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CENTRAL BUFFER CLAW COUPLING.
APPLICATION FILED NOV. 14, 1907.

899,565.

Patented Sept. 29, 1908.

Fig. 1.

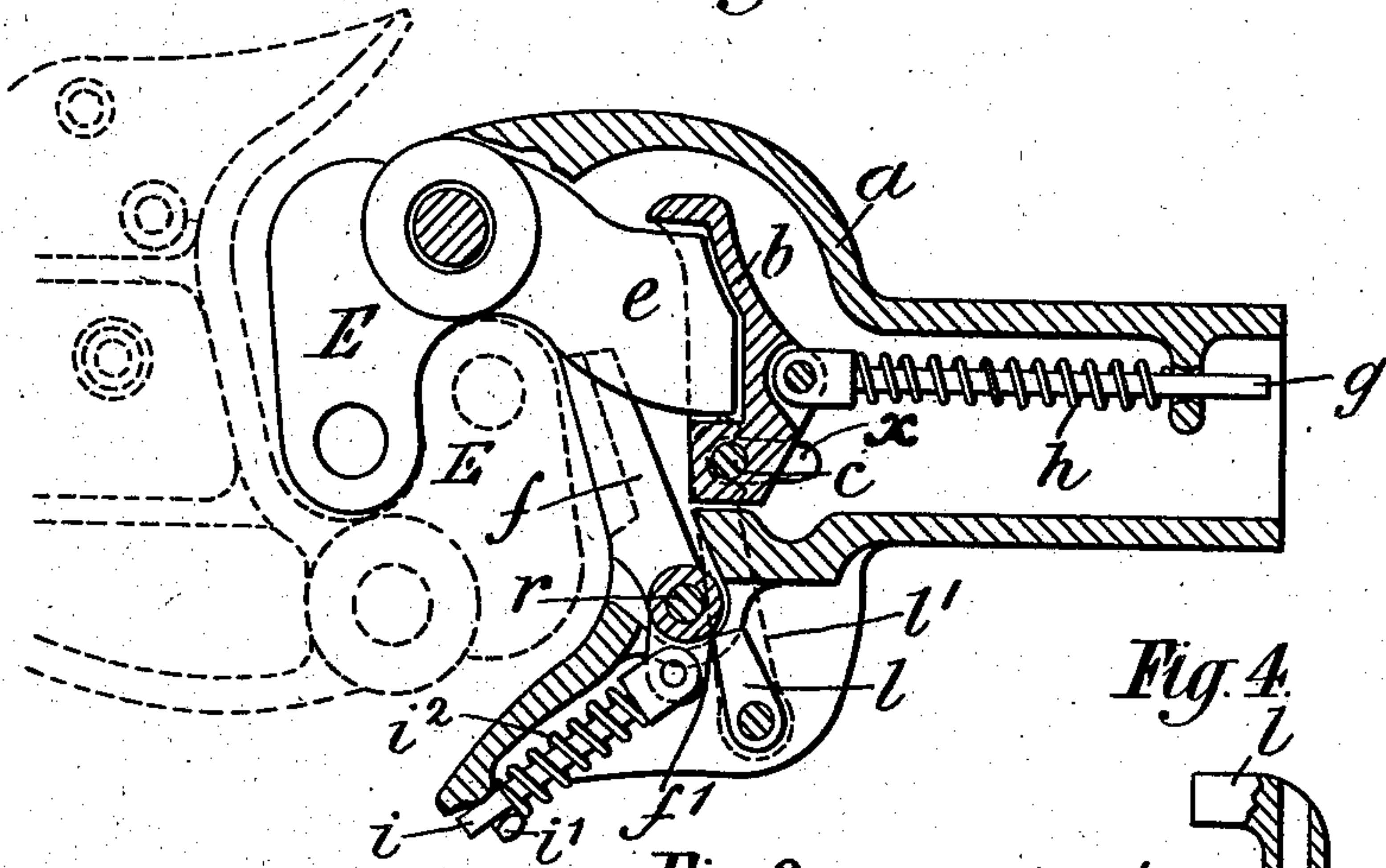


Fig. 4.

