

No. 754,957.

PATENTED MAR. 15, 1904.

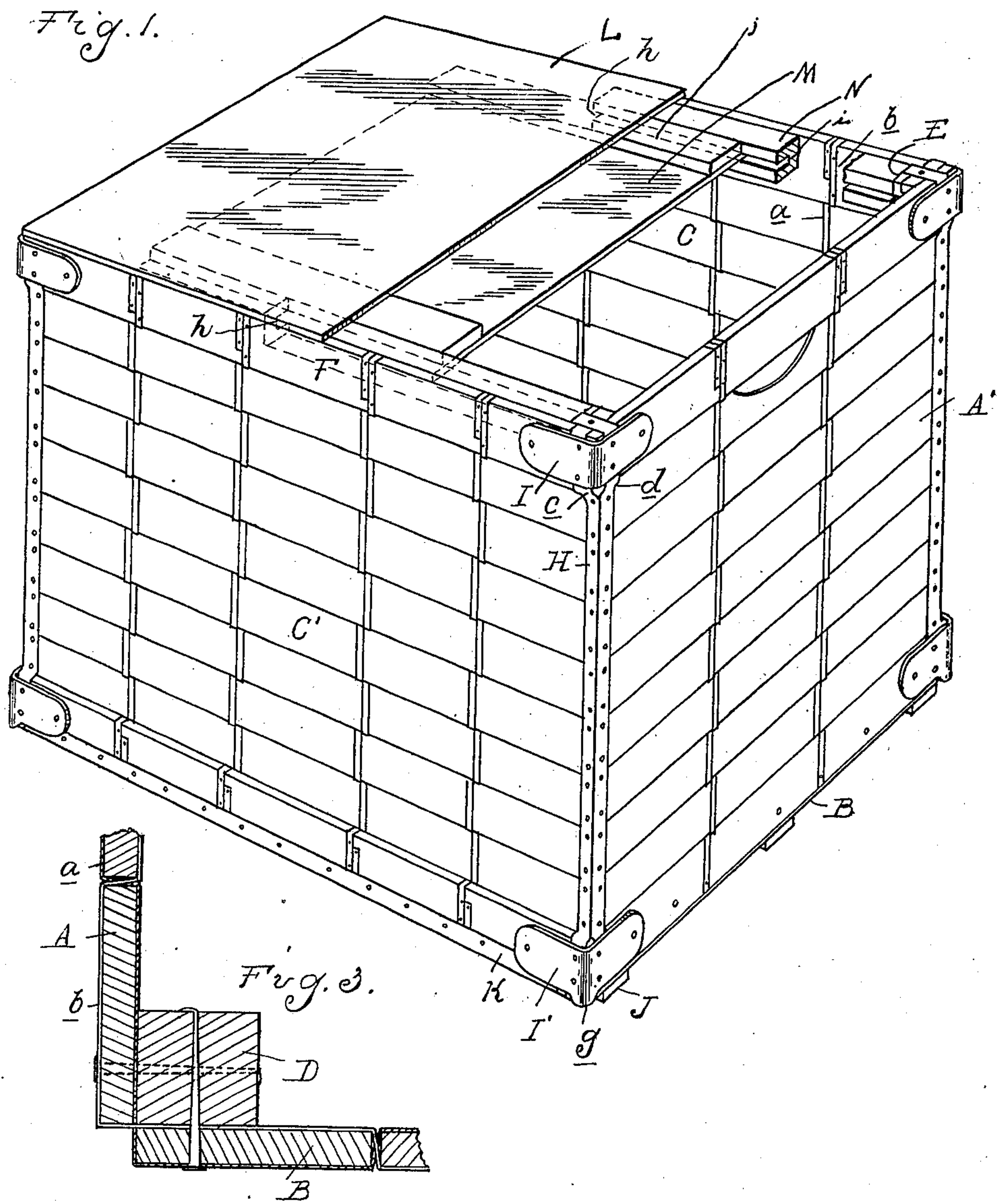
G. A. SCHWANBECK.

CASE.

APPLICATION FILED NOV. 11, 1901.

