom, so as to permit the easier transfer of the auxiliary barge or floating wharf from one point of operation to another, and, further, to enable the device to be easily used in situations where the height of the wharf, dock, or bank above the surface of the water varies somewhat.

My invention is illustrated in the accompanying drawings, in which—

Figure 1 is a plan view of a section of a river and one of the banks thereof, showing a barge to be loaded and my improved device in operative position between the barge and the bank; and Fig. 2 is a front end elevational view of the same.

Referring to the drawings, A designates a river, lake, or other navigable body of water, and B indicates one of the banks or boundaries thereof.

At C is represented a freight-boat in the nature of a shallow and substantially flat-bottomed barge of that class especially adapted for the transportation of rough freight—such as stone, coal, ore, earth, and like substances—on comparatively shallow streams.

Referring now more particularly to the device forming the subject-matter of my present invention, D designates the body portion of what I term an "auxiliary barge," it being in the nature of a float of sufficient size and buoyant capacity to readily sustain the weight of loaded teams adapted to pass thereover in the operation of loading the barge. The float D is entirely covered over with a deck E and at either end thereof is equipped with posts or capstans F, to which are secured guy-ropes G, extending to and at their other ends firmly anchored to the bank or wharf, whereby the auxiliary barge is securely held against any tendency to drift with the current or tide of the body of water on which it floats.

On the shore side of the body D of the auxiliary barge and level with the deck thereof are secured a pair of gang-planks H and H', these gang-planks being preferably connected with the body of the float at opposite ends of its shore side. The gang-planks H and H' may extend rigidly from the body of the float

at any desired angle to the deck E thereof; but I prefer to connect them by hinges *h* and *h'*, respectively, whereby the gang-planks may be lowered to a position level with or
 5 even downwardly inclined from the deck E and may be drawn up to lie parallel with the vertical sides of the float in order to occupy less transverse space in transferring the auxiliary barge from place to place. The outer
 10 ends of the gang-planks are intended to overlap and rest upon the top of the bank or wharf, as plainly shown in Fig. 2. On the opposite side of the body D and level with the deck E thereof is a laterally-extending platform K, which, as shown, is adapted to over-
 15 hang the open hold of the boat or barge C. In the form of this platform herein shown its outer edge is made curved or rounding, the purpose and effect of which is to provide for
 20 a wider distribution of the material to be loaded in and throughout the hold of the boat. Along this outer curved margin of the platform I preferably locate a continuous curb *k*, in the nature of a dump-chock, and to
 25 provide for the still more thorough distribution of the material being loaded within the boat I may provide the platform K substantially in the center thereof or at any other
 30 desired point with a trap-door L, guarding a discharge-opening, the margin of which may also be provided with a suitable dump-chock *l*. The platform K, like the gang-planks H and H', may be rigidly secured to the body of
 35 the auxiliary barge at any desired angle therewith, but is preferably movably connected therewith by hinges *k'* in order that the platform may be drawn up to lie parallel with its
 40 adjacent side of the float or body D in the same manner and for the same reasons already stated in connection with the gang-planks H and H'.

In order to suspend the platform in its laterally-extended position and as an auxiliary sustaining means for the gang-planks H H',
 45 I erect uprights M on the four corners of the body of the auxiliary barge, and over or through the tops of these uprights I pass a tension rod or cable N, secured at its ends to eyebolts *n* and *n'* in the gang-planks H H'
 50 and the platform K, respectively, which tension-rod is preferably equipped with a suitable number of tensioning devices—such, for instance, as the turnbuckles indicated at *n*², *n*³, and *n*⁴. These uprights and tension-rods
 55 are employed whether the platform is hinged to or rigid with the deck of the auxiliary barge.

In order to increase the stability and render more perfect the equilibrium of the auxiliary barge, I provide the latter along the
 60 submerged portions of the sides thereof with counterbalancing-weights, here indicated as iron I-beams O and shown as resting upon ledges or lateral extensions *d* of the bottom of the float or body D. Other forms of weights
 65 otherwise secured along the submerged sides of the float may obviously be employed, if

desired, without departing from the principle of this portion of my invention.

