

(No Model.)

2 Sheets—Sheet 1.

F. ANDERSON.  
CAR COUPLING.

No. 500,731.

Patented July 4, 1893.

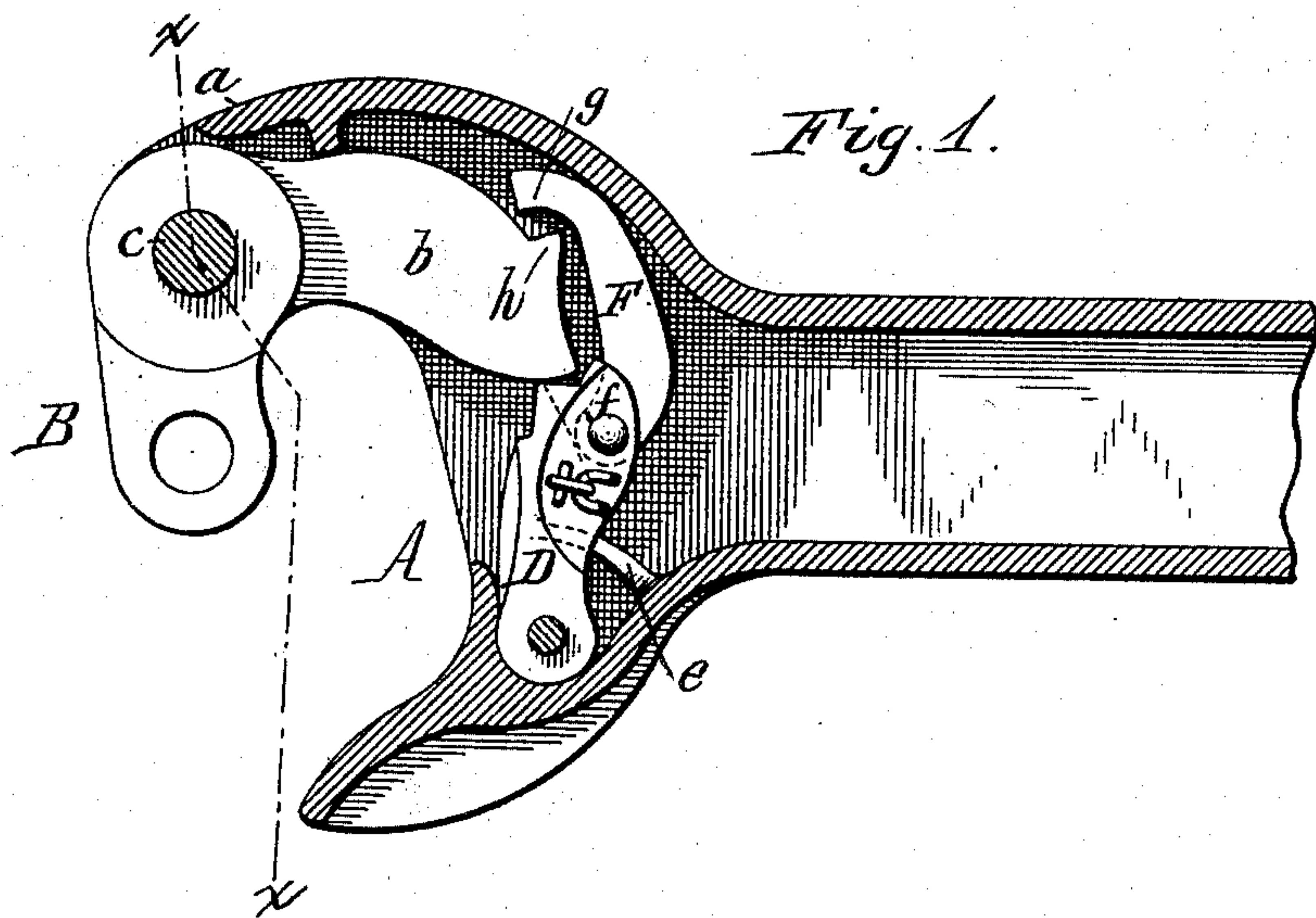


Fig. 1.

