

(No Model.)

3 Sheets—Sheet 1.

G. W. STEWART.

CAR AXLE BOX.

No. 298,320.

Patented May 6, 1884.

Fig. 1.

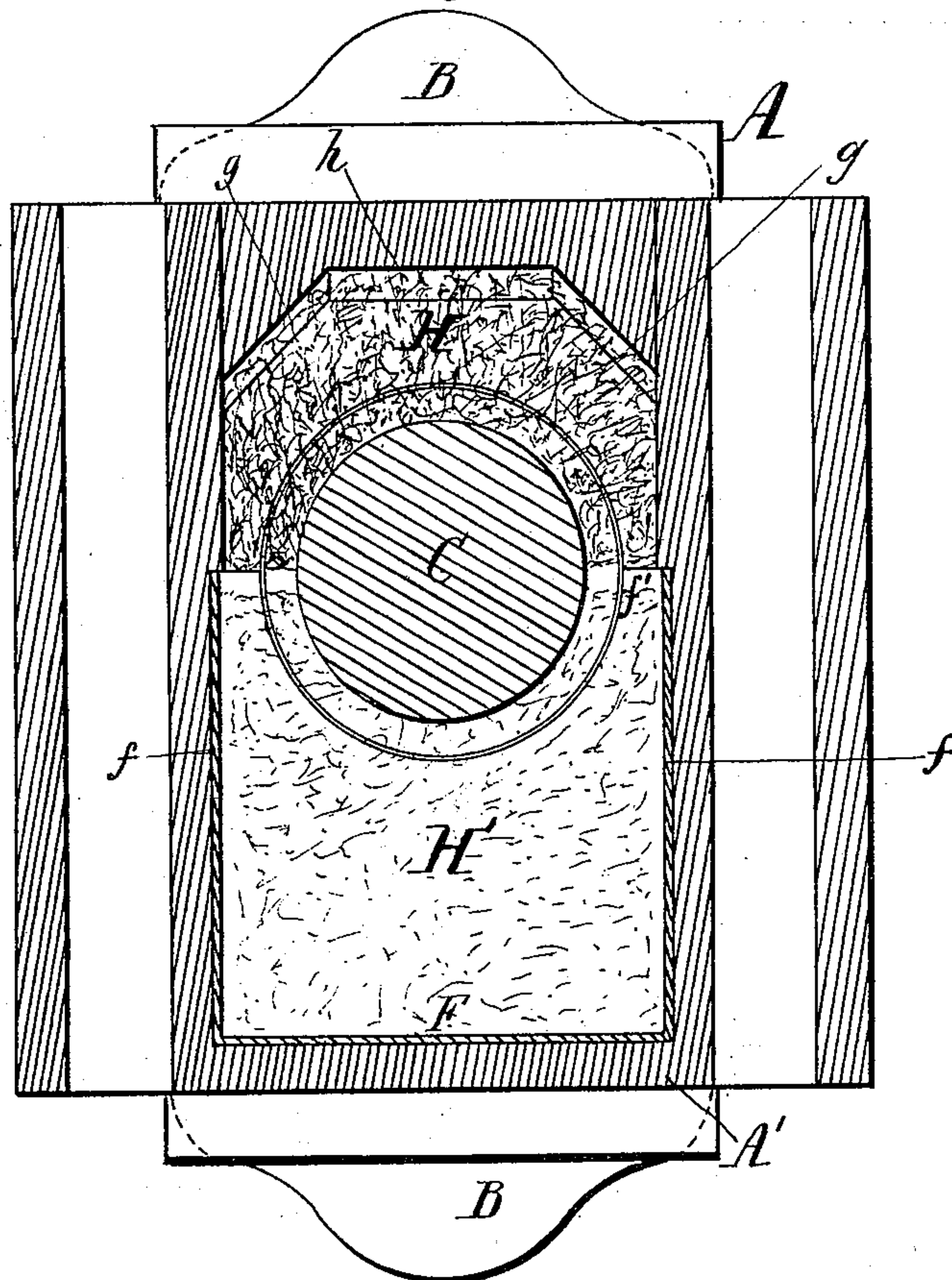
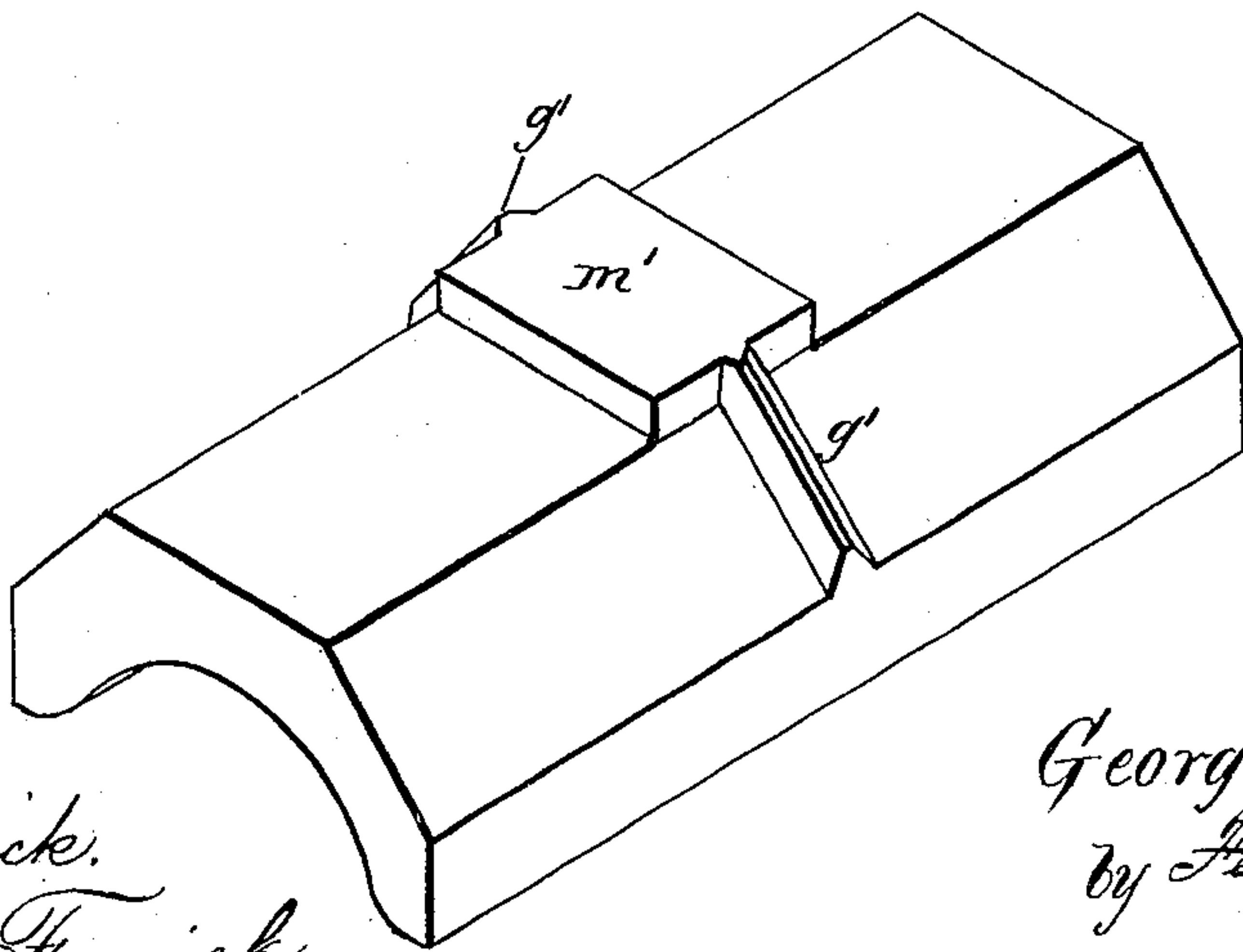


