E. J. MILLER.

FOLDING GANG PLANK.

APPLICATION FILED AUG. 18, 1909.

963,918. **Patented July 12, 1910.**

2 SHEETS—SHEET 1.

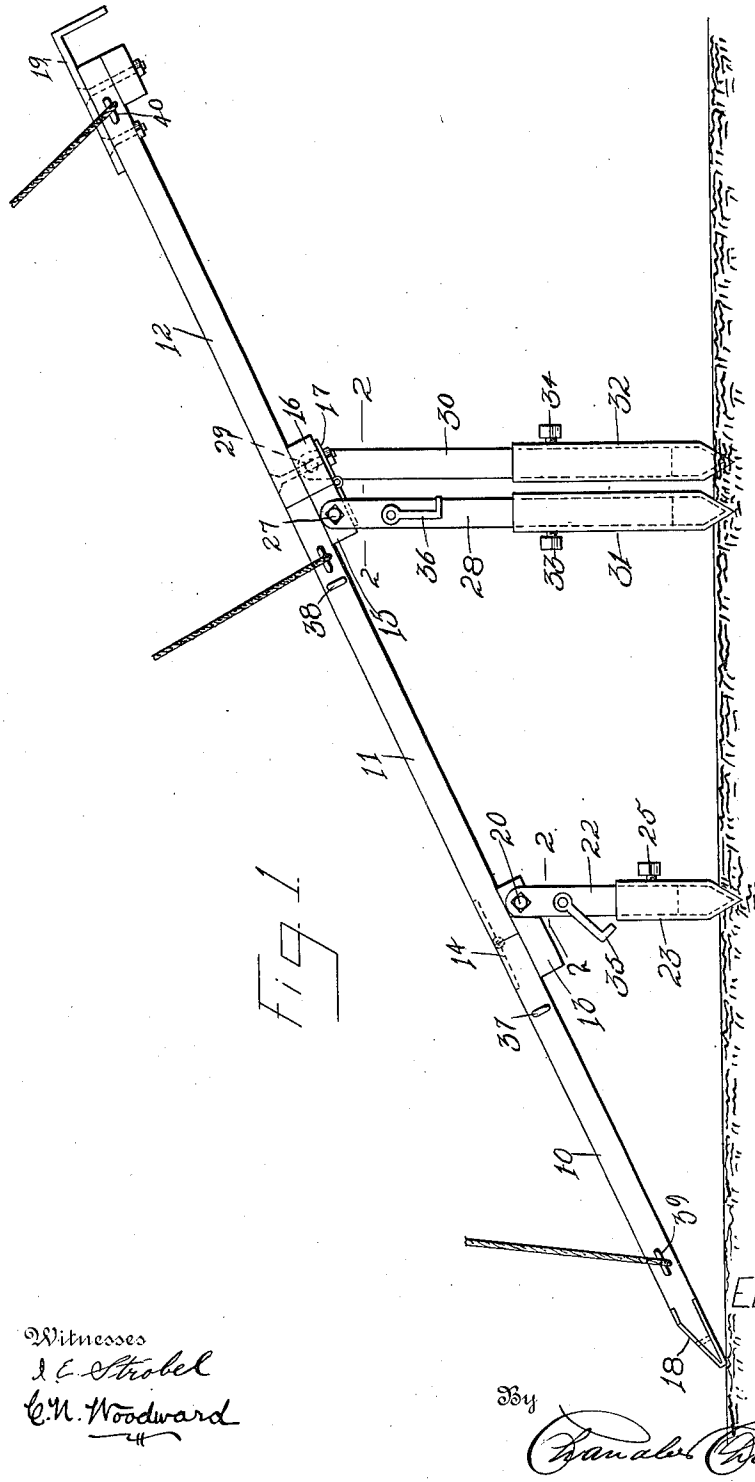

Fig. 1.

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2 SHEETS—SHEET 2.

Fig. 2.

