

(No Model.)

E. G. BAILEY:
MECHANISM FOR SHAKING SCREENS.

No. 420,711.

Patented Feb. 4, 1890.

Fig. 1.

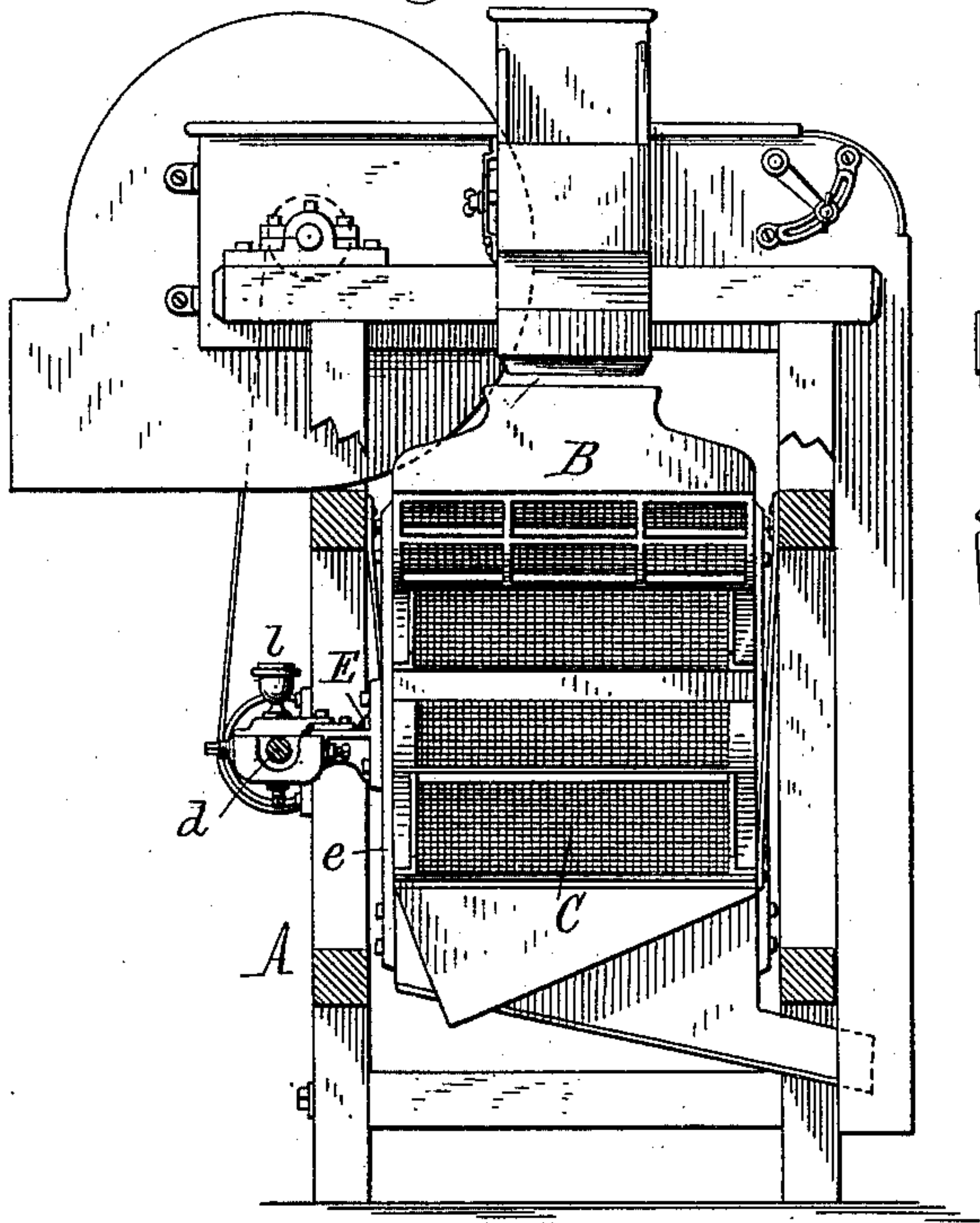


Fig. 2.

