

(No Model.)

J. E. ROEMHELD.
MEANS FOR RAISING SWING BRIDGES.

No. 576,825.

Patented Feb. 9, 1897.

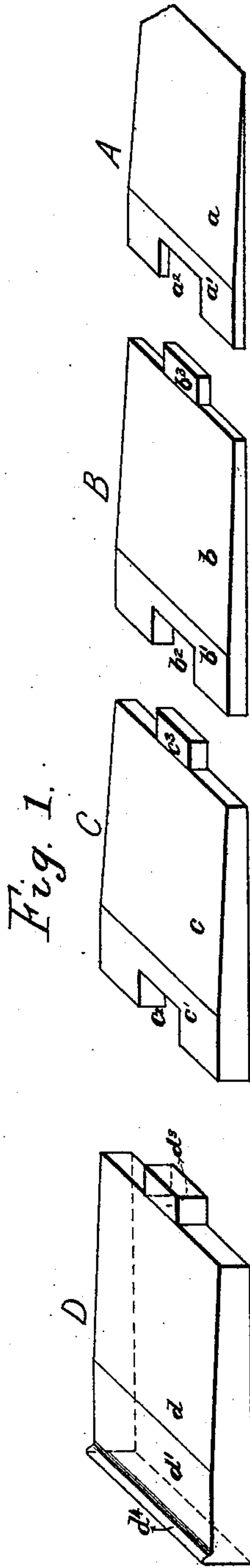


Fig. 2.

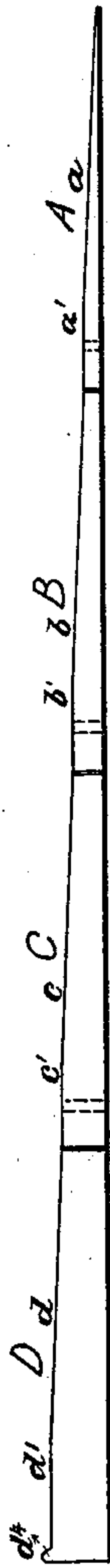
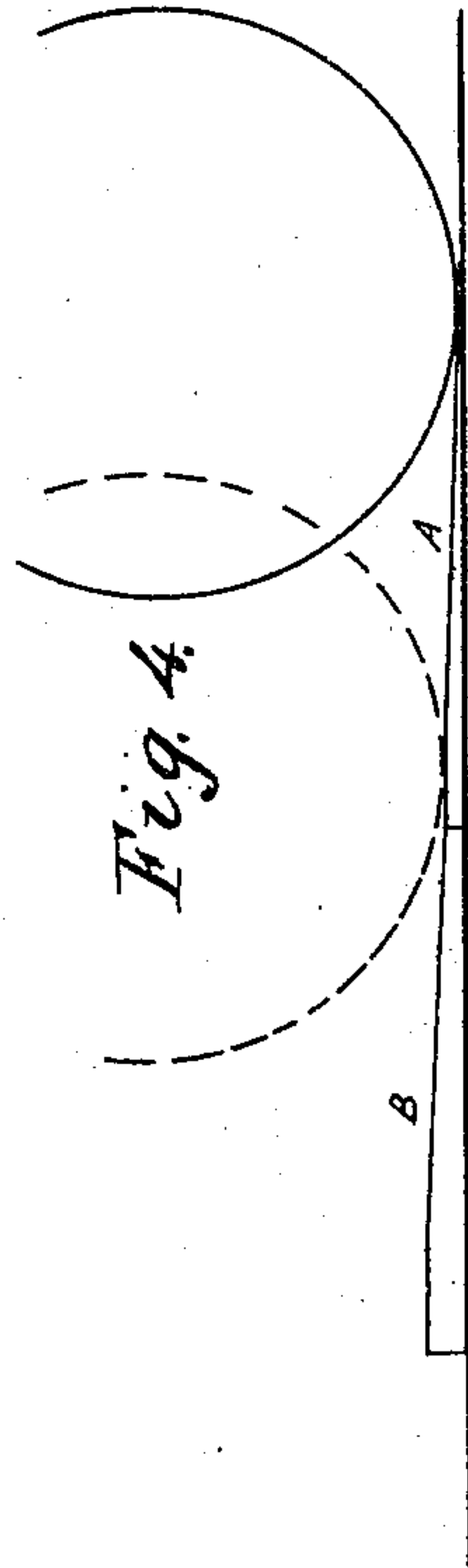
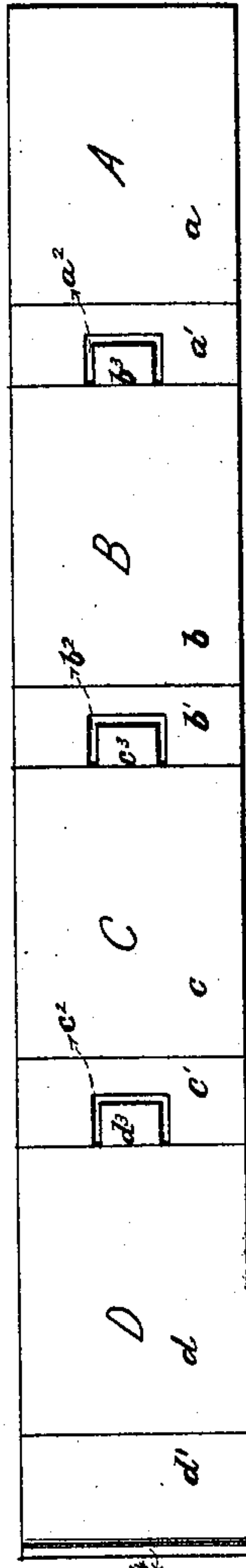


