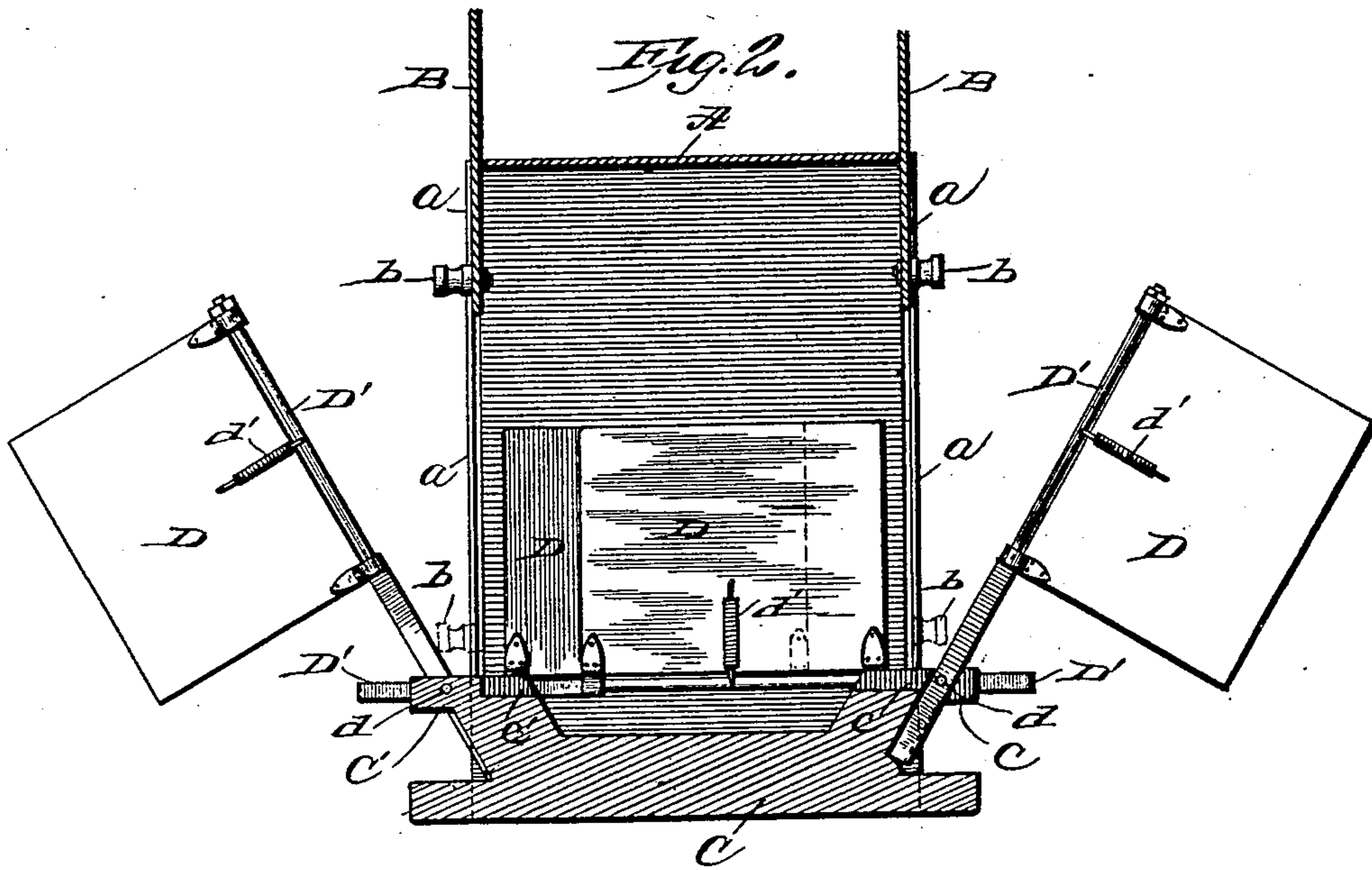