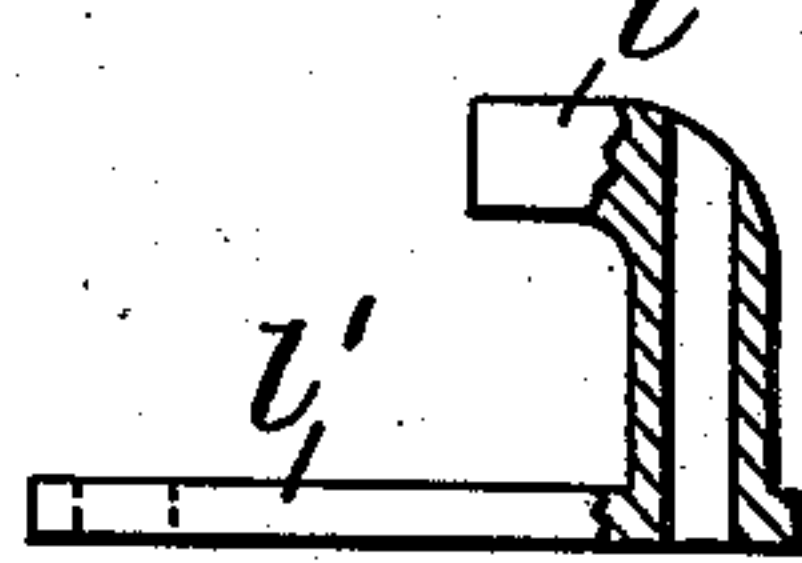


Fig. 2.

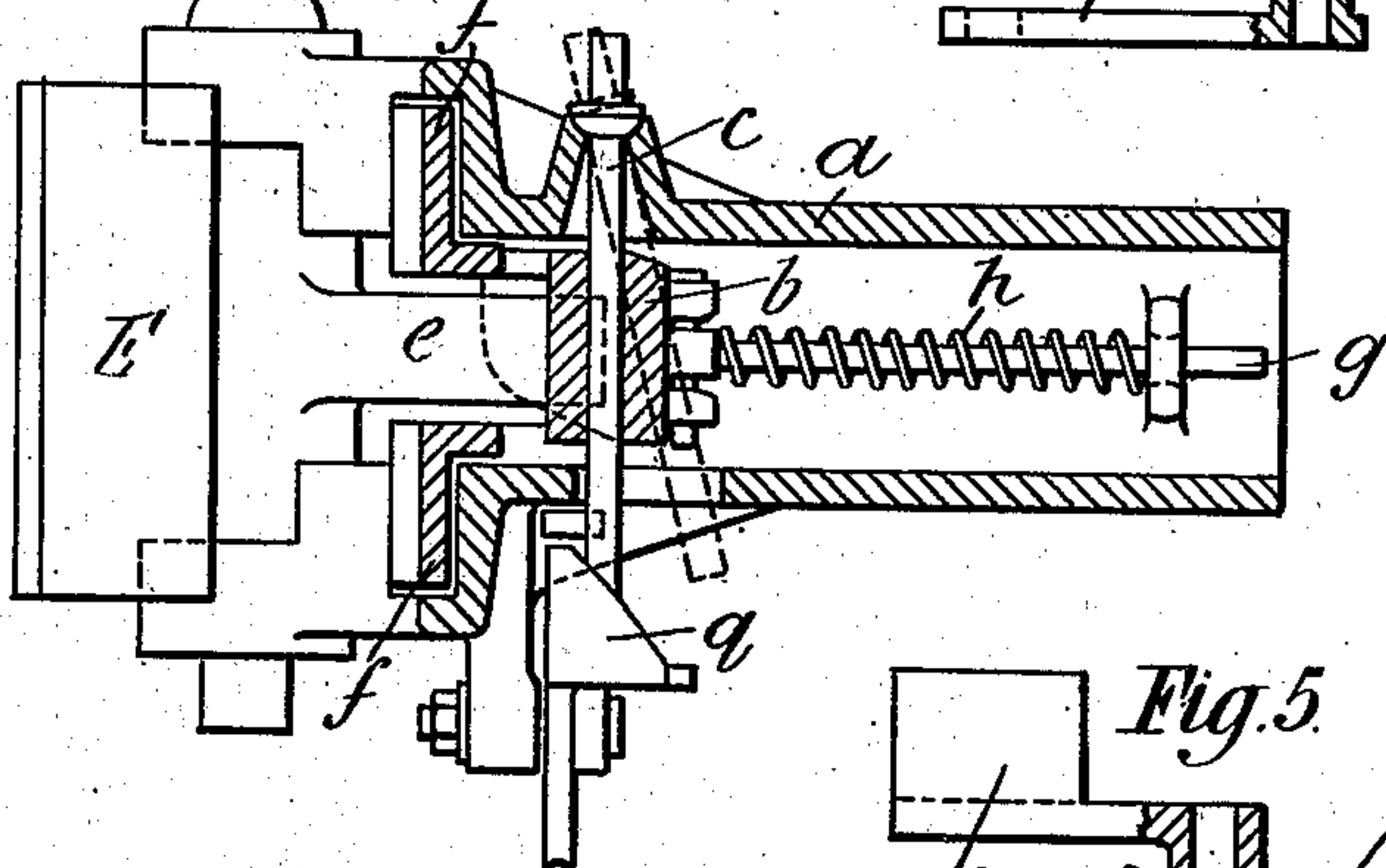


Fig. 3.

