3 Sheets--Sheet 1.

LA FAYETTE WASHINGTON LILES.

Improvement in Baling-Presses.

No. 126,405. Patented May 7, 1872.

Fig. 1

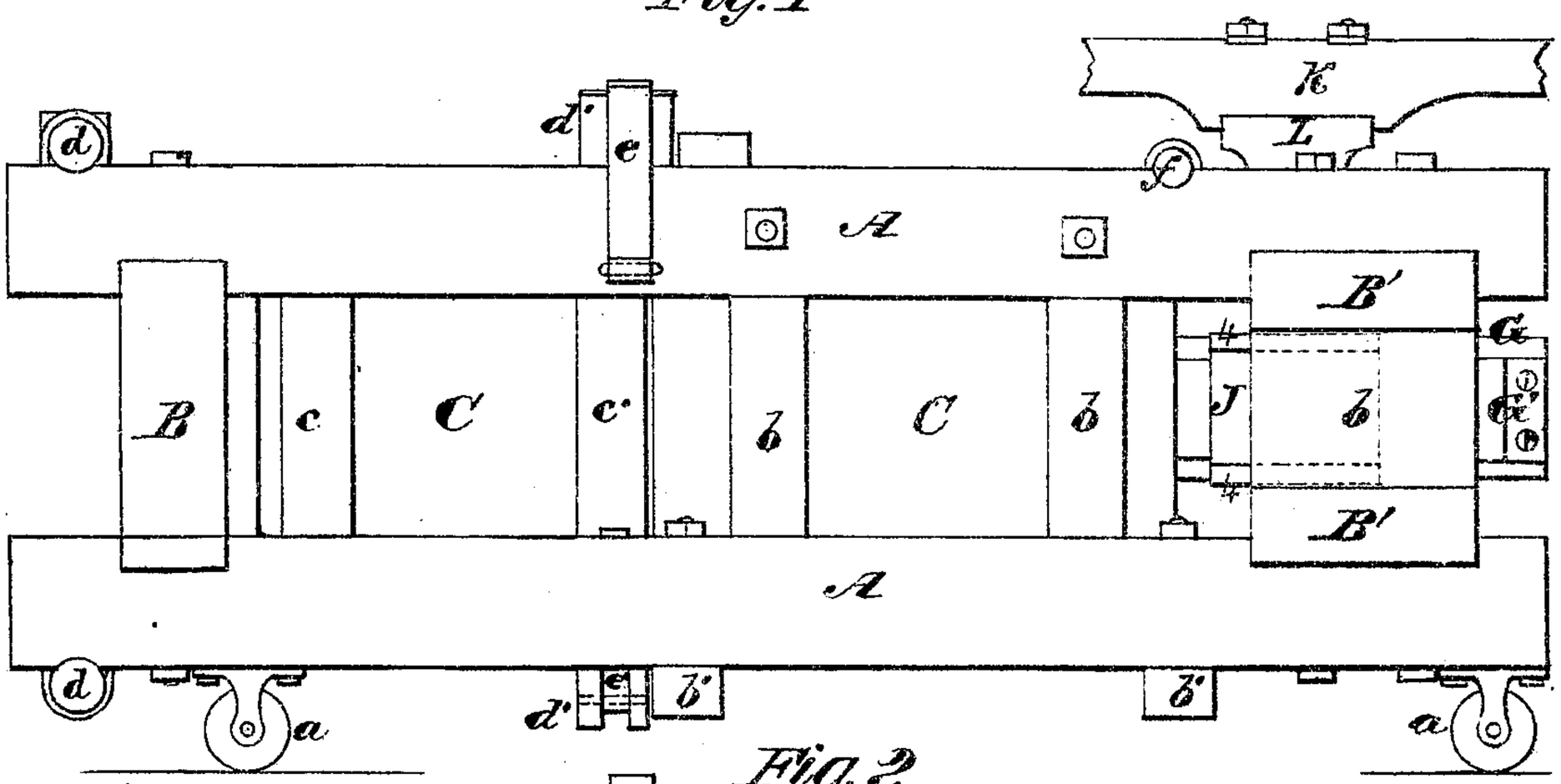
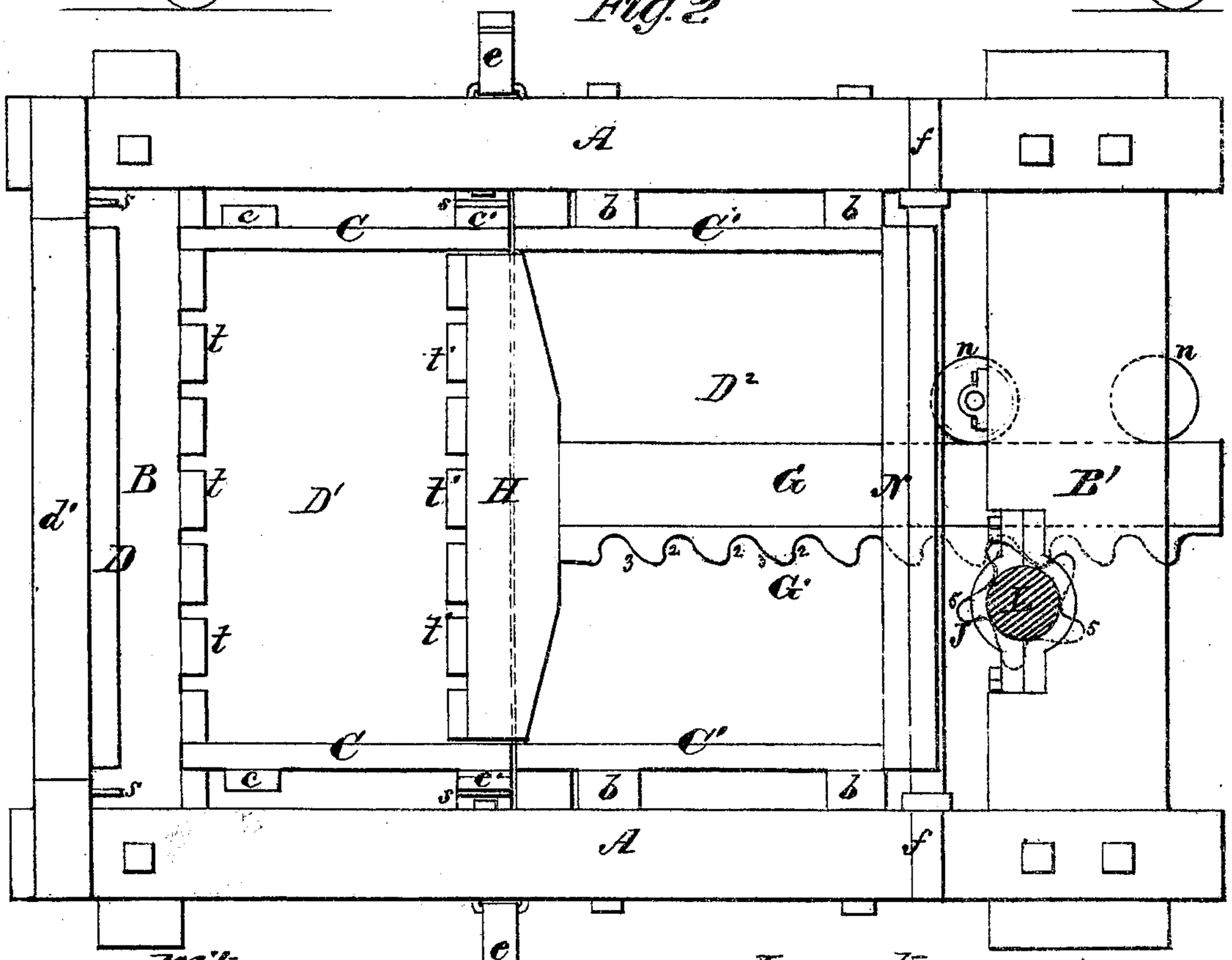