Fig. 2.



Witnesses:

B. C. Fenwick.
Robt. L. Fenwick

Inventor:
George W. Stewart
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His Attorneys

(No Model.)

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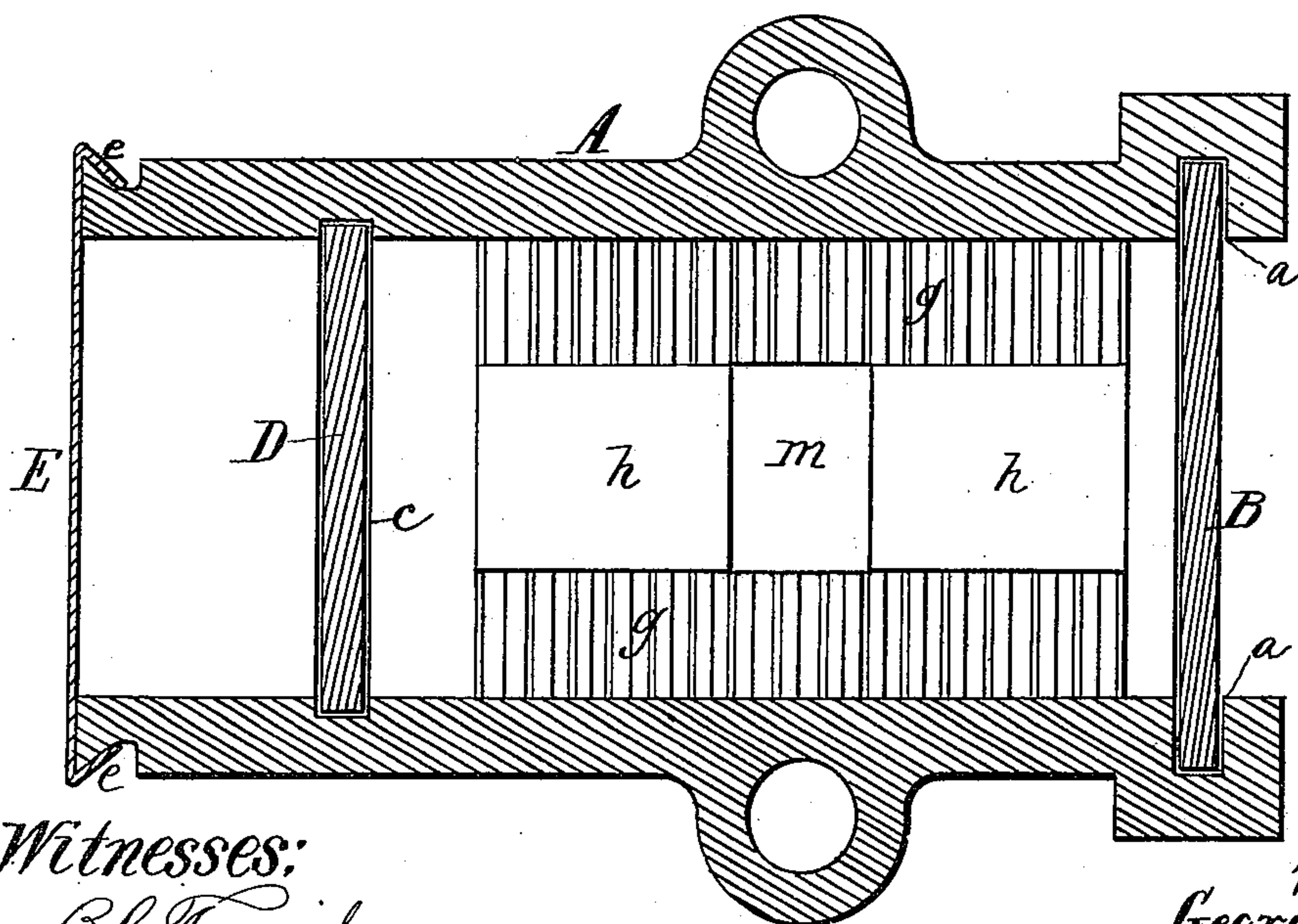
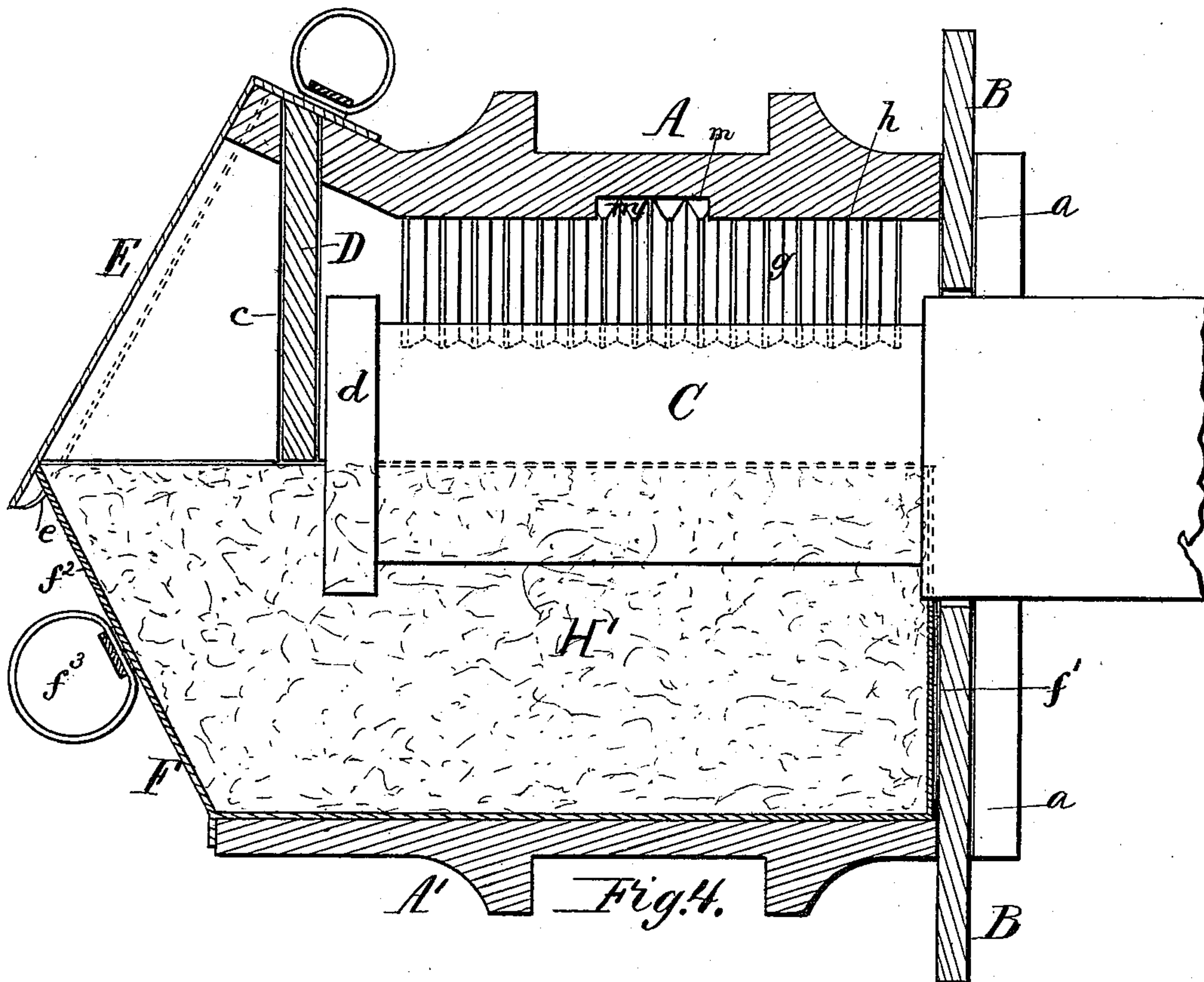
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Fig. 3.



