

(No Model.)

H. HELD.
STOPPING MECHANISM FOR ENGINES.

No. 414,837.

Patented Nov. 12, 1889.

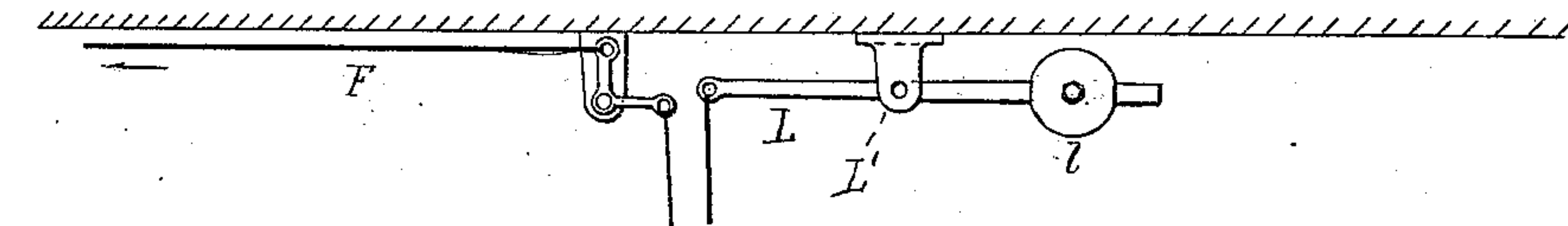


Fig. 1.