NO MODEL.

2 SHEETS—SHEET 1.



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2 SHEETS—SHEET 2.

Fig. 2.

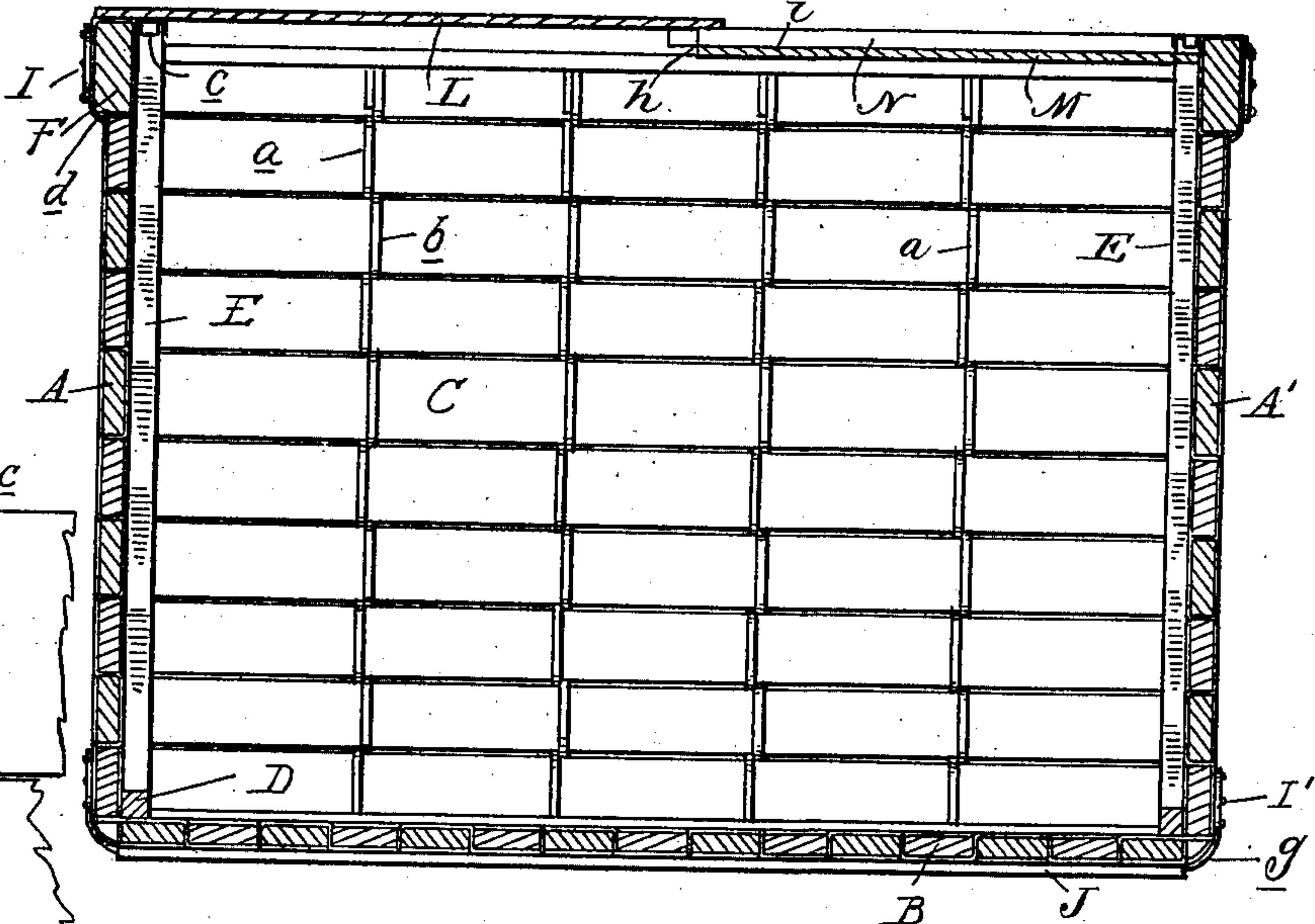
