

No. 675,579.

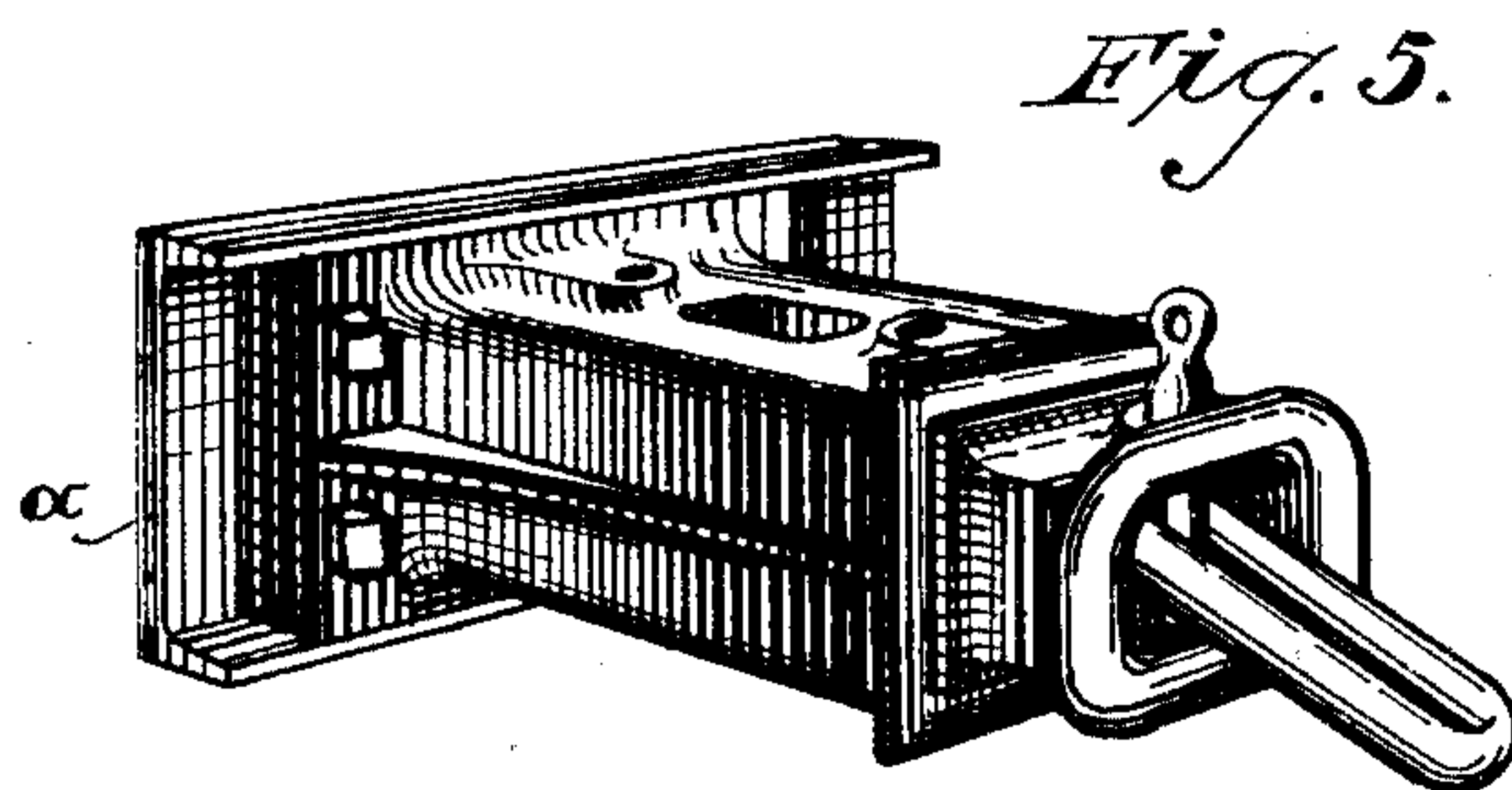
