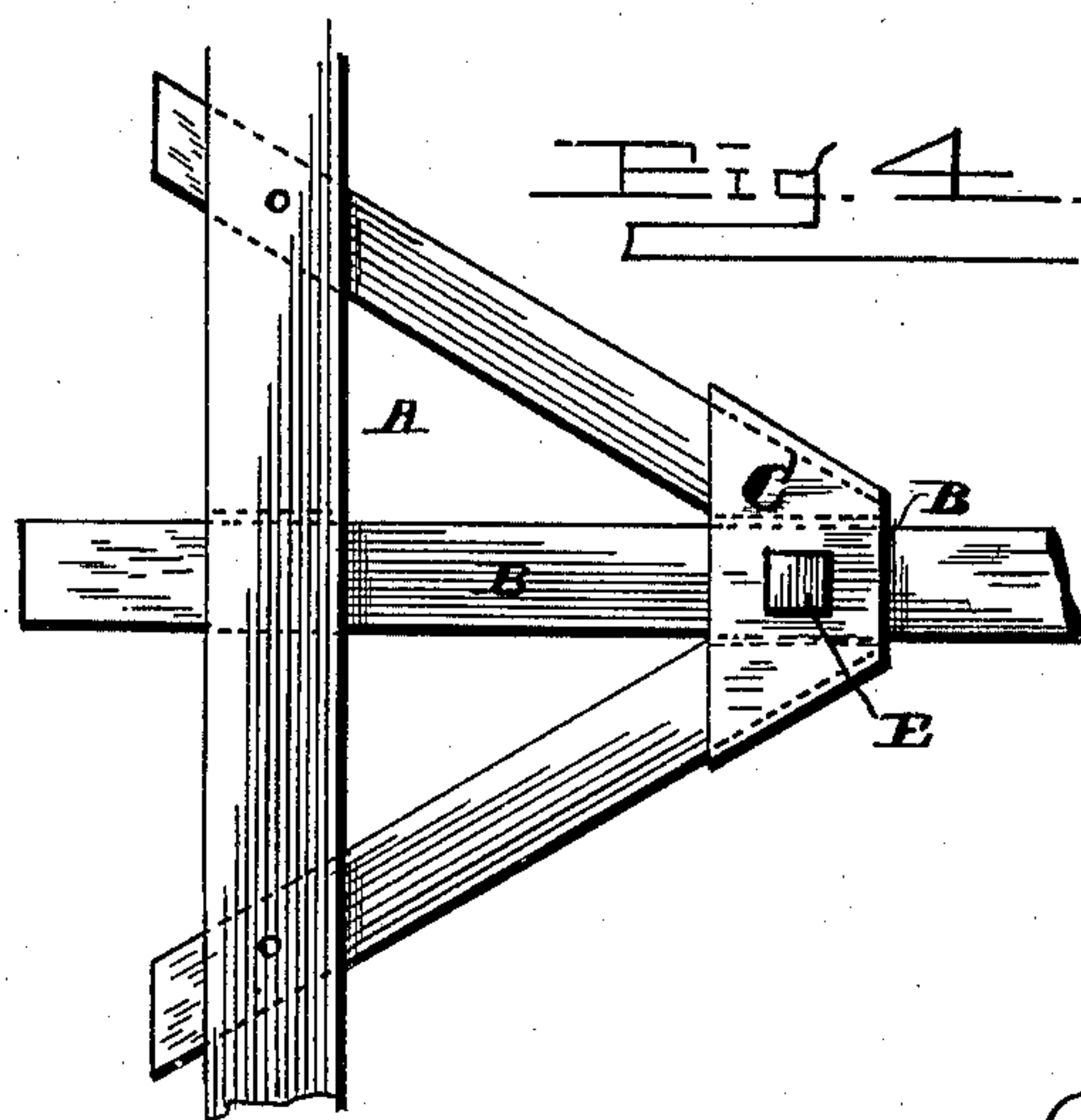
