

(No Model.)

E. PICARD.  
SANDING APPARATUS.

No. 585,938.

Patented July 6, 1897.

FIG. 1.

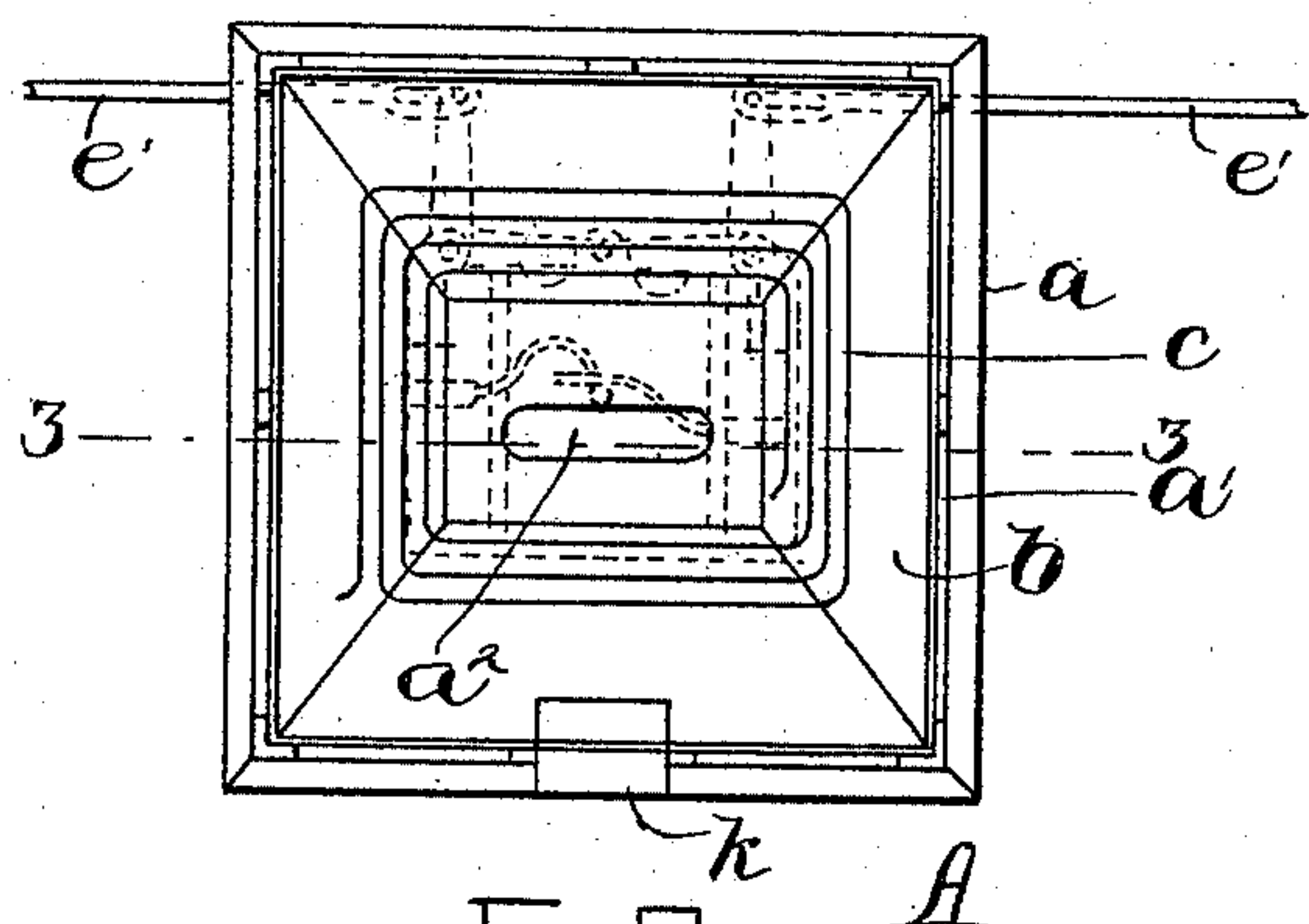


FIG. 3.