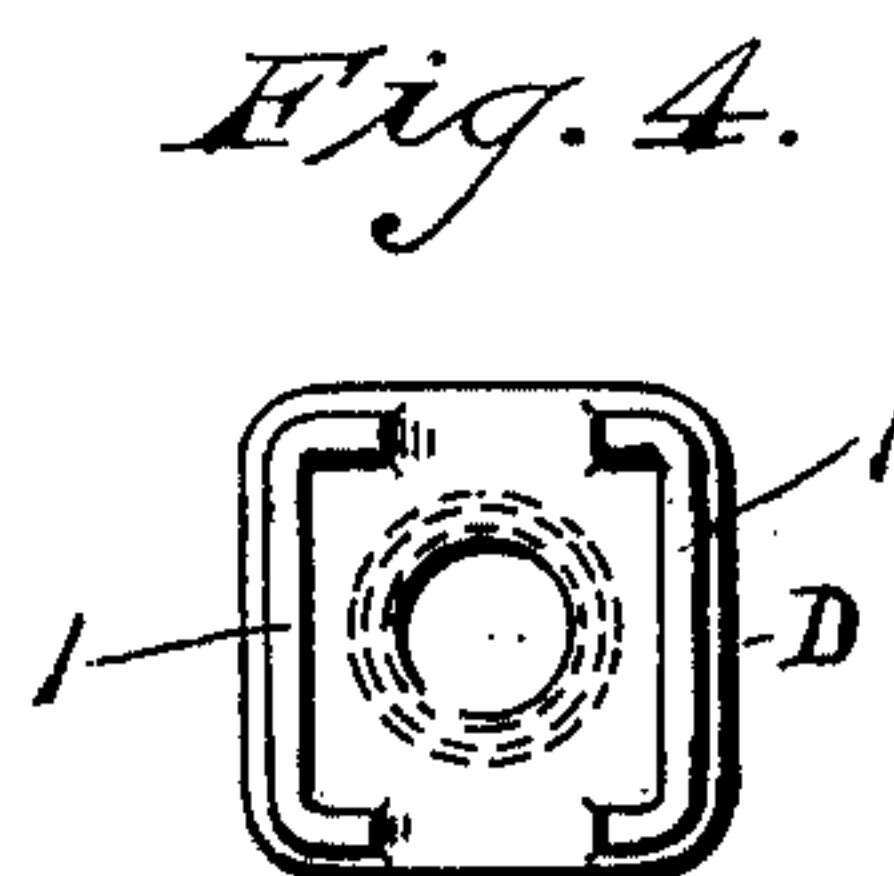
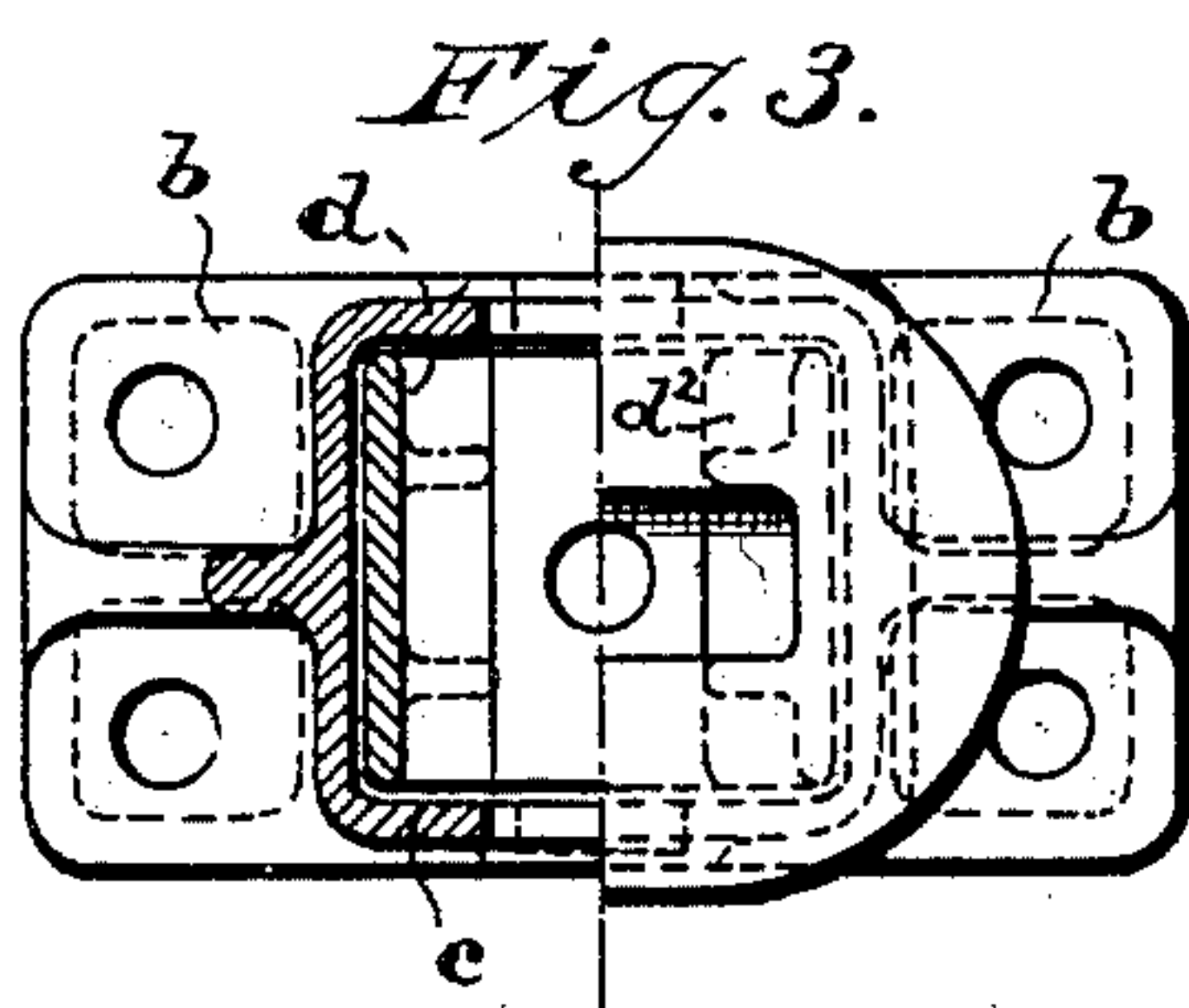