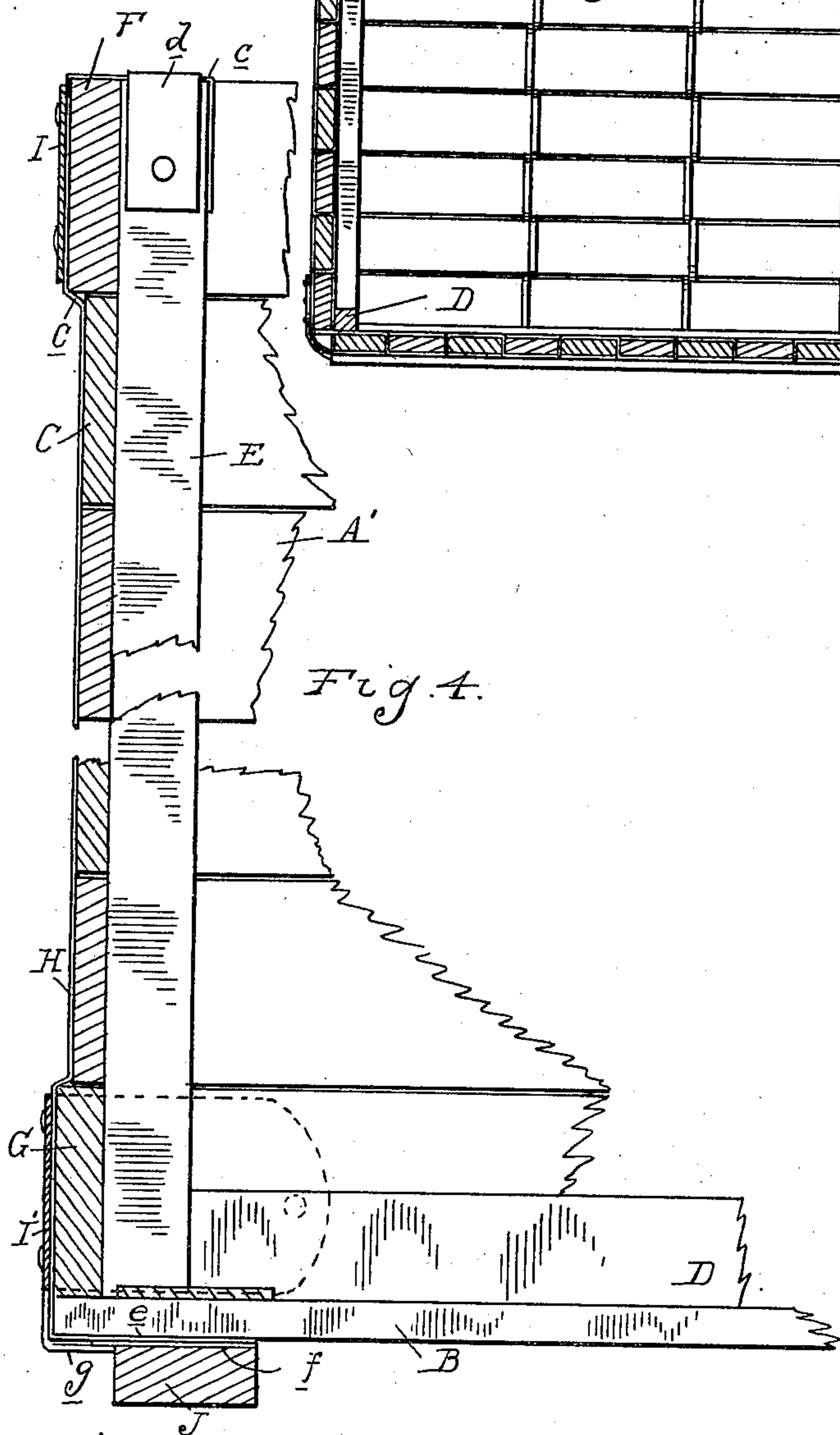


Fig. 4.



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UNITED STATES PATENT OFFICE.