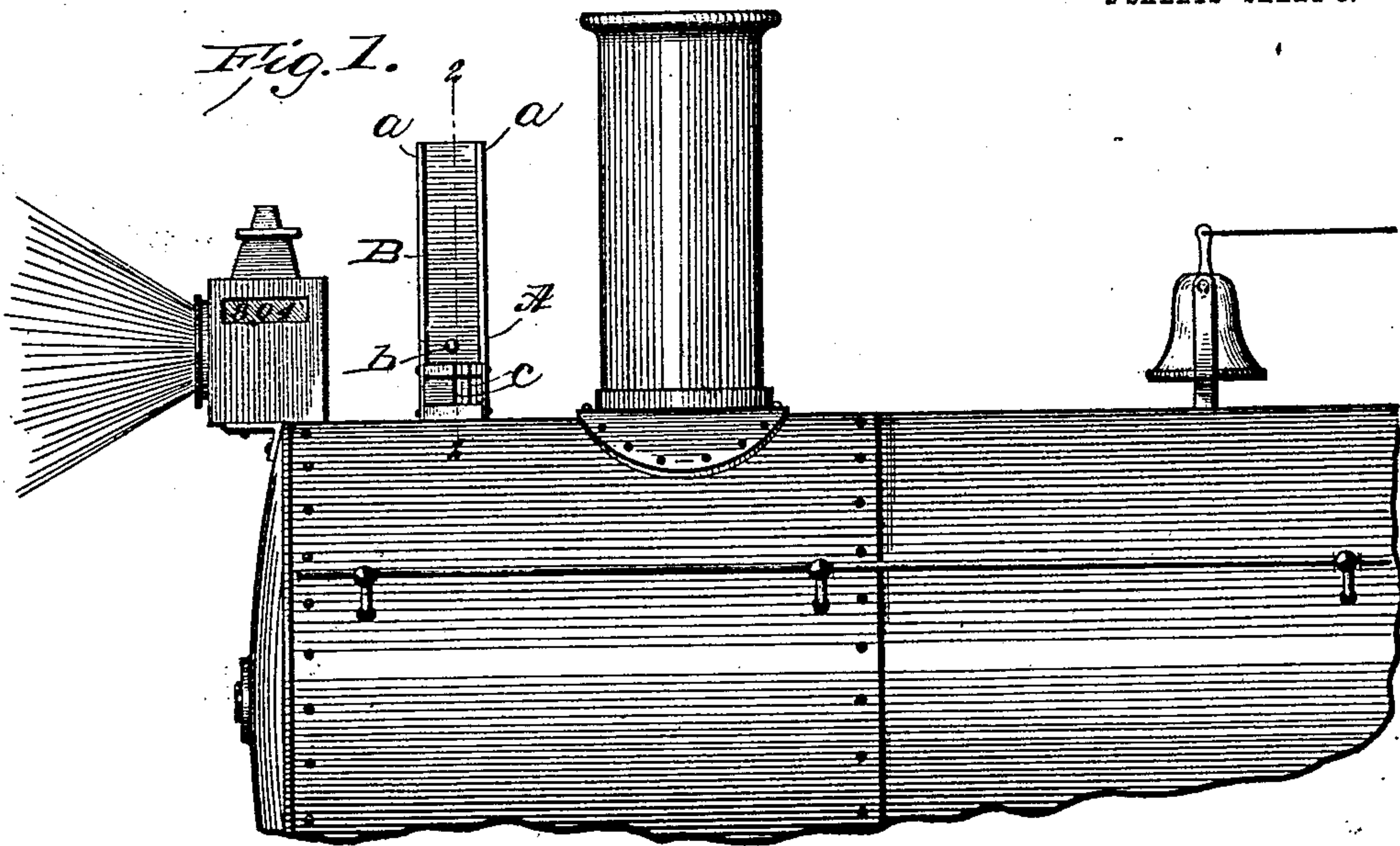


