

(No Model.)

M. C. BROWN.
FOLDING WAGON BOX STEP.

No. 597,706.

Patented Jan. 25, 1898.

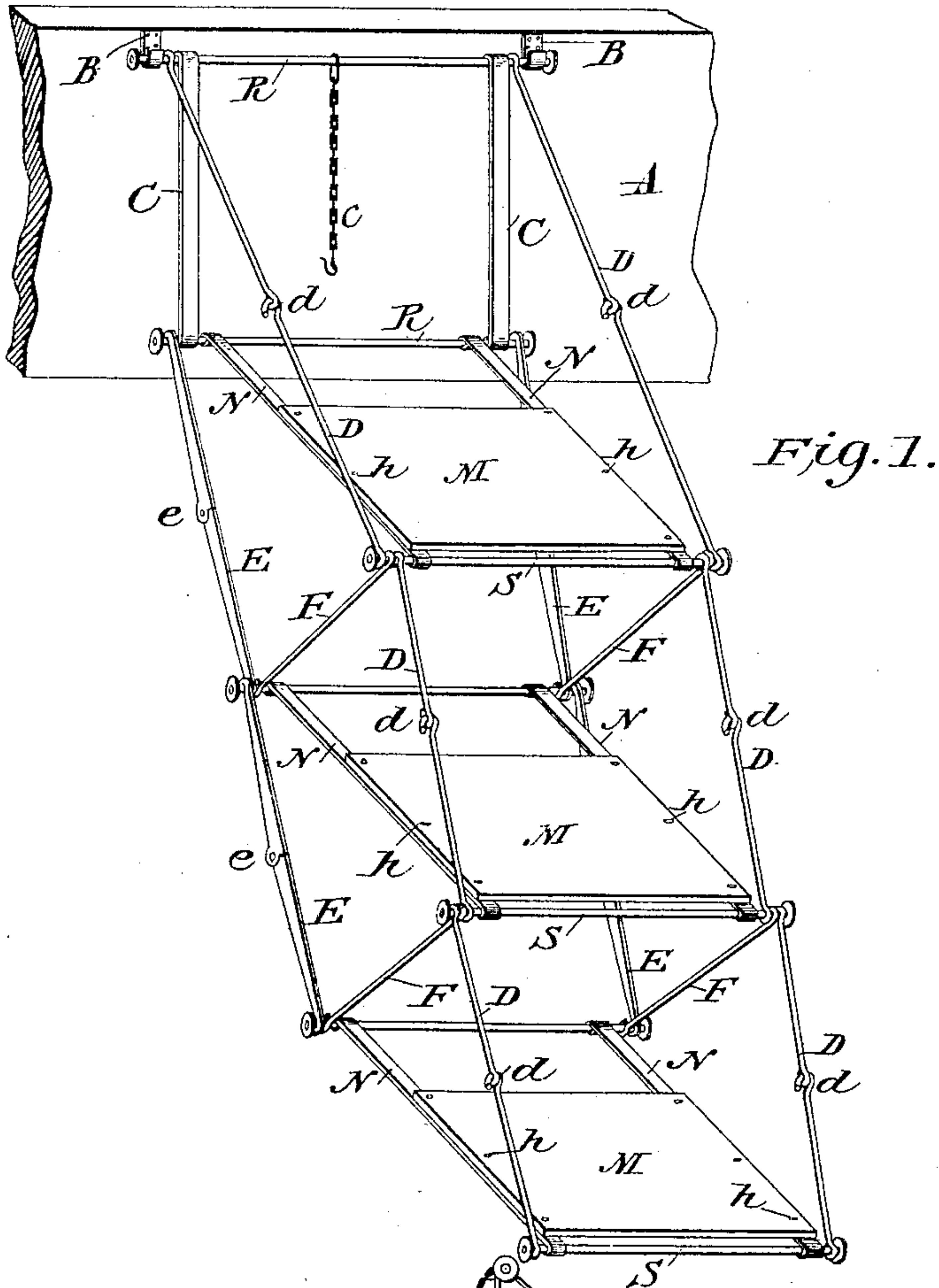
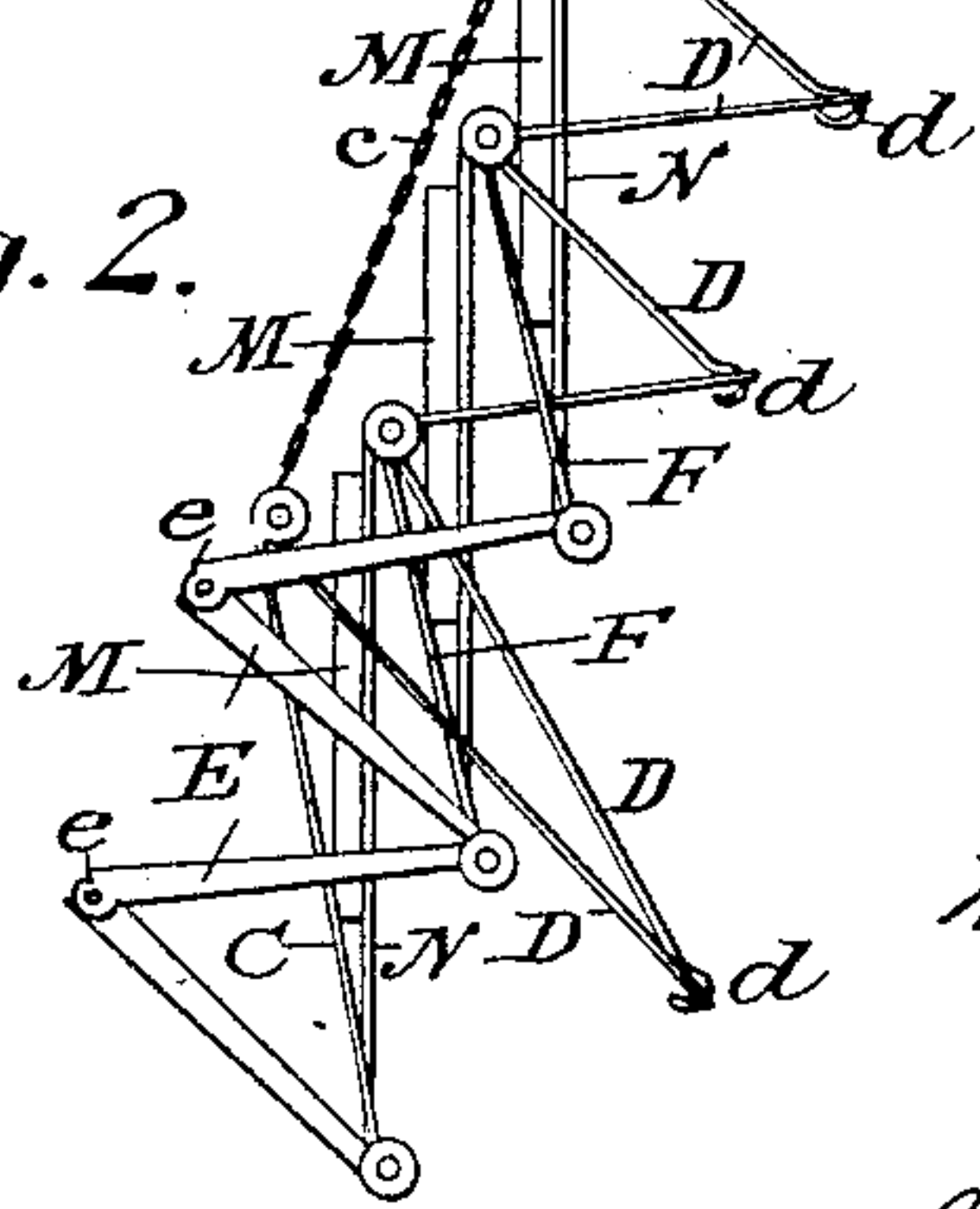


