

(No Model.)

H. M. ANGLE & W. D. HESS.
LUBRICATOR FOR ELEVATOR GUIDES.

No. 466,971.

Patented Jan. 12, 1892.

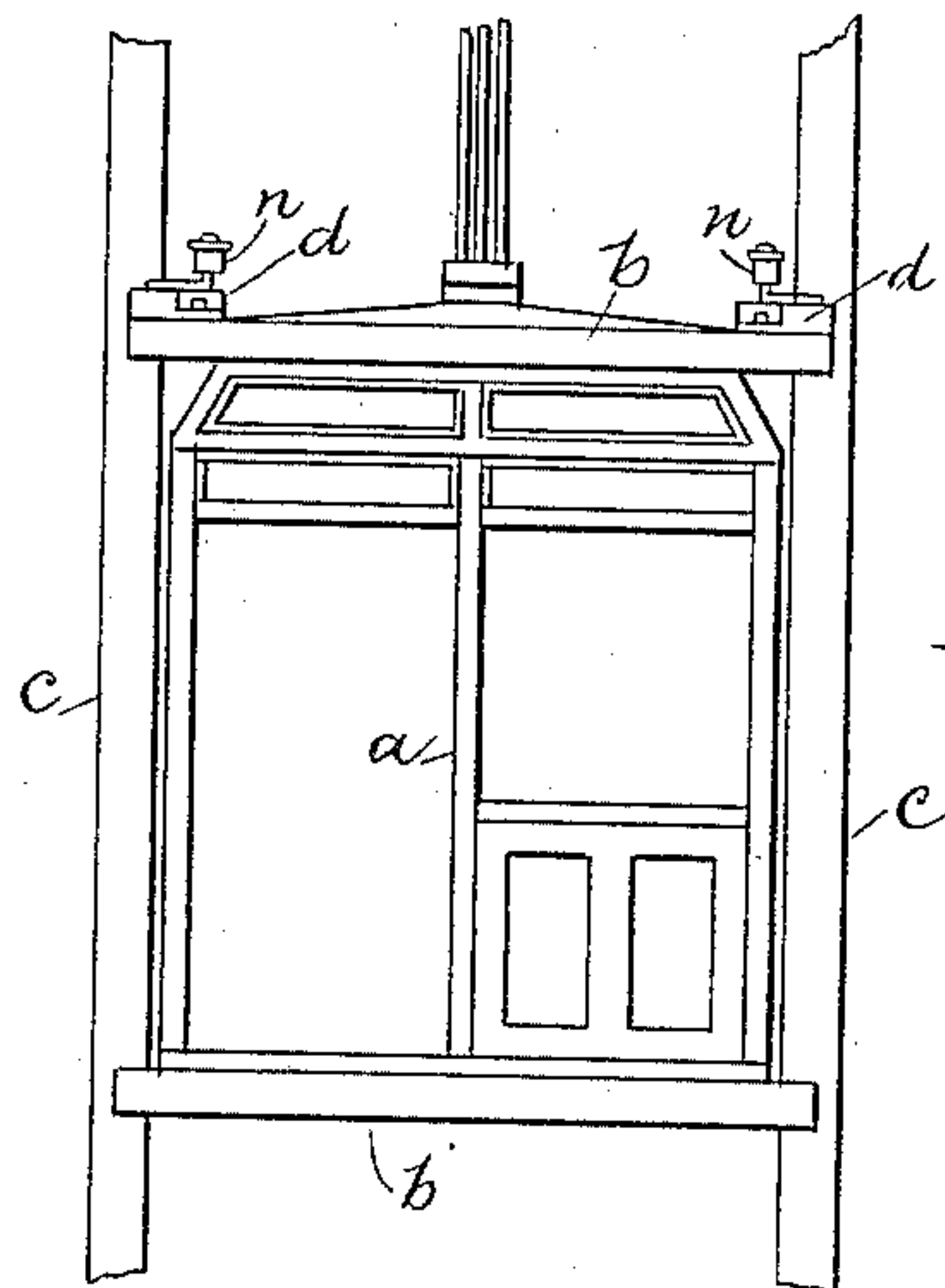


FIG. 1.