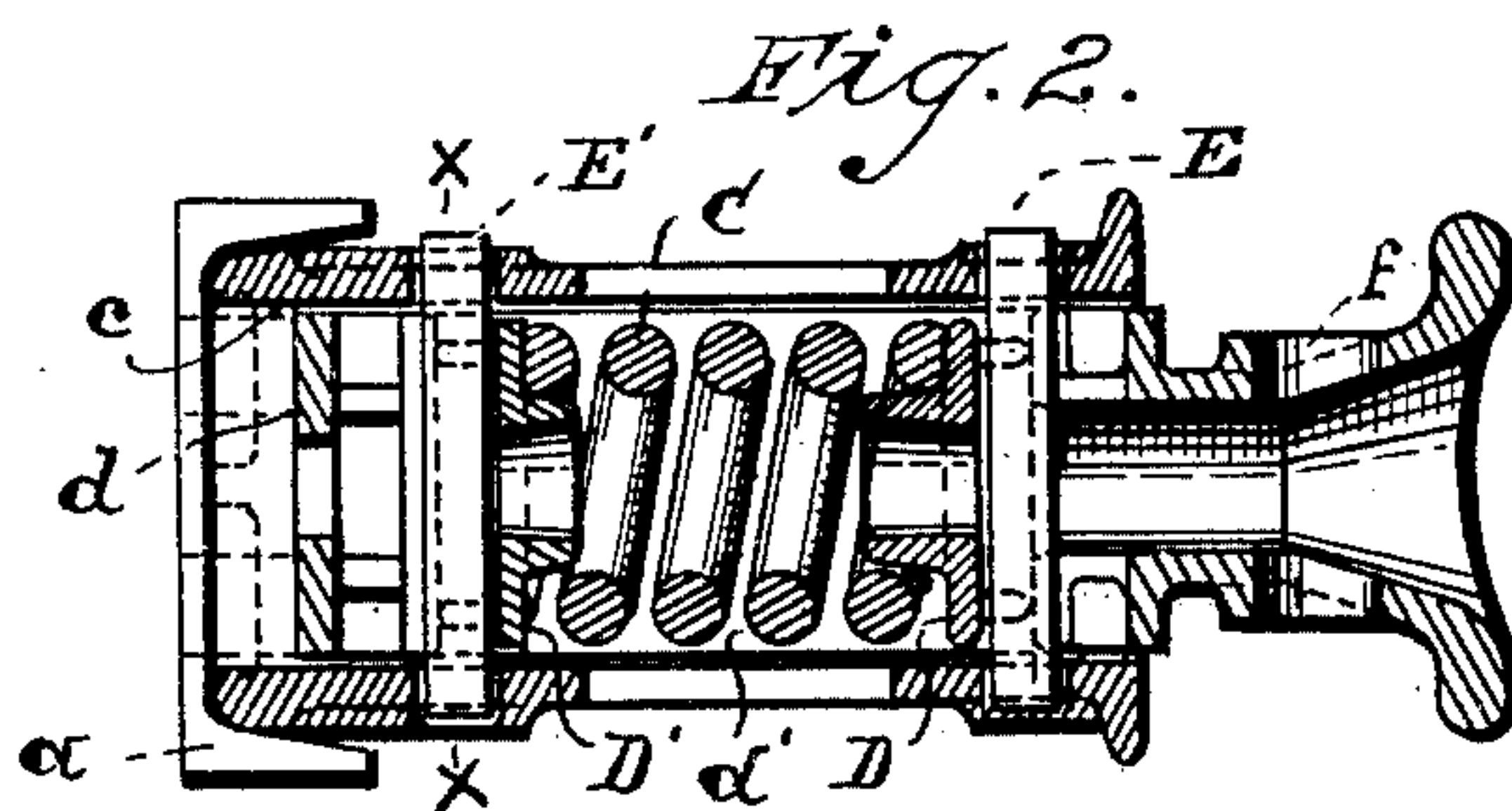