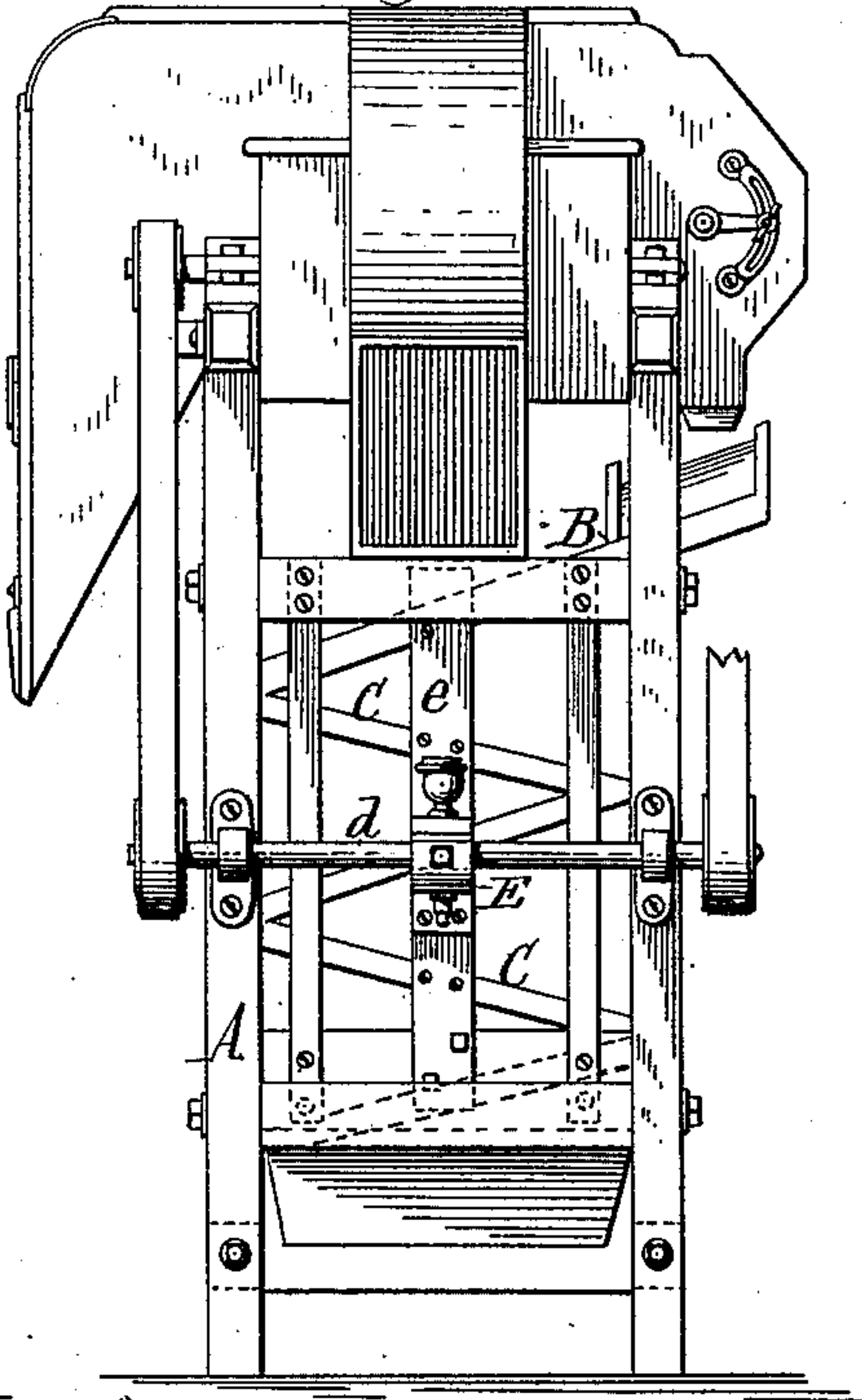


Fig. 3.