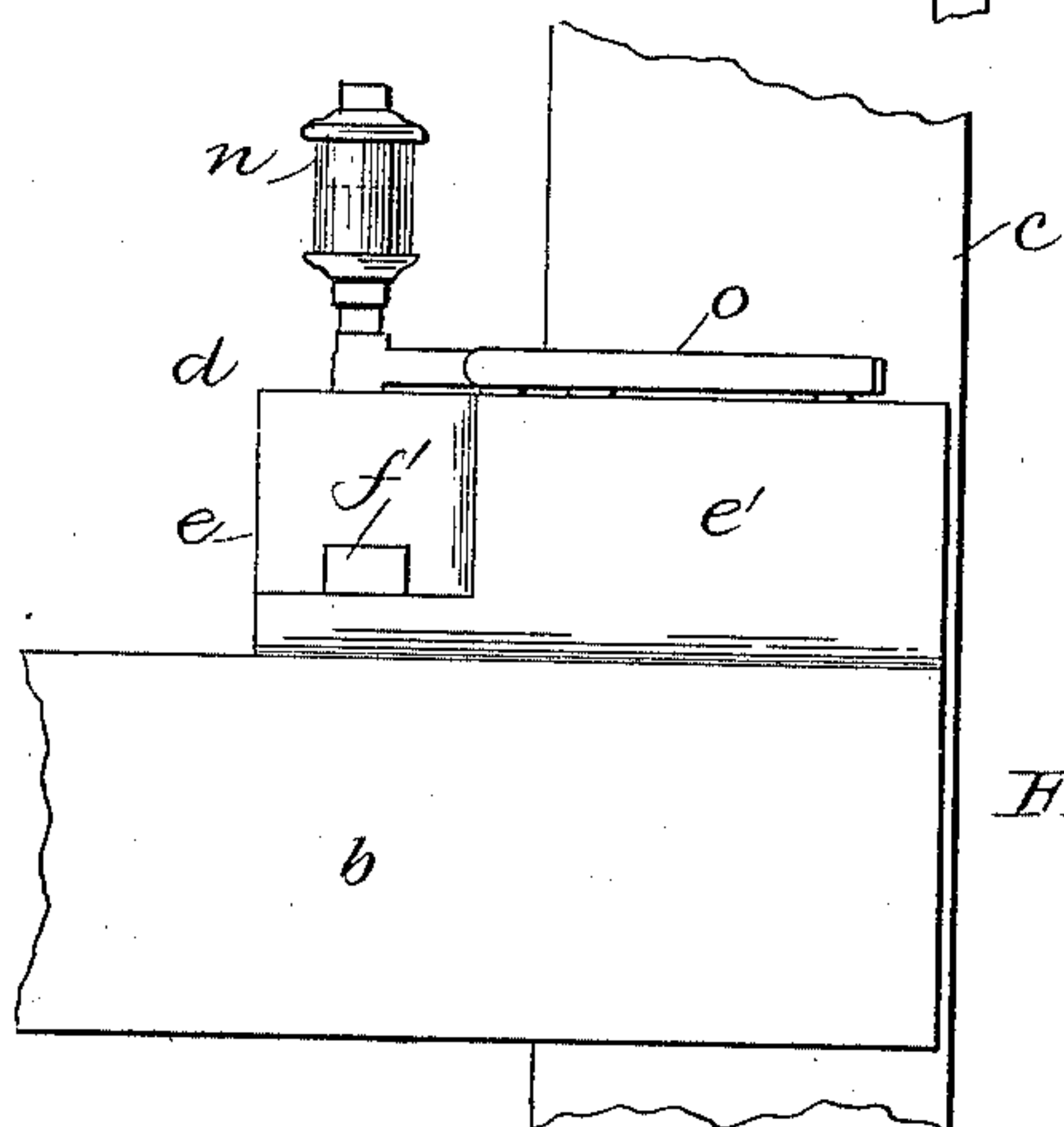


FIG. 2.