Fig. 3.



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UNITED STATES PATENT OFFICE.

JULES E. ROEMHELD, OF CHICAGO, ILLINOIS.

MEANS FOR RAISING SWING-BRIDGES.

SPECIFICATION forming part of Letters Patent No. 576,825, dated February 9, 1897.

Application filed August 17, 1896. Serial No. 603,063. (No model.)

To all whom it may concern:

Be it known that I, JULES E. ROEMHELD, of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Means for Raising Swing-Bridges, of which the following is a specification, reference being had to the accompanying drawings, in which—

Figure 1 is an isometric view of the device; Fig. 2, a side elevation with the parts assembled; Fig. 3, a plan view, and Fig. 4 an illustration in side elevation.

This invention relates to means for raising swing-bridges, turn-tables, and the like for the purpose of making any repairs or alterations which may necessitate the raising of the structure, such as track repairs, pivot repairs, or replacing old and worn turn-table wheels, &c. In raising these structures for such purposes it has heretofore been customary to employ a large number of jack-screws, involving the building of extensive false work and the employment of a large number of men, thus causing great expense and loss of time.

It is the object of my present invention to furnish a device whereby these disadvantages may be obviated and the bridge raised by simply swinging the same in a short space of time without necessitating the use of scaffolding or false work of any kind or the employment of a large number of men.

To these ends the invention consists in certain novel features, which will be hereinafter described, and then specifically pointed out in the claims.

I will now describe the operation of my invention as employed in the replacing of a set of old and worn turn-table wheels, although it will be understood that my invention is not limited to this application, which is given for purposes of illustration. For this purpose I employ a plurality of wedges, usually in series and preferably constructed of steel, and in the accompanying drawings I have shown one of these series, the others being identical in structure. Moreover, I have shown this series as composed of four wedges A, B, C, and D, although it is obvious that the number of wedges in the series may be varied according to the requirements of each case. Each wedge is provided with an initial inclined portion a , b , c , and d and a terminal

horizontal portion a' , b' , c' , and d' of sufficient dimensions to support one of the wheels. Each of the wedges A, B, and C is provided at this horizontal portion with a central recess a^2 , b^2 , and c^2 to receive a corresponding projection b^3 , c^3 , and d^3 on the following wedge of equal height to said horizontal portion, and it will be observed that while the incline of the first wedge A begins at the level of the turn-table track each succeeding wedge has its incline beginning at the height of and abutting against the rear edge of the horizontal portion of the preceding wedge. The last wedge of the series, in this case the wedge D, is provided with a terminal stop d^4 .