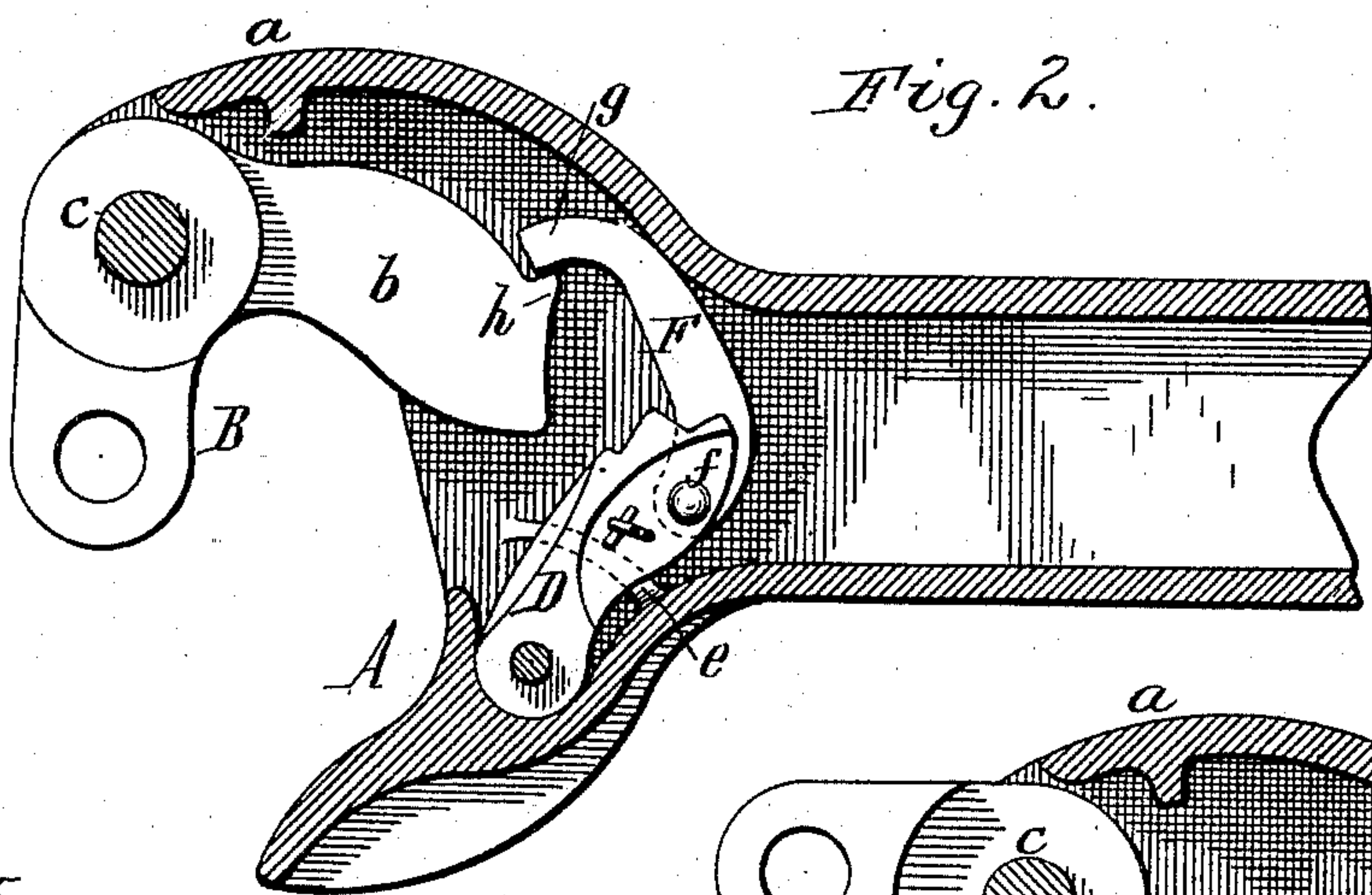


Fig. 2.