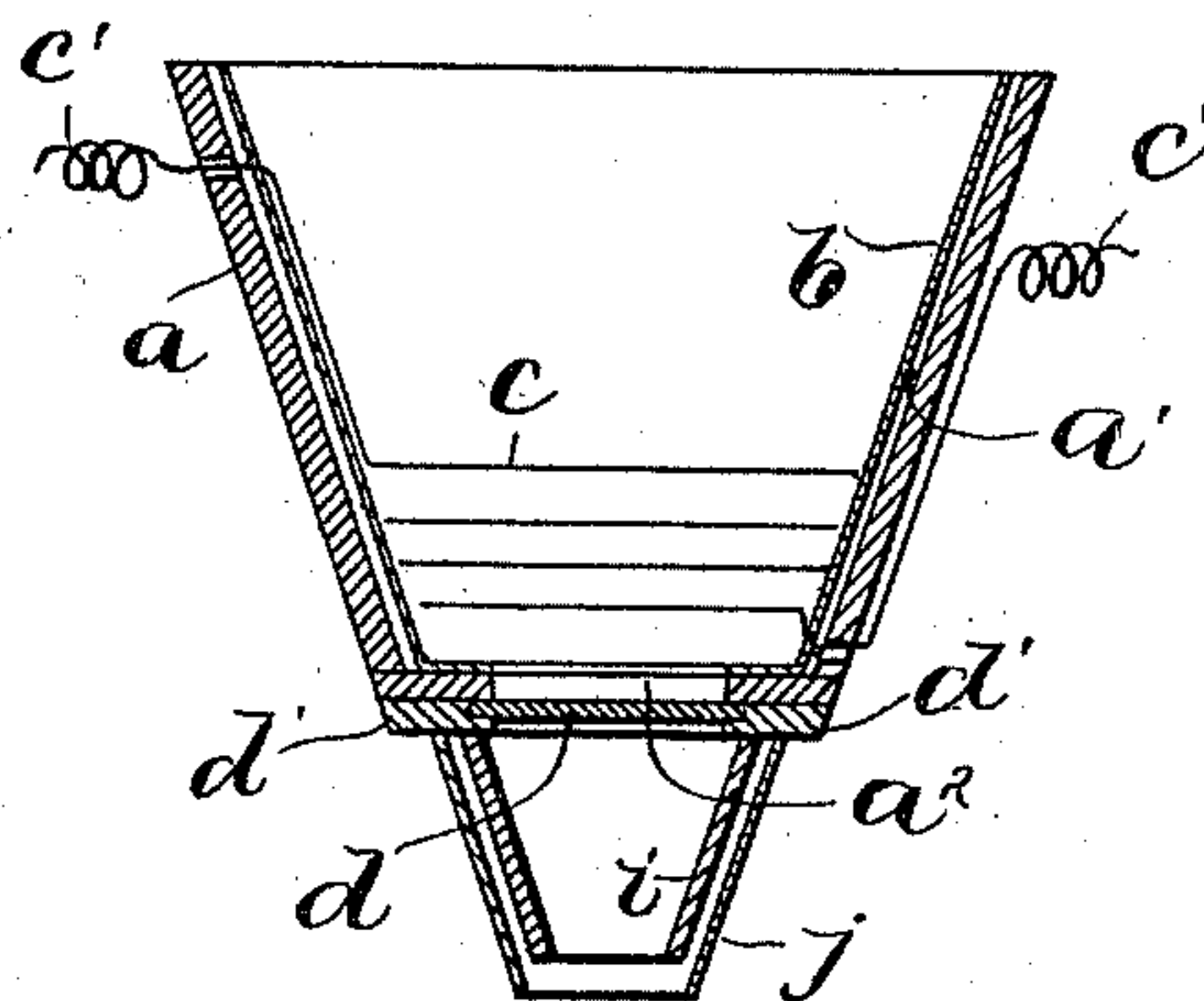


FIG. 2