Fig. 2



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3 Sheets--Sheet 2.

LA FAYETTE WASHINGTON LILES.

Improvement in Baling-Presses.

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Fig. 3

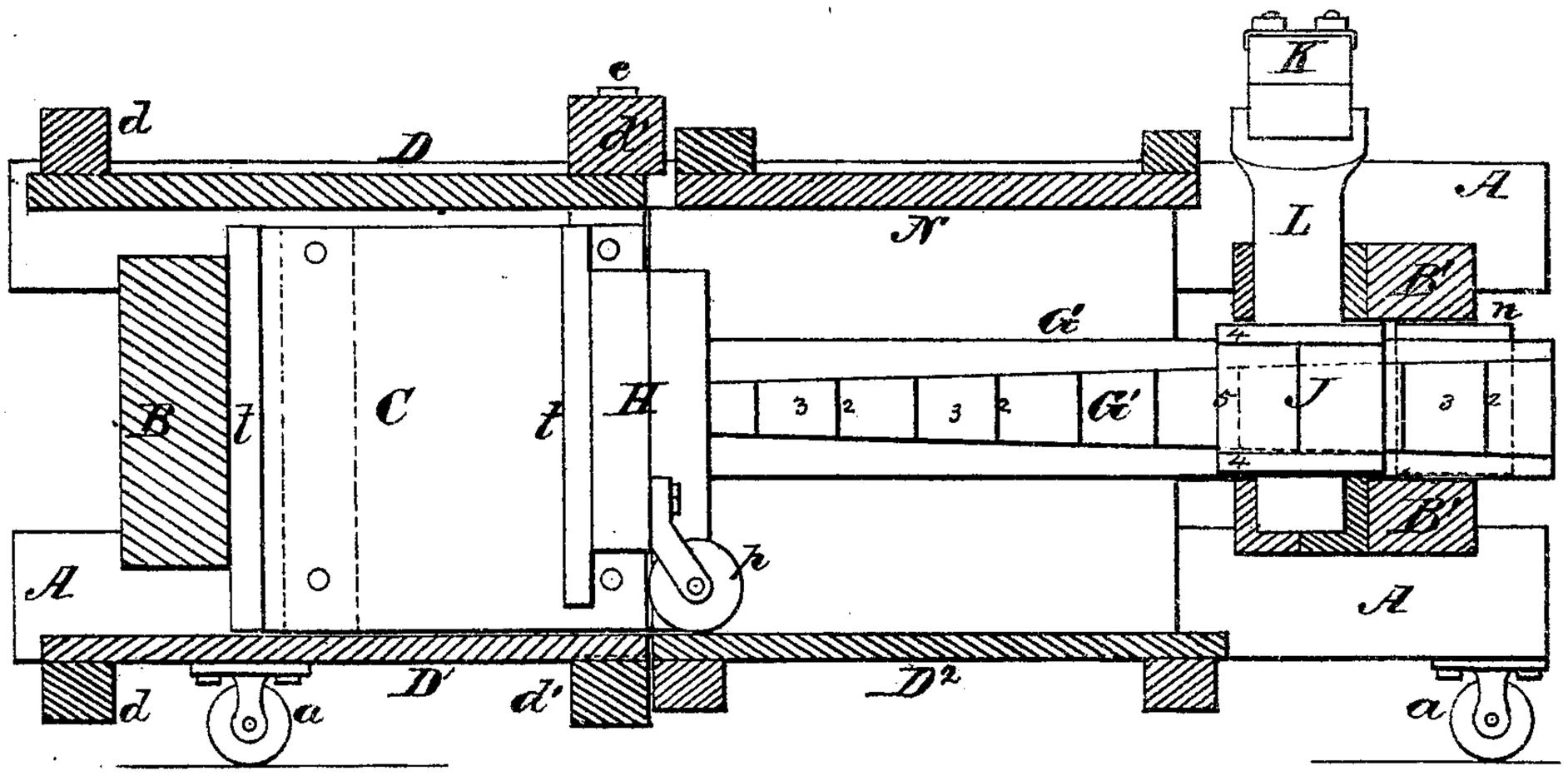
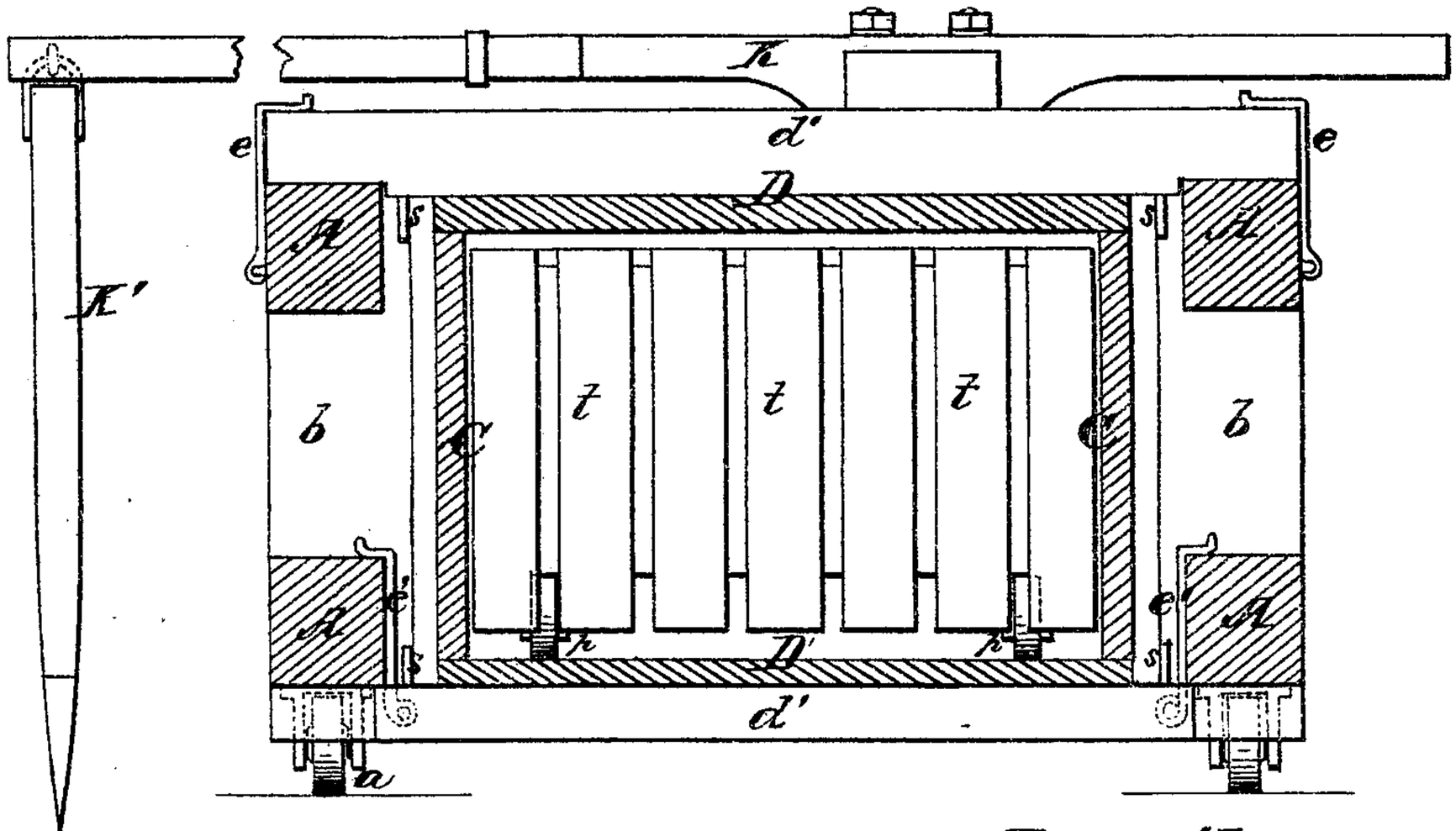