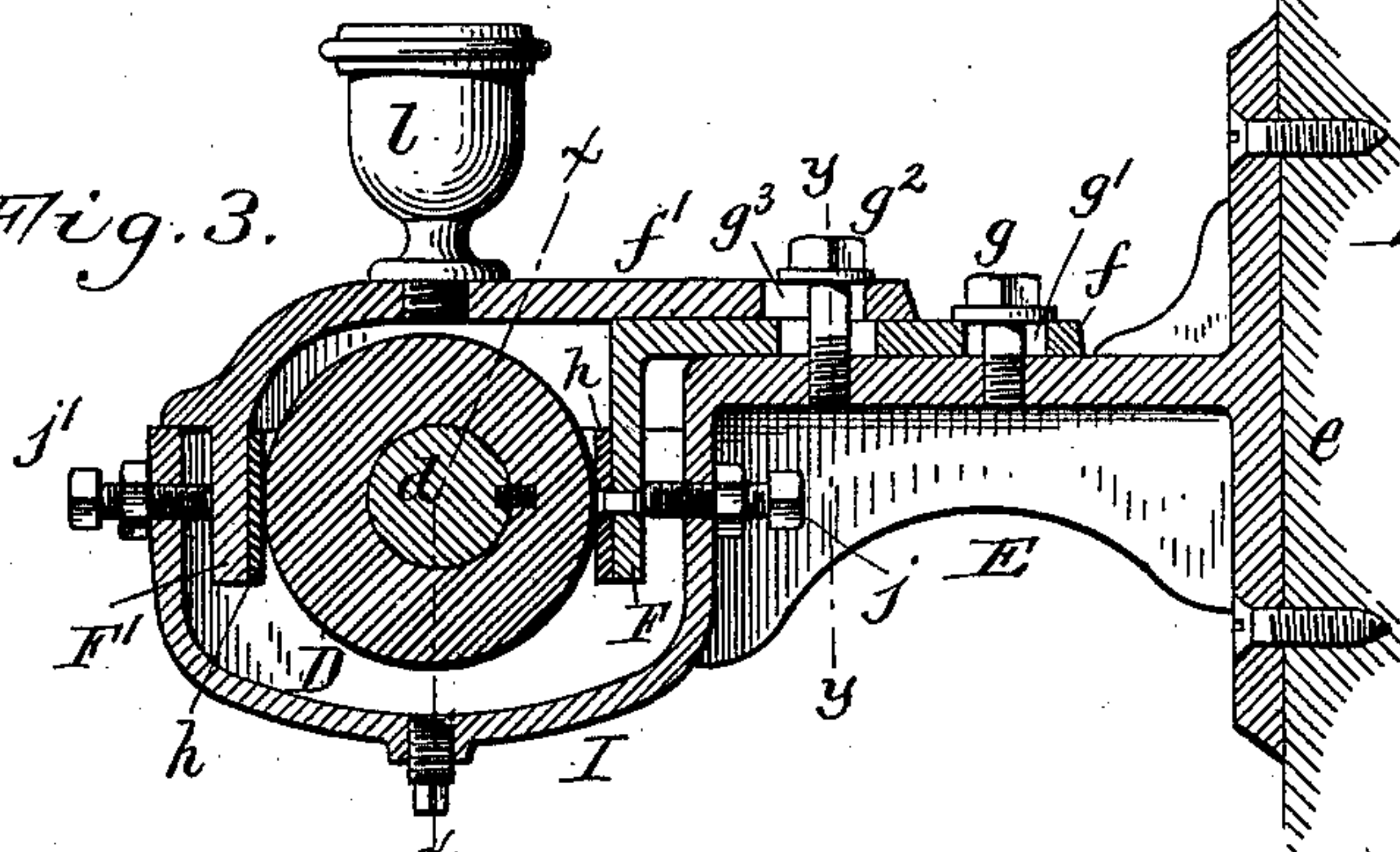