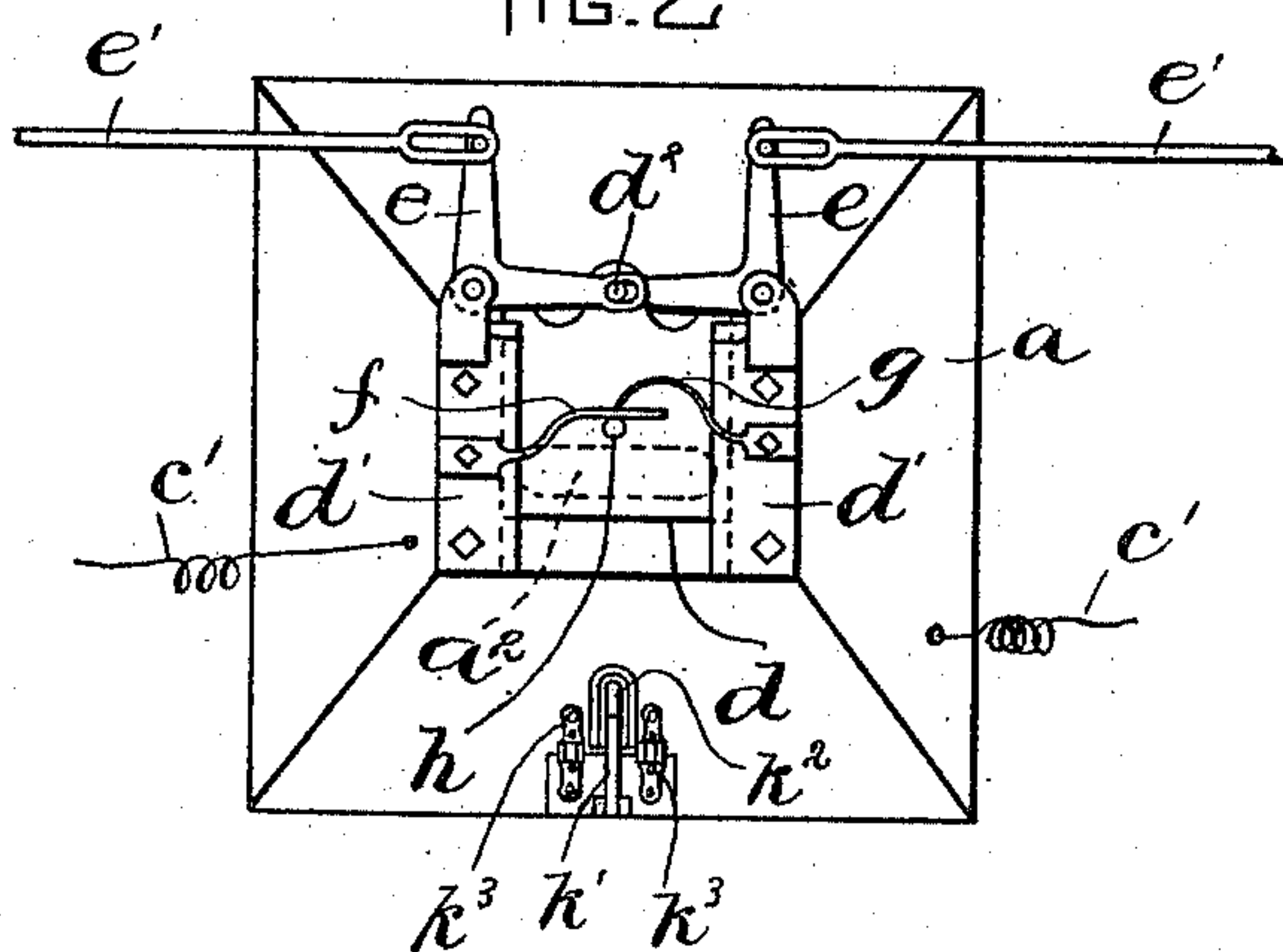


FIG. 4.

