

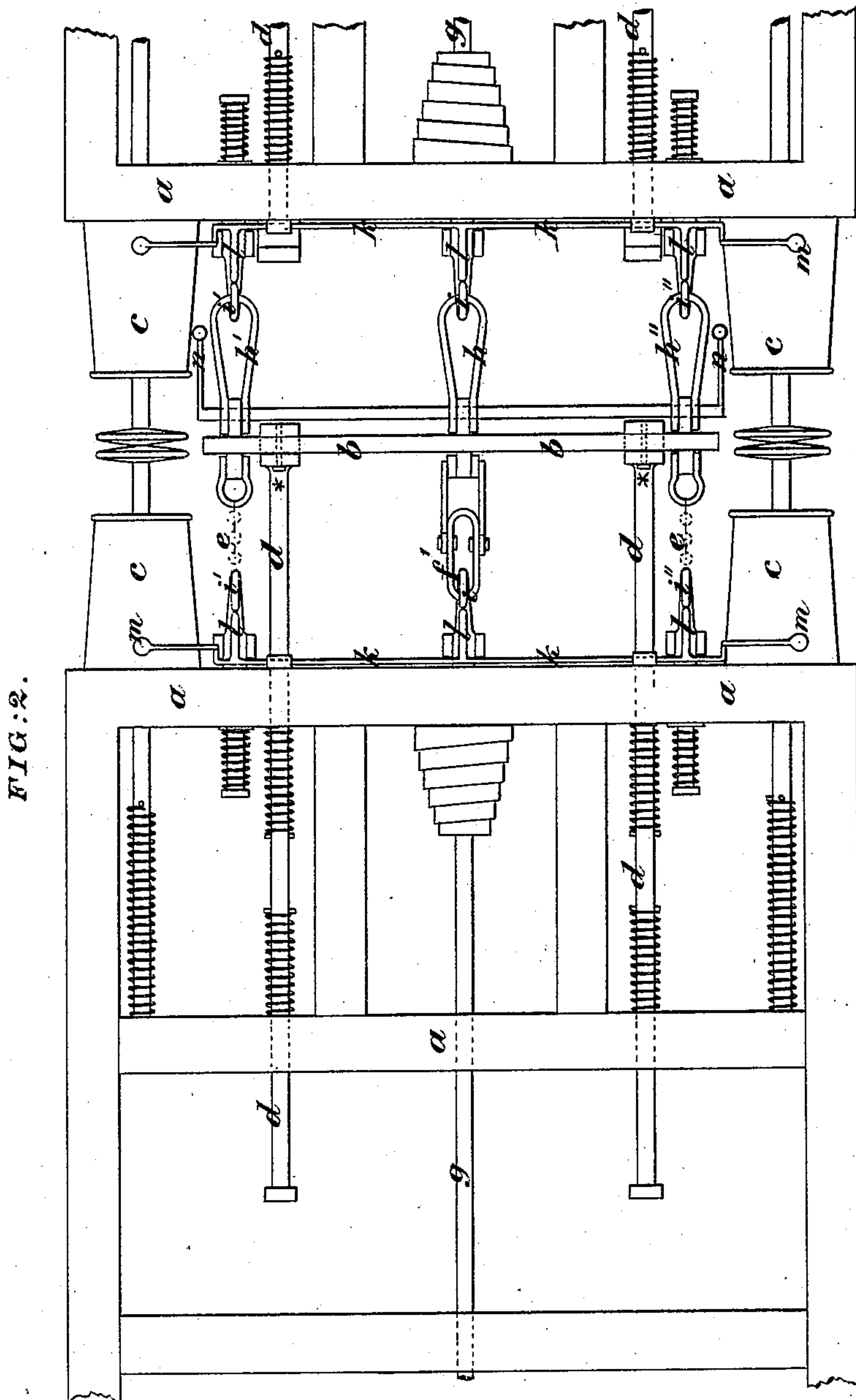
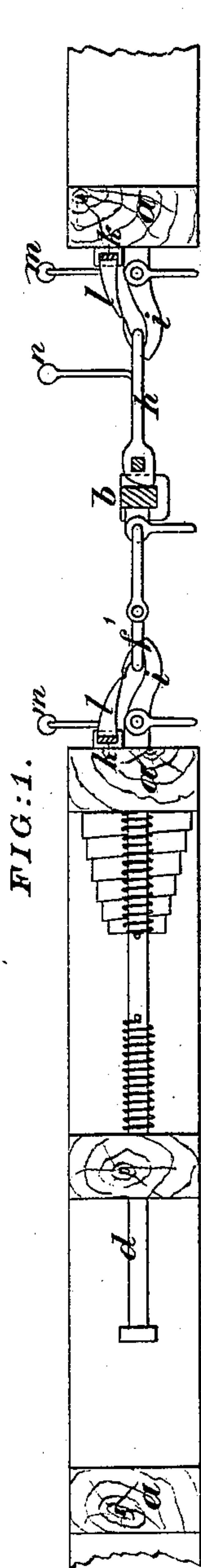
(No Model.)