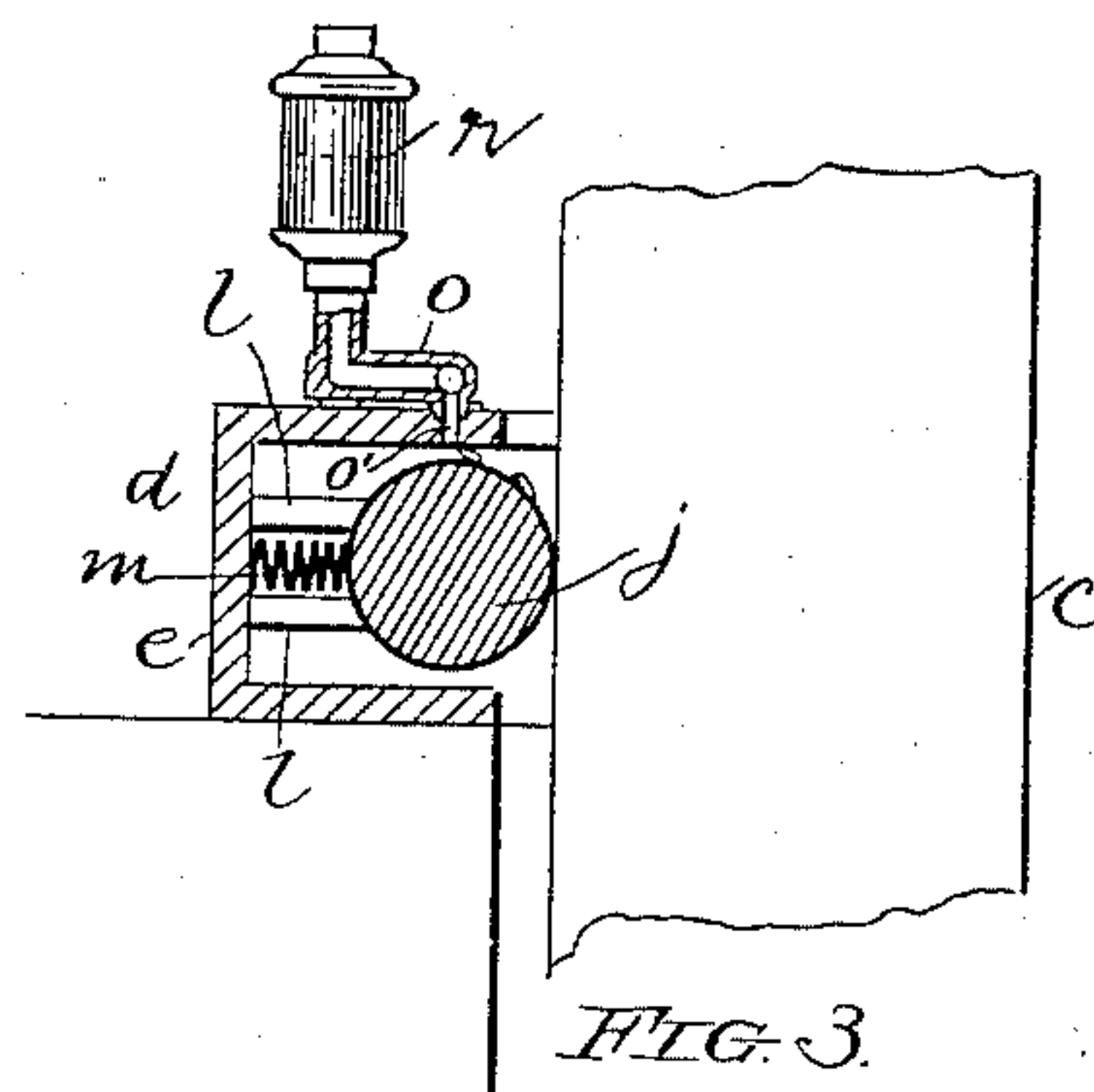


FIG. 3.