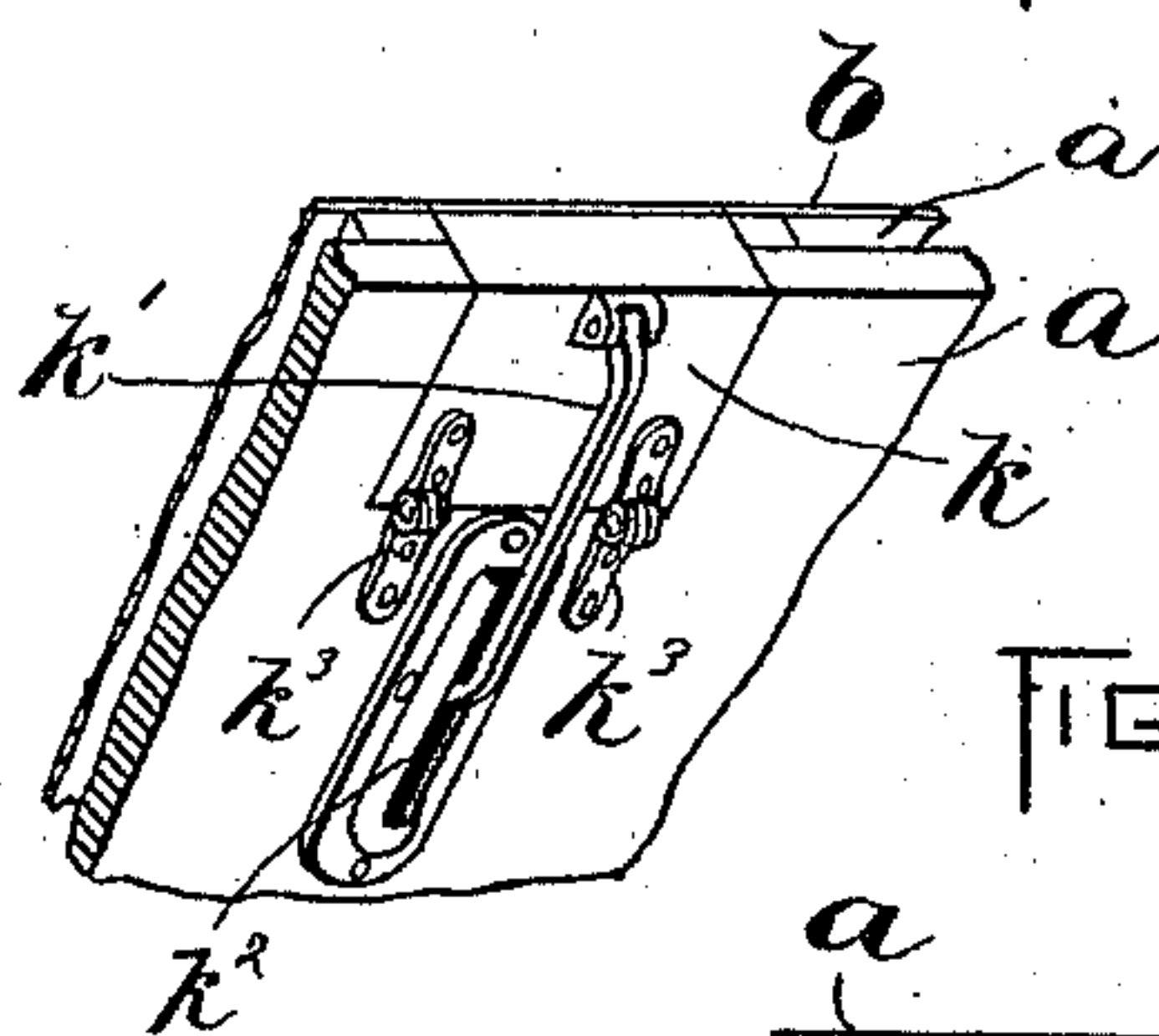


FIG. 5.