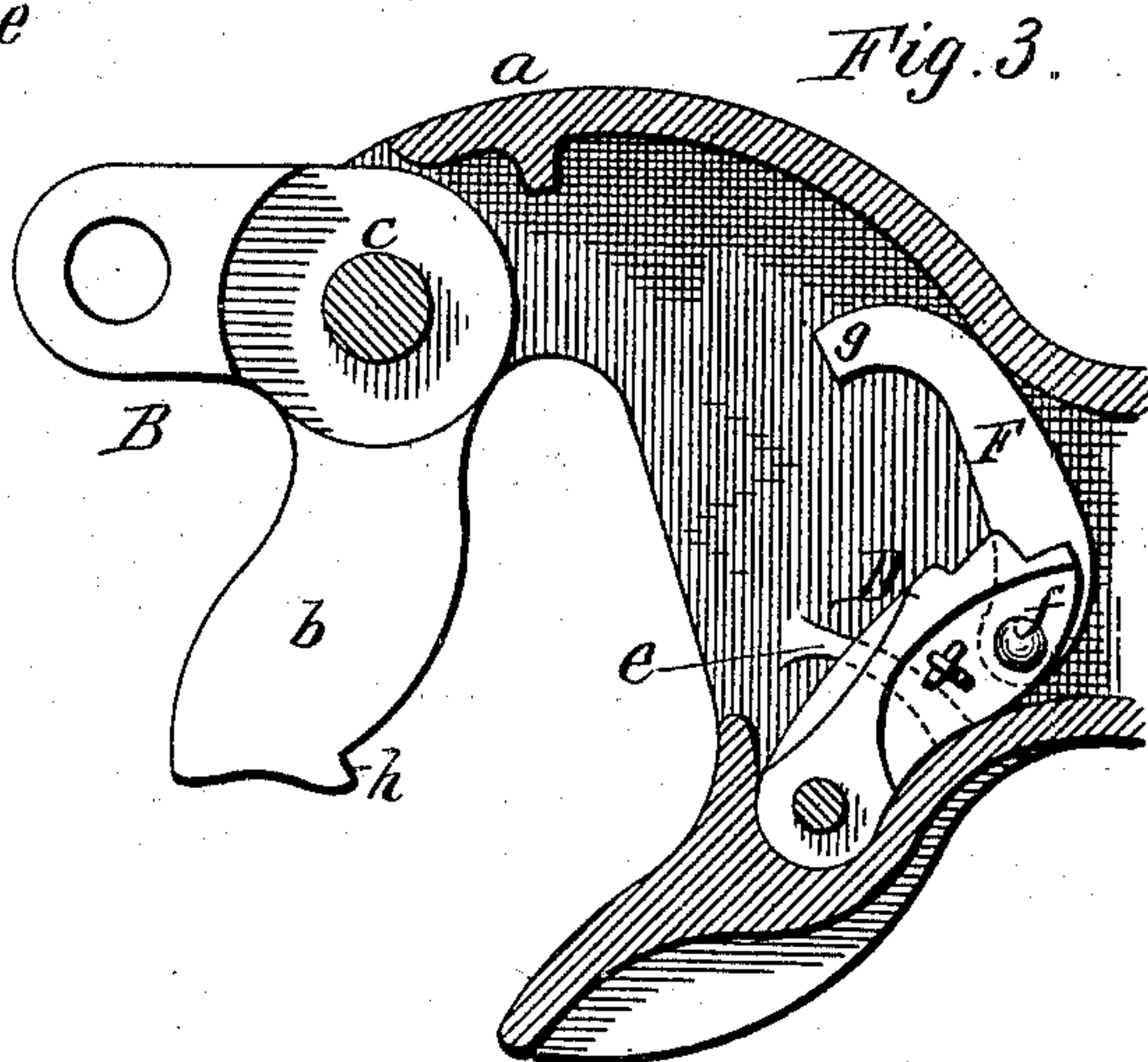


Fig. 3.

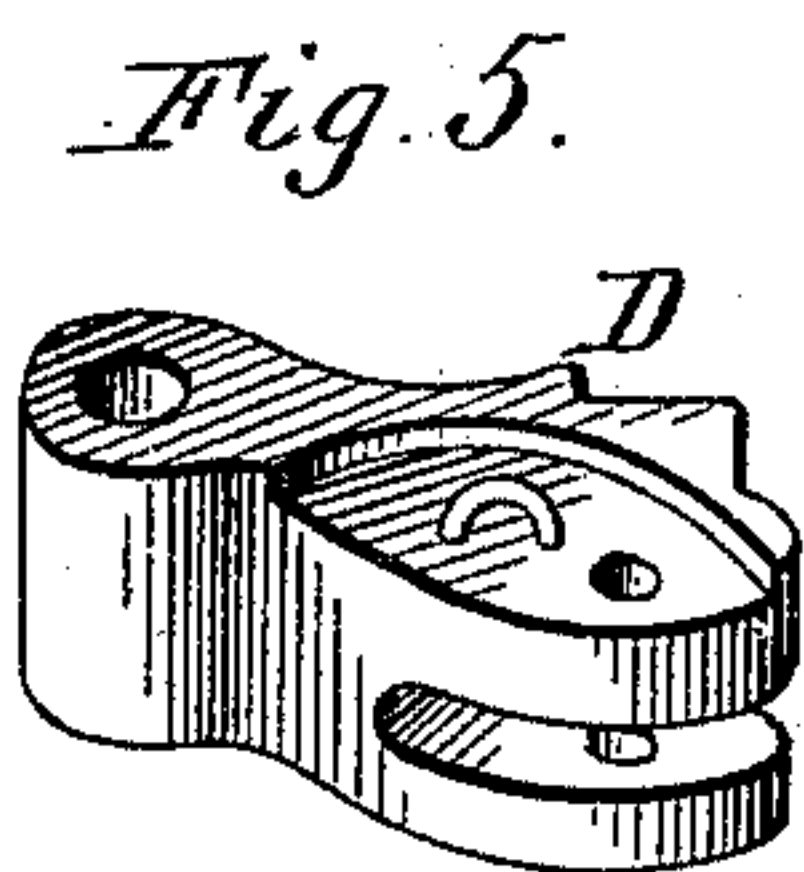


Fig. 5.

