

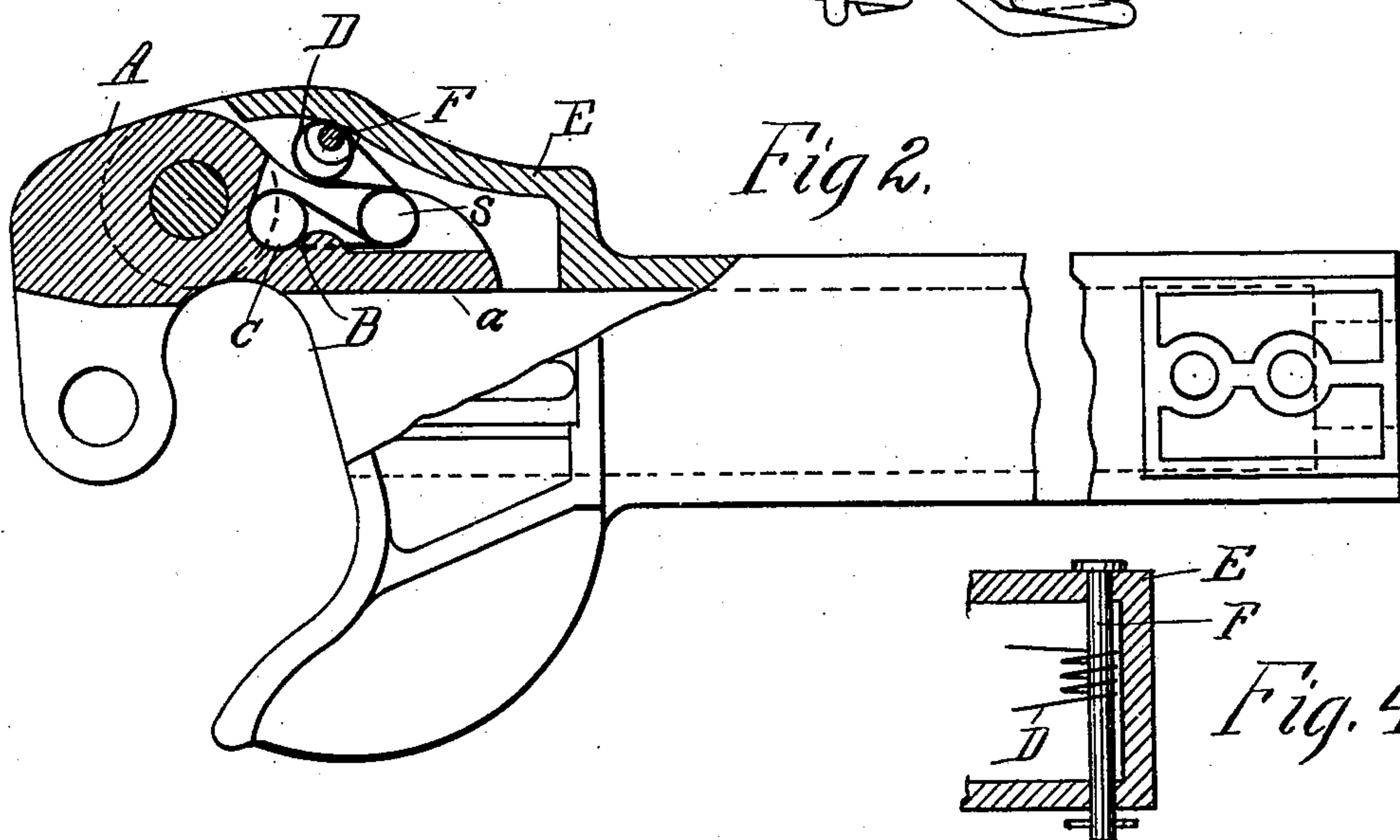