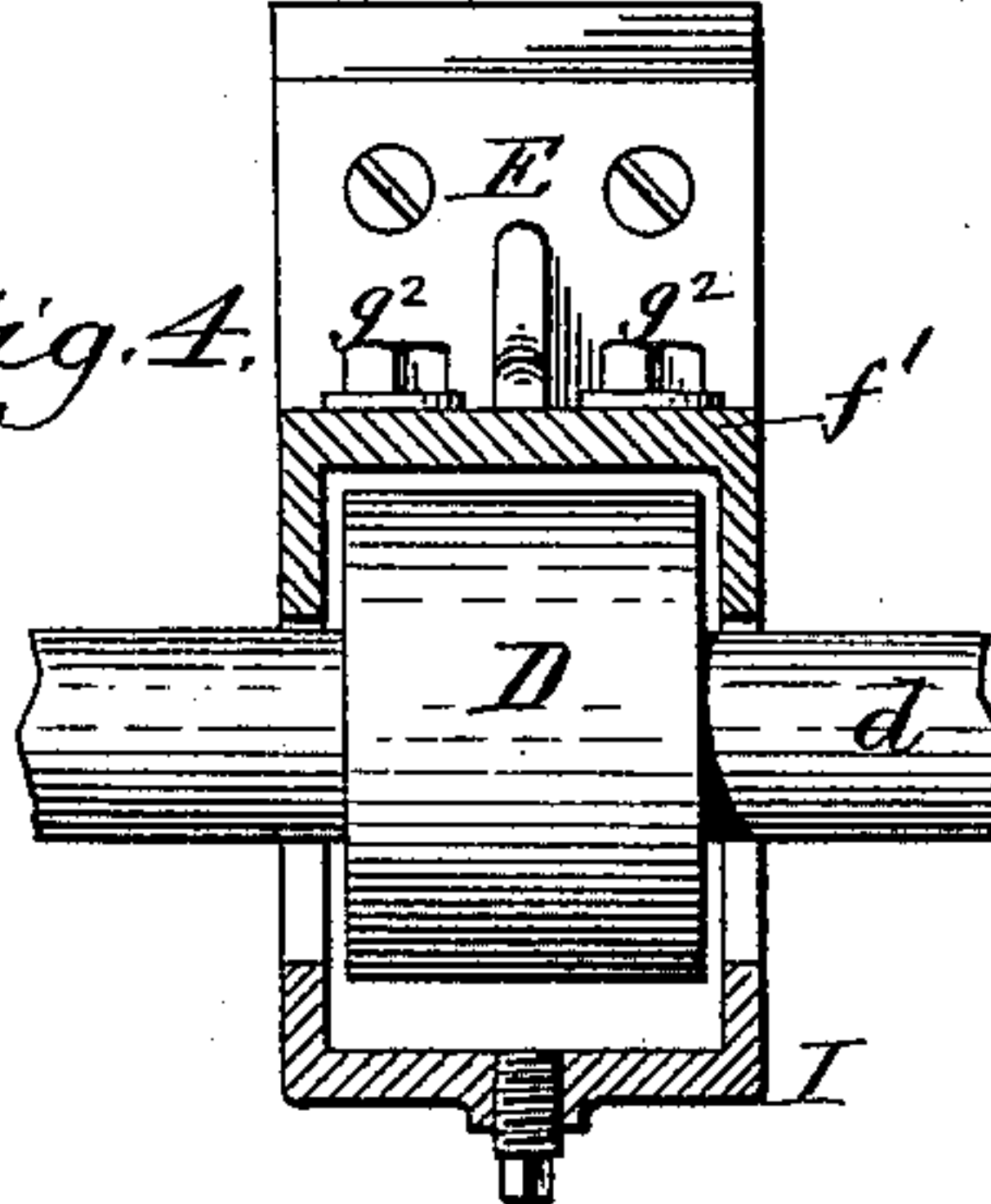