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J. P. LYON.  
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2 SHEETS—SHEET 1.



WITNESSES  
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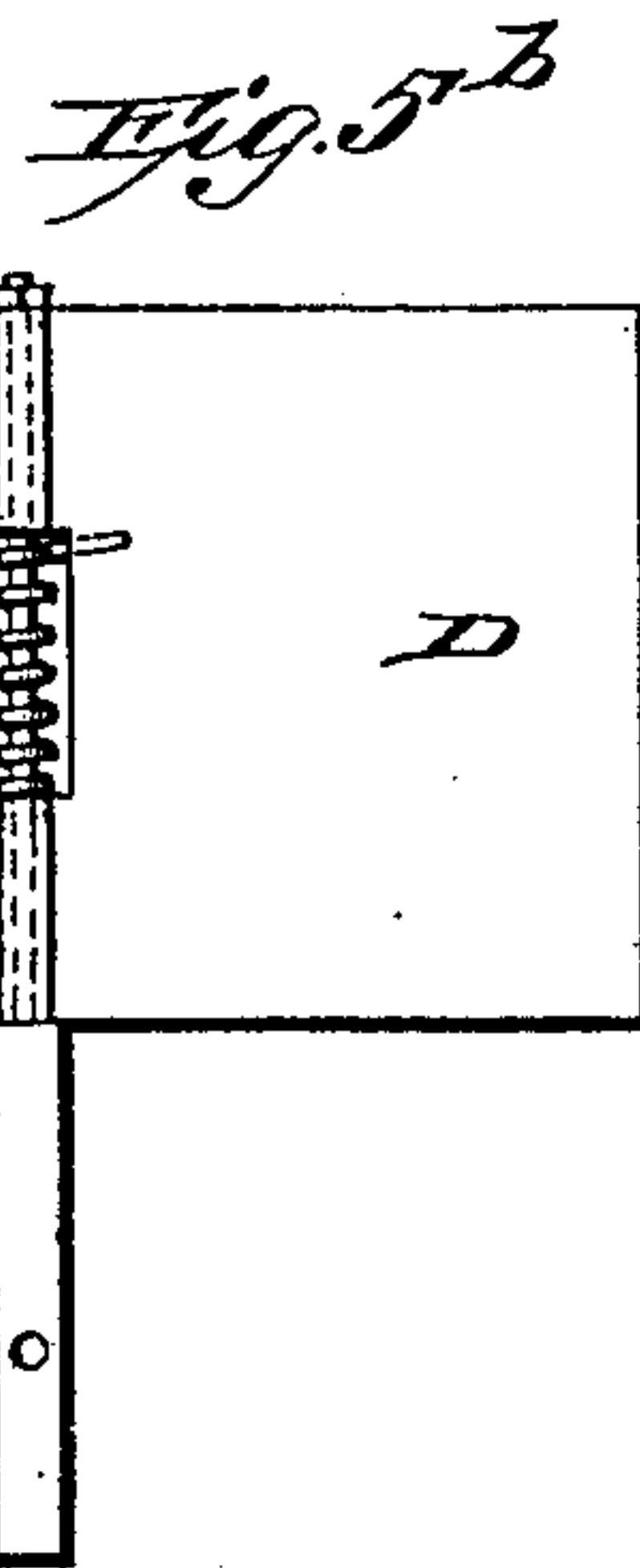
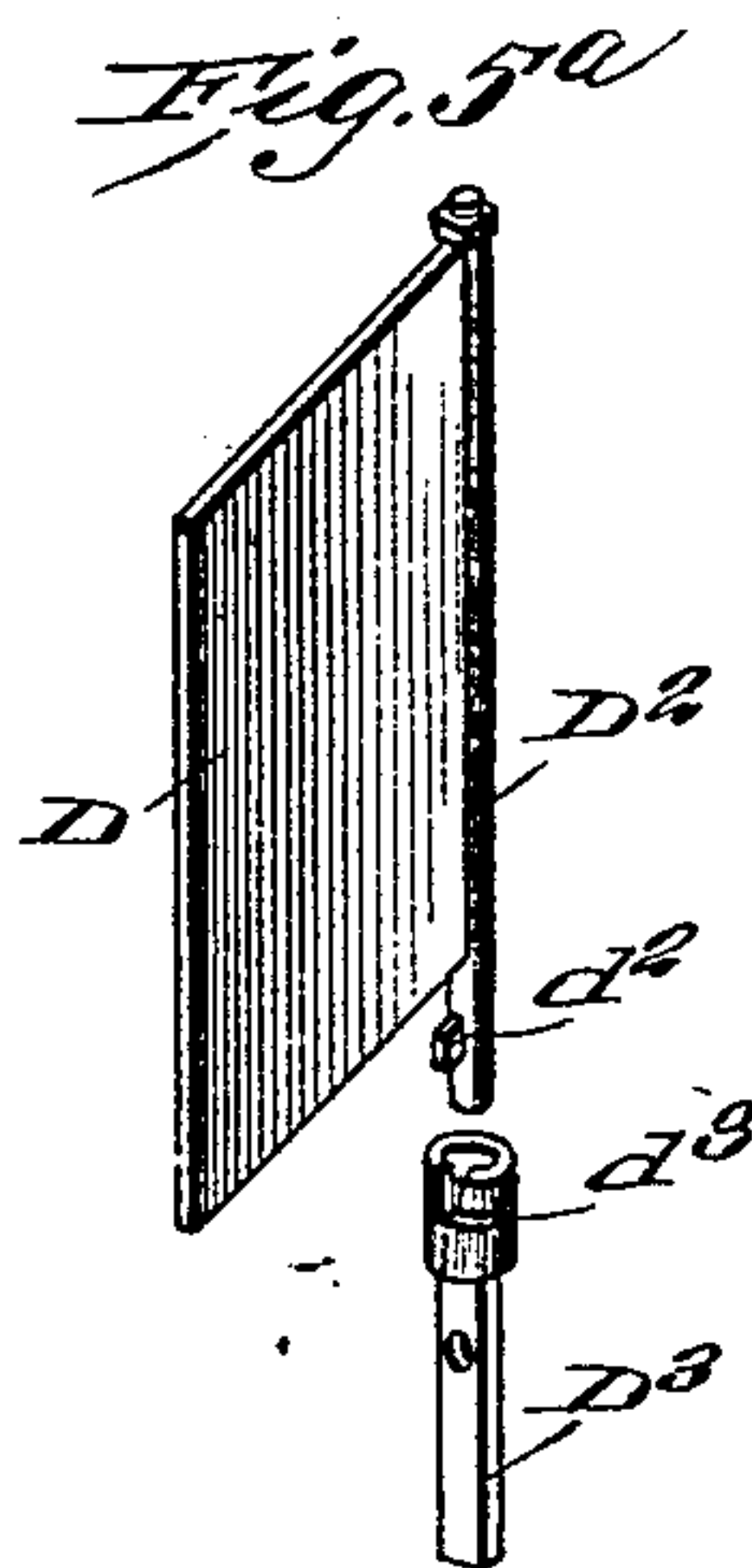
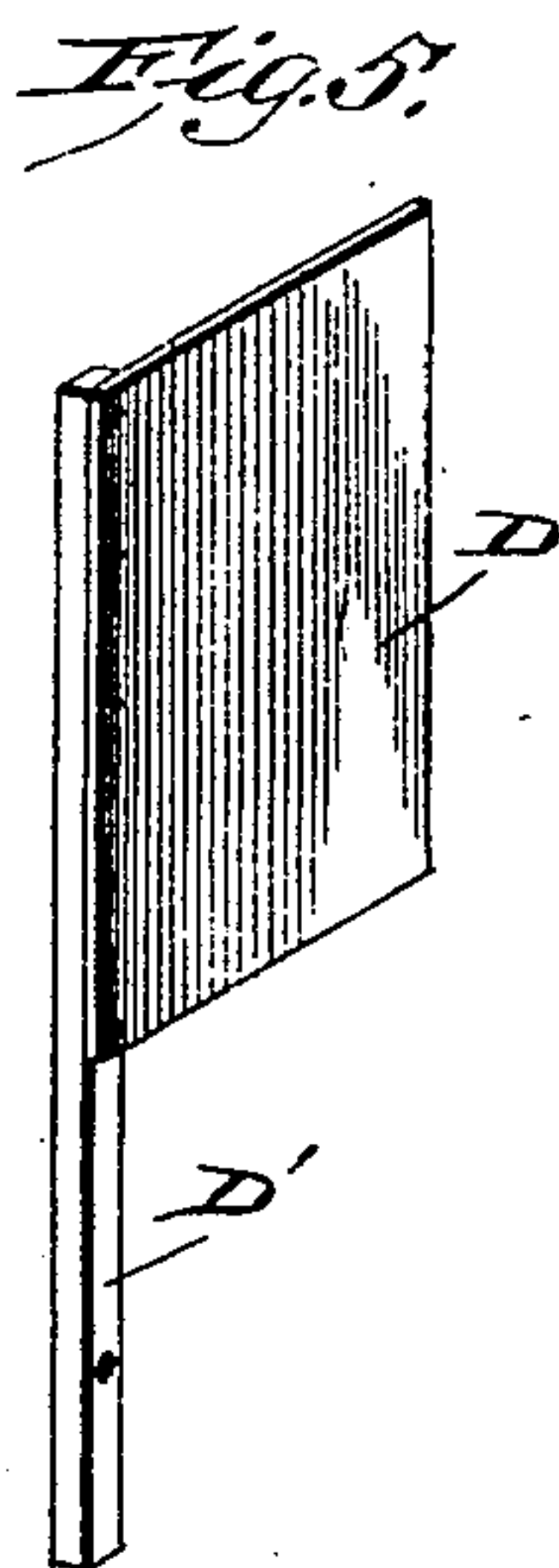
