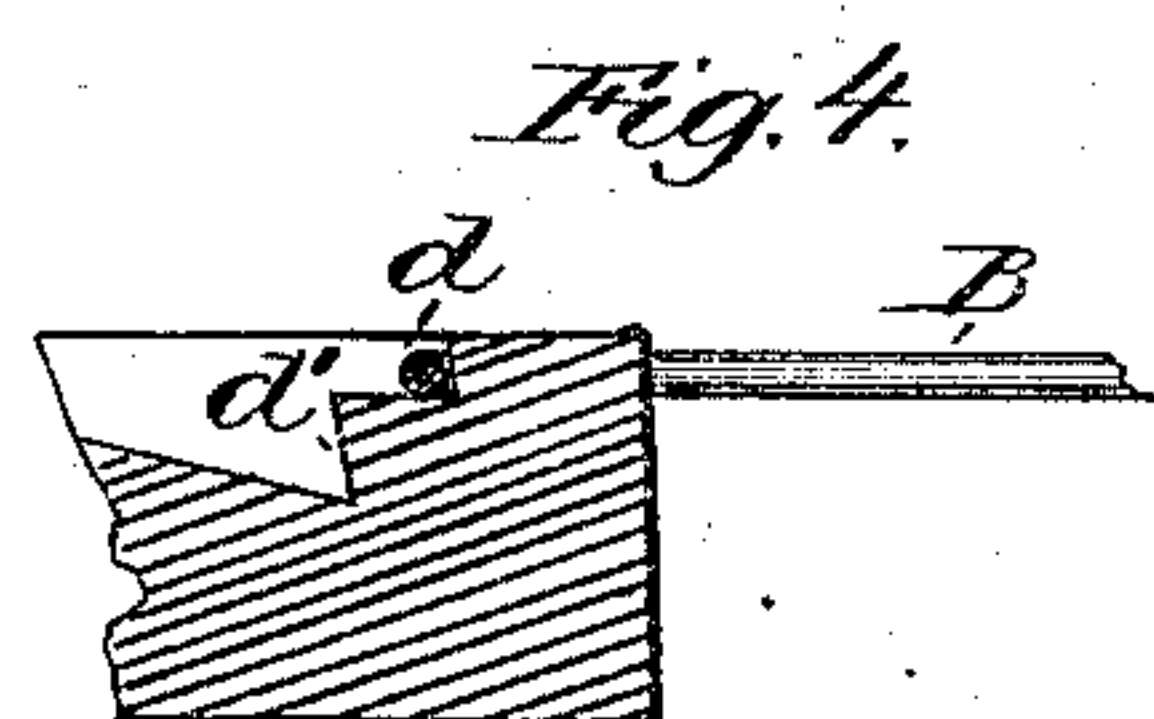