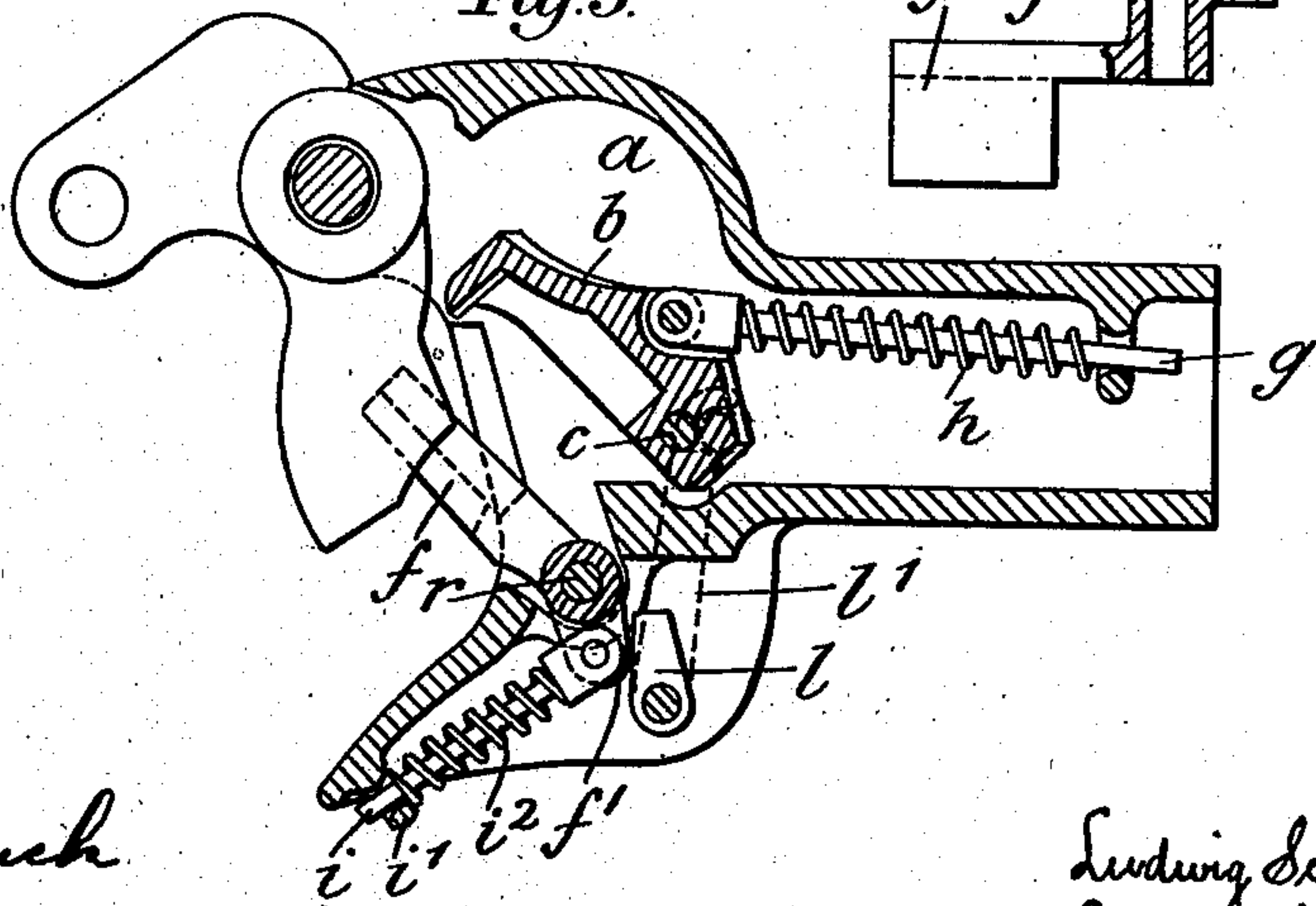
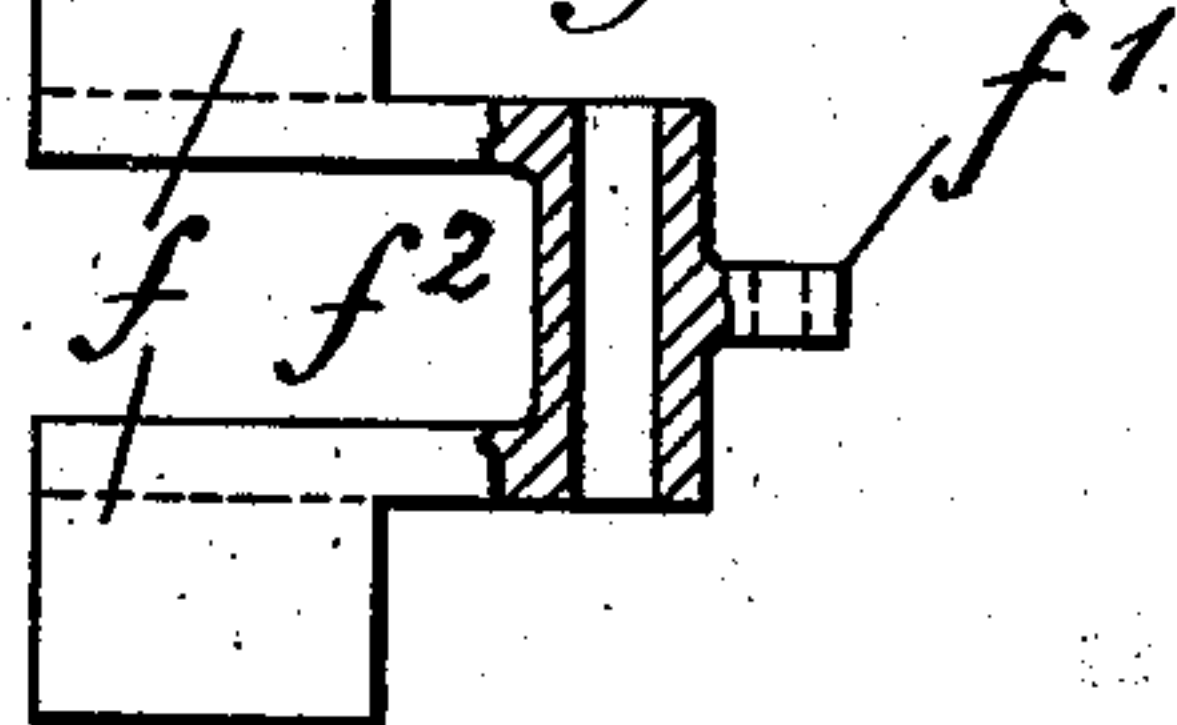