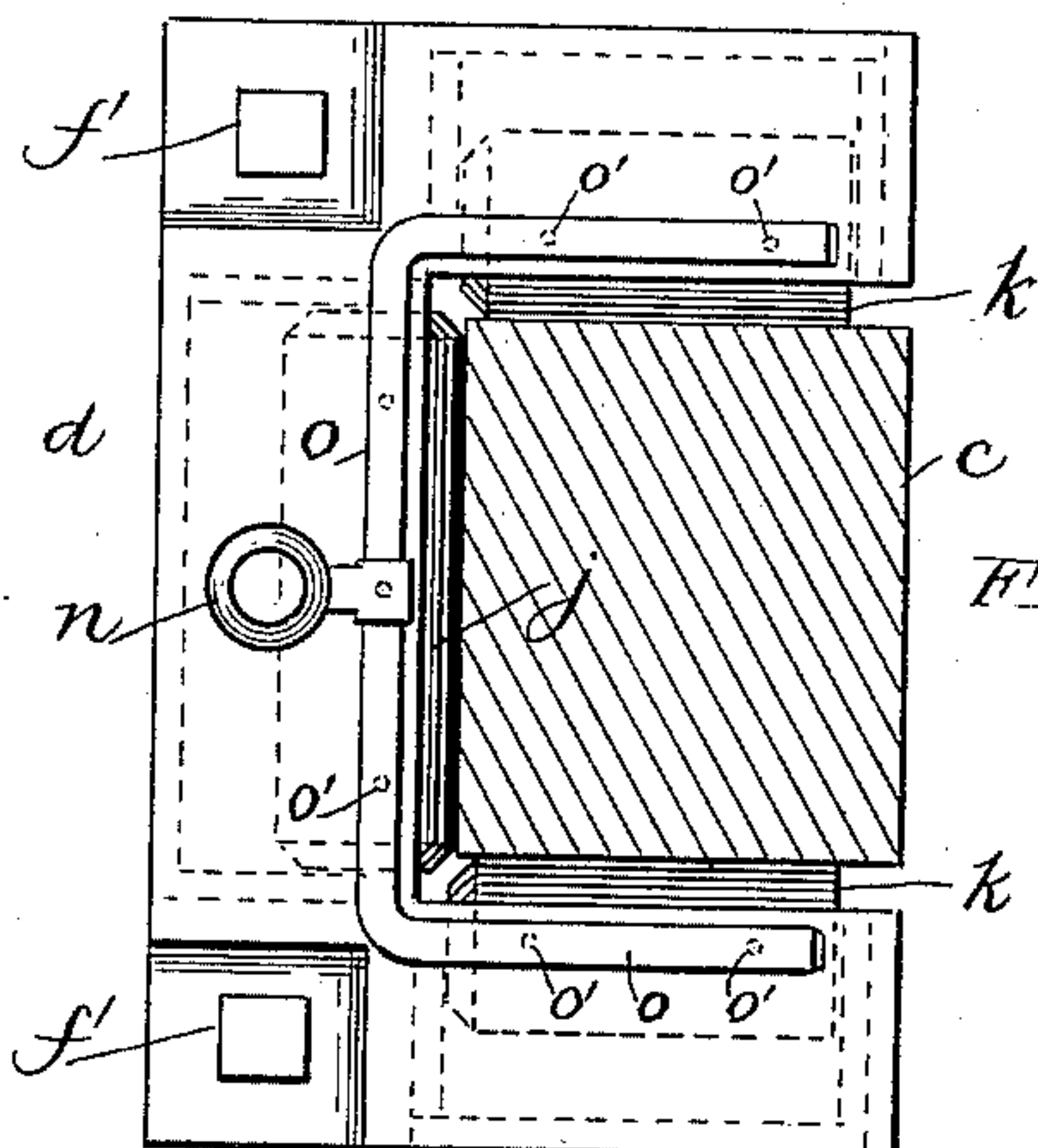


FIG. 4.