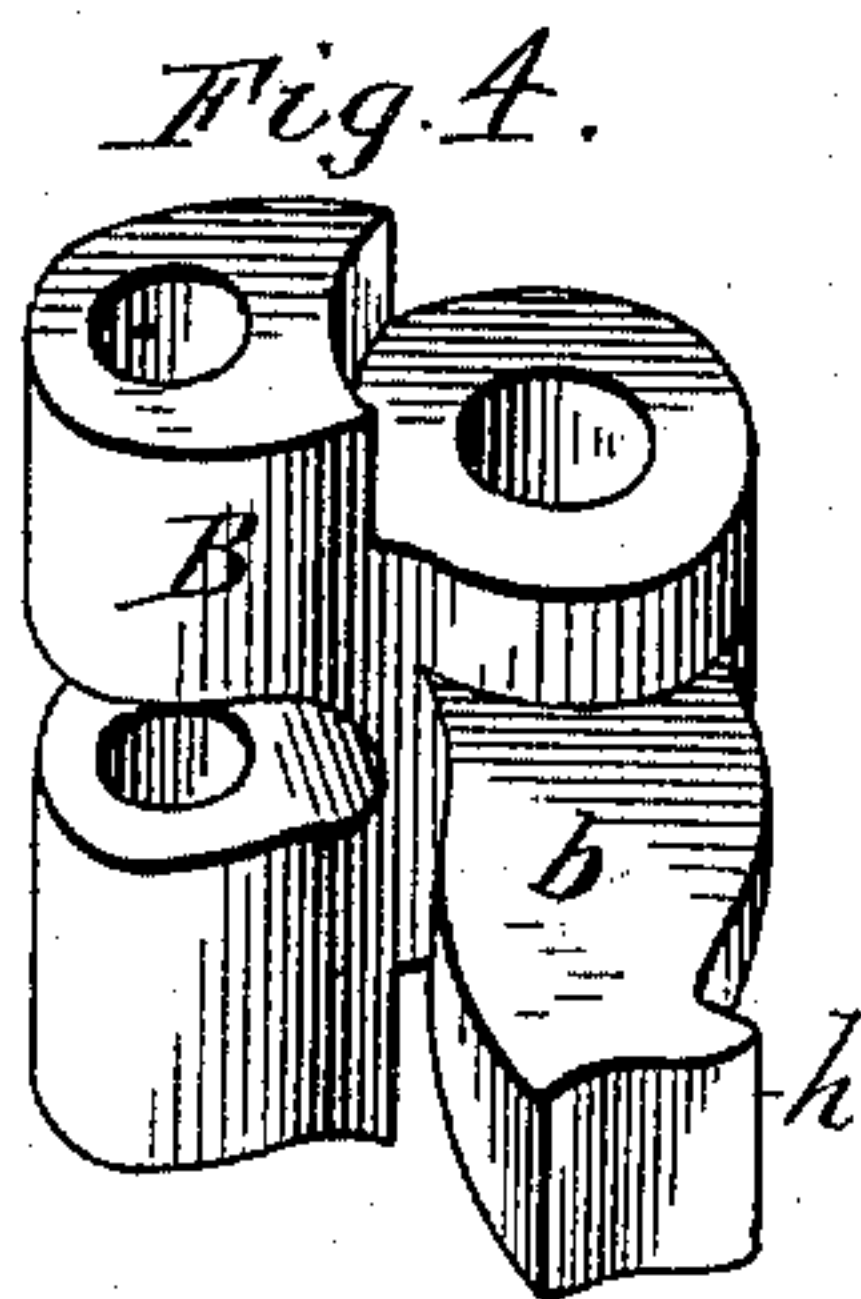


Fig. 4.