The mode of using and the advantages of my invention may be briefly described as follows: Assuming, for instance, that the barge
 70 C is to be loaded with stone or coal or like material by means of dumping-carts, as indicated at P in Fig. 2, the auxiliary barge, which, it will be observed, constitutes, in effect, a floating platform, is anchored by guy-
 75 ropes G to the shore, bank, dock, or wharf at a place conveniently adjacent to the material to be loaded. The gang-planks H and H' are lowered until their free ends overlie
 80 and rest upon the bank. The platform K is similarly lowered to a position substantially level with the main deck E of the auxiliary barge. The supporting rods or cables N are applied and the barge C to be loaded is then
 85 drawn alongside the auxiliary barge and directly beneath the platform K, for which purpose the auxiliary barge may carry a crab or similar device (not shown) for drawing the barge into loading position. This done, the
 90 device is ready for the loading operation, which may be carried out by causing the loaded carts, wheelbarrows, or other loading devices to enter the floating-platform by way
 95 of one of the gang-planks H or H', passing thence over the deck E to the platform K, backing up against the dump-chock on the margin or trap-opening of the latter, discharging their contents at various points into the
 100 hold of the barge, and returning empty by way of the other gang-plank. As already stated, the loads may be dumped at varying points along the curb of the platform or its trapped opening, whereby the load is distributed with comparative uniformity and con-
 105 venience over the hold of the barge C, thereby preventing undue tilting or careening of the latter in the loading operation. When the barge has been thus loaded, it may be withdrawn without disturbing the relative
 110 positions of the several parts constituting the auxiliary barge and another empty barge may be drawn up into its place. When all the material at a given location has been thus transferred to the barges or similar carriers, the platform and gang-planks of the
 115 auxiliary barge may be drawn up, the guy-ropes G released, and the auxiliary barge towed or otherwise propelled to the next point of operations.

The continuous and uninterrupted heavy curb formed on the outer margin of the over-
 120 hanging platform not only serves as a dump-chock, but has another important function in that it affords to the platform the required rigidity necessary to sustain the loads imposed thereon without any tendency to twist and sag. This is quite essential, since the platform, being in suspension, cannot depend
 125 on the rigidity of the deck of the barge to resist such tendencies.

It will thus be seen that by my invention

I provide an exceedingly simple and efficient and easily-manipulated barge-loading apparatus which may have a comparatively wide reach from the bank or wharf, is well balanced and comparatively stable in operation, and, further, provides for the discharge of the material being loaded to the barge in such a manner as to avoid uneven loading of the latter and dispenses with the necessity of subsequently adjusting the load therein to secure a proper poise thereof.

It is evident that the details of my invention might be varied to some extent without departing from the spirit thereof, and I do not, therefore, limit myself to the exact details of construction and relative arrangement of parts herein shown and described, except to the extent that they may be made the subject of specific claims.

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

1. In a barge-loading device, an auxiliary barge comprising a float adapted to be anchored to the shore in combination with a gang-plank extending from one side thereof to the shore, a platform on the other side adapted to overhang the barge to be loaded, said gang-plank and platform being connected to the barge upon approximately the same level, uprights on opposite ends of the float, respectively, and tension members connecting the tops of said uprights with the outer margin of the platform, substantially as and for the purpose described.

2. In a barge-loading device, an auxiliary barge comprising in combination a float having a deck adapted for the passage of carts and the like thereover, a pair of gang-planks extending laterally from said deck at the ends thereof and adapted to reach the shore, a platform coextensive with and secured to the opposite side of the deck and having its outer margin adapted to overhang the hold of a barge to be loaded, uprights on opposite ends of the deck, respectively, and tension members connecting the tops of said uprights with the outer margin of said platform and

the outer ends of said gang-planks, respectively, substantially as and for the purpose described.

3. In a barge-loading device, an auxiliary barge comprising in combination a floating body having a deck adapted for the passage of carts and the like thereover, anchoring devices therefor, a pair of gang-planks extending from the shore side thereof, and a hinged platform on the opposite side of the body the outer margin of which is adapted to overhang the barge to be loaded, substantially as described.

4. In a barge-loading device, an auxiliary barge comprising in combination a floating body having a deck adapted for the passage of carts and the like thereover, a pair of gang-planks extending from the shore side thereof, and a hinged platform on the opposite side of the body the outer margin of which is provided with a continuous upstanding curb and is adapted to overhang the barge to be loaded, substantially as described.

5. In a barge-loading device, the combination with an anchored float having a flat deck, of laterally-extending entrance and exit gang-planks connecting one side of said deck with the shore, and a laterally-extending platform connected with the opposite side of the deck, said platform having a curved outer margin adapted to overhang the hold of the barge to be loaded and further provided with an opening therethrough for the additional discharge of the load to the barge, substantially as and for the purpose described.

6. In a barge-loading device, the combination with a float having a flat deck and lateral extensions therefrom to the shore and over the barge to be loaded, respectively, of weights hung along the sides of the float below the water-line and serving to increase the stability and maintain the equilibrium thereof in the loading operation, substantially as described.

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Witnesses:

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THEO. BOYCE.