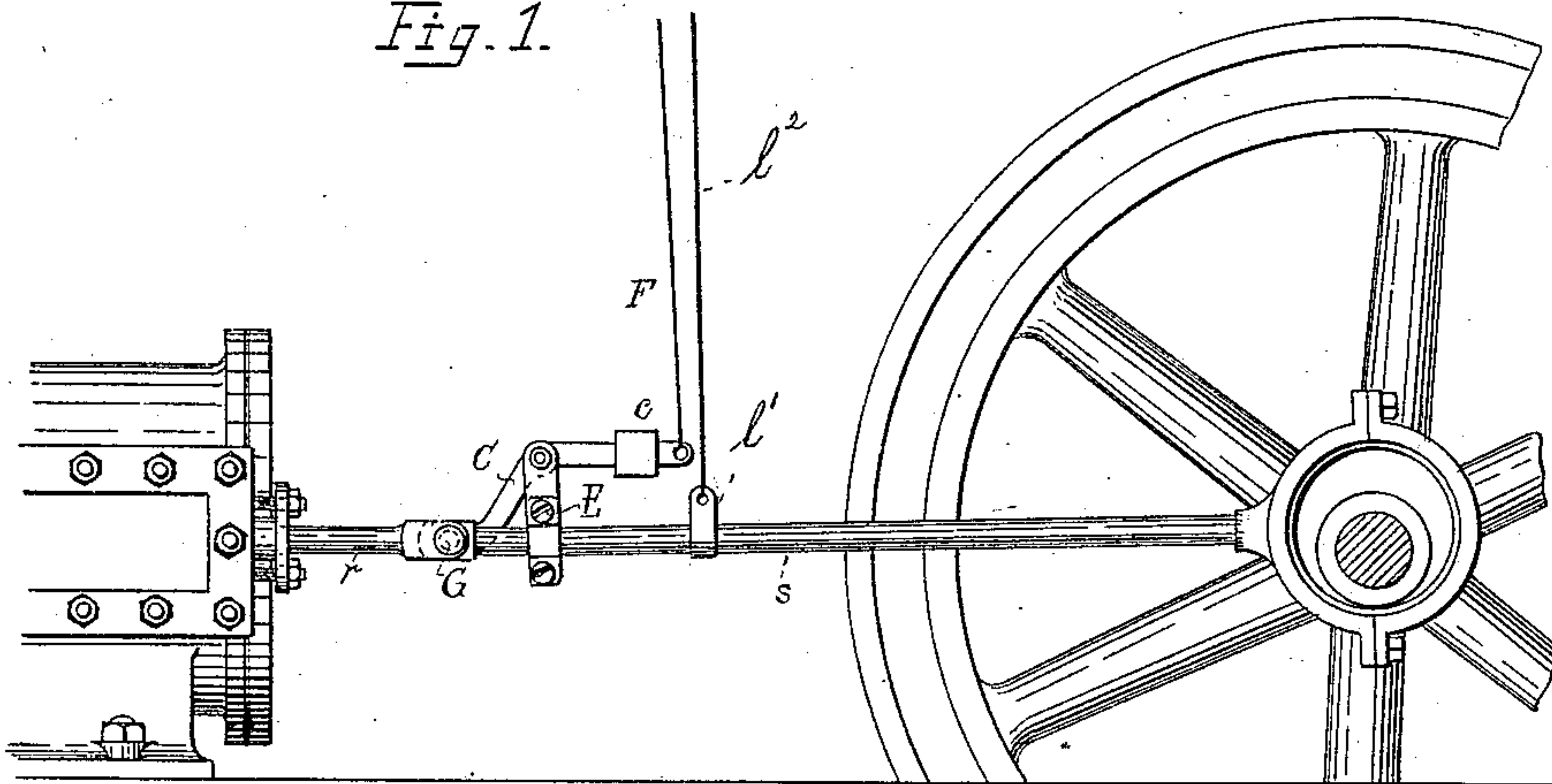


Fig. 2.

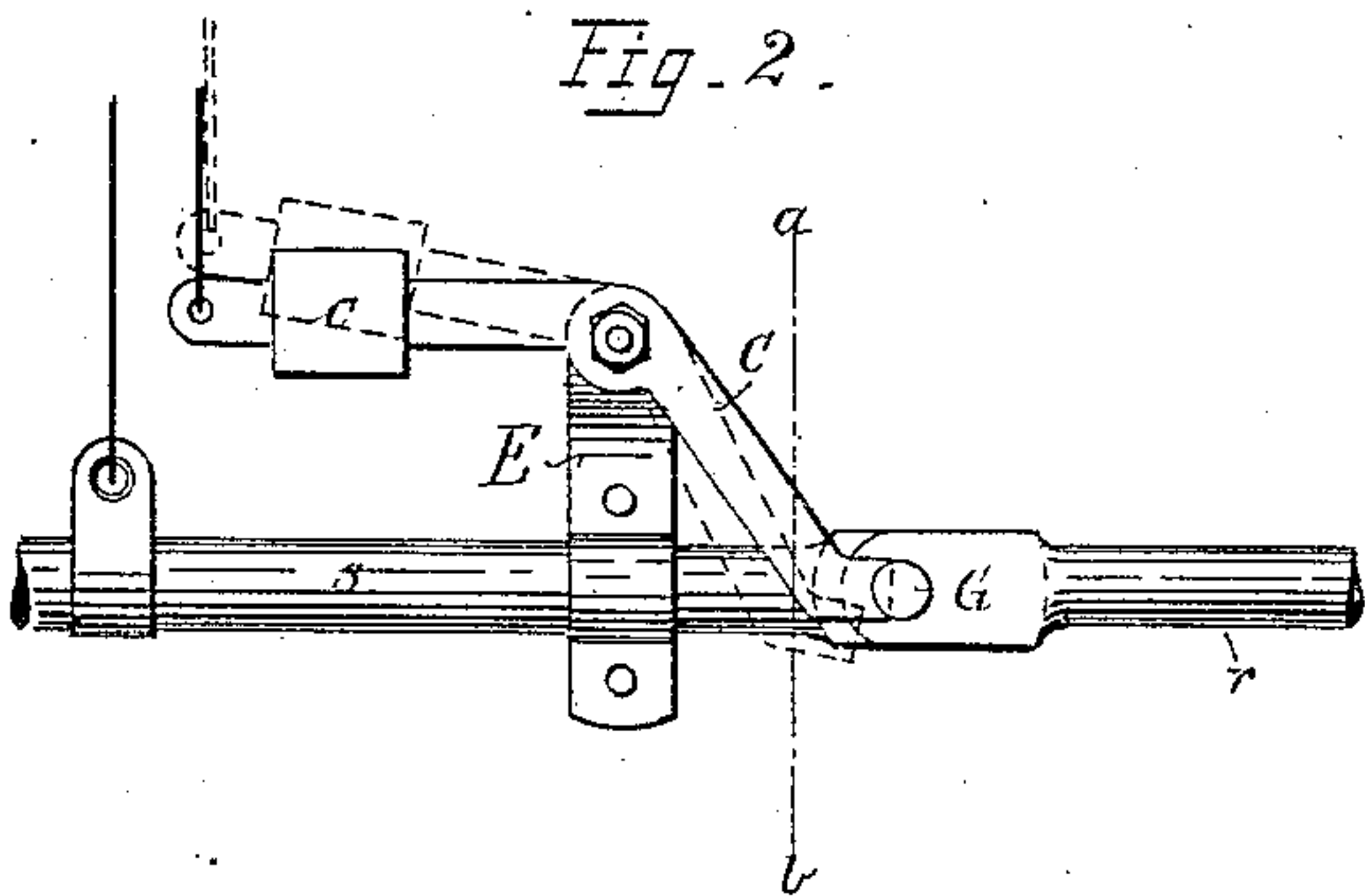


Fig. 3.