Fig. 2.



Witnesses.

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FOLDING WAGON-BOX STEP.

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To all whom it may concern:

Be it known that I, MARVEL C. BROWN, a citizen of the United States, residing at Denton, in the county of Denton and State of Texas, have invented new and useful Folding Wagon-Box Steps, of which the following is a full and clear specification, with drawings of same herewith.

My invention relates to improvements in folding wagon-box steps, and has for its object to provide a novel, simple, and safe device of the character indicated which is adapted for compact and convenient folding into a close package when not in use and readily adjustable for service and to be capable of falling into position for use and unfolding by the weight of its parts and held at an angle downward and outward from the top of the side-board or end-gate of a wagon-box, forming easy and convenient steps to enter same by its peculiar construction, adapted to adjustment to a wagon-box.

To these ends my invention consists in the construction and combination of parts fully described and claimed hereinafter, reference being had to accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in both of the figures.

Figure 1 is a perspective view of my improved folding wagon-box steps unfolded and extended and ready for use, adjusted to a section of a side-board of a wagon-box. Fig. 2 is the same folded up compactly against the side of a wagon-box when not in use.

The folding wagon-box-step device herein described may be made of such length and number of steps and width of same as may be desired; but three (3) steps of width of nine (9) or ten (10) inches each are of usual practical construction.