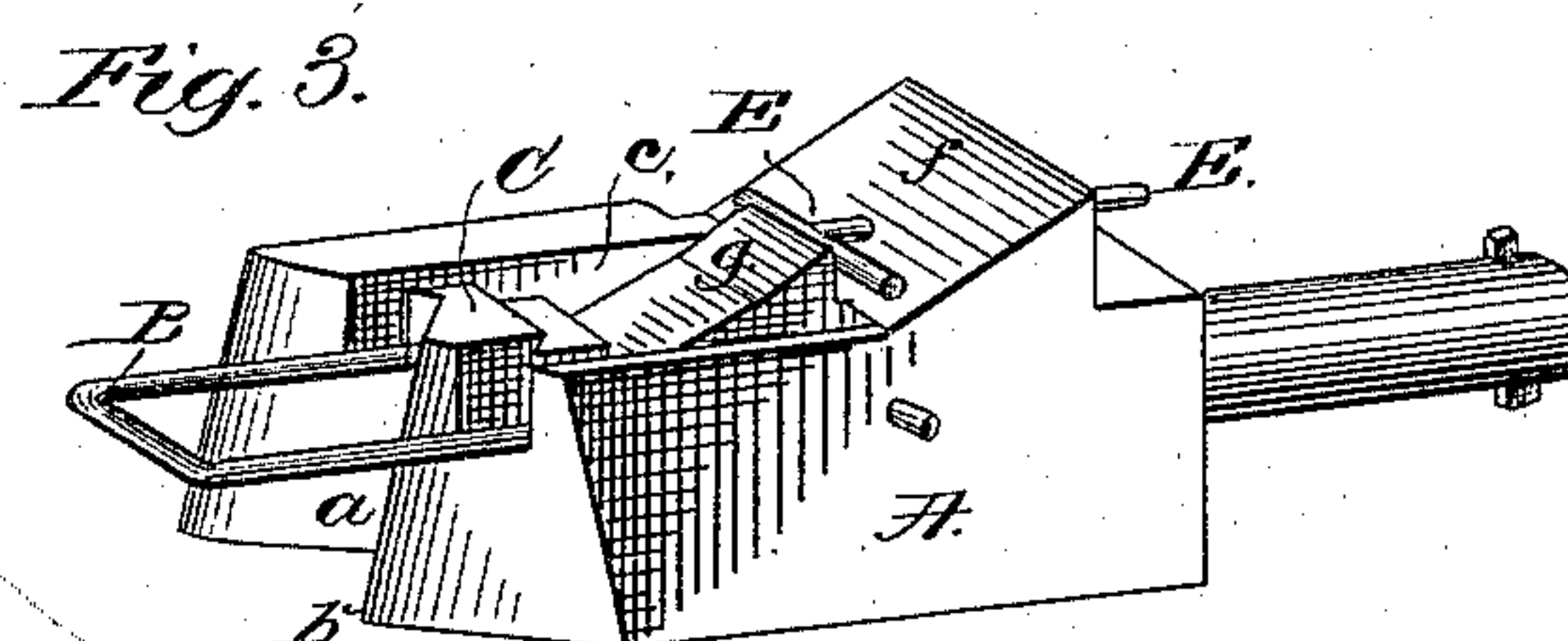
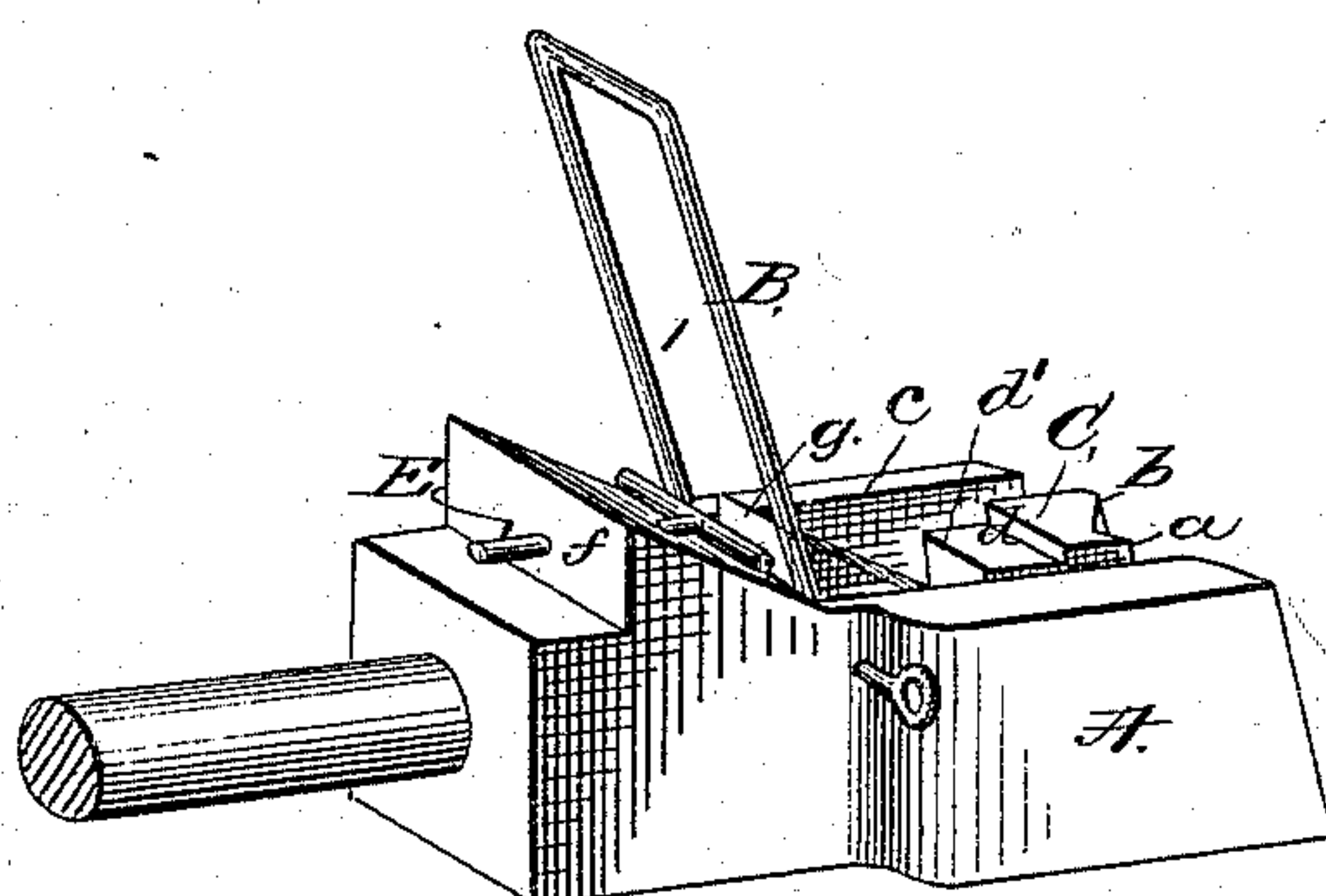