The mode of operation is as follows: In practice I employ four series of wedges such as that just described, although the number of series used may be varied. The wedges A are placed under the turn-table wheels at four or more points and the bridge is then rotated on its swinging gear, causing the wheels to ascend the inclines of said wedges and rest upon the horizontal portions thereof. The tongues b^3 of the wedges B are then inserted in the recesses a^2 of the wedges A, and as the wheels advance they bear upon these tongues and prevent the wedges B from being shoved away from the wedges A as the wheels advance. The successive wedges are added to the series as the wheels advance until these latter rest on the horizontal portions of the last wedges of the series, being prevented from overrunning by the stops d^4 . When the bridge is in this position, all the worn wheels, except those on which the bridge rests, may be removed and replaced by new ones, and as the bridge is turned back to its original position the new wheels, being of larger diameter, serve to support the bridge while the old rollers, which served as temporary supports, are removed and replaced.

I prefer to employ wedges in series for the reason that the distance from wheel to wheel in bridges and turn-tables is usually too small to permit the use of a single wedge, since to attain the height necessary for the purpose of replacing worn wheels the gradient of single wedges would be too steep for successful operation; but in case it is desired to raise the structure a less distance, or in case the distance between the wheels is sufficient

for the purpose, I may employ single wedges, each having a horizontal portion and a terminal stop.

It is obvious that various modifications in the details of the construction set forth may be made without departing from the principle of my invention. For instance, the location of the recesses and tongues may be reversed or their shape and number may be varied. I therefore do not wish to be understood as limiting myself to the precise details of construction hereinbefore set forth, and shown in the drawings.

It will be observed that by the use of my device swing-bridges, turn-tables, &c., may be cheaply and quickly raised and lowered in a simple and efficient manner, obviating the expense and delay heretofore incurred in this operation.

I claim—

1. A device for raising swing-bridges, &c. comprising a plurality of series of wedges, the incline of each wedge beginning at a height equal to the terminal height of the preceding wedge, substantially as described.

2. A device for raising swing-bridges, &c. comprising a plurality of series of wedges, each having an initial incline and a terminal horizontal portion, the incline of each wedge beginning at a height equal to the terminal height of the preceding wedge, substantially as described.

3. A device for raising swing-bridges, &c. comprising a plurality of series of wedges, each having an initial incline and a terminal

horizontal portion, the latter recessed as described, the incline of each wedge beginning at a height equal to the terminal height of the preceding wedge and having a tongue entering the recess of said preceding wedge and flush with the horizontal portion thereof, substantially as set forth.

4. As a means for raising swing-bridges, &c. a plurality of wedges adapted to be inserted under the structure to be raised, said wedges having an initial incline and a horizontal portion, the terminal horizontal portions of the plurality being provided with a terminal stop, substantially as described.

5. In a device for raising swing-bridges, &c., a plurality of elements each comprising an initial inclined portion and a horizontal portion, substantially as set forth.

6. In a device for raising swing-bridges, &c., a plurality of elements, each comprising an initial inclined portion and a horizontal portion, the terminal horizontal portions of said plurality having a terminal stop, substantially as set forth.

7. In a device for raising swing-bridges, &c., a plurality of elements having cooperating parts, comprising inclined and horizontal portions, and tongue and recess connections between said portions whereby the separation thereof by the transfer of the load is prevented, substantially as set forth.

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