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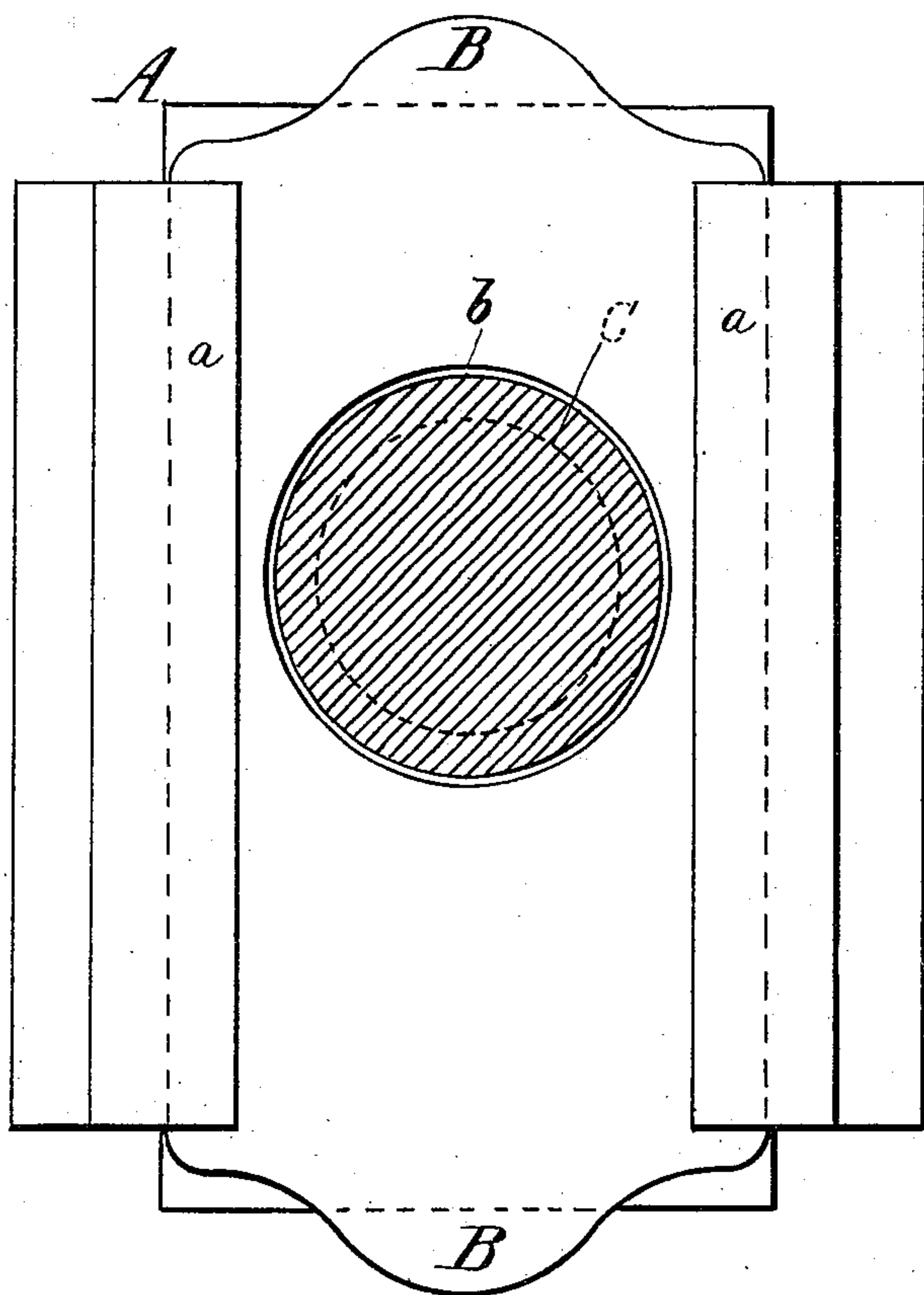
3 Sheets—Sheet 3.