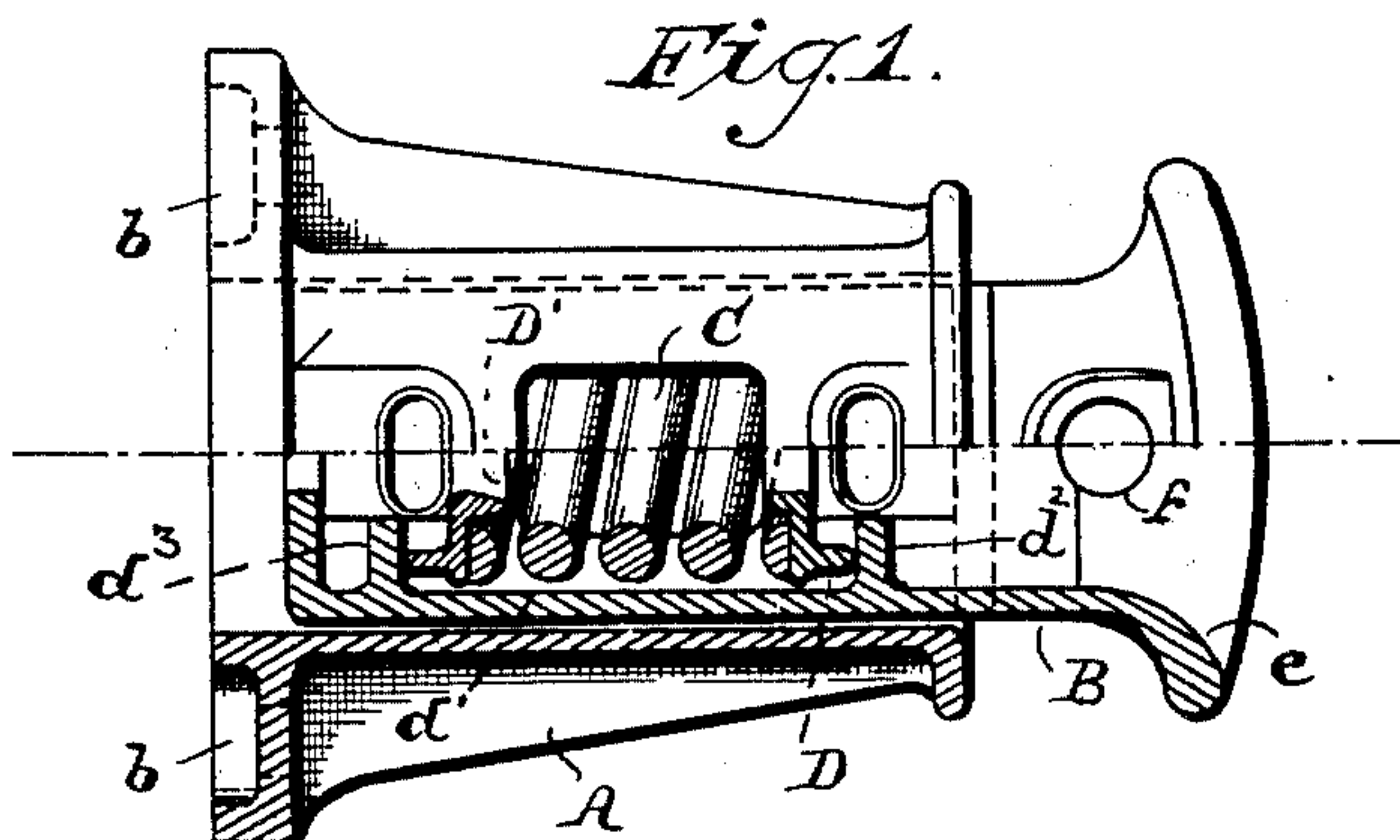
Patented June 4, 1901.