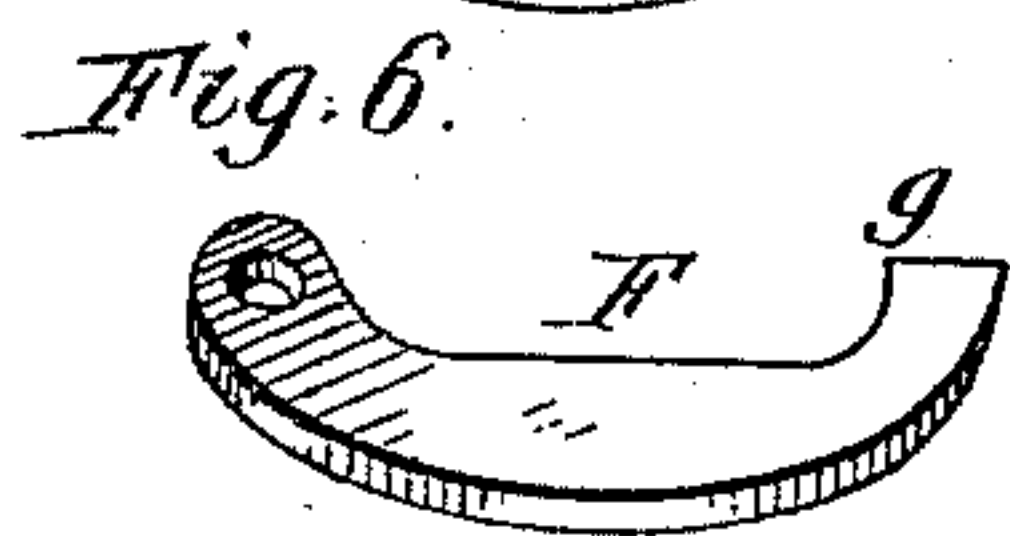


Fig. 6.

Witnesses:

Emil Neuhart.

Friedrich, Gustav, Wilhelm.

Frank Anderson Inventor.

By Wilhelm & Broun.

Attorneys.

(No Model.)

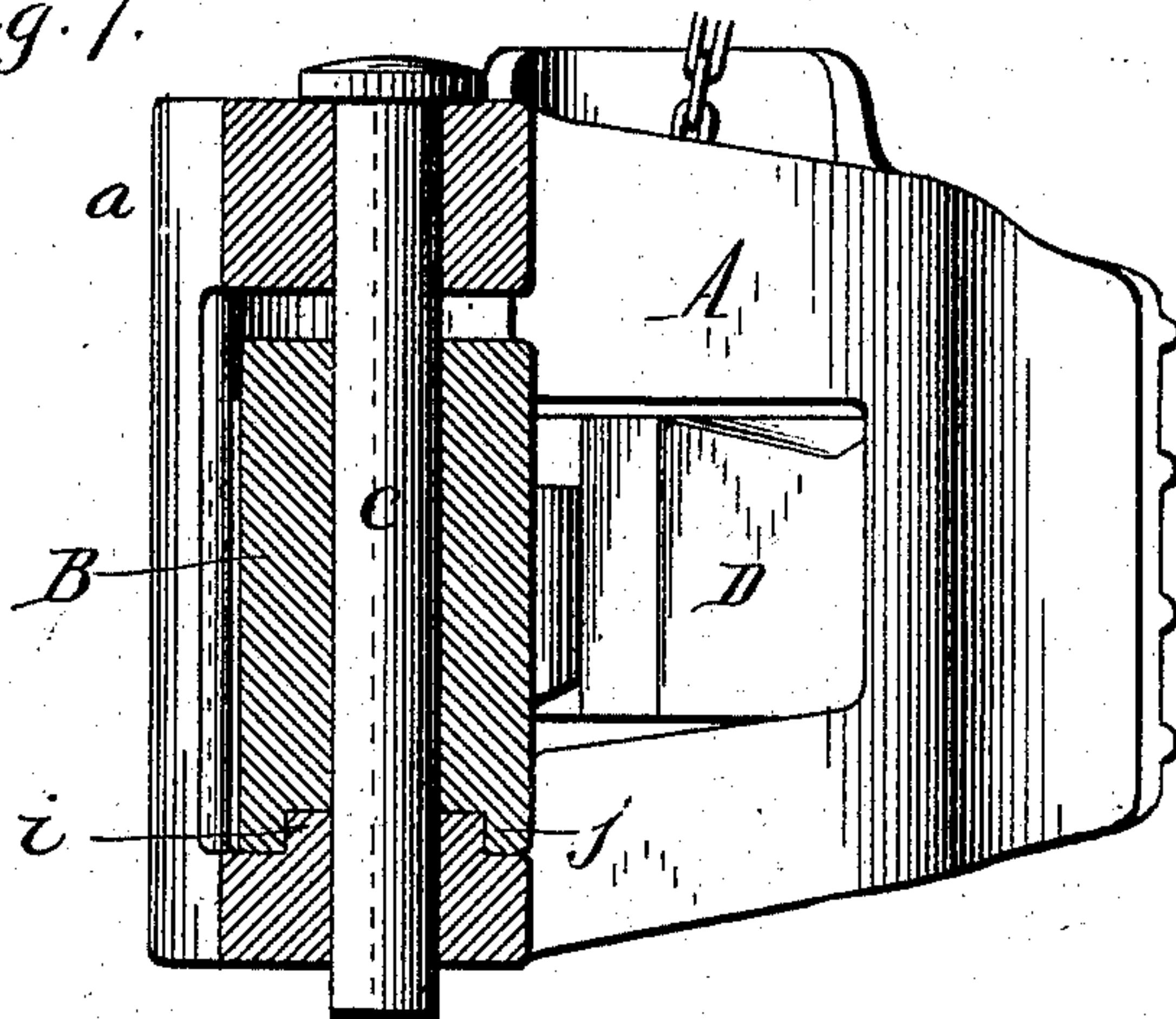
2 Sheets—Sheet 2.