Fig. 4



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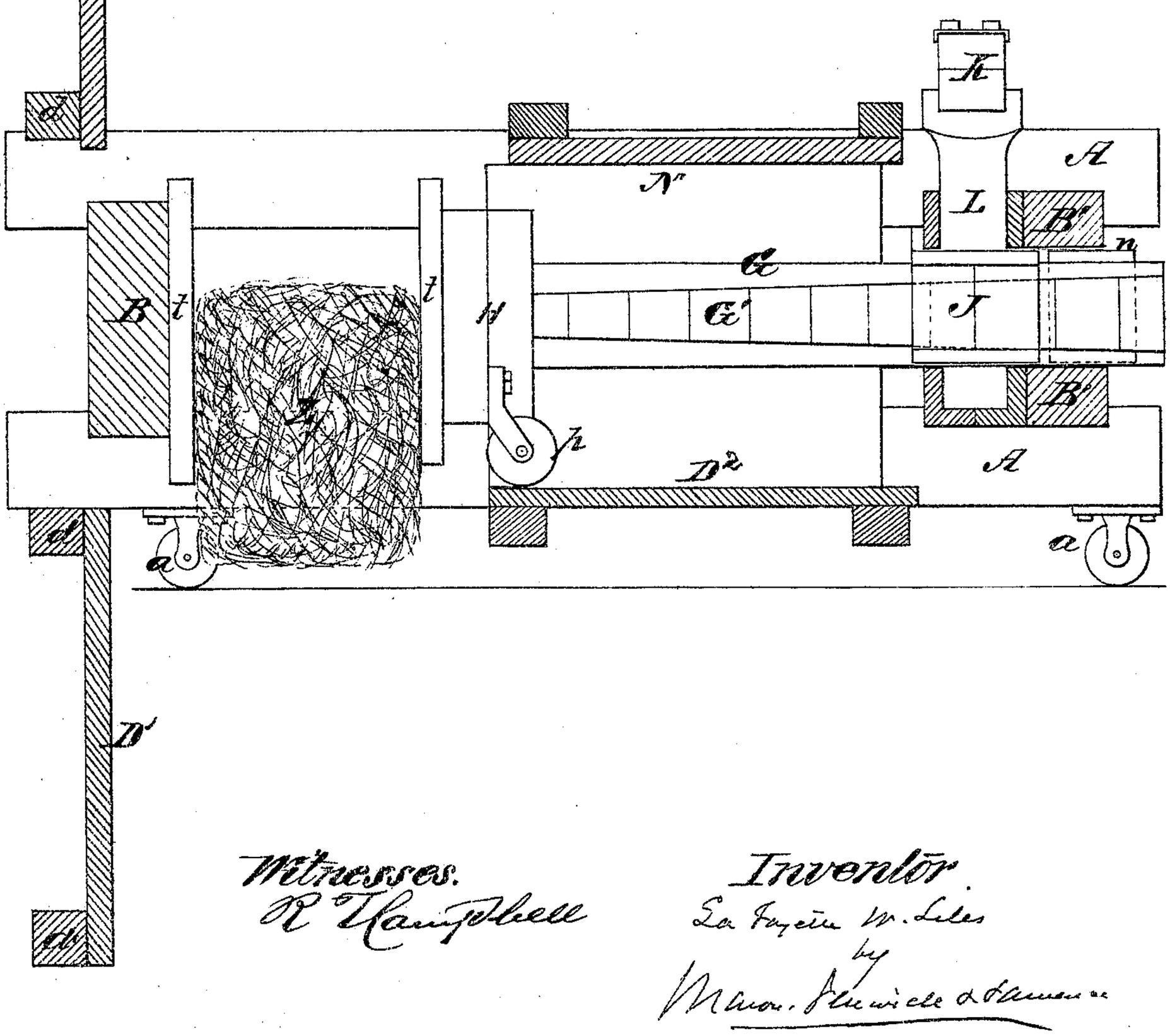
3 Sheets--Sheet 3.

LA FAYETTE WASHINGTON LILES.

Improvement in Baling-Presses.

No. 126,405. Patented May 7, 1872.

Fig. 5



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UNITED STATES PATENT OFFICE.

LA FAYETTE WASHINGTON LILES, OF ROANOKE, ALABAMA.

IMPROVEMENT IN BALING-PRESSES.

Specification forming part of Letters Patent No. 126,405, dated May 7, 1872.

To all whom it may concern:

Be it known that I, LA FAYETTE W. LILES, of Roanoke, in the county of Randolph and State of Alabama, have invented a new and Improved Baling-Press; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing making part of this specification, in which—

Figure 1, Plate 1, is an elevation of one side of my improved press mounted on wheels. Fig. 2, Plate 1, is a top view of the press with the two upper doors raised, and showing the sweep-shaft in section. Fig. 3, Plate 2, is a section taken longitudinally through the press, showing the doors all closed and the follower in a side elevation. Fig. 4, Plate 2, is a section taken transversely and vertically through the press in front of the follower. Fig. 5, Plate 3, shows how the bales are discharged.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates to certain novel improvements which are applicable to presses for baling cotton or other products, as will be hereinafter explained.

The following description of my invention will enable others skilled in the art to fully understand it.