GUSTAVE A. SCHWANBECK, OF DETROIT, MICHIGAN, ASSIGNOR TO
SCHWANBECK BROTHERS, OF DETROIT, MICHIGAN, A CORPORATION.

CASE.

SPECIFICATION forming part of Letters Patent No. 754,957, dated March 15, 1904.

Application filed November 11, 1901. Serial No. 81,938. (No model.)

To all whom it may concern:

Be it known that I, GUSTAVE A. SCHWANBECK, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Cases, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention relates to boxes especially designed for use as shipping and delivery boxes.

It is the object of the invention to obtain a light, strong, and durable structure in which the goods can be conveniently packed and secured and which may be cheaply manufactured.

To this end the invention consists in the construction as hereinafter described, and shown in the drawings, in which—

Figure 1 is a perspective view of the box.
Fig. 2 is a vertical longitudinal section thereof. Fig. 3 is an enlarged portion of Fig. 2.
Fig. 4 is an enlarged cross-section.

The sides and bottom of the box are formed of a slat and metallic ribbon fabric woven to bring the slats comparatively close together. This fabric is preferably formed by first crimping the metallic ribbons by suitable mechanism and afterward weaving the fabric, which may be quickly done by hand.

The ends A A' and the bottom B of the box are preferably formed of a continuous web which is bent at right angles at the bottom corner, while the sides C C' are preferably formed of separate sections of the fabric. To strengthen the corners of the bottom, a reinforcing-strip D is preferably arranged inside of the box and secured in the corner formed by the adjoining sides and bottom. The corners between the ends and sides are also strengthened by the vertical posts E, also arranged within the box and having the sides and ends nailed or otherwise secured thereto. The top of the box is strengthened on all sides by weaving in a heavy rail F at the upper edge of each section of fabric, which rails together form a strengthening-rim to the box. The corner between the sides and bottom

which is unprovided with an internal strengthening-strip is preferably also provided with a heavy rail G, woven in with each section of the fabric forming the side, if desired. The metallic ribbons which are used in forming the fabric are preferably arranged in pairs *a* *b*, which are oppositely and alternately arranged, as shown. This arrangement imparts a much greater strength and rigidity to the fabric than where the slats are woven together by wires, and inasmuch as the ribbons have a comparatively wide bearing upon the slats they will not cut into the latter, as is the case with wires. The end strips of each section of the fabric are securely held in place by bending over the ends of the ribbons to form double retaining-loops, as shown,

A weak point in the structure of most boxes of this general character is at the corners of the adjoining sides of the case. These being subject to rough usage are apt to be split or broken, and where reinforced by strengthening-pieces the latter are easily knocked off. To overcome this difficulty, the present structure is provided with corner-braces of the following construction: H represents metallic angle-strips, preferably formed of sheet metal and adapted to extend along the vertical corners of the box. At their ends these strips are split at the angle, so as to form separate sections *c* and *d*, which may be bent over the edge rails and secured to the inner face of the box. Inasmuch as the top and bottom rails are of greater thickness than the body portion of the fabric and as this increased thickness projects outward, it is necessary to split the brace H far enough from the ends to pass around these thickened rails. After passing outside of said thickened rails the end sections *c* and *d* are bent over the top to cross each other on top of the inner strengthening-strip E and are lapped down the sides of said strip a short distance, so as to both securely fasten the strip in position and prevent danger of the ends of the brace being caught and stripped off. The metallic angle-braces formed and arranged as above described may be secured to the body portion of the fabric

by the same nails which serve to attach said fabric to the vertical posts E. The corner between the adjoining reinforced top rails is further strengthened by an angle-brace I, which may be secured over the strips *e* and *d*. The lower ends of the braces H are formed and secured in a similar way to the upper ends thereof, with the exception that the separate end portions *e* and *f* are merely overlapped upon the bottom section of the box. To hold these overlapped ends from accidental displacement, the shoe J, which extends longitudinally of the bottom, is arranged to cover said ends of the strip. Said shoe also overlaps the edge of the metallic angle-strip K, which is arranged to strengthen the angle between the bottom and sides of the box and which secures the latter to the former. This angle-strip has its opposite flange secured to the bottom rail of the sides, and the ends thereof are held in place by corner-pieces I', which are also, preferably, formed with rounded corners *g* for protecting the lower corner of the box.