F. ANDERSON.  
CAR COUPLING.

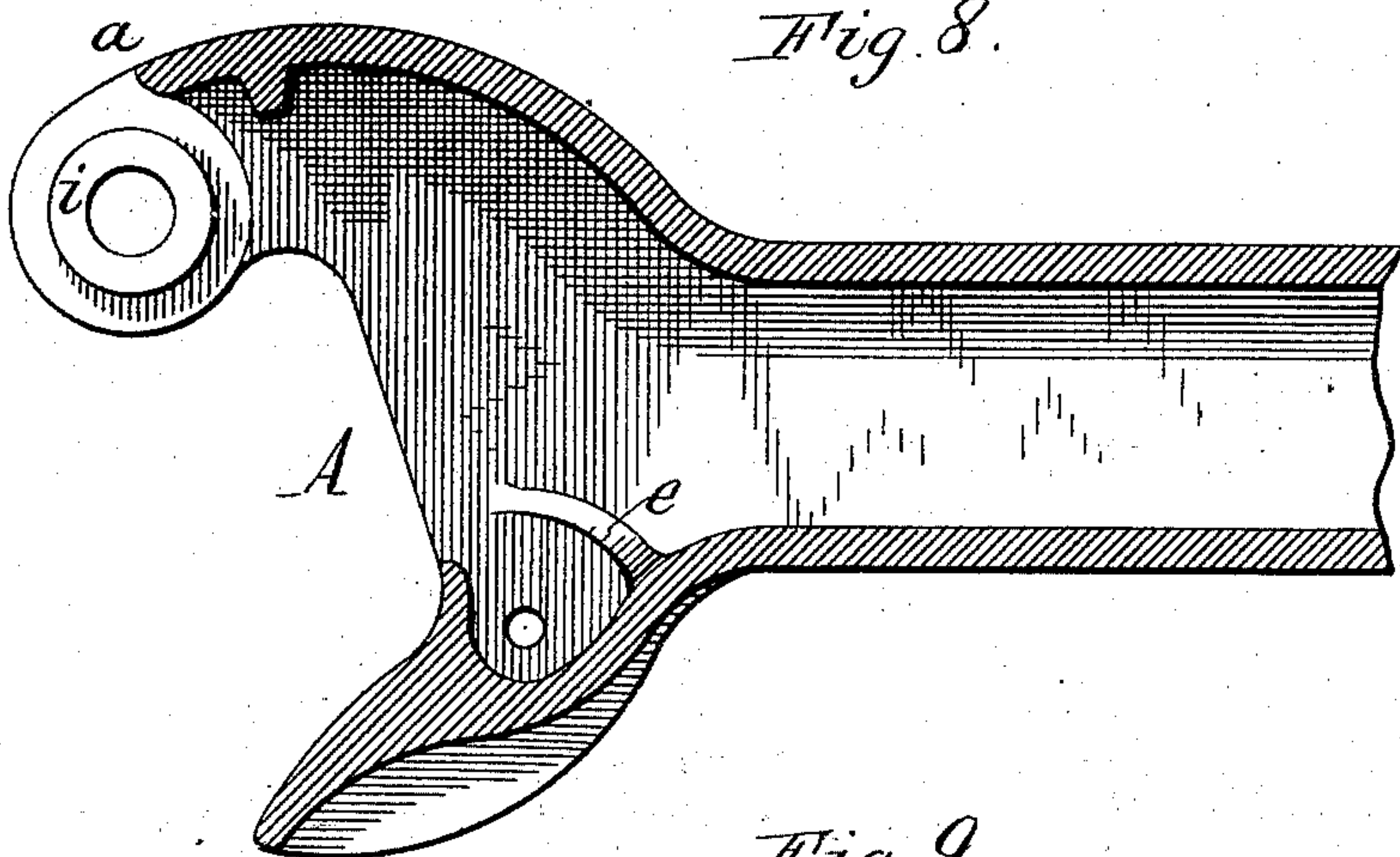
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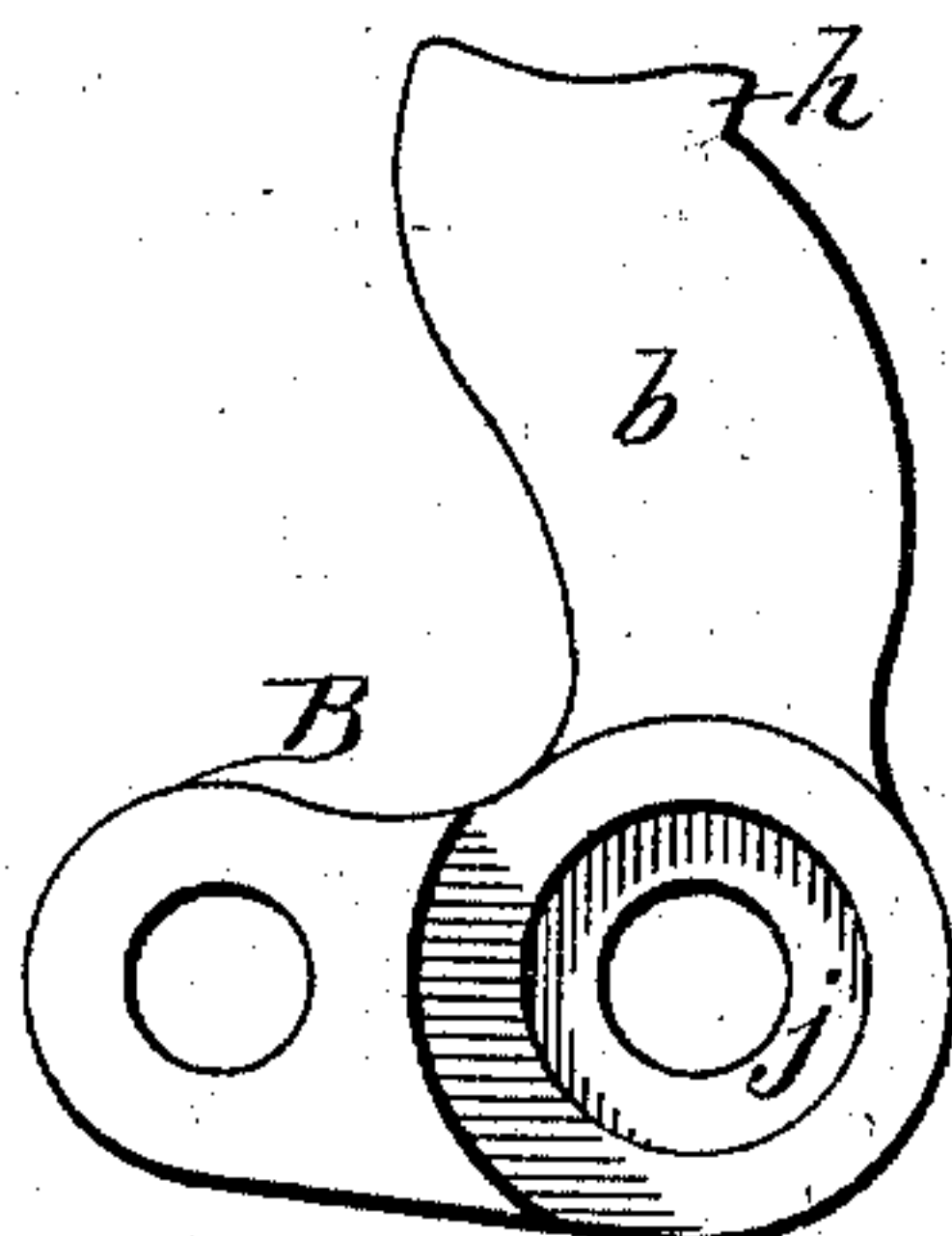
*Fig. 7.*