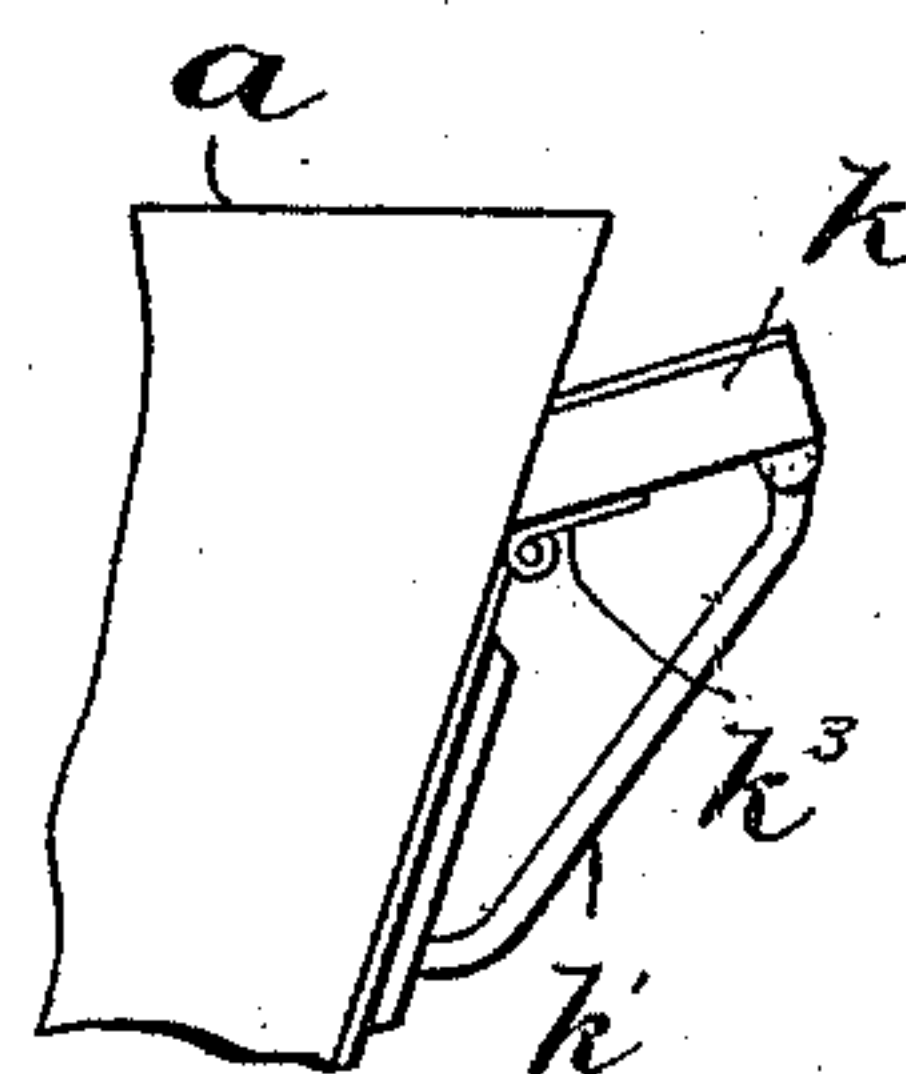
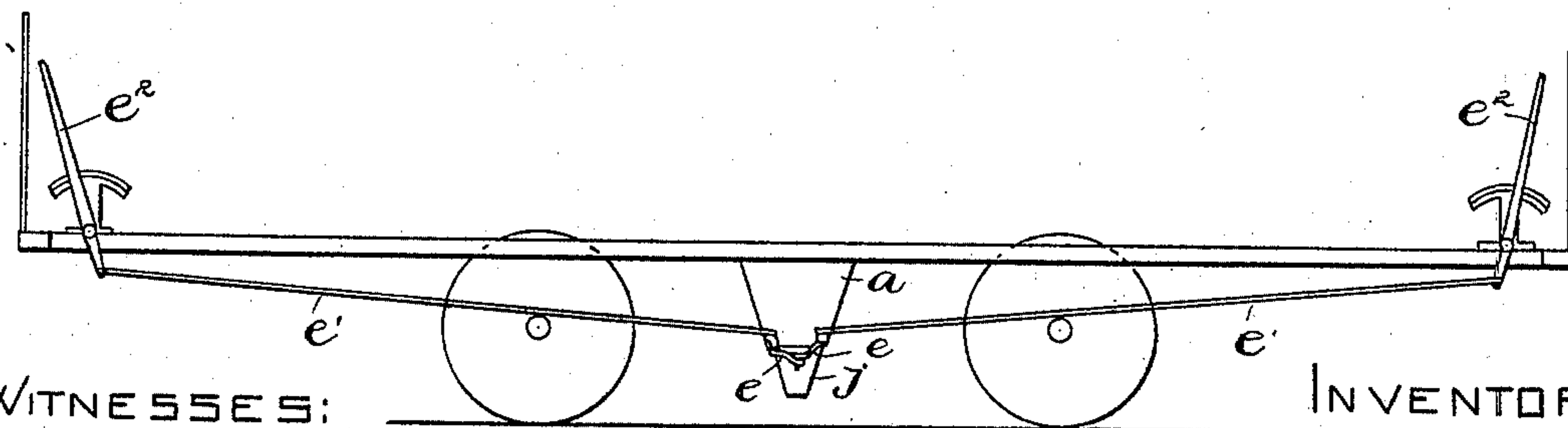