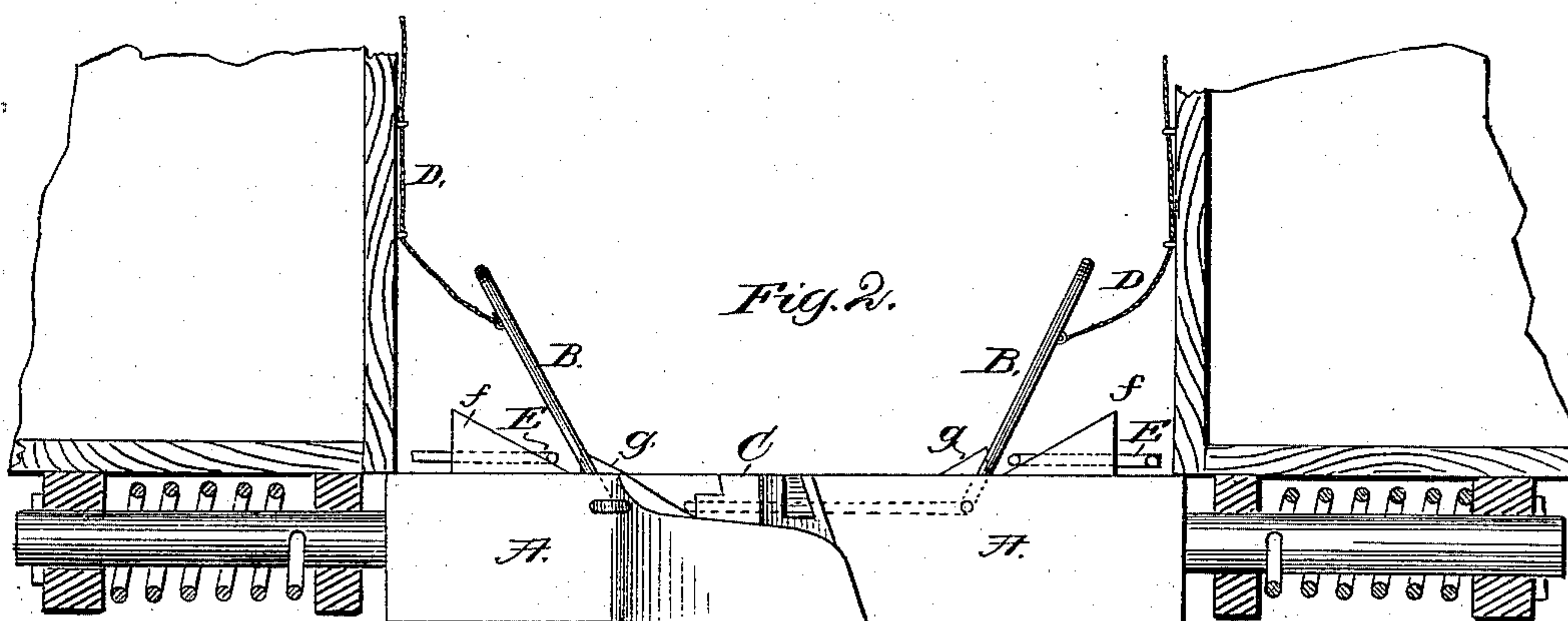