*Fig. 8.*



*Fig. 9.*



Witnesses:

Emil Neuhart.

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Frank Anderson *Inventor.*

By Wilhelm H. Formet.

*Attorneys.*



# UNITED STATES PATENT OFFICE.

FRANK ANDERSON, OF BUFFALO, NEW YORK, ASSIGNOR OF ONE-HALF TO  
GEORGE S. CROSBY, OF SAME PLACE.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 500,731, dated July 4, 1893.

Application filed July 9, 1892. Serial No. 439,538. (No model.)

*To all whom it may concern:*

Be it known that I, FRANK ANDERSON, a citizen of the United States, residing at the city of Buffalo, in the county of Erie and State of New York, have invented a new and useful Improvement in Car-Couplings, of which the following is a specification.

This invention relates to the class of car couplings which comprise essentially a horizontally swinging coupling jaw or hook pivoted to the draw-head, and a locking device which holds the coupling hook in its closed or coupled position, and more particularly to couplings of this kind in which the coupling hook is moved into its open position by positive means when released from its locking device.

My invention has for its objects to improve the means for positively throwing the coupling hook into its open position and to relieve the pivot pin of the coupling hook from the strains due to the impact or concussion of the couplings when two cars come together.

In the accompanying drawings consisting of two sheets:—Figure 1 is a horizontal section of my improved car coupling showing the coupling hook in its closed or coupled position. Fig. 2 is a similar view showing the coupling hook unlocked and partly thrown open. Fig. 3 is a similar view showing the coupling hook entirely thrown open. Fig. 4 is a detached perspective view of the coupling jaw or hook. Fig. 5 is a similar view of the locking pawl. Fig. 6 is a similar view of the shifting arm or finger. Fig. 7 is a vertical cross section of the coupling in line  $x-x$ , Fig. 1. Fig. 8 is a horizontal section of the draw-head with the operative parts of the coupling removed. Fig. 9 is a detached bottom plan view of the coupling hook.