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Fig. 5.



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UNITED STATES PATENT OFFICE.

GEORGE W. STEWART, OF NEW YORK, N. Y., ASSIGNOR TO HIMSELF AND
JAMES F. WENMAN, OF SAME PLACE.

CAR-AXLE BOX.

SPECIFICATION forming part of Letters Patent No. 298,320, dated May 6, 1884.

Application filed February 4, 1884. (No model.)

To all whom it may concern:

Be it known that I, GEORGE WASHINGTON STEWART, a citizen of the United States, residing in the city, county, and State of New York, have invented certain new and useful Improvements in Car-Axle Journal-Boxes, of which the following, in connection with the accompanying drawings, is a specification.

In the use of ordinary car-axle journal-boxes great expense is incurred from the rapid wearing out of the upper brass or composition bearings, and where such bearings are adopted the journals are lubricated with oil supplied through cotton waste or the like placed beneath the journals in the lower chamber of the box, which material in a short time becomes so gummy and sticky as to not operate any longer practically for the purpose intended, and it has to be removed and thrown aside and its place supplied with new cotton waste or like material.

My invention is designed for rendering practical the use of the aforesaid discarded gummy and sticky waste material for forming the upper bearings for car-axle journals, and this is accomplished by constructing the journal-boxes in the novel manner hereinafter described, and preparing the said waste material for use in the said boxes in a very simple manner—to wit, taking old gummy waste packing or other analogous material mixed with black lead and oil and packing the same in the upper chamber of the journal-box, above the axle-journal, so that the same is in part solidly embedded into channeled or corrugated or roughened surfaces of the journal-box and made to abut against the inner end plate or board, which is employed for keeping the box dust-proof, and which said plate or board, being fitted upon the journal or axle and in continuous grooves in flanges of the box, allows of the journal-box being raised for the purpose of applying the packing material without the necessity of separating the plate or board from the box and axle.

My invention will be fully understood from the following description, claims, and accompanying drawings, in the latter of which—

Figure 1 is a vertical cross-section of my

improved car-axle journal-box with upper waste - packing bearing and lower waste-packing or oil-supplying material applied therein. Fig. 2 is a perspective view of a solid brass or composition bearing, which may be substituted, when circumstances require, for the upper waste-packing bearing shown in Fig. 1. Fig. 3 is a vertical longitudinal section of my improved journal-box with lower packing applied therein, while the upper packing is removed, or not applied as yet. Fig. 4 is an inverted view in horizontal section of my improved journal-box, and Fig. 5 is an elevation of the inner end of the journal-box.

A in the drawings represents a car-axle journal-box similar in many respects to the boxes now in common use on railroad-car trucks. The inner end of this box is made with an opening extending entirely from top to bottom, and on each side of this opening a grooved flange, *a*, is provided, and in the grooved flanges a dust-excluding plate or board, B, with a circular opening, *b*, through it for admitting the car-axle, is fitted to slide up and down freely. The lower end of the plate or board B can descend below the box, while the upper end extends above the top of the same, as shown. This arrangement allows the box to be "jacked up" or raised independently of the plate or board, and without a removal of said plate or board, when the packing is to be applied above the axle-journal C. Near the outer end of the journal-box a steel thrust-plate, D, is fitted in a groove, *c*, of the box, and against this plate the collar *d* of the axle-journal may bear during the movement of the journal.

The cover or cap E of the box A may be of cast metal, and hinged in the ordinary manner to the box proper; but it is a cheaper and more convenient construction to make this cap of galvanized iron or sheet metal and fit the same to slide up and down over the opening of the box, as shown; and when the cover or cap is thus constructed its edges are formed with hooking beveled flanges *e e*, and these flanges enter beveled grooves of the box, as shown in Fig. 4.