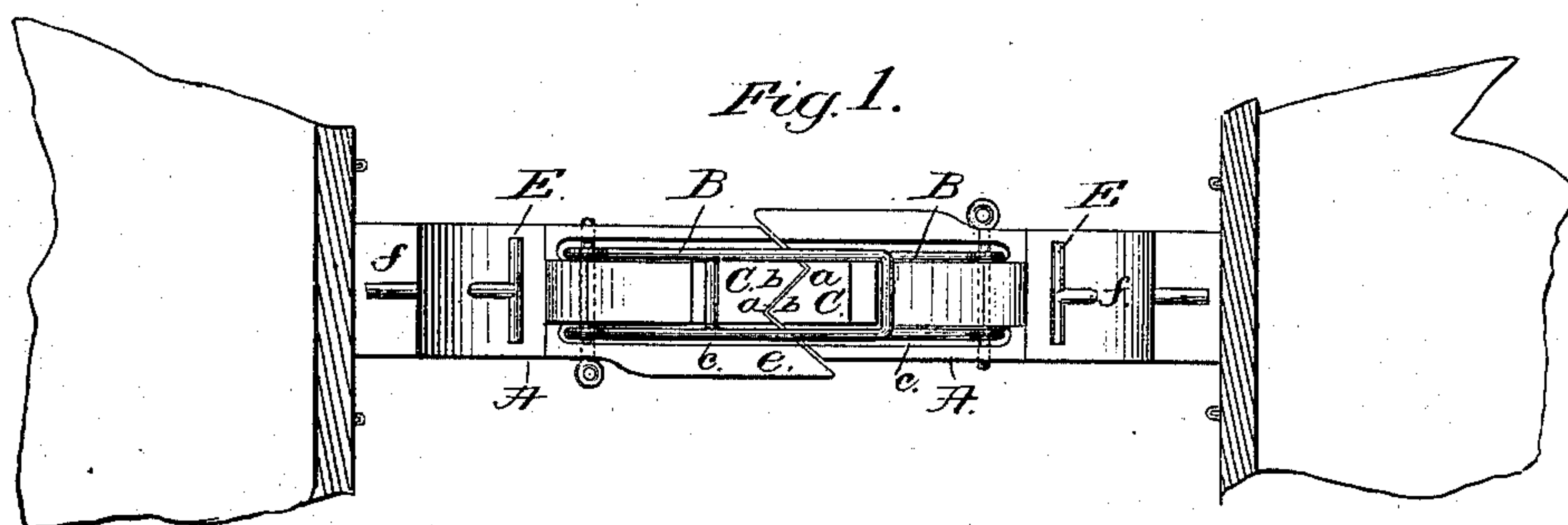