In the accompanying drawing, A A A A represent four parallel beams, which are arranged horizontally and secured rigidly together by horizontal end-pieces B B′ and *b′ b′* and vertical side pieces *b b*. These parts constitute the frame of the press, which frame is mounted on wheels *a a*, so that it is very portable. By thus making the horizontal press portable it can be readily run into a "lint-room," filled, and then run out of this room for using the sweep to apply pressure to the contents. I employ in connection with this frame three hinged doors and two removable doors or sides. The two doors D D′ are arranged one above and the other below that portion of the press-box in which the bale receives its final pressure, and these doors are pivoted respectively at *d d*, and held shut by means of hooks *e e′*, which are shown clearly in Fig. 4. The upper hooks *e e* are drawn over the ends of cross-bar *d′*, and the lower hooks *e′ e′* are hinged to the cross-bar *d′* of the lower door D′ and drawn over the lower horizontal beams A A of the frame. The door N which is hinged on top of the press-frame at *f f* is opened for filling the press-box when the follower is drawn back. The sides C C of that portion of the press-box in which the bale receives its final pressure are removable, and are strengthened by battens *c c′*, the latter of which, *c′*, extends short distances above and below the edges of the sides C C, and are received between lugs *s* on the bars *d′* and the side edges of the doors D D′ when the latter are shut, as shown in Fig. 4. Those edges of the sides C C next the head B are received between slats *t*, as shown in Fig. 2. The upper and lower edges of the sides C C abut against the doors D D′ when shut, as shown in Fig. 4. The vertical sides C′ C′ are not removable and are rigidly secured to the vertical braces *b b*. The pressing-head or follower H is provided with vertical slats *t*, the spaces between which correspond to the spaces between the slats *t* on the fixed head or cross-beam B, and this follower is mounted on wheels *p p*, which roll upon the floor D² and thus prevent sliding friction. The follower-rod G extends horizontally between the cross-beams B′ B′, and is provided on one side with a rack, G′, the teeth of which engage with the teeth of a pinion, J. This pinion J is keyed on a vertical shaft, L, to the upper end of which a sweep, K, is secured, and to the outer end of this sweep a prop or pawl, K′, is hinged, the lower end of which is spiked so that it may engage with the ground and act as a stop to prevent recoil of the follower. Opposite the pinion J are two anti-friction rollers, which have their bearings in the beams B B, and which hold the follower-rod up to the said pinion and prevent binding thereof.

By reference to Fig. 3 it will be seen that the rack G′ is made tapering from the outer end of the follower-rod G up to the follower H. This gives the greatest amount of metal, and consequently the greatest amount of strength, to the rack in proportion as the resistance increases in the act of baling. The teeth of the rack G′ present flat surfaces 2, which are perpendicular to the length of the follower-rod, and the backs 3 of these teeth are rounding and sloping, as shown in Fig. 2. The teeth on the pinion J are formed between two flanges, 4 4, and present to the surfaces 2 of the rack-teeth rounded surfaces 5. The

backs of these pinion-teeth are sloping, which, with the flanges, gives great strength to them.

During the operation of baling, when the follower is moved toward the fixed head B the rounded surfaces 5 of the pinion-teeth impinge on the flat surfaces 2 of the rack-teeth, and roll instead of slide, thereby obviating much friction.

If desirable, the small wheels *a a* beneath the press-frame may be omitted, and the press mounted on an ordinary wagon or on wagon-wheels.

By reference to Fig. 5, Plate 3, it will be seen that the compressed bale, after having been hooped, is in the act of being discharged from the press. It will, of course, be understood that the press during such act is so placed with reference to space below it as to enable the bale to fall clear and free from contact with the bottom of the press on discharge.

It will be observed that my press is of that class which may be termed "horizontal" machines, such construction enabling me to apply a door at the bottom of the press in that portion of it in which the material is compressed, as shown, for the purpose of discharging the compressed bale through the bottom of the press, and thus utilizing the weight of the bale to effect its own discharge. It will also be seen that the door D′ when closed forms one of the walls of the room within which the cotton or other material is confined during the act of compression.

Having described my invention, what I claim is—

1. The follower H, mounted on wheels *p*, and combined, as described, with the fixed head B, the hinged doors D D′, and the removable sides C C, the latter being held in place by lugs *s s* and strips *t*, substantially as described.

2. The rack G′, constructed with teeth which present flat surfaces 2 and sloping backs 3, in combination with a flanged pinion, J, whose teeth present rounded ends 5, substantially as described and shown.

LA FAYETTE WASHINGTON LILES.

Witnesses:

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W. E. WHITE.