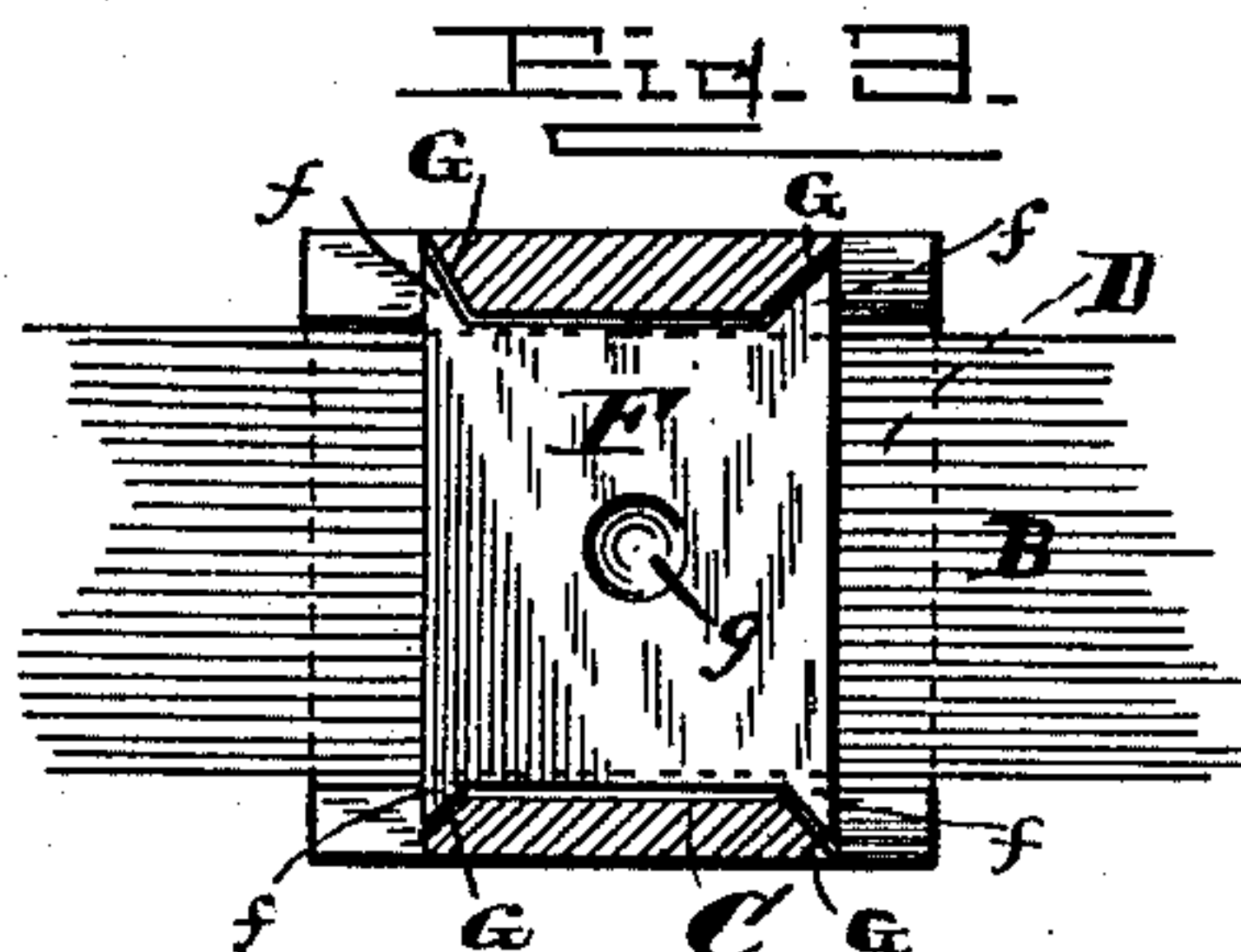
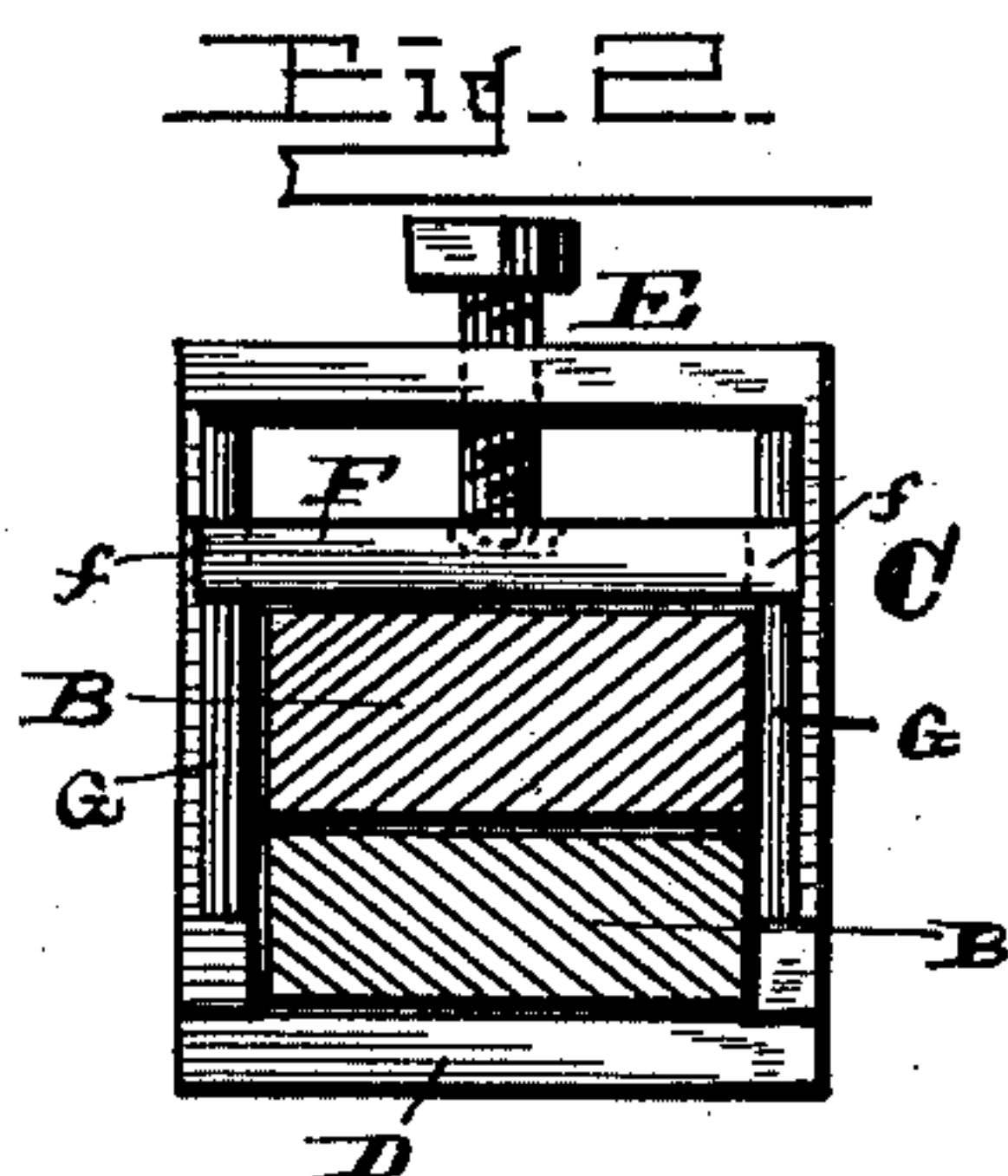