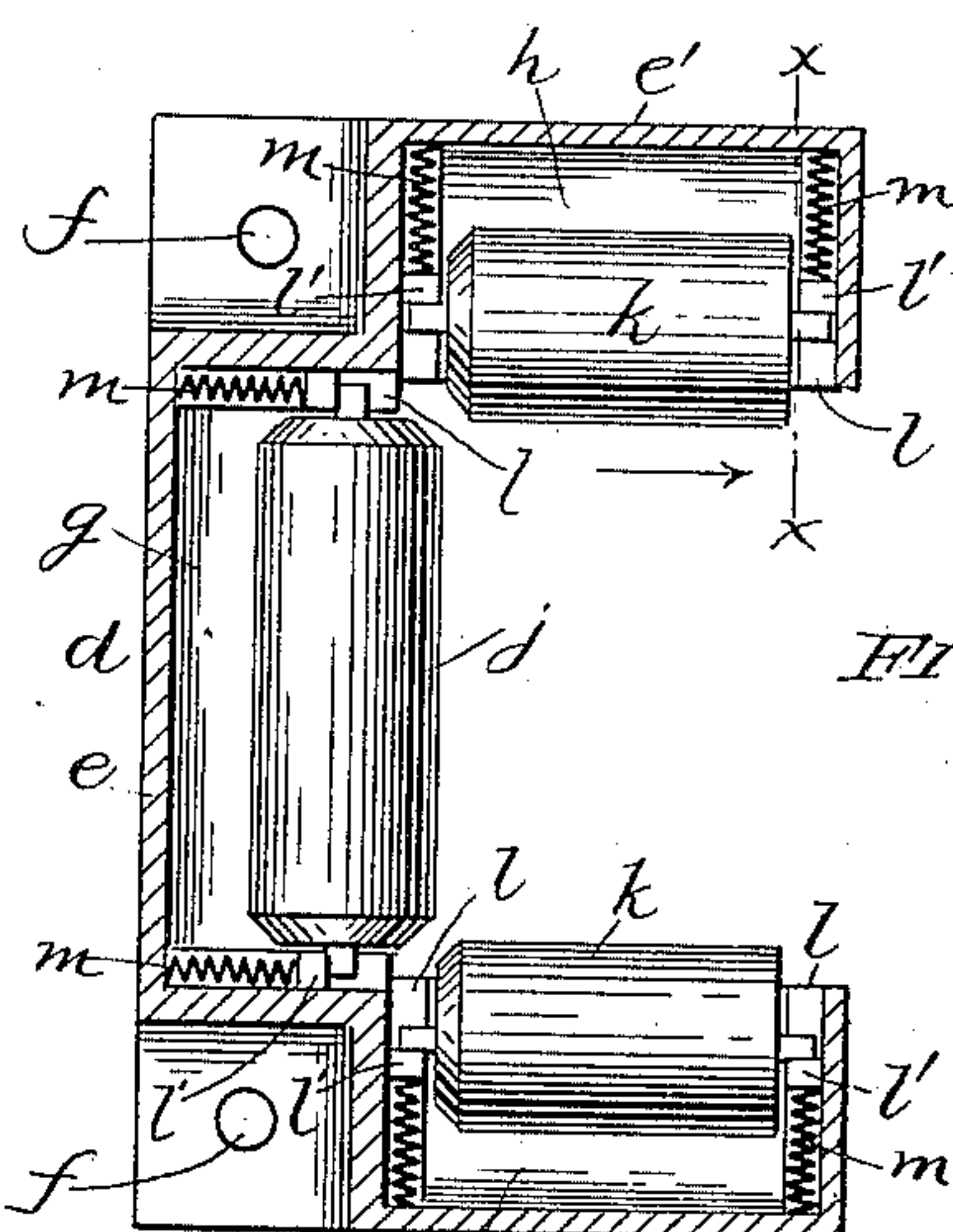


FIG. 5.