Fig. 4.



Flüg. 5.

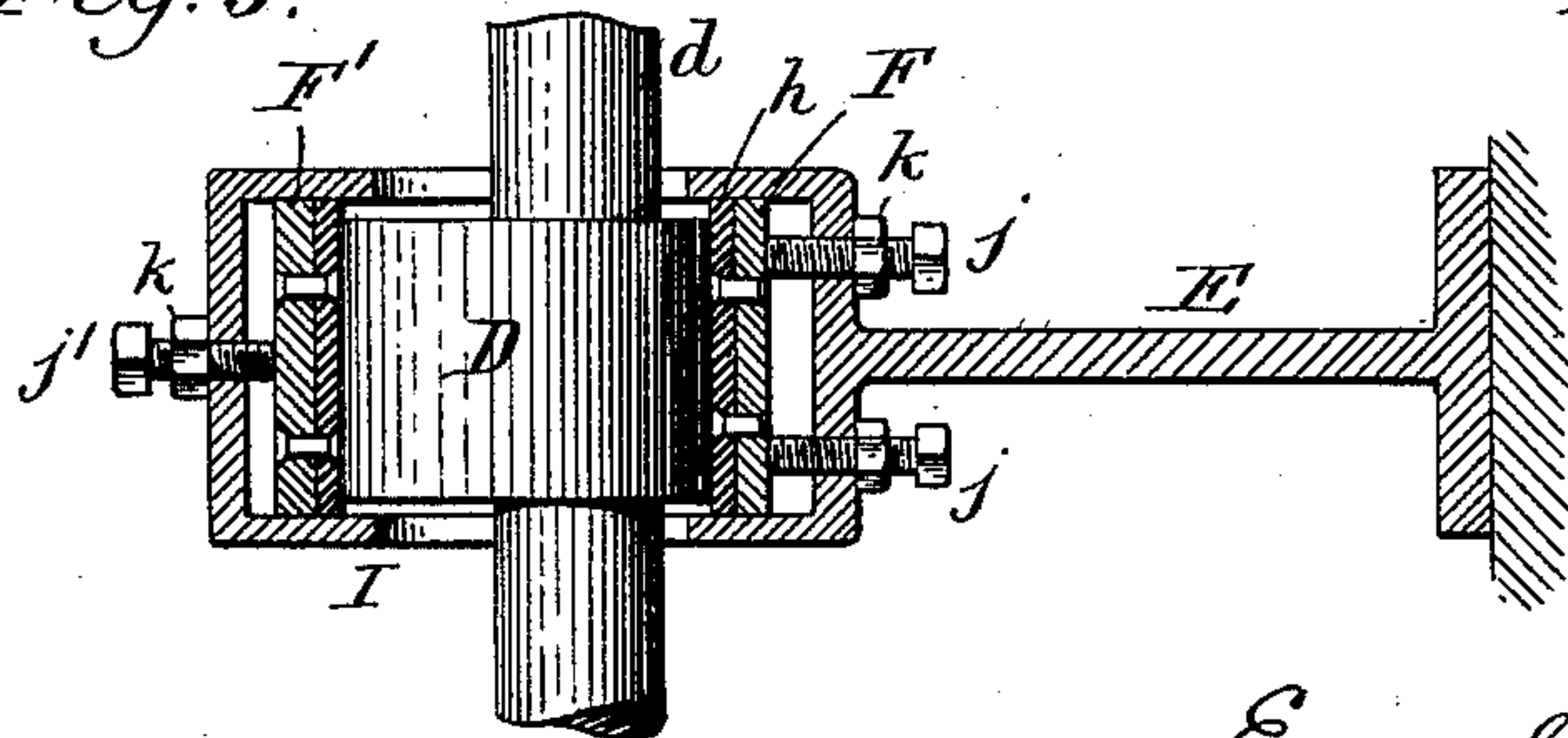
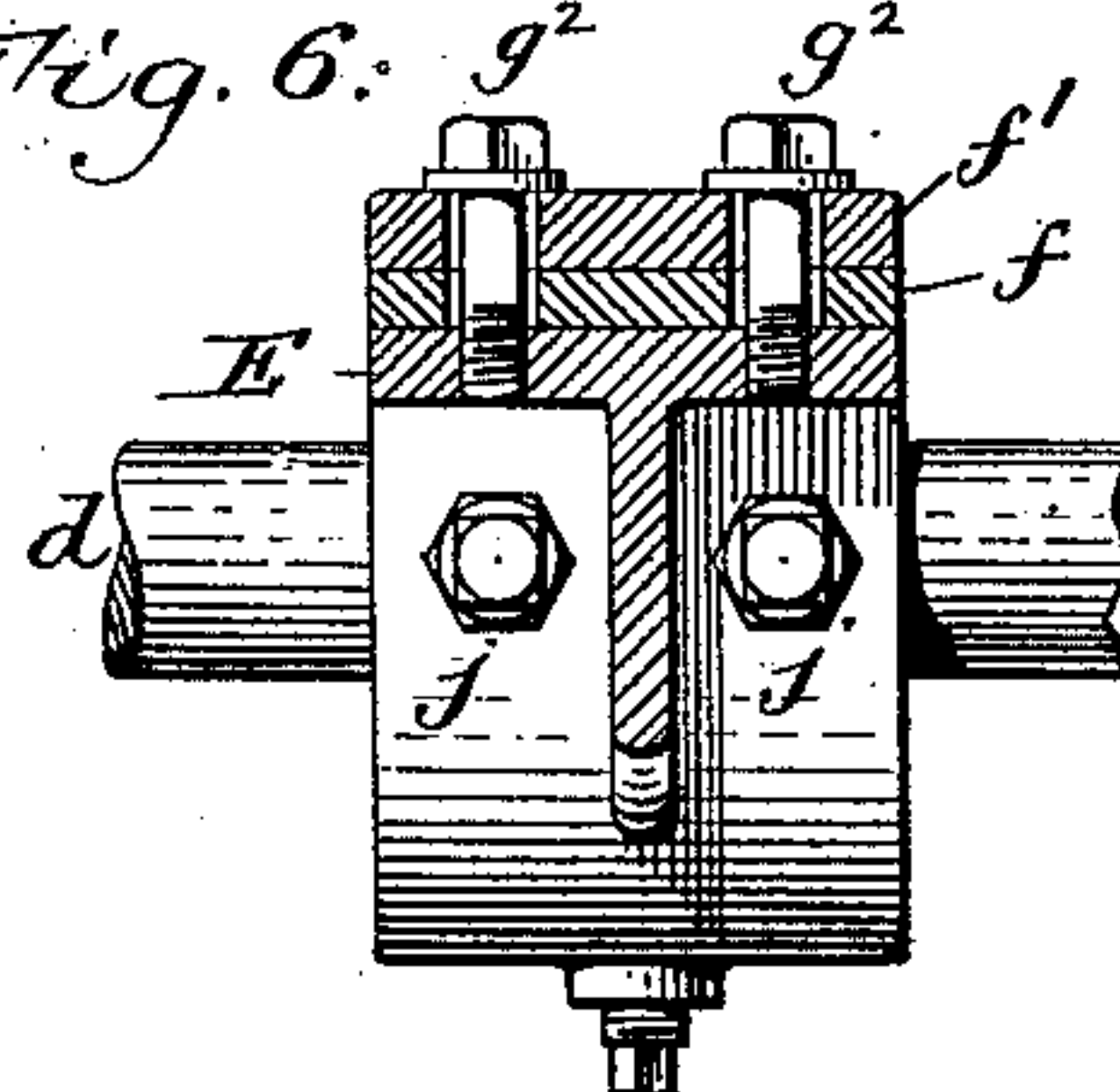