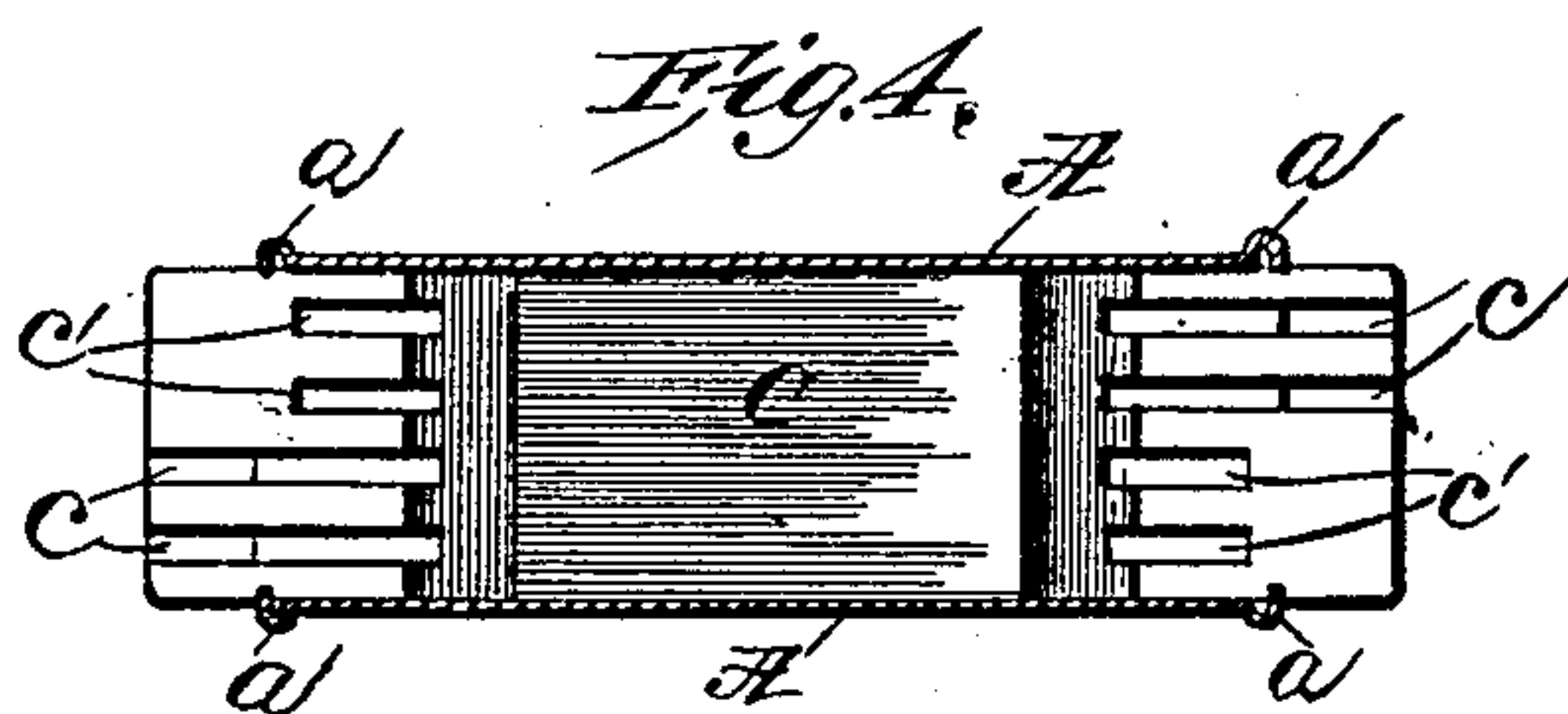
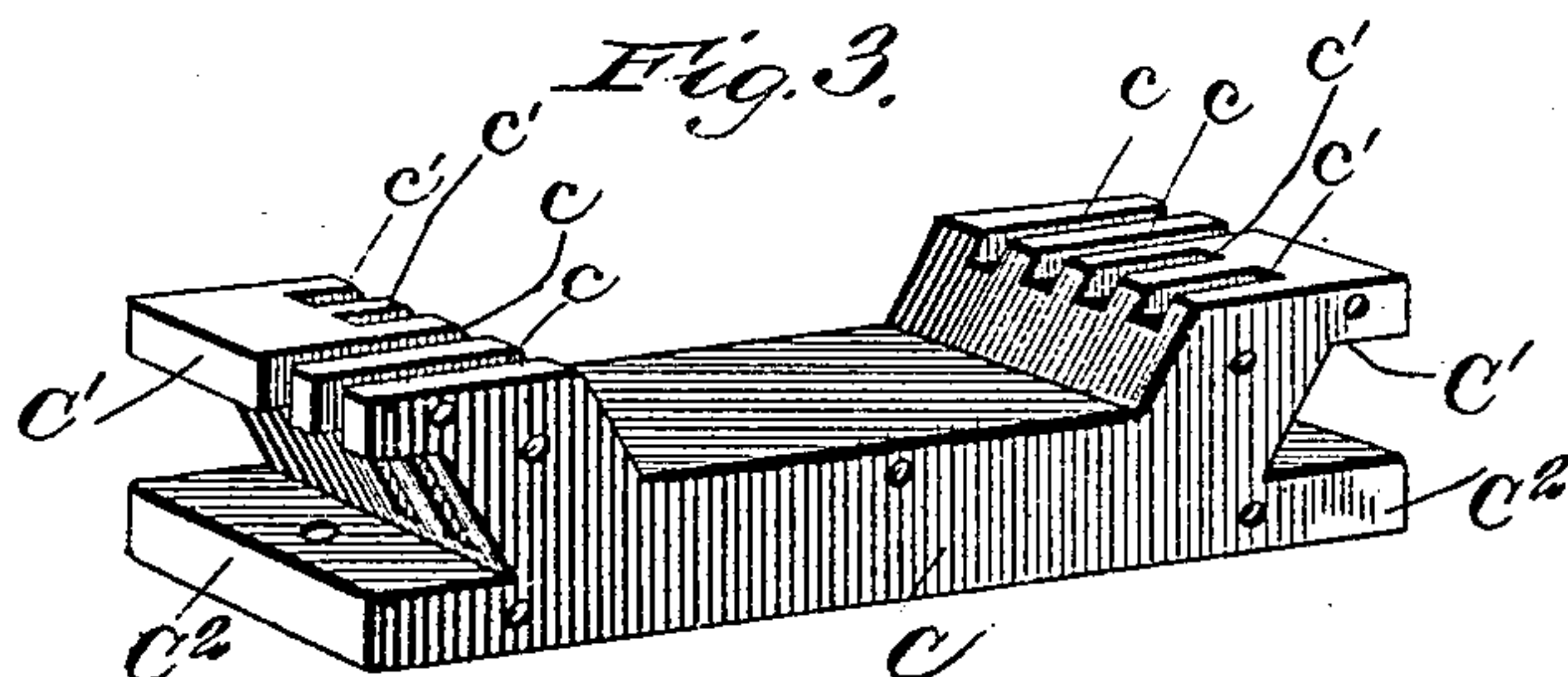