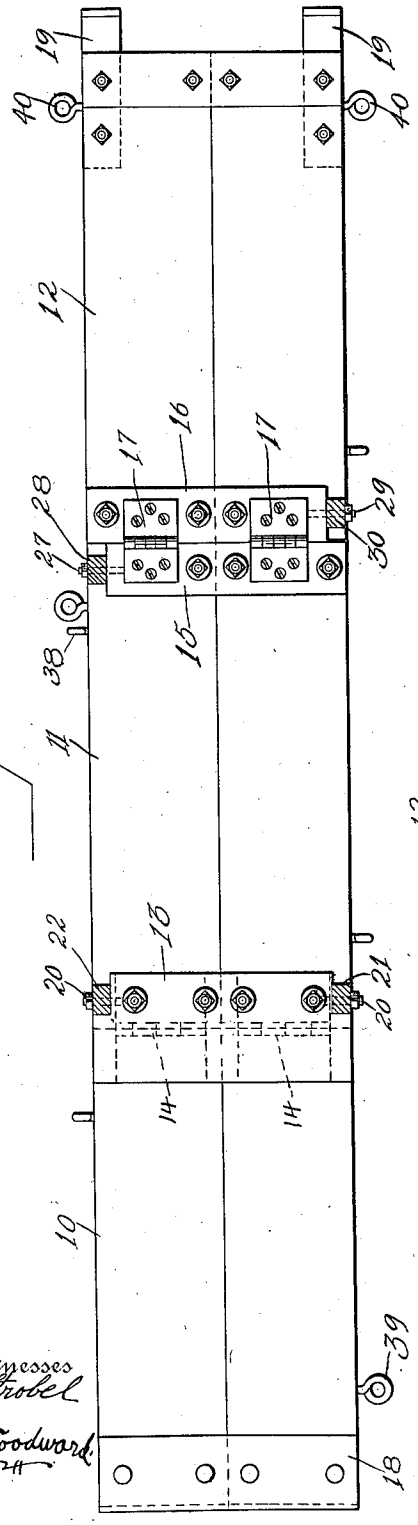
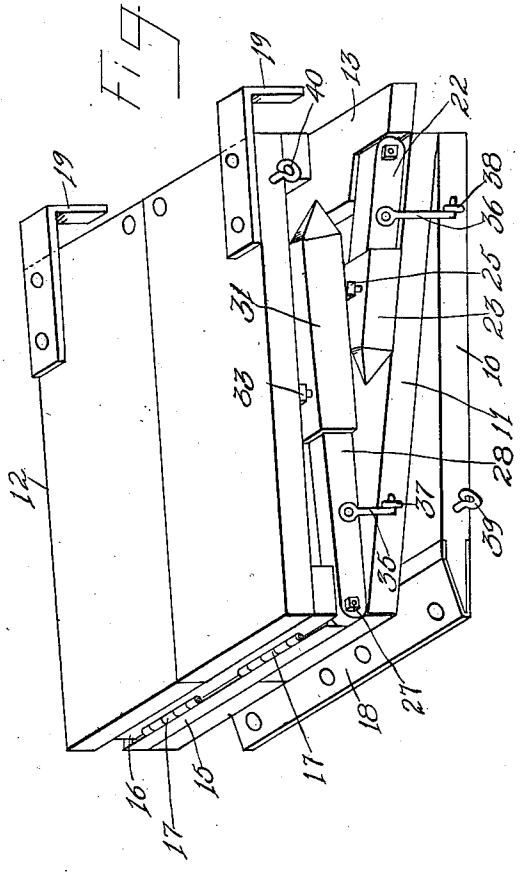


Fig. 3.



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UNITED STATES PATENT OFFICE.

ELIZABETH J. MILLER, OF ORRVILLE, OHIO.

FOLDING GANG-PLANK.

963,918. Specification of Letters Patent. Patented July 12, 1910.

Application filed August 18, 1909. Serial No. 513,496.

To all whom it may concern:

Be it known that I, ELIZABETH J. MILLER, a citizen of the United States, residing at Orrville, in the county of Wayne, State of Ohio, have invented certain new and useful Improvements in Folding Gang-Planks; 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 to improvements in folding gang planks and similar structures, and has for one of its objects to improve the construction and increase the efficiency and utility of devices of this character.

With this and other objects in view, the invention consists in certain novel features of construction as hereafter shown and described and then specifically pointed out in the claims, and in the drawings illustrative of the preferred embodiment of the invention, Figure 1 is a side elevation of the improved device in open or operative position. Fig. 2 is a plan view of the same from beneath, with the supporting legs in section on the line 2—2 of Fig. 1. Fig. 3 is a perspective view of the improved device in folded position.

The improved device may be employed in connection with vessels, freight cars, wagons, or the like, and may be of any required size to adapt the improved device to the structure in connection with which it is to be employed, and it is not desired therefore to limit the invention to any specific size, or to any specific proportions of the parts.

The improved device comprises a plurality of sections hingedly united to fold into a relatively small space when not in use, and any required number of the sections may be employed, but for the purpose of illustration three of the sections are shown. The sections are represented at 10—11—12 and hingedly united end to end. The section 11 is provided with a transverse cleat 13 rigidly supported, preferably by bolts, to its underface at its lower end and projecting beneath the contiguous end of the lower section 10. The sections 10—11 are united at their confronting ends by hinges 14, the hinges being preferably sunken into the upper surfaces of the sections, so that no portion projects above their upper surfaces.

Connected beneath the section 11 at its upper end is a transverse cleat 15, and connected beneath the lower face of the upper section 12 at its lower end is a corresponding cleat 16, the two cleats 15—16 being arranged to bear against each other at their confronting faces. Suitable hinges 17 are connected to the cleats 15—16 upon their lower faces, to hingedly unite the sections 11—12. By this means the hinges 17 are spaced a considerable distance from the upper faces of the sections 11—12, and thus materially strengthen and support the sections and preventing downward deflection when in use. The foot portion of the section 10 is provided with a plate metal guard 18, to prevent abrasion of the section, which are generally formed of wood.