S. D. WRIGHT.

DRAFT AND BUFFING APPLIANCE FOR CARS.

(Application filed Dec. 21, 1900.)

(No Model.)



WITNESSES.

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## DRAFT AND BUFFING APPLIANCE FOR CARS.

SPECIFICATION forming part of Letters Patent No. 675,579, dated June 4, 1901.

Application filed December 21, 1900. Serial No. 40,633. (No model.)

*To all whom it may concern:*

Be it known that I, SAMSON D. WRIGHT, a citizen of the United States of America, and a resident of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Draft and Buffer Appliances for Cars, &c., of which the following is a specification.

My invention relates to improvements in draft and buffer appliances for railway-cars, &c.; and the object of my improvement is to combine simple and efficient means in a self-contained structure adapted for such purposes ready for application upon the sills or frames of cars, &c. I attain this object in a construction substantially as shown in the accompanying drawings, in which—

Figure 1 represents a part plan and part horizontal sectional view of said combined draw-bar and buffer. Fig. 2 is a central vertical sectional view of the same. Fig. 3 illustrates a part end view and part transverse sectional view of the same on line X X. (See Fig. 2.) Fig. 4 is a face view of a detached part thereof, and Fig. 5 illustrates a perspective view of said combined draw-bar and buffer.

Like letters of reference denote like parts in the drawings and specification.

Substantially the appliance consists of the housing A, the draw-bar B, the spring C, the follower-plates D D', and the pins E E', the entire being self-supporting and a self-contained contrivance which is the characteristic feature of my invention.

The housing A is suitably equipped for attachment onto the end sills or frames of cars, &c. In the drawings, *a* indicates the end sill of a car supposed to consist of structural iron. The perforated flanges *b b* afford a means of connecting the housing with such sills. (See Figs. 1, 3, and 5.) The interior of the housing represents a rectangular core or channel *c*, adapted for reception of the shank *d* of draw-bar B. The pins E E' extend in vertical position through said housing, retaining the draw-bar in operative connection therewith. (See Figs. 1 and 2.) The draw-bar proper is cored, flanged, and ribbed to combine strength in a comparatively light structure. As shown, the shank of the draw-bar is formed with an open top and bottom.

This is of especial advantage in that it permits of the forming of said shank with integral flanges, both front and rear, as shown, the tension device hereinafter described being insertible through either the top or bottom opening prior to the placing of the draw-bar in position. The flanges being integral there is formed a stronger structural shank and one which can be much more cheaply manufactured than where the flanges or their equivalents are formed independent of and removable from the said shank.

Located within the sides *d' d'* and intermediate the flanges *d<sup>2</sup> d<sup>3</sup>* of the draw-bar are the follower-plates D D' and the spiral spring C. As shown in Figs. 1, 2, and 4, the follower-plates D D' are provided on one side with outwardly-extending flanges *l*, located on opposite sides of the center, being each  $\sqsubset$ -shaped, a space being formed between them, while the opposite side of the follower is provided with an annular flange, the latter being adapted to be passed within the spring C, as shown, thereby retaining the spring against lateral movement. Upon insertion of the draw-bar within the housing and the placing of the pins E E' said plates also appear between said pins, and it is thus that the bar is rendered serviceable in the capacity of a buffer as well as a draw-bar. The pins E E' may be secured to the housing in any suitable manner to prevent accidental displacement of same. When the parts are assembled, as shown in Figs. 1 and 2, it will be seen that the followers D and D' do not normally rest against the pins E E', but are held in position with the front faces of the flanges *l* in contact with the flanges *d<sup>2</sup> d<sup>3</sup>*, and that it is only when the draw-bar is moved forward or backward that the tension of the spring is exerted on said pins E E'. At other times said pins are not under the heavy strain of the spring-pressure. This is of advantage in that the spring will tend to move the draw-bar to an intermediate position, where the pins are relieved from the strain. These advantages are due to the fact that the normal contact of the followers is not against the pins, but against the flanges *d<sup>2</sup> d<sup>3</sup>* (see Fig. 1) of the draw-bar, the space between the flanges *l* permitting the pins to be readily placed in position and readily removed without first