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# UNITED STATES PATENT OFFICE.

JAMES P. LYON, OF OGDEN, UTAH, ASSIGNOR OF ONE-HALF TO DANIEL D. ROWLANDS, OF OGDEN, UTAH.

## LOCOMOTIVE FLAG-SIGNAL AND CASE.

No. 877,935

Specification of Letters Patent.

Patented Feb. 4, 1908.

Application filed December 15, 1906. Serial No. 347,924.

To all whom it may concern:

Be it known that I, JAMES P. LYON, a citizen of the United States, and a resident of Ogden, in the county of Weber and State of Utah, have invented a new and useful Improvement in Locomotive Flag-Signals and Cases, of which the following is a specification.

My invention relates to the classification of flag signals ordinarily carried by locomotives and it consists in a special construction of case designed to be carried upon the front part of the locomotive between the head-light and smokestack and a set of metallic flags carried thereby and arranged to be housed within the case or displayed on each side of the case as they may be required, the case and flags being especially designed and related to each other, all as hereafter fully described with reference to the drawings, in which

Figure 1 is a side view of the front part of the locomotive bearing the signal case. Fig. 2 is an enlarged sectional view through the flag case taken on line 2—2 of Fig. 1, showing two of the flags displayed and the other two housed within the case. Fig. 3 is a perspective view of the base of the flag case. Fig. 4 is a horizontal section through the flag case, the flags being removed, and Figs. 5, 5<sup>a</sup> and 5<sup>b</sup> are details of the flags, showing different forms of the same.

In the drawings Figs. 1 and 2, A represents the flag case which is a rectangular sheet metal box, set up edge-wise upon the front end of the locomotive transversely to the boiler and between the head-light and the smoke-stack on the forward extension of the boiler shell. The upper sheet metal part of the case has crimped guide ways *a a*—see Fig. 4—formed at the vertical corners to receive a vertically sliding door B on each side, whose edges slide in the guides and which doors are provided with handles *b* by which they may be raised or lowered to give access to the case, or to close it in, as seen in Fig. 2.

The base of the case is a heavy iron casting C, shown in detail in Fig. 3, and of peculiar construction. It has undercut ends forming overhanging projections C' C' at the upper edge and basic flanges C<sup>2</sup> C<sup>2</sup> by which it is bolted or screwed to the locomotive boiler extension and has a central depression on its upper surface forming a trough-like or dished upper surface.