Fig. 5.



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UNITED STATES PATENT OFFICE.

LUDWIG SCHEIB, SR., AND LUDWIG SCHEIB, JR., OF KAISERSLAUTERN, GERMANY.

CENTRAL-BUFFER CLAW-COUPLING.

No. 899,565.

Specification of Letters Patent.

Patented Sept. 29, 1908.

Application filed November 14, 1907. Serial No. 402,192.

To all whom it may concern:

Be it known that we, LUDWIG SCHEIB, Sr., and LUDWIG SCHEIB, Jr., subjects of His Majesty the Emperor of Germany, residing at Kaiserslautern, Germany, engineers, have invented certain new and useful Improvements in Central-Buffer Claw-Couplings; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in central buffer claw couplings such as are described in our application for U. S. patent filed the 27 September 1907 Serial No. 394850 and has for its object to provide means whereby when the claw hook coupling of one wagon is released by hand the co-acting claw hook of the other wagon is automatically released on the separation of the wagons, all risk of damage to the couplings by the impact of the wagons is thus avoided.

The invention is shown in the accompanying drawings in which:—

Figure 1 is a horizontal section of the locked coupling; Fig. 2 is a vertical section of the same; Fig. 3 is a similar section to Fig. 1 but showing the parts unlocked and opened, and Figs. 4 and 5 are details.

Similar letters refer to like parts in all the figures, and those parts which also appear in the drawings to our said earlier U. S. application bear the same reference letters as they do in those drawings.

Referring to the drawing *a* designates a hollow coupling head, and *b* a locking cap pivoted on a pin *c* which is movable in a slot *x* formed in the head *a*. The locking cap is pivotally connected to a guide rod *g* encircled by a helical spring *h*. Suitably pivoted to the coupling head *a* is a claw hook *E* having a tail piece *e* which is adapted to be engaged by the locking cap *b*.