The top of the box may be formed, if desired, by a detachable section of the same fabric, but preferably is formed, as shown, by the stationary cover L and a sliding cover M. The latter engages with channeled guides N, secured to the side top rails and extending between the posts E. These guides are cut away at one end to form entering-slots *h*, through which the cover M may be introduced into the channel *i* of the strip before the cover L is secured in position. The cover L is then fastened to the body of the case in any suitable manner and will prevent the cover M from being detached, although the latter is free to slide in the channels *i*. *j* represents cleats extending longitudinally of the upper face of the cover M, which prevents said cover from engaging with the entering-slots *h* when slid back under the cover L.

A box thus formed is exceedingly light and strong and is thus especially serviceable as a shipping-box. It is also cheaply constructed, for the reason that the metallic ribbons and corner-braces may be formed by machinery, after which the weaving of the fabric and the assembling of the parts may be quickly accomplished by hand.

What I claim as my invention is—

1. A packing-case having sides, ends and bottom thereof formed of fabric, comprising longitudinal adjacent opposite crimped flat bands and cross-slats extending longitudinally of the same secured together by said bands, the bended portion of said bands constituting a flat bearing for the top and bottom of the adjoining slats, the upper ends of said flat bands passing around rails at the top of the sections, said rails being relatively heavier than the cross-slats, and the parts when assembled forming a smooth uninterrupted inner surface for

the ends and bottom throughout their entire length.

2. A packing-case having the ends and bottom thereof formed of a single piece of fabric comprising longitudinal oppositely-crimped thin flat bands or ribbons and cross-slats secured together thereby, sides formed of separate sections of said fabric having heavy top and bottom rails woven in, the end sections having heavy top rails woven in, and reinforcing-strips arranged inside the case in the angles between said ends and bottom.

3. A packing-case having the sides and bottom thereof formed of a fabric composed of slats arranged adjacent and in close proximity to each other and adjacent thin metallic securing-bands having a flat surface and crimped with square bends to embrace said slats alternately upon opposite sides thereof, the square bends of the bands constituting a flat bearing for the top and bottom of the adjoining slats, and one of said slats being relatively heavier than the remaining slats, all of said slats when assembled being flush upon their inner surface.

4. In a packing-case, the combination with side sections formed of woven-slat fabric, of a corner-post extending vertically in the corner formed by adjacent sides and a metallic angle-strip embracing the outer face of said corner, the end of said strip being slitted in the angle to form separate sections, and said sections being crossed over the end of said post and lapped over the adjacent inner sides thereof.

5. In a packing-case, the combination with side sections formed of woven-slat fabric having heavy rails at their upper edges flush with the inner face of the fabric and projecting outward, of a corner-post arranged in the angle formed by adjacent sides, a metallic angle-strip embracing the outer faces of said corner, said strip being slitted in the angle at the end to form separate sections and said sections being bent to pass around said heavy rails, cross the top of said post and lap the adjacent inner faces thereof, and a metallic angle-piece for the corner of said heavy rail overlapping said angle-strip.

6. In a packing-case, the combination of side and bottom sections formed of woven fabric, the side sections having a heavy rail adjacent to said bottom, and said bottom overlapping the lower edge of said heavy rail, a metallic angle-strip embracing the corner formed by said side and bottom and a longitudinally-extending shoe-strip covering the lower flange of said angle-strip and secured to said bottom.

7. A packing-case having the sides and bottom thereof formed of a fabric comprising slats adjacent and in close proximity to each other, and adjacent oppositely-crimped metallic bands inclosing said slats alternately

upon opposite sides thereof, the top and bottom slats of the side sections being relatively heavier than the remaining slats and woven into the fabric by the bands, which pass over one side, around the upper edge and are secured to the opposite side upon the return-bend.

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

GUSTAVE A. SCHWANBECK.

Witnesses:

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