In the drawings the letter A represents a section of a side-board of a wagon-box, to which the device is adjusted by means of two metallic flat-bar hooks B B, permanently adjusted to the upper cross-rod R, so as to loosely turn on same and hook over and down on inside of side-board A a few inches to securely hold the device at the upper edge of the wagon-box, while at the same time the flat vertical side bars C C and second cross-rod R from the top bear against the side of the wagon-box,

firmly and rigidly supporting the entire device with its weight placed on same in connection with its other mechanisms herein described.

To the upper rods R R are adjusted the flat vertical metallic bars C C, coming down on outside of wagon-box side-board A, as above stated, and bent at their ends over and around the rods R R in such a manner as to turn on same freely in folding the device. The upper supporting-rods D D are likewise attached to and turned at their ends over the upper cross-rods R and S, so as to turn on same freely, as are likewise attached the elbow-joint support and bracing-rods E E to rods R R. The former are constructed with elbow-joints *e e* in their middle to open only in a right line and no farther outwardly, and all connected at their ends with and turned over and around the rods R R, so as to turn freely on same when they are pushed inwardly toward the steps, turning at elbow-joints *e e* in folding. The upper supporting-rods D D are attached to upper cross-rods R and S and have joints *d d* in their middle in form of ring-like bent ends engaging each other in such a manner as to turn and fold freely inwardly when the device is folded up, as shown in Figs. 1 and 2. The next and lower series of supporting-rods D D have like folding joints *d d*, but are attached to cross step-rods S S, turning freely on same in folding.

The diagonal supporting and bracing rods F F are at their ends attached to cross-rods R R and S S, likewise turning on same in folding, as shown in Figs. 1 and 2. To the cross-rods R R and S S are likewise attached flat metallic step-support bars N N, turning on same in folding, and upon these flat step-bars N N are fastened wooden or metallic steps M M M by means of bolts or rivets *h h*, as shown in the two figures.

It will thus be observed that by the peculiar and novel construction of this device all the parts are so connected as to firmly brace and support all the series of steps from the wagon-box down with the weight that may be placed on them without the least danger of breaking, for when loaded down the device will be rigid, strong, and firm in use.

When it is desired to fold up compactly the wagon-box steps herein described, the elbow-

rods E E are pushed inwardly toward the steps, turning at the elbow-joints *e e*, when the whole device can be lifted from the bottom step upward and folded compactly against the side of the wagon-box, and the chain C, attached at one end to the upper rod R and provided with a hook at lower end, is hooked over the lower rod S, and the whole device is held in a compact folded position against the side of the wagon-box.

When the device is to be employed in ascending into or descending from the wagon, the chain C, with its hook, is detached from the outside or lower rod S, and the folded wagon-box steps will unfold and extend by the weight of its parts automatically and be in position and ready for use, as shown in Fig. 1.

The rods R R and S S are constructed with heads at one end and threads provided with nuts at the other end, holding all the parts securely together, all of which are easily constructed and taken apart when desired.

This device is strong, durable, and cheap, and very useful and easily adjusted to either side of a wagon-box or end-gate of same and may be placed folded within the wagon-box, if preferred, when not in use.

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

1. In folding wagon-box steps the combination with a wagon-box of the vertical flat side bars C, C, adjusted to the upper first, and second cross-rods R, R; said upper cross-rod being provided with two flat supporting-hooks B, B, and chain C, with hook; upper

jointed supporting-rods D, D, the upper ends attached to the upper cross-rod R, and lower ends connected with upper front cross step-rod S; flat bars N N provided with upper step M; said bars N, N, connected with cross-rods R and S; upper diagonal rods F, F, connecting cross-rods R, and S; upper jointed elbow-rods E, E, having elbow-joints *e, e*, said rods E, E, connecting cross-rods R, R; said cross-rods R, R, and S, S, provided with heads at one end, and threads and nuts at other end, substantially as and for the purposes herein shown and described.

2. In folding wagon-box steps the combination with a wagon-box of the series of steps M, M, M supported by the adjustable flat-bar hooks B, B, over upper edge of a wagon-box, said hooks attached to upper cross-rod R; flat side bars C, C, connecting upper cross-rods R, R, for base-support against wagon-box; series of jointed rods D, D, and E, E, the former connecting cross step-rods S, S, and the latter connecting cross-rods R, R; series of cross-rods R, R and S, S, connected by flat step-bars N, N, provided with steps M, M, M; series of diagonal rods F, F, connecting cross-rods S, S, and R, R, said jointed rods being adapted to turn on their connecting-rods and fold at their joints and all constructed, and adapted to fold compactly, substantially as and for the purposes herein shown and described.

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