FIG. 6.



WITNESSES:

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INVENTOR:

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Lynght Broom Quinity  
Htys



# UNITED STATES PATENT OFFICE.

EUSEBE PICARD, OF HOLYOKE, MASSACHUSETTS, ASSIGNOR OF ONE-HALF  
TO MAXIME RUEL, OF SAME PLACE.

## SANDING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 585,938, dated July 6, 1897.

Application filed March 25, 1897. Serial No. 629,156. (No model.)

*To all whom it may concern:*

Be it known that I, EUSEBE PICARD, of Holyoke, in the county of Hampden and State of Massachusetts, have invented certain new and  
5 useful Improvements in Sanding Apparatus, of which the following is a specification.

This invention relates to a sanding device for street-railway cars, its principal objects being to prevent clogging of the sand, to provide a convenient means for filling, and to  
10 provide an improved controlling-gate.

The invention consists in the improved construction and relative arrangement of parts which I shall now proceed to describe and  
15 claim.

Of the accompanying drawings, forming a part of this specification, Figure 1 represents a top plan view of my improved sanding device. Fig. 2 represents a bottom view of the  
20 same with the discharge-chutes removed. Fig. 3 represents a section on line 3 3 of Fig. 1. Figs. 4 and 5 are detail views of the door or flap provided for filling purposes. Fig. 6 is a view showing the device in place on a car  
25 and showing also its operating attachments.

The same letters of reference indicate the same parts in all the figures.

Referring to the drawings, A represents the hopper, which comprises an outside casing *a*  
30 and an inner metallic lining *b*, which holds the sand and is separated from the casing *a* by an air-space *a'*.