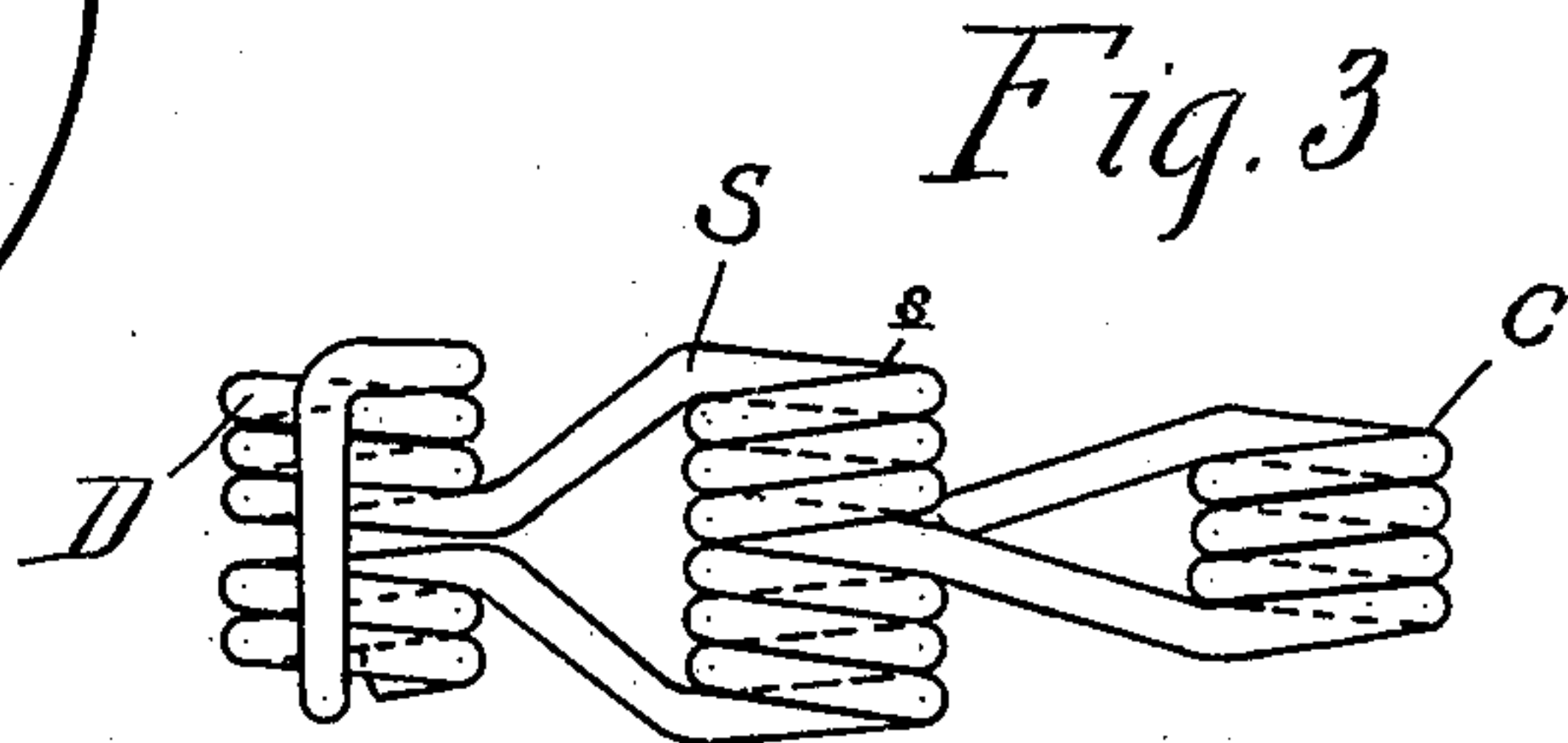