Fig. 6



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UNITED STATES PATENT OFFICE.

EDGAR G. BAILEY, OF SILVER CREEK, NEW YORK, ASSIGNOR TO SIMEON HOWES, OF SAME PLACE.

MECHANISM FOR SHAKING SCREENS.

SPECIFICATION forming part of Letters Patent No. 420,711, dated February 4, 1890.

Application filed September 25, 1888. Serial No. 286,317. (No model.)

To all whom it may concern:

Be it known that I, EDGAR G. BAILEY, of Silver Creek, in the county of Chautauqua and State of New York, have invented a new and useful Improvement in Actuating Mechanism for Shaking Screens, of which the following is a specification.

This invention relates to the actuating mechanism employed for vibrating the shaking screens of grain-separators and other machines, and which consists, usually, of an eccentric mounted on a driving-shaft and connected with the screen. This eccentric becomes worn in time and shakes the screen irregularly and unevenly, thereby giving the material delivered upon the screen a greater throw or impulse in one direction than in the other, causing the material to flow in large quantities over a portion of the screen, while but a small quantity passes over the remaining portion of the screen. This uneven distribution of the material is objectionable because only a portion of the screen is utilized, and its separating capacity is reduced accordingly.

The object of my invention is to provide simple means whereby the screen can be readily adjusted when the eccentric becomes worn, so as to vibrate uniformly in both directions and cause the material to be uniformly distributed over the entire surface of the screen.

My invention consists of the improvements which will be hereinafter fully described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a sectional elevation of a grain-separator provided with my improvements. Fig. 2 is an end view thereof. Fig. 3 is a cross-section of the eccentric and the adjustable contact-plates on an enlarged scale. Fig. 4 is a vertical section in line $x x$, Fig. 3, looking toward the right. Fig. 5 is a horizontal section of the contact-plates and connecting parts with the eccentric in elevation. Fig. 6 is a vertical cross-section in line $y y$, Fig. 3, looking toward the left.