At its upper end the section 12 is provided with suitable metal hooks 19 to enable it to be connected to the structure with which it is to be employed. The cleat 13 is provided with recesses at its ends, the recesses coming wholly beneath the section 11 when the sections are in open position, and pivoted at 20 within these recesses are supporting legs 21—22. The recesses are so formed that shoulders are produced against which the legs 21—22 bear when in their vertical or operative positions, as shown. By this means the legs are limited in their movement in one direction, as will be obvious. At their lower ends the legs 22—21 are provided with extension members 23 in tubular form, and pointed at their free ends to engage in the ground and prevent the slipping of the leg when in use. The extension members 23 are provided with clamp screws 25, whereby they may be clamped in any desired position to the legs 21—22.

The cleat 15 is provided at one end with a recess similar to the recesses of the cleat 13 which has just been described, while the cleat 16 is provided with a similar recess at the end opposite to the recess of the cleat 15. Pivoted at 27 to the cleat 15 within its recess is a leg 28, and pivoted at 29 in the recess of the cleat 16 is a similar leg 30. Adjustably engaging over the leg 28 is a tubular extension 31, while a similar tubular extension 32 engages over the leg 30. The extension 31 is provided with a clamp screw 33, while the extension 32 is provided with clamp screws 34, to enable the extensions to be adjustably coupled to the leg members. Means are thus provided for extending the various leg members to any required extent within the range of the tubular extensions, as will be obvious.

By this means the sections 10—11—12 when arranged in extended position may be adjusted with the end having the hooks 19 located at any elevation to adapt the device to the various structures to which it is to be applied. The cleat 13, as above noted, is extended at one edge beneath the contiguous end of the section 10, so that the downward strains are borne almost entirely by the cleat, and the hinges 14 relieved from downward strain.

When not in use, the section 10 is folded upon the section 11 and the section 12 folded beneath the section 11 as shown in Fig. 3. Hooks 35—36 and eyes 37—38 are provided between the leg members and the sections 10—11, so that the parts may be secured together in their folded position. Means are provided for handling the improved structure when in its larger form, or when used in connection with vessels or like structures, and this means will preferably be a suitable hoisting tackle which will be attached to suitable eyes 39—40 connected respectively to the sections 10—12, as shown. The leg portions 21—22 and 28—29 are preferably of wood, while the extension members to the legs will be of metal of suitable strength to enable the improved device to withstand the severe strains to which it will be subjected.

What is claimed is:—

1. A device of the class described comprising a plurality of sections arranged end to end, a cleat secured to one of said sections and projecting at its free edge beneath the confronting end of the adjoining section, hinges uniting two of said sections adjacent to said projecting cleat, and supporting legs swinging from said cleat.

2. A device of the class described comprising a plurality of sections arranged end to end, a cleat secured to one of said sections and projecting at its free edge beneath the confronting end of the adjoining section, hinges uniting two of said sections adjacent to said projecting cleat, supporting legs swinging from said cleat, and extension members connected to said supporting legs.

3. A device of the class described comprising a plurality of sections arranged end to end, a cleat secured to one of said sections and projecting at its free edge beneath the confronting end of the adjoining section, cleats secured beneath another two of said sections and engaging face to face, hinges uniting two of said sections adjacent to said projecting cleats, hinges applied to said facing cleats, supporting legs swinging from said first mentioned cleat, and supporting legs swinging from said facing cleats.

4. A device of the class described comprising a plurality of sections arranged end to end, a cleat secured to one of said sections and projecting at its free edge beneath the confronting end of the adjoining section, said cleat having recesses in its ends, hinges uniting two of said sections adjacent to said projecting cleat, and supporting legs pivoted to said cleat within said recesses.

5. A device of the class described comprising a plurality of sections arranged end to end, a cleat secured to one of said sections and projecting at its free edge beneath the confronting end of the adjoining section, said cleat having recesses in its ends, hinges uniting two of said sections adjacent to said projecting cleat, supporting legs pivoted to said cleat within said recesses, and extension members connected to said supporting legs.

6. A device of the class described comprising a plurality of sections arranged end to end, a cleat secured to one of said sections and projecting at its free edge beneath the confronting end of the adjoining section, said cleat having recesses in its ends, hinges uniting two of said sections adjacent to said projecting cleat, supporting legs pivoted to said cleats within said recesses tubular extension members fitting over said legs, and means for clamping said extension members to said legs.

7. A device of the class described comprising a plurality of sections arranged end to end, a cleat secured to one of said sections and projecting at its free edge beneath the confronting end of the adjoining section, said cleat having recesses in its ends, hinges uniting two of said sections adjacent to said projecting cleat, supporting legs pivoted in the recesses of said projecting cleat, cleats secured beneath another two of said sections and engaging face to face, said last mentioned cleats each having a recess in one end, hinges uniting two of said sections adjacent to said projecting cleat, hinges applied to said facing cleats, and supporting legs pivoted within the recesses of said facing cleats.

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

ELIZABETH J. MILLER.

Witnesses:

M. J. LEICKHEIM,

JOHN LEININGER.