Like letters of reference refer to like parts in the several figures.

A is the draw-head which is recessed or chambered in the usual manner.

B is the coupling jaw or hook pivoted to the forwardly projecting arm  $a$  of the draw-head by an upright pin  $c$  and having the usual locking arm  $b$ , and D is the locking pawl whereby the coupling hook is locked in its closed or coupled position and which is swung out of engagement with the locking arm of

the coupling hook by a chain attached to the pawl and extending upwardly through an opening in the upper side of the draw-head, in a well known manner.

$e$  is the usual incline upon which the locking pawl rests and whereby the same is automatically returned to its forward position when released by its operating mechanism.

F is a shifting arm or finger carried by the locking pawl D and which throws the coupling hook to its open or uncoupled position when the locking pawl is moved out of engagement with the coupling hook. This shifting finger is pivoted at its inner end to the free end of the locking pawl by a pin or rivet  $f$  and is arranged with its outer portion between the rear side of the locking arm  $b$  of the coupling hook and the adjacent side wall of the recessed head. The shifting finger is provided at its outer end with a forwardly extending hook or lip  $g$  which is adapted to engage against a nose or shoulder  $h$  formed on the rear side of the locking arm.

When the coupling hook is in its locked or coupled position, as shown in Fig. 1, the shoulder at the outer end of the locking pawl bears against the front side of the locking arm of the coupling hook, and the lip of the shifting finger lies between the rear side of the coupling hook and the adjacent side wall of the draw-head. Upon swinging the locking pawl out of engagement with the arm of the coupling hook, the shifting finger is moved rearwardly with the pawl, which movement causes its hook or lip  $g$  to strike the nose  $h$  on the locking arm of the coupling hook, as shown in Fig. 2, thereby swinging said arm outwardly and positively throwing the coupling hook to its open or uncoupled position. During its rearward movement the shifting finger bears with its rear side against the adjacent wall of the draw-head which wall limits the outward swing of the finger, and thereby compels the hook of the finger to strike the nose of the coupling hook when the locking pawl is swung out of engagement with the locking arm of the coupling hook. Upon releasing the retracted locking pawl, it rides down its incline  $e$  by gravity, thereby automatically returning to its former position and swinging the shifting finger back to the position shown in Fig. 1.



When the open coupling hook is swung into its closed or coupled position by striking the hook of an opposing car, the locking pawl automatically interlocks with the arm of the  
5 coupling hook and retains the latter in its coupled position, in the manner common to this class of car couplings.

My improved coupling consists of but few parts and permits the draw-head to be constructed on the lines prescribed by the Master Car Builders' Association and to be easily  
10 cast.

As shown in Figs. 7, 8 and 9, the lower jaw of the bifurcated arm *a* of the draw-head is  
15 formed with an upwardly projecting cylindrical boss or journal *i* and the hub of the coupling hook is provided axially in its under side with a correspondingly-shaped socket or recess *j* which receives the boss *i*. This boss  
20 surrounds the pivot pin of the coupling hook and receives the principal part of the strain to which the coupling hook is subjected in coupling cars, thereby relieving the pivot pin and lessening the liability of bending or breaking it. By reducing the strain upon the pin,  
25 a pin of smaller diameter may be employed and the openings in the coupling hook for receiving the pin may be correspondingly smaller, thus leaving more stock in the hook  
30 around the pin openings and enabling it to more effectually withstand the blows which it receives in coupling. Sufficient space is left between the upper and lower jaws of the

arm *a* of the draw-head to permit the socket of the coupling hook to be passed over the  
35 boss of the arm *a* in introducing the hook between said jaws.

If desired, the arrangement of the socket and the boss may be reversed without changing the function of the parts; that is, the boss  
40 may be formed on the bottom of the coupling hook and the socket in the arm *a* of the draw-head.

I claim as my invention--

The combination with the draw head and  
45 the swinging coupling jaw having a locking arm, of a horizontally swinging locking pawl pivoted to the draw head and adapted to engage with its free inner end against the locking arm of the coupling jaw, and a separate  
50 shifting finger pivoted at its inner end to the free end of the horizontally-swinging locking pawl and extending from the pawl forwardly into the space between the back of said locking arm and the adjacent inner side of the  
55 draw head, whereby the coupling jaw is positively moved to its open or unlocked position upon swinging the pivoted locking pawl out of engagement with the locking arm of the coupling jaw, substantially as set forth. 60

Witness my hand this 2d day of July, 1892.

FRANK ANDERSON.

Witnesses:

GEORGE S. CROSBY,  
CARL F. GEYER.