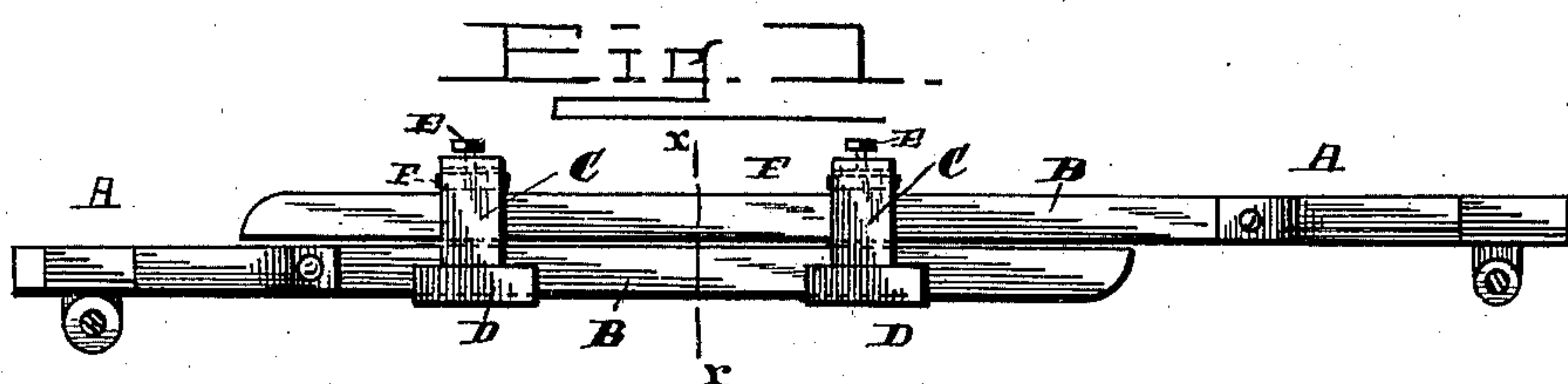