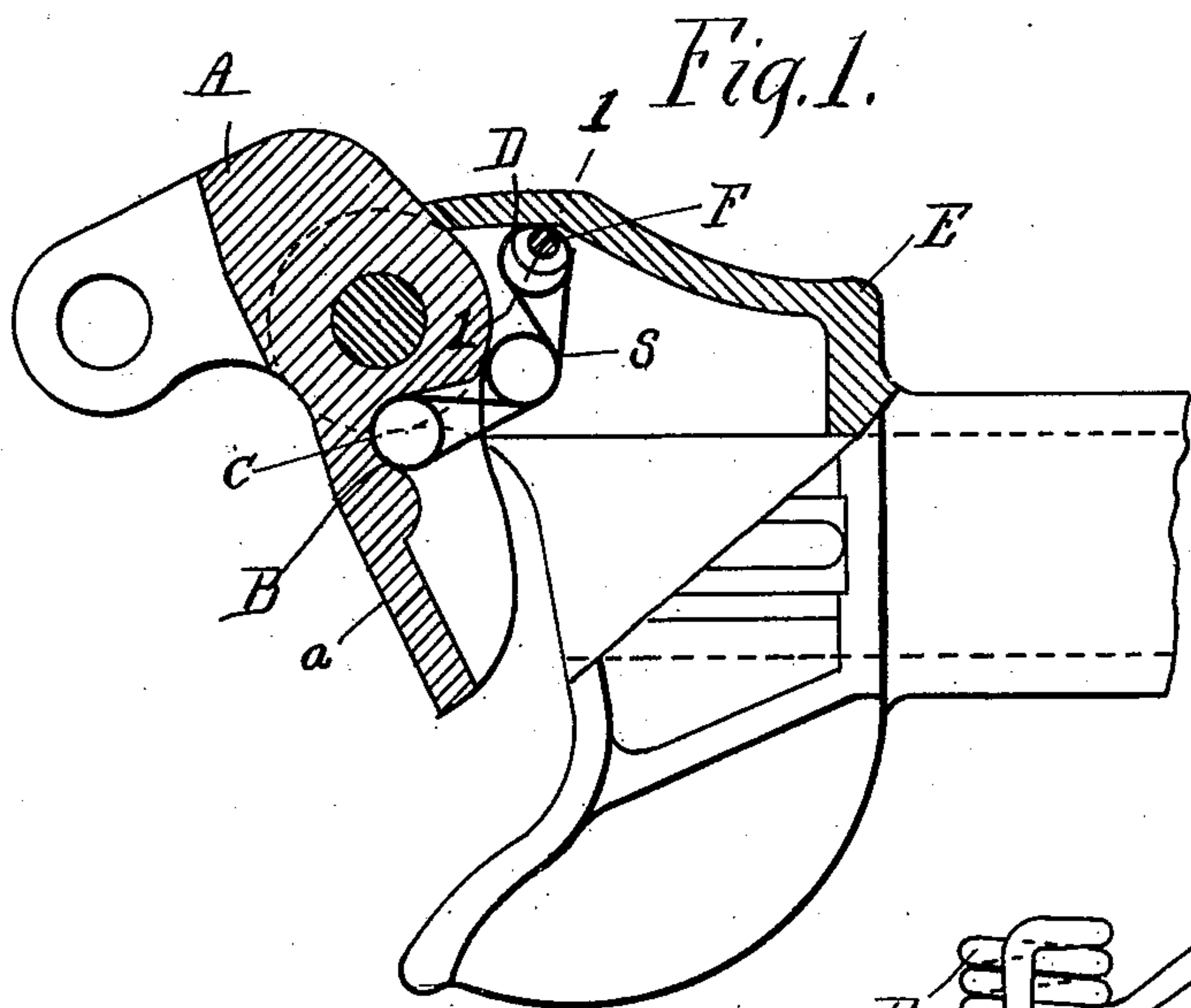
(No Model.)