(No Model.)

E. CRAVENS.  
Car Coupling.

No. 232,464.

Patented Sept. 21, 1880.



WITNESSES:

John F. C. Pritchard  
John E. Kemmer

INVENTOR:

E. Cravens  
BY *[Signature]*

ATTORNEYS.



# UNITED STATES PATENT OFFICE.

ELIJAH CRAVENS, OF OSAGE MISSION, KANSAS.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 232,464, dated September 21, 1880.

Application filed June 10, 1880. (No model.)

*To all whom it may concern:*

Be it known that I, ELIJAH CRAVENS, of Osage Mission, in the county of Neosho and State of Kansas, have invented a new and Improved Car-Coupling; and I do hereby declare that the following is a full, clear, and exact description of the same.

My invention is an improvement in the class of automatic car-couplings in which each draw-head is constructed with a horn and provided with a pivoted draw-bar or clevis, which, when two cars meet, drops over the horn on the opposite draw-head, and thus locks the cars together.

The improvements relate to the construction and combination of parts, as hereinafter described.

In accompanying drawings, forming part of this specification, Figure 1 is a plan view of two draw-heads constructed and provided with coupling devices according to my invention. Fig. 2 is partly a side view and partly a sectional view of the same, the section including also the portions of two cars to which the draw-heads are attached. Fig. 3 is a perspective view of two draw-heads separated, the coupling devices or clevises being arranged in position for coupling automatically. Fig. 4 is a detail sectional view of a portion of one of the draw-heads.

The end of each draw-head A is constructed with a notch, *a*, and nose or beak *b*, which are inclined for a purpose hereinafter explained. By means of such notch and nose it results that when cars provided with my improved coupling come together the angular nose or point *b* of each draw-head A will be centered, so to speak, in the angle of the notch *a* of the other, as shown in Fig. 1, which is a necessary preliminary to the engagement of the coupling devices proper—to wit, the hinged clevises B and the horns C. The said clevises B are constructed of metal rods, and each is hinged to a draw-head, A, on the upper side thereof, a short distance in rear of the horn C, which is located at the outer end and projects vertically upward.

The clevises may vary in form, but are preferably constructed as shown in Figs. 1, 3, in which case its free or swinging end is rectangular and its arms parallel. The draw-heads

are provided with parallel vertical grooves *c* in their upper sides; but said grooves may be dispensed with. The horns C are provided with two or more steps or shoulders, *d d'*, on the rear side, which are cut under to provide notches to receive and hold the clevises B.

When two cars meet, the clevis of one of the draw-heads is turned down and drops over the horn C of the opposite draw-head and engages its lower shoulder, *d*. The other clevis is then lowered, but is prevented by the first clevis from engaging the lower shoulder of the opposite horn. Should, however, the first or under clevis break or give way, the second or upper one will engage the upper shoulder, *d*, of the opposite horn, and thus prevent the cars uncoupling and the train breaking in two.

As a means for raising and lowering the clevises a cord, D, may be attached to each and run through staples or other guides attached to the end of the car, so that the cord may be accessible from the top or side of the latter, or a crank-rod may be attached to the front of the car and connected with the clevis by means of a rod, thereby obviating the necessity of endangering life or limb by entering between the cars to effect the coupling.

One or both sides *e* of the draw-heads A A may be extended, as shown in Fig. 1, or they may be cut away at that point, as shown in Fig. 2, as judgment or experience may decide.

The object in making the nose of a draw-head inclining backward from the lower side is to enable the clevis of the opposite draw-head to slide up the same, and thus pass over the horn C and effect the coupling automatically. In such case the clevis is of course in horizontal position when the cars meet. The notch *a* of the draw-head is inclined forward, corresponding to the slope of the nose *b*, so that the latter may have as much surface of contact as practicable when two cars meet—in other words, so that the whole front of the nose may sustain the buffing action, instead of a single point or projection thereof, which would obviously lessen the strength and durability of the coupling.

As a means for throwing down the link B automatically when two cars meet, I employ the sliding pusher E, which consists of a rod having a cross-head and sliding through a

raised portion, *f*, of the draw-head, and arranged in such relation to the front of the car that when two cars meet and the sliding draw-heads are pushed back, said rod will be pushed forward against the link B, and thus throw the latter forward over the horn C of the opposite car. The forward movement of the rod E is arrested by the shoulder or projection *g*.

What I claim is—

10 1. The combination, with the draw-heads having the horns C, provided with steps or shoulders, and the straight parallel longitudinal grooves, of the hinged clevises B, having  
15 straight parallel sides, all as shown and described.

2. The combination of the draw-heads, each having a wedge-shaped nose, *b*, which is inclined backward from the lower edge, and a corresponding notch, *a*, which is inclined forward from the lower edge, all as shown and described, for the purpose specified. 20

3. The combination, with the body of a car, the sliding draw-head, and hinged clevis B, of the sliding push-rod E, arranged as shown and described, for the purpose specified.

ELIJAH CRAVENS.

Witnesses:

P. S. CUSTIS,  
L. SERTIN.