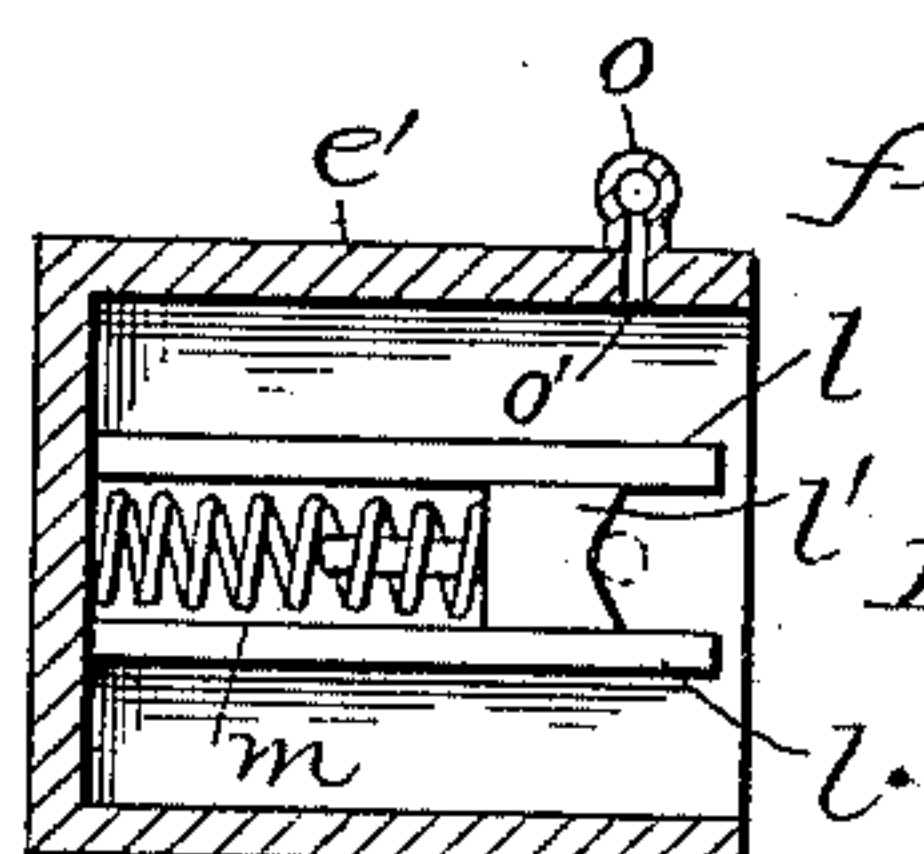


FIG. 6.

Witnesses:
J. Halpenny
David Stuns.

Inventors:
Harrison M. Angle
Walter D. Hess.
By Bradley & Pletcher
their Attys.

UNITED STATES PATENT OFFICE.

HARRISON M. ANGLE AND WINTER D. HESS, OF EVANSTON, ILLINOIS.

LUBRICATOR FOR ELEVATOR-GUIDES.

SPECIFICATION forming part of Letters Patent No. 466,971, dated January 12, 1892.

Application filed December 22, 1890. Serial No. 375,462. (No model.)

To all whom it may concern:

Be it known that we, HARRISON M. ANGLE and WINTER D. HESS, of Evanston, in the county of Cook and State of Illinois, have invented a new, useful, and Improved Lubricating Device for Elevator-Guides, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a side view of an elevator, showing the usual guide-posts and our improved lubricating device in connection therewith. Fig. 2 is a side view in detail of a portion of the elevator guide-beam and guide-post, respectively, showing our improved lubricating device applied thereto. Fig. 3 is a similar view showing said lubricating device in vertical section. Fig. 4 is a plan view of said lubricating device as it appears in connection with the guide-post, the latter being shown in transverse section. Fig. 5 is a horizontal sectional view in detail of said lubricating device; and Fig. 6 is a sectional detail view taken upon the line *x x*, Fig. 5, viewed in the direction of the arrow there shown.

Corresponding letters of reference in the different figures indicate like parts.

Much trouble has been heretofore experienced in the operation of elevators and lifts owing to the difficulty of keeping the guide-posts properly lubricated. As the weight in the car is liable to be constantly shifted and is rarely balanced, any deficiency in the lubrication of the guide-posts is not only liable to interfere with the running of the car by causing it to "jump," as a result of excessive friction, but to wear the guide-posts and render the surface thereof uneven. To overcome these objections, lubricate the guide-posts evenly and uniformly, and enable the car to run smoothly and easily is the object of our invention, which object we accomplish in the manner hereinafter more particularly described and claimed.

Referring to the drawings, *a* represents an ordinary passenger-elevator, of which *b b* are the usual transverse guide-beams arranged at the bottom and top, respectively, said guide-beams being notched or bifurcated at the ends to engage with the usual vertical guide-posts *c c*. To the respective ends of

said guide-beams, and preferably at the top thereof, as shown in Figs. 1 and 2, we attach our improved lubricators *d*. Each of said lubricators consists of a frame preferably cast in one piece and comprising a main portion *e* and two wings *e' e'*, arranged at right angles thereto, so as embrace the three exposed faces of the guide-post. At the corners of said frame, where the wings are joined to the main body *e*, are perforations *f f*, by means of which said frame may be rigidly attached with bolts *f' f'* to the guide-beam.

Within the three portions *e e' e'* of the frame are formed recesses or cavities *g h h*, respectively, (shown in Fig. 5 and indicated by dotted lines in Fig. 4,) which have their openings presented toward the guide-post. Within the cavity *g* is placed a roller *j*, adapted to press against the front face of the guide-post *c*, as shown in Figs. 3 and 4, while within the recesses *h h* are placed like rollers *k k*, adapted to press in like manner against the side faces, respectively, of said guide-posts. At the respective ends of each of said several recesses are formed parallel guides *l l*, between which are loosely placed sliding blocks *l' l'*. Between said blocks and the back of the frame are interposed spiral springs *m*, Figs. 3, 5, and 6, which tend to push said blocks forward toward the outer ends of the guides. The blocks *l'*, with the guides *l*, serve as rests for the projecting axes of the respective rollers, as clearly shown in Fig. 5.