G. K. HAMFELDT.

DEVICE FOR OPENING KNUCKLES OF CAR COUPLINGS.

No. 599,900.

Patented Mar. 1, 1898.



Witnesses:
W. H. C. C. C.
James C. Sim.

Inventor:
George K. Hamfeldt
by Ward Cameron,
Atty's.

UNITED STATES PATENT OFFICE.

GEORGE K. HAMFELDT, OF MENAND'S, NEW YORK.

DEVICE FOR OPENING KNUCKLES OF CAR-COUPPLINGS.

SPECIFICATION forming part of Letters Patent No. 599,900, dated March 1, 1898.

Application filed July 23, 1897. Serial No. 645,752. (No model.)

To all whom it may concern:

Be it known that I, GEORGE K. HAMFELDT, a citizen of the United States, residing at Menand's, county of Albany, and State of New York, have invented a new and useful Device for Opening the Knuckles of Car-Couplers, of which the following is a specification.

My invention relates to improvements in car-couplers; and the object of my invention is to provide a device for opening the knuckle of a coupler when the coupling is broken, by the operation of which, immediately upon the breaking of the coupling, the knuckle shall be forcibly and positively opened to substantially its full extent. I attain this object by means of the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a plan, partly in section, parts being broken away, showing knuckle open. Fig. 2 is a plan, partly in section, having parts broken away, showing knuckle closed. Fig. 3 is a plan of the spring, and Fig. 4 is a section along the line 1 1 on Fig. 1.

Similar letters refer to similar parts throughout the several views.

The knuckle A of a coupler is provided with a groove B, cast in the back part of the lip *a* of the knuckle, within which groove one end C of a hinged spring S is placed. The other end D of said hinged spring rests against the wall E of the coupler-head, held in position preferably by a pin or bolt F.

I usually construct the spring S in the form illustrated in Fig. 3. Thus one end D of the spring S is coiled with its adjacent layers substantially in contact with each other, having three or four layers together, and then extending to a second coil *s*, in which the layers are arranged substantially in contact with each other and three or four deep, preferably, and then extending to a third position C, where the spring is coiled, as at *s* and D, and then returned to a position beneath the spring S, arranged in substantially the same manner as *s*, and then returned to beneath the coil D, and there coiled substantially as the coil D, making three divisions, each consisting of a helically-coiled spring and together making what I term a "hinged" spring. When placed in position, one end of the spring D is secured to the wall of the

coupler-head E, preferably by the pin F. The other end C is secured within the groove B within the lip *a* of the knuckle A. The ends C and D of the spring being thus brought together, the tension of the spring tends to force them apart and thus to open the knuckle. By arranging the spring in this manner a very considerable tension is obtained and the effect of the spring is exerted on the knuckle throughout the extent of the movement of the knuckle.

I am aware that springs have heretofore been employed for the purpose of releasing the knuckle; but they have been so constructed, so far as I have been informed of them, that they fail to move the knuckle far enough to insure a complete disengagement of the same, and because of the fact of springs having heretofore been introduced for the purpose of releasing the knuckle I do not broadly claim the use of a spring for that purpose, my claim being as hereinafter more particularly set forth.

What I do claim as my invention, and desire to secure by Letters Patent, is—

1. In a device for opening the knuckle of a car-coupler, a hinged spring composed of three divisions, each division coiled in the form of a helix, one of said divisions secured to the coupler-head, the division at the opposite end of said spring secured to the lip of the knuckle, so arranged that the resiliency of the spring tends to separate and throw apart forcibly the lip from connection with the coupler-head, substantially as described and for the purpose set forth.

2. In a device for opening the knuckle of a car-coupler, a knuckle, a recessed seat in the lip of said knuckle adapted to receive a spring, a hinged spring composed of three divisions, each division coiled in the form of a helix, a pin or bolt arranged to secure one division of said spring in the coupler-head, the opposite division of said spring secured in said recessed seat, substantially as described and for the purpose set forth.

GEO. K. HAMFELDT.

Witnesses:

FREDERICK W. CAMERON,
JAMES C. SIM.