(No Model.)

E. S. CUSHMAN.
VEHICLE REACH COUPLING.

No. 387,152.

Patented July 31, 1888.



Witnesses:

A. E. Towell.
J. J. Johnson.

E. S. Cushman, Inventor.

By his Attorney W. Alexander

UNITED STATES PATENT OFFICE.

ELMER S. CUSHMAN, OF DELHI MILLS, MICHIGAN.

VEHICLE-REACH COUPLING.

SPECIFICATION forming part of Letters Patent No. 387,152, dated July 31, 1888.

Application filed May 4, 1888. Serial No. 272,815. (No model.)

To all whom it may concern:

Be it known that I, ELMER S. CUSHMAN, of Delhi Mills, in the county of Washtenaw and State of Michigan, have invented certain new and useful Improvements in Vehicle-Reach Couplers; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification, in which—

Figure 1 is a side view showing my couplers applied to the overlapping reaches of a vehicle. Fig. 2 is a cross-section on line *x x*, Fig. 1, enlarged. Fig. 3 is a cross sectional view of Fig. 2. Fig. 4 is a plan view of a coupler, as adapted for an ordinary single-reach wagon.

This invention relates to improvements in vehicles; and its object is to provide a coupling device for wagon-reaches, whereby the reaches can be adjusted to any position and securely fastened together in a quick, simple, and secure manner; and to these ends the invention consists in the novel construction and combination of parts hereinafter described, illustrated in the drawings, and particularly specified in the claims hereto appended.

Referring to the drawings by letters, A designates the running-gear of a vehicle, the axles of which are connected by reaches B B. Ordinarily vehicle-reaches have been connected by bolts and nuts, the bolts passing through corresponding openings in the reaches, where there were two used, for securing them together, or through a metal band attached to the gear-braces where only one reach was used. By this arrangement the gear could only be adjusted according to the number and position of the bolt-openings in the reaches, and the time and trouble involved in loosening the bolts and adjusting the reaches have been the source of much inconvenience. I overcome these objections and secure the reaches at any point of adjustment by the following means:

C C designate the couplers, each consisting

of a rectangular metal frame of sufficient height to embrace freely the reaches B B upon which they are slipped, as shown.

The base or lower bar, D, of the frame is widened, as shown, to prevent undue rocking or tilting of the frame on the reaches. E is a set-screw playing vertically through a corresponding screw-threaded socket in the upper end of frame C.

F is a loose plate moving vertically in frame C, and having lugs *f f* on its ends, engaging bevel-guides G G on the inner faces of the side pieces of the frames. The said guides preferably extend only part of the length of the frame, so that plate F cannot fall to the bottom of the frame, even when removed from the reaches, thus enabling the coupler to be more readily slipped on the reaches. The end of screw E bears in a recess, *g*, in the upper surface of the plate. When the reaches overlap, as shown in Fig. 1, I prefer employing two couplers, arranged as shown, which are slipped on the reaches, screws uppermost. The gear is first adjusted to the desired length, and then screw E is tightened, bearing down plate F, and clamping the reaches firmly together, as is obvious.

When but a single reach is employed, as shown in Fig. 3, but one frame C is used, and that is secured to the ends of the gear-braces, between which the reach passes, as usual. The screw E, when turned home, binds the reach to the frame. The shape of the frame may have to be varied from that shown in the drawings in order to accommodate it to varying sizes and form of reaches; but the essential features and effect would be unaltered.

From the foregoing it is apparent that I require no perforations in the reaches, that I can lock or couple them at any point of their adjustment, that the coupler can be readily engaged or disengaged, and that the plate F, while increasing the clamping-surface of the coupler prevents mutilation of the reaches by the screws.

Having described my invention, I claim--

1. The combination of the reach with the coupler C, having adjustable plate F and set-

screw E, all constructed and arranged substantially as and in the manner and for the purpose described.

2. The combination of the reaches with the
5 couplers C therefor, having a base, D, grooved side bars, a sliding plate, F, mounted between said bars, and the adjusting set-screw E, all constructed and arranged substantially in the manner and for the purpose described.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

ELMER S. CUSHMAN.

Witnesses:

FRANK JOSLYN,
ALLEN BAGLEY.