On top of the frame is placed an oil-cup *n*, the outlet of which is connected with a tube *o*, bent to conform to the shape of the frame, as shown in Fig. 4, and communicating by means of ducts *o'*, Fig. 3, also indicated in dotted lines in Fig. 4, with the recesses *g h h*, directly over the rollers *j k k*, so that the oil in dropping therein falls upon said rollers, and as the latter are pressed against the guide-posts *c*, by means of the springs *m*, said posts are kept constantly lubricated as the elevator moves up and down, the rollers being pressed constantly against the posts, regardless of the manner in which the load is distributed upon the elevator. It will thus be seen that it is only necessary to keep the oil-cups filled in order to maintain automatically a perfect and uniform lubrication of the guide-posts.

We are aware that it is not, in a broad

sense, new to use a roller for distributing oil over a surface to be lubricated, and do not claim such as our invention.

Having thus described our invention, we claim—

1. The combination, with an elevator-cage and a guide-post, of a lubricator consisting of a frame comprising the main portion *e* and the wings *e' e'*, embracing the three faces of the guide-post, a roller *j*, journaled in the main portion *e* of said frame, rollers *k k*, journaled in the wings *e' e'*, respectively, means for forcing said rollers into contact with the faces of the guide opposite which they are respectively arranged, and means for supplying oil directly to said rollers, by which latter it is distributed over the guide, substantially as set forth.

2. The combination, with an elevator-cage and the guide-post thereof, of a lubricator having a suitable frame, a roller journaled in said frame, means for forcing said roller against the face of the guide with a yielding pressure, and an oil-cup having its discharge situated directly over the roller, so as to supply oil to its periphery drop by drop, substantially as set forth.

3. The combination, with an elevator-cage and a guide-post, of a lubricator consisting of a frame comprising the main portion *e*, having recess *g* opening toward the front face of the guide-post, and the wings *e' e'*, having recesses *h h* opening toward the opposite side faces of said post, respectively, a roller situated in each of said recesses, means for holding said rollers with a yielding pressure in contact with the faces of the guide opposite which they are respectively arranged, and means for supplying them with oil, substantially as set forth.

4. The combination, with an elevator-cage and a guide-post, of a lubricator consisting of a frame comprising the main portion *e*, having recess *g* opening toward the front face of the guide-post, and the wings *e' e'*, having recesses *h h* opening toward the opposite side faces of said post, respectively, a roller situated in each of said recesses, means for hold-

ing said rollers with a yielding pressure in contact with the faces of the guide opposite which they are respectively situated, and means for supplying oil directly to the periphery of each of said rollers, substantially as set forth.

5. The combination, with an elevator-cage and the guide-post, of a lubricator consisting of a frame comprising the portion *e*, having the recess *g* opening toward the front face of the guide-post, the wings *e' e'*, having recesses *h h* opening toward the opposite side faces of said post, respectively, the parallel guides *l l*, situated at the ends of said recesses, the rollers *j k k*, situated in said recesses and having journals projecting between said guides, the follower-blocks *l' l'*, situated between said guides and engaging said journals, the springs *m*, engaging said blocks and forcing them outward, and means for supplying the rollers with oil, substantially as set forth.

6. The combination, with an elevator-cage and the guide-post, of a lubricator consisting of the integral frame comprising the portion *e*, having the recess *g* opening toward the front face of the guide-post, the wings *e' e'*, having recesses *h h* opening toward the opposite side faces of said post, respectively, the parallel guides *l l*, situated at the ends of said recesses, the rollers *j k k*, situated in the respective recesses and having journals projecting between said guides, the follower-blocks *l' l'*, situated between said guides and engaging said journals, the springs *m*, engaging said blocks and forcing them outward, the oil-cup *n*, situated on top of the frame, and the tube *o*, having ducts *o' o' o'* opening into the respective recesses directly over the rollers, substantially as set forth.

In testimony whereof we have signed this specification, in the presence of two subscribing witnesses.

HARRISON M. ANGLE.
WINTER D. HESS.

Witnesses:

D. H. FLETCHER,
J. B. HALPENNY.