*c* represents an electrical conductor insulated from the lining *b* and arranged so as to  
35 be in heating relation to the sand in the hopper in order to dry the same and prevent caking, the said conductor receiving current from suitable leading-wires *c' c'*. The conductor *c* is arranged in loops extending around the  
40 sides of the hopper, close to the lining *b*, so as to come in direct contact with the said lining, though without offering an obstruction to the sand, as would be the case if it were arranged in coils extending across from side to side of  
45 the hopper. The air-space *a'* serves to prevent undue heating of the casing *a* and also to prevent the sand from becoming moistened from without. At the bottom of the hopper is  
50 an outlet-opening *a<sup>2</sup>*, which is several times as long as it is wide, so that large stones or pebbles are not likely to block it up completely at

any time. *d* represents the sliding gate which controls this opening, the said gate working in guides *d' d'*, fixed to the bottom of the hopper and being provided with a pin *d<sup>2</sup>*, which  
55 is engaged by pivoted bell-crank levers *e e*, there being two such levers adapted to be operated from opposite ends of the car by means of connecting-rods *e'*, connected to the said bell-cranks and to suitable operating means,  
60 such as the hand-lever *e<sup>2</sup>*. In case one or more of the sanding devices were provided at each end of the car only one lever *e* and rod *e'* would be necessary for operating the sliding gate *d*.  
65

*f* and *g* represent two springs arranged on either side of the gate *d*, the spring *f* bearing against a pin *h* on the gate. The spring *g* bears against the spring *f* and is curved, as shown, so as to admit the end of the said  
70 spring *f* when the gate is drawn, the said end normally projecting beyond the pin *h*. This arrangement of springs is designed to retract the gate *d* without producing any binding action thereof against its guides.  
75

At the bottom of the hopper A, below the outlet-opening *a<sup>2</sup>*, is arranged the discharge-chute *i*, which is adapted to lead the sand to the car-rails, and outside of said chute and separated therefrom by a space is a protecting-  
80 casing *j*, of the same general form, but extending somewhat below the mouth of said chute *i*, so as to afford protection from splashing water, mud, &c.

For the purpose of filling the hopper with  
85 sand I provide a flap-door *k* in one side of said hopper, arranged to swing outwardly upon hinges *k<sup>3</sup>* and provided with a prop *k'*. The said prop is hinged at its upper end to the door *k*, while its lower end is arranged to  
90 travel in a slot *k<sup>2</sup>*. When the door is opened for filling, the prop abuts against the lower end of the slot *k<sup>2</sup>* and acts as a support for the door to sustain a weight which may be placed thereon, such as the weight of any receptacle from which the hopper is being filled.  
95

Having thus set forth my invention, I claim—

1. In a sanding device, the combination with a hopper consisting of an outer casing  
100 and an inner lining separated therefrom by an air-space, of an electrical conductor ar-



ranged in loops around the inside of said hopper and adapted to come into contact with the sand therein so as to dry the same, substantially as described.

5 2. In a sanding device, a hopper having an elongated outlet-opening, a sliding gate arranged to operate beneath said opening, an outwardly-opening door for filling said hopper, the said door having a prop, means for  
10 drawing said gate, means for retracting the same, consisting of springs connected with the bottom of the hopper and engaging the said gate, and means in said hopper for heating the sand therein to dry the same.

15 3. In a sanding device, in combination, a hopper consisting of an outer casing and an inner lining separated therefrom by an air-space, an elongated outlet-opening in said hopper, a gate arranged to operate beneath  
20 said opening, a discharge-chute arranged un-

derneath said opening, a protecting-casing arranged outside of said chute and extending below the mouth of the same, an outwardly-opening door for filling the hopper, the said door having a prop, and an electrical con- 25 ductor arranged in loops inside of said hopper, close to the sides thereof, the said conductor being adapted to make contact with the sand in the hopper so as to dry the same, substantially as and for the purposes de- 30 scribed.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 16th day of March, A. D. 1897.

EUSEBE PICARD.

Witnesses:

ORPHIR E. GENEST,  
MAXIME RUELLE.