compressing the spring C, the latter, with the followers, being inserted and positioned within the draw-bar prior to its being placed within the housing. The head of the draw-bar is flaring, as at *e*, and perforated, as at *f*, for reception of the usual link and pin, as shown in Fig. 5.

The natural function of the member or members B is to serve in the capacity of drawing or pulling cars. In such instance the bars are connected by a link and pins in the ordinary manner, and undue jerking is avoided by means of the spring C. In drawing cars there are the flanges  $d^3$  and follower D', which compress the spring C against the follower D and adjoining pin E, and the bars are thereby drawn more or less from out of their housings, depending upon the resistance encountered in pulling cars. On downgrade or in stopping of the cars the heads of the bars bump against each other and compress the spring in inverse direction through the intervention of the flanges  $d^2$ , follower D, and pin E. Sudden jars are thus broken of their violence, thereby protecting the rolling-stock against premature destruction.

A contrivance of the above-described construction combines strength and durability in a comparatively light and compact structure. Its adaptability as a draw-bar and buffer is obvious; also the ready manner in which the housing can be secured to most any kind of car is of itself a feature of great importance and saving. Furthermore, in place of the end flanges *b b* (which are intended for connection with end sills only) side flanges may be provided for attachment of the housing underneath car-frames. Such modification may be made without departing from the nature of my invention. In whatever position the housing may be applied there is the least possible number of bolts required for holding same in secure connection with the car-frame, when only a few bolt-holes are required. Then the car-frame is not weakened by such holes to any noticeable extent. Furthermore, the safety of cars is also enhanced by reducing the elements of danger (such as bolts are) to the smallest possible number.

What I claim, and desire to secure by Letters Patent, is—

1. In a draw and buffer appliance for cars, &c., a draw-bar having an open top and bottom and also having integral interior flanges; a spring located between said flanges and normally supported solely thereby; a housing for said draw-bar secured to the face of the end sill of the car; and pins extending vertically through said housing and draw-bar, said pins forming an abutment for said spring

when said draw-bar is moved forward or backward from an intermediate position.

2. In a draw and buffer appliance for cars, &c., the combination with a housing secured to the face of the end sill of the car; of a draw-bar having its shank provided with an open top and bottom and with integral flanges or abutments, and also having a tension device interposed between and normally supported solely by said flanges or abutments, said device being insertible through said top or bottom, said draw-bar being insertible within the housing; and pins extending vertically through said housing and shank, said pins being insertible without varying the tension of the tension device, and forming an abutment therefor when the draw-bar is moved forward or backward from an intermediate position.

3. In a draw and buffer appliance for cars, &c., the combination with a housing secured to the face of the end sill of the car; of a draw-bar arranged telescopically therein, said draw-bar having its shank provided with an open top and bottom and with spaced integral flanges or abutments; a series of followers normally having a bearing contact with said flanges or abutments, said followers being recessed vertically; a spring interposed between said followers; and pins extending vertically through said housing and the recesses of the followers, said pins forming an abutment for said spring when said draw-bar is moved forward or backward from an intermediate position.

4. In a draw and buffer appliance for cars, &c., the combination with the sills; of a coupler secured to the face thereof, said coupler comprising a housing; a draw-bar arranged telescopically therein, said draw-bar having its shank provided with an open top and bottom and with inwardly-extending spaced integral flanges or abutments; a series of followers, each having one face provided with projecting flanges, adapted to normally have a bearing contact with the faces of said integral flanges; a spring interposed between said followers; and pins extending vertically into said housing, said pins extending through recesses formed in the followers, whereby said draw-bar will be held in position within the housing and capable of a limited yielding movement forward and backward therein, said pins forming an abutment to receive the tension of the spring during such movements.

Signed at Cleveland, Ohio, this 12th day of December, 1900.

SAMSON D. WRIGHT.

Witnesses:

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JAMES MATHERS.