The overhanging extensions C' of the base are formed on each side with two or more vertical slots *c c* extending out to the edge of the overhang and two or more shorter recesses *c' c'* that do not extend to the outer edge. In the slots *c* are disposed the staffs of the flags, which staffs are pivoted to the overhang at *d* so that the flags may turn about these pivotal centers from the displayed position of the two exposed flags shown in Fig. 2 to the housed position of the inclosed flags in the case. When the flags are exposed the lower ends of their staffs below the fulcrum strike against the inclined edges of the cast iron base and thus, limiting the outward movement of the flags, sustain them at the proper angle of about 60° from the horizontal. Any of the flags may be quickly turned to either position by simply raising the sliding doors and turning them in or out as may be desired. When turned into the housed position the upper ends of the flags drop into the recesses *c' c'* which thus form seats to receive them, and when thus housed they are kept up out of contact with any water or dirt in the case by the dished shape of the bottom of the case which thus forms a trap to catch any dirt or water that might get into the case.

The flags are made of sheet metal secured to a staff and they may be either rigidly attached thereto by tacks or screws, as in Fig. 5, or they may be made in two parts as in Fig. 5<sup>a</sup>, the flag and staff D<sup>2</sup> being connected together and the staff provided near its lower end with a laterally projecting lug *d*<sup>2</sup> while the butt end D<sup>3</sup>, which is pivoted to its base, is formed at its upper end with a socket and a bayonet slot *d*<sup>3</sup> which socket receives the lower end of the flag staff while its lug *d*<sup>2</sup> passes in its bayonet slot and is then turned so that the flag trails to the rear with the lug locked in the slot. This allows the color of the flags to be easily and quickly changed when desired. The flags are preferably, however, hinged to their staffs, as seen in Figs. 2 and 5<sup>b</sup>, and have an elastic swinging connection to the staff by springs. There may be one of these springs on each side of the flag connecting the latter to the staff and arranged at right angles to the staff, as in Fig. 2, or there may be a single coil spring wound around the staff about the middle of the flag and connected to it, as seen in Fig. 5<sup>b</sup>.

Among the advantages of my flag signals I would state, that they are in harmony with



the present standard of rules; the flags being of metal will not burn, warp around the staff, nor wear out; the place of location is more conspicuous than that of the present system and they are not obscured by escaping steam from the release valves and are out of the engineer's way in looking down the track, and being thoroughly protected in the case are not liable to wear out, become dulled in color from the weather, or get lost.

I claim—

1. A locomotive having a boiler shell extension in front of the smoke stack, a flag signal case mounted on said extension in front of the smoke stack, and flags pivoted in said case to be displayed above the sides of the locomotive or be housed within the case.

2. A locomotive having a boiler shell extension in front of the smoke stack, a head light on the forward end of said extension, and a flag signal and supporting devices for the same mounted upon the top of the boiler shell extension between the head light and smoke stack and arranged to be displayed above the boiler.

3. A flag signal, consisting of a case having upon opposite sides movable doors and a base, flags having their staffs pivoted to said base and arranged to be turned into or outside of the case, and stops for the lower ends of the flag staffs to limit the outward movement of the same.

4. A flag signal, consisting of a case having vertical guides at each side and sliding doors arranged therein and flags pivoted to be turned through said doors into or outside of the case.

5. A flag signal, consisting of a case having opposite doors and a base formed with a slotted and overhanging upper edge on each side and flags pivoted in said slots and turning into or out from the case.

6. A flag signal consisting of a case having opposite doors and a base formed with a slotted and overhanging upper edge on each side and a central depression and flags pivoted in said slots and having seats for supporting them above the bottom of the depression.

7. A locomotive signal, consisting of a case with opposite doors, a base, sockets pivoted to the base and formed with bayonet slots at the upper ends and flags each having a staff with a lateral lug adapted to enter the slot.

8. A locomotive signal, consisting of a case having opposite doors, sockets pivoted to the case below the doors and flags detachably connected to the sockets and adapted to be turned into the case or be displayed outside the same.

JAMES P. LYON.

Witnesses:

THO. MALONEY,  
BENJAMIN EGGINTON.