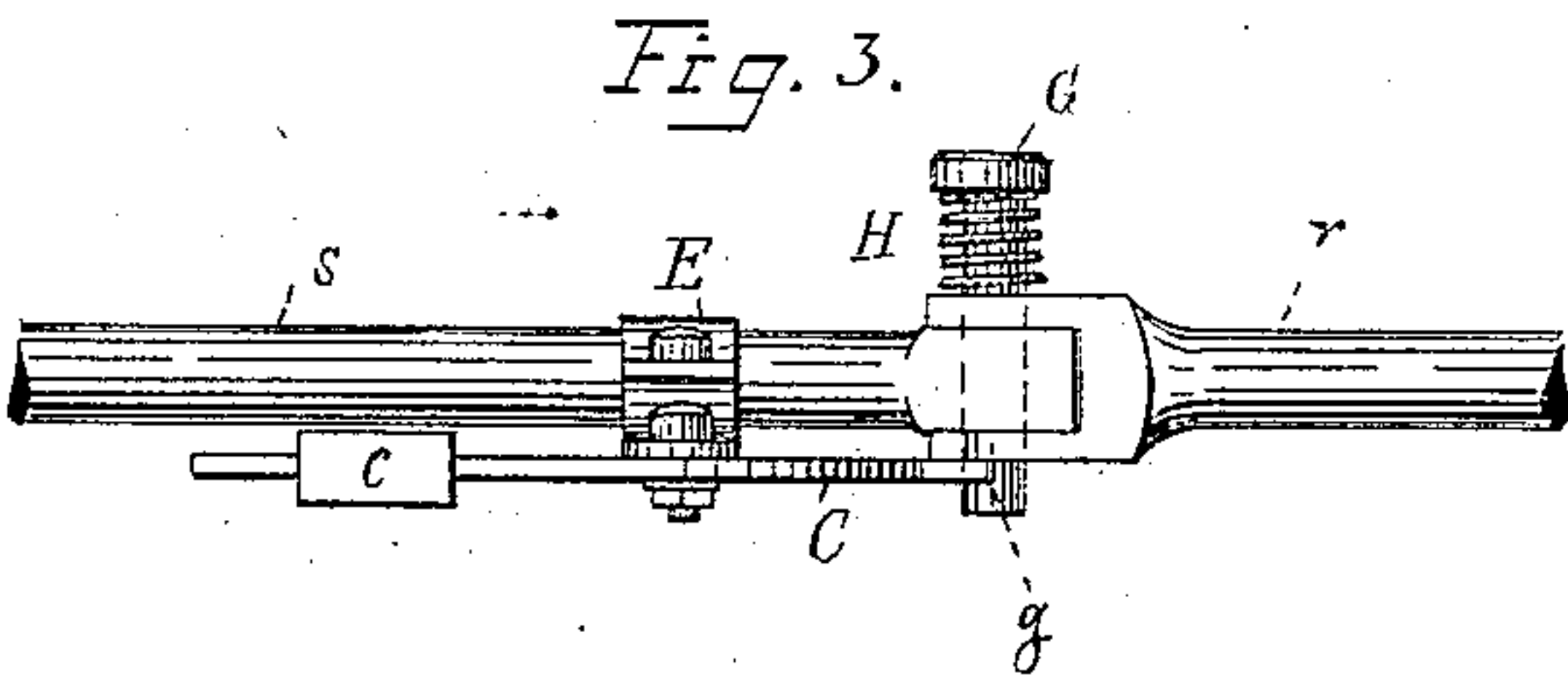


Fig. 4.