The coupling is locked in a similar manner to that described in our said earlier application; the spring controlled locking cap *b* pivoting on the releasing pin *c* is caused to engage the tail piece *e* of the claw hook *E* and thereby firmly locks the latter. The coupling is hand released by means of a lever having a cam surface *q* adapted to engage and move back the releasing pin *c* of the locking cap *b* and thereby withdraw the inner end of the latter from the tail end *e* of the claw hook, when the spring *h* forces forwards the free end

of said cap *b* which in turn forces the claw hook *E* into its open or outward position as seen in Fig. 3.

In order to effect the rearward movement and disengagement of the locking cap *b* automatically and independently of the hand uncoupling device when the coupling is in its closed or locked position, we provide within the hollow coupling head *a* an automatic release mechanism comprising two two-armed levers *f—f'* and *l—l'*, see Figs. 4 and 5.

The lever *f—f'* turns on a pivot pin *r* and is so arranged as to permit the tail *e* of the claw hook to move freely within a slot *f²* in its arm *f*, see Figs. 2 and 3. The short arm *f'* of this lever is connected with a push rod *i* working in a guide *i'* and controlled by a spring *i²* which constantly presses the lever arm *f* forwards and outwards. The arm *f'* of lever *f—f'* engages the short arm *l* of lever *l—l'* whose other arm *l'* engages the releasing pin *c* of the locking cap *b*. During coupling the heads of the co-acting claw hooks *E* press the lever arms *f* inwards and thereby compress the springs *i²*. At the same time the springs *h* of the adjacent couplings press forwards the respective locking caps *b* which then engage and lock the claw hooks as described in our said earlier application. When now one of the claw hooks is again unlocked by operating the hand uncoupling device *a*, the co-acting claw hook of the adjacent wagon is automatically opened on the separation of the latter by the outward movement of the arm *f* of the hitherto closed coupling, said arm *f* being now forced outwards by the spring *i²*. This causes the arm *f'* of lever *f—f'* to force back the short arm *l* of lever *l—l'* at the same time causing arm *l'* of this lever to move back the releasing pin *c* thereby disengaging the inner portion of the locking cap *b* from the tail *e* of the claw hook and thus causing the spring *h*, as explained in our said former application, to throw the claw hook out of the operative position.

In order to enable the spring *i²* to effect the backward movement of the releasing pin *c* such spring must be made strong enough to overcome the pressure of the spring *h* of the said locking cap *b*. The width of the arm *f* should be such as to be readily acted upon by the claw hook of the co-acting coupling even when the couplings are at different levels.

What we claim and desire to secure by Letters Patent of the United States is:—

1. In a central buffer claw coupling such

as herein referred to, the combination with a hollow coupling head, a claw hook having a tail, a pivoted locking cap for engaging said tail and a spring whose extension forces said locking cap forwards, of a spring controlled lever held pressed inwards against the stress of its spring by the co-acting claw hook of the coupled vehicle, and means placing said lever in operative connection with the pivoting end of the locking cap aforesaid, whereby when one claw hook has been released by hand, the forward movement of the spring controlled lever, automatically effected by its spring on the separation of the vehicles, forces back the locking cap to release the other claw hook and throw it out of its operative position in the known manner, substantially as set forth.

2. In a central buffer claw coupling such as herein referred to, the combination with a hollow coupling head, a claw hook, a pivoted locking cap for engaging the tail of the latter and a spring whose extension forces said locking cap forwards, of a spring controlled pivoted two-armed lever whereof one arm is engaged and held pressed inwards to compress the spring by the co-acting coupled claw hook, and a second pivoted lever engaging the releasing pin of the locking cap aforesaid and operated by the other arm of the

spring controlled lever, when the latter is moved forwards by its spring on the separation of the wagons, to cause said second lever to draw backwards the releasing pin and thereby cause the locking cap to release the claw hook and throw the latter out of its locking position in the usual manner, substantially as described.

3. In a central buffer claw coupling such as herein referred to, the combination with a coupling head, of a claw hook pivoted thereto, a spring controlled pivoted locking cap adapted under suitable conditions to engage the claw hook, a double armed lever f, f' , adapted to operate the claw hook, a push rod i adapted to act upon one arm of said lever, a spring i^2 encircling said push rod, and a second double armed lever l, l' , one arm of which is designed to be engaged by one arm of the lever f, f' and the other arm of which is designed to withdraw the locking cap from the claw hook, substantially as described.

In testimony whereof we have hereunto set our hands in the presence of two witnesses.

LUDWIG SCHEIB, SENIOR.
LUDWIG SCHEIB, JUNIOR.

Witnesses:

HEINREICH SCHÖFFER,
LEITGOLD ORNELI.