Like letters of reference refer to like parts in the several figures.

A represents the stationary supporting-frame of a grain-separator, and B is the shak-

ing shoe or frame suspended or hung to the supporting-frame in any suitable manner and carrying the separating-screens C.

D represents the eccentric, mounted upon a horizontal driving-shaft d , journaled in bearings secured to the frame A.

E represents a bracket secured, preferably, to an upright bar e , attached to the end of the shaking shoe or frame B, and F F' are two front and rear contact-plates adjustably secured to the bracket E and bearing against opposite sides of the eccentric D, so as to impart the motion of the eccentric to said bracket and the shaking-shoe. The inner or front contact-plate F is provided with a horizontal extension or shank f , which is adjustably secured to the upper side of the bracket E by a clamping-bolt g , passing through a slot g' , formed in the extension f . The outer or rear contact-plate F' is provided with an extension f' , which preferably rests upon the extension f of the inner contact-plate F, and is adjustably secured to the bracket E by clamping-bolts g^2 , passing through slots g^3 , formed in the extension f' , as shown in Fig. 3. The contact-plates F F' are preferably provided with steel wear-plates h , which are secured to the contact-plates by riveting or otherwise.

I represents an oil receptacle or box arranged underneath and inclosing the eccentric D and formed at the outer end of the bracket E. This oil-box forms an extension of the bracket or arm and embraces the lower portion of the eccentric, leaving an intervening space, in which the eccentric moves freely in rotating.

$j j$ represent two adjusting bolts or screws arranged in threaded openings formed in the inner side wall of the oil-receptacle I and bearing against the outer side of the contact-plate F, and j' is a similar adjusting bolt or screw arranged in the outer side wall of the oil-receptacle and bearing against the outer contact-plate F'. The adjusting-screws $j j'$ are each provided with a jam-nut k for locking the same in place.

l is an oil-cup arranged above the eccentric D and attached to the extension f' of the outer contact-plate F'.

When the eccentric D becomes worn and

the shaking-shoe swings a greater distance beyond the point of suspension in one direction than in the other, the shoe is properly centered by adjusting the contact-plates F F' upon the bracket E, so that the stroke or vibration of the shoe will be equal in both directions. This adjustment is effected by loosening the clamping-bolts $g g^2$, shifting the contact-plates by means of the adjusting-screws $j j'$, and then again tightening said clamping-bolts. It will thus be seen that by my improvement the connection between the shaking-shoe and the eccentric can be lengthened and shortened as may be necessary to cause the shoe to swing the same distance in both directions. By this construction the shoe is conveniently centered both in first hanging the same as well as after the eccentric has become worn, thereby insuring a uniform and even distribution of the material over the entire area of the separating-screen and obtaining the full separating capacity of the screen at all times.

My improvement also permits the contact-plates F F' to be squarely adjusted against the eccentric in case the latter is slightly irregular or in case the bracket E is out of true.

My invention is particularly desirable for use in grain-separators and other milling-machines having reciprocating parts; but it may be employed advantageously in a variety of machines.

I claim as my invention—

1. The combination, with the eccentric, of a bracket or arm provided with an extension which embraces the lower portion of the ec-

centric and leaves an intervening space in which the eccentric moves freely, and front and rear contact-plates arranged in the extension of the bracket or arm and made independently adjustable on the bracket or arm toward and from the eccentric, substantially as set forth.

2. The combination, with the eccentric, of a bracket or arm provided with an extension which embraces the lower portion of the eccentric and leaves an intervening space in which the eccentric moves freely, front and rear contact-plates arranged in the extension of the bracket or arm and made independently adjustable on the bracket or arm, and adjusting-screws attached to the front and rear sides of the extension and bearing against the contact-plates, substantially as set forth.

3. The combination, with the eccentric, of a bracket or arm provided with a downward extension which embraces the lower portion of the eccentric and leaves an intervening space in which the eccentric moves freely, front and rear contact-plates arranged in the extension and provided with shanks which are adjustably secured to the bracket or arm, and adjusting-screws attached to the front and rear sides of the extension and bearing against the contact-plates, substantially as set forth.

Witness my hand this 12th day of September, 1888.

EDGAR G. BAILEY.

Witnesses:

CHAS. N. HOWES,

W. H. MERRITT.