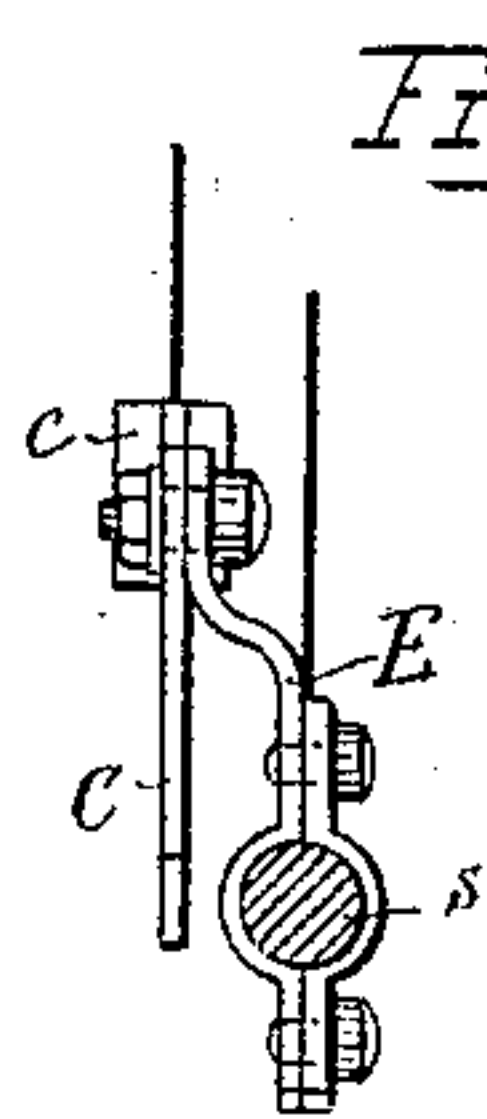
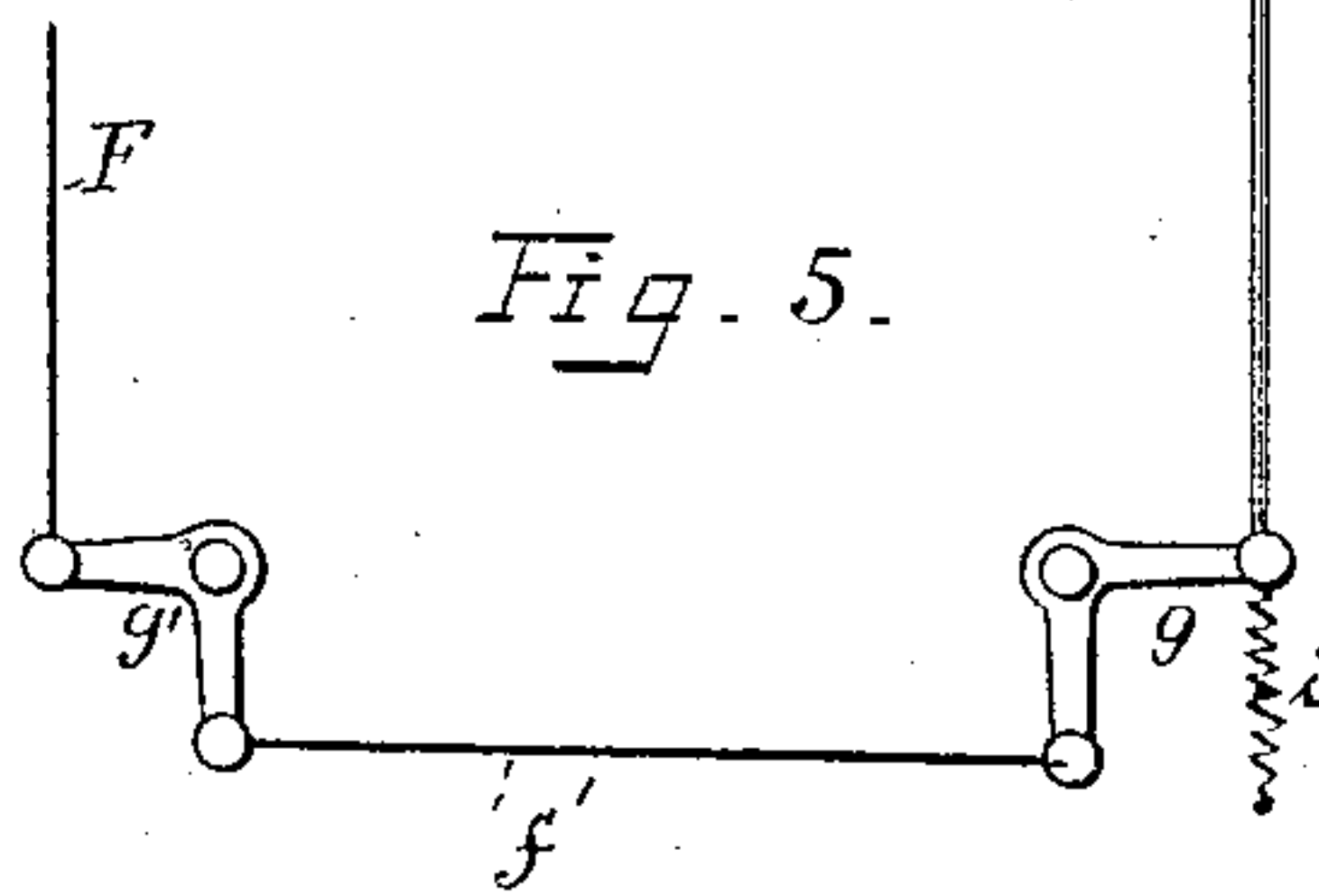


Fig. 5.



Witnesses:
Wm. Wagner
Alfred Joughmans

Inventor:
H. Held
by his attorneys
Roeder & Briesen

UNITED STATES PATENT OFFICE.

HEINRICH HELD, OF LOECHGAU, WÜRTEMBERG, GERMANY, ASSIGNOR TO
THE LOECHGAUER SOHLENNAGEL-FABRIK HELD AND BRAUN, OF SAME
PLACE.

STOPPING MECHANISM FOR ENGINES.

SPECIFICATION forming part of Letters Patent No. 414,837, dated November 12, 1889.

Application filed August 6, 1889. Serial No. 319,859. (No model.)

To all whom it may concern:

Be it known that I, HEINRICH HELD, residing at Loechgau, near Besigheim, Würtemberg, Germany, have invented an Improved
5 Stopping Mechanism for Engines, of which the following is a specification.

This invention relates to a stopping mechanism for engines which permits the engine to be stopped from any place in the workshop
10 by a simple pull on the check-rope.

The invention consists in the various features of improvement more fully pointed out in the claims.

In the accompanying drawings, Figure 1 is
15 a side view of my improved stopping mechanism, showing it applied to an engine. Fig. 2 is a side view of the stopping mechanism alone, showing the reverse side of Fig. 1. Fig. 3 is a plan of Fig. 2; Fig. 4, a section on line
20 *a b*, Fig. 2; and Fig. 5 shows an arrest attachment of the check-rope.

The letter *r* represents the slide-rod of an engine, having a forked end that embraces the eccentric-rod *s*. The eccentric-rod *s* carries
25 close to the joint with the slide-rod a support *E*, to which is pivoted a bent lever *C*. The coupling-bolt *G* of the shafts *r s* is of such a length as to project at both ends beyond its seat. It is provided with a notch *g*, arranged
30 vertically in relation to the longitudinal axis of the bolt. The notch *g* is engaged by one end of the lever *C*. Upon the opposite end of bolt *G* there is placed a spring *H*, which has a tendency to throw the bolt out of its seat as
35 soon as the bolt is liberated from engagement with lever *C*. The lever *C* carries on its horizontal arm a counter-weight *c*, that holds the lever in engagement with the bolt while the machine is in operation. To the upper end of
40 lever *C* there is secured the check rope or wire *F*, that passes through the several rooms of the shop. The eccentric-rod *s* may be suspended from the ceiling in such a manner that when the slide-rod is uncoupled the rod
45 *s* is raised at its disengaged end. To this effect a lever *L*, pivoted to a hanger *L'*, carries on one arm a counter-weight *l*, while the other arm supports the shaft *s* by means of a suitable leather strap *l'* and wire *l''*. When the

check-rope *F* is pulled, the lever *C* becomes
50 disengaged from bolt *G* and the latter is thrown out of its seat, either at once or after the engine has arrived at its dead-point position. The eccentric-rod *s* will thus be raised by counter-weight *l*, or when this arrange-
55 ment is not employed it will fall to stop the engine.

My improved stopping mechanism, owing to its great simplicity, may be applied to any motors and to horizontal and vertical engines. 60

If it is desired to cause a disengagement of the coupling in case of an accident, the check-rope *F* is connected to the device shown in Fig. 5. Here a cable *f* is fastened at one end
65 to a fixed support and at the other end to a bell-crank *g*. This bell-crank in turn by rope *f'* and bell-crank *g'* connects with check-rope *F*. A spring *i* has a tendency to hold cable *f* taut.

When a person is caught by a belt or by the
70 transmission and is thrown against the wire *f*, the check-rope *F* will be pulled to stop the engine.

I claim as my invention—

1. The combination of slide or valve rod *r* 75 and eccentric-rod *s* with a notched connecting-bolt *G* and with a lever engaging said bolt and connected to the check-rope, substantially as specified.

2. The combination of slide or valve rod *r* 80 and eccentric-rod *s* with notched connecting-bolt *G*, spring *H*, lever *C*, connected to the check-rope, and with the weight *c* upon said lever, substantially as specified.

3. The combination of slide or valve rod *r* 85 and eccentric-rod *s* with notched connecting-bolt *G* and with a lever engaging said bolt, and with check-rope *F*, connected to said lever, and with cable *f*, rope *f'*, bell-cranks *g g'*, and spring *i*, substantially as specified. 90

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HEINRICH HELD.

Witnesses:

MAX FOUQUET.

EUGEN MANKE.