2 Sheets—Sheet 1.

T. WOOD.
CAR COUPLING.

No. 308,229.

Patented Nov. 18, 1884.



Witnesses.

John E. Parker
James F. Tobin

Inventor.

Thomas Wood
by his Attorneys
Howman & Simpson

(No Model.)

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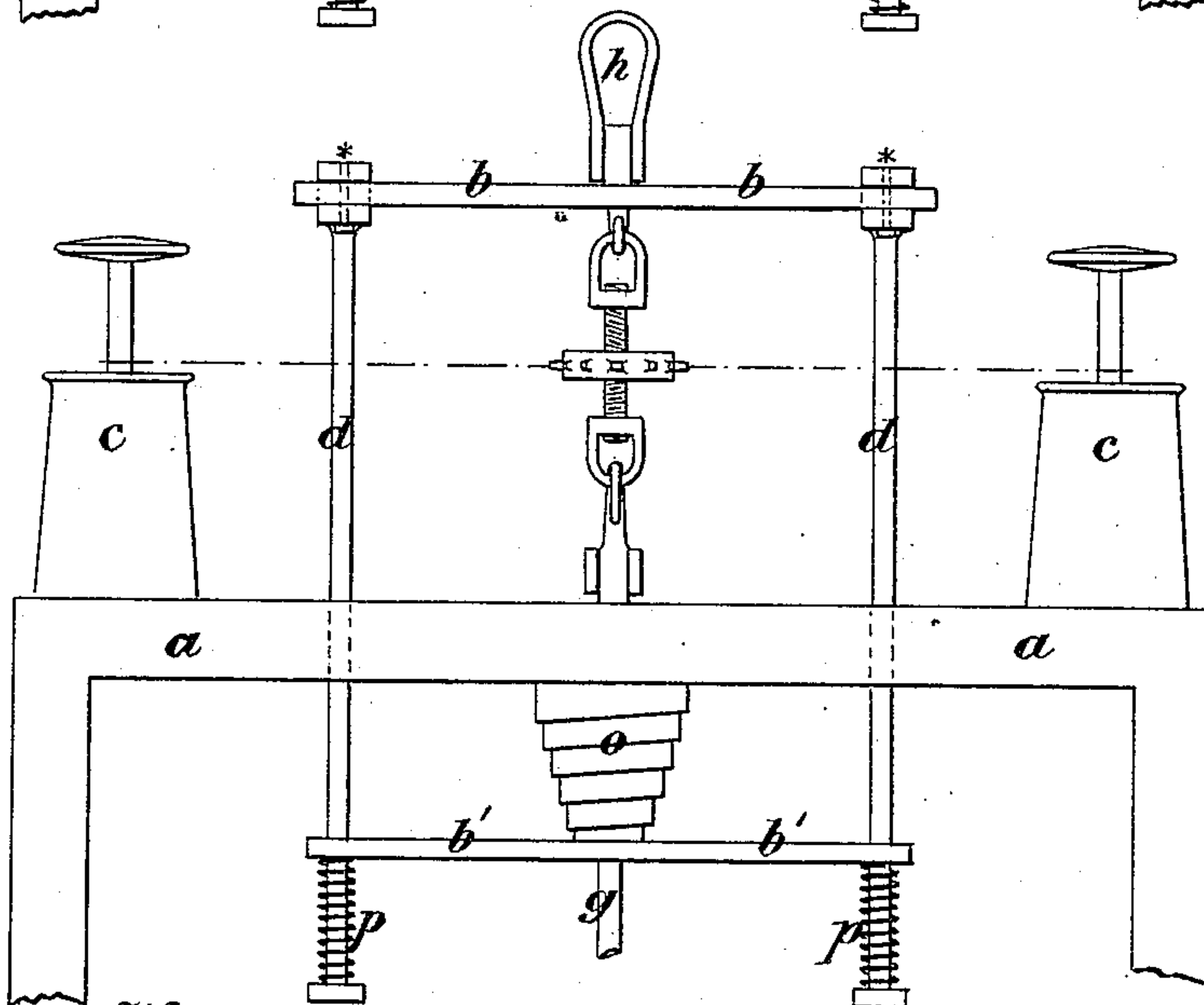