Below the cap E the journal-box is made

open down to its bottom plate, A', and this opening is closed by means of a sliding galvanized-iron drawer or trough, F, which rests upon this bottom plate. This trough or drawer 5 F is in rectangular form, having vertical sides f and vertical front and rear end portions, f' f^2 , as shown. The end f' should nearly touch the plate or board B, but allow said board to move clear of it. On the end f^2 a handle, f^3 , 10 by which to move the drawer or trough in and out of the journal-box, is provided. The drawer or trough is intended to serve for holding the oil or lubricating-fluid and the lower packing or conducting cotton waste or other material during its use beneath the journal, as 15 shown; also, to form a portion of the outer end of the box; also, as a means for readily withdrawing the lower gummy packing waste and oil, and as a convenient mixing and handling chamber wherein the gummed packing waste, 20 oil, and black-lead, or black-lead and asbestos, for forming the upper bearing can be mixed and handled. When the drawer or trough is in position, the sliding cap extends down 25 in front of it and serves to keep it in position, and when the drawer is to be withdrawn this sliding cap is moved upward sufficiently far to have the drawer in its outward movement clear it. The journal-box, having preferably 30 the features of construction above described, is further provided with a series of inclined corrugations, channels, ribs, or projections, g , which extend from each of the side walls of the box A to the horizontal under surface, h , 35 of the top of said box, as illustrated in Figs. 1, 3, and 4. These channels, corrugations, ribs, or projections run transversely to the length of the journal, either at right angles thereto or at any other angle, and they serve 40 to receive the packing material H, which is formed of a mixture of old gummy waste, oil, and black-lead, or black-lead and asbestos, and they also act as stops against any displacement or bunching of this packing material during the movements of the journal 45 within the box. The horizontal portion of the under side of the top of the box A is made plain, or without corrugations, channels, ribs, or projections, and in its center, or thereabout, a rectangular depression, m , is formed, 50 as shown. The horizontal plain surface with depression is designed to avoid a possible injury which corrugations, ribs, or projections would cause to the axle in the event of the 55 packing incidentally becoming worn down to the metal surface of the box, and while this is so the depression aids in holding the packing in position, and the depression and two of the channels can be used (when a bearing, H, of the gummy waste, oil, and black-lead, or black-lead and asbestos, is not preferred) for receiving the rectangular projection m' and the inclined corrugations or ribs g' of the ordinary 60 brass or composition bearing, (shown in Fig. 2,) and thus the box is adapted for use of

either the suitably-prepared old gummy-waste-packing bearing or the brass or composition metal bearing.

The construction of the journal-box is such that the upper bearing of old gummy waste 70 has an end abutment against the dust-proof plate B, and a support from the side and top walls of the box, and is kept from moving with the axle toward or from the inner or outer end of the box. To apply this old 75 gummy waste for forming the upper bearing, H, the axle-journal box is jacked up or raised off the journal and the mixture is taken from the mixing trough or drawer F and rammed or packed between the under surface of the top 80 of the box and the upper half of the circumference of the journal; and this done, the box is lowered, and by its weight and that of the truck or load a further compression of the packing forming the bearing will take place, 85 and the material will be crowded into the channels g , into the rectangular recess m , and against the inner surface of the dust-proof plate or board B and side walls of the journal-box. These upper bearings, H, formed of old 90 gummy waste, thus applied, will be very enduring and are comparatively inexpensive, as the bulk of the material of which they are made is such as is thrown aside as almost 95 useless.

It will be seen that my invention is specially applicable to car-axle journals which, with their load, rest with a bearing contact of its bearing H upon the upper halves, or nearly 100 so, of the circumferences of car-axle journals, while the lower halves of the said circumferences run loosely or lightly against packing waste H', formed of cotton or other analogous material adapted for feeding oil to journals 105 from the lower parts of railroad-axle journal-boxes.

It will be understood that the corrugated, ribbed, or channeled surface may be modified by making divided projections, like knobs, and still serve for holding the upper bearing 110 formed of old gummy fibrous material in position; or said surface may present a checkered appearance, the channels being cut to cross one another.

What I claim as my invention, and desire 115 to secure by Letters Patent, is—

1. A railroad-car-axle journal-box having its inner and outer ends cast open, the under surface of its top plate channeled or corrugated, and provided with a drawer and cap- 120 plate for closing its outer end, and a plate or board for closing its inner end and excluding dust, substantially as described.

2. A car-axle journal-box provided with corrugations, channels, ribs, or projections 125 which are transverse of and above the axle-journal, and provided with an upper bearing for a car-axle, formed of suitably-prepared old gummy fibrous material, substantially as and 130 for the purpose described.

3. A car-axle journal-box provided with corrugations, channels, ribs, or projections g , which are transverse of and above the axle-journal, substantially as and for the purpose described.
- 5 prepared old gummy fibrous material in form of an upper journal-bearing or the ordinary brass or composition upper journal-bearing, substantially as described.
4. A car-axle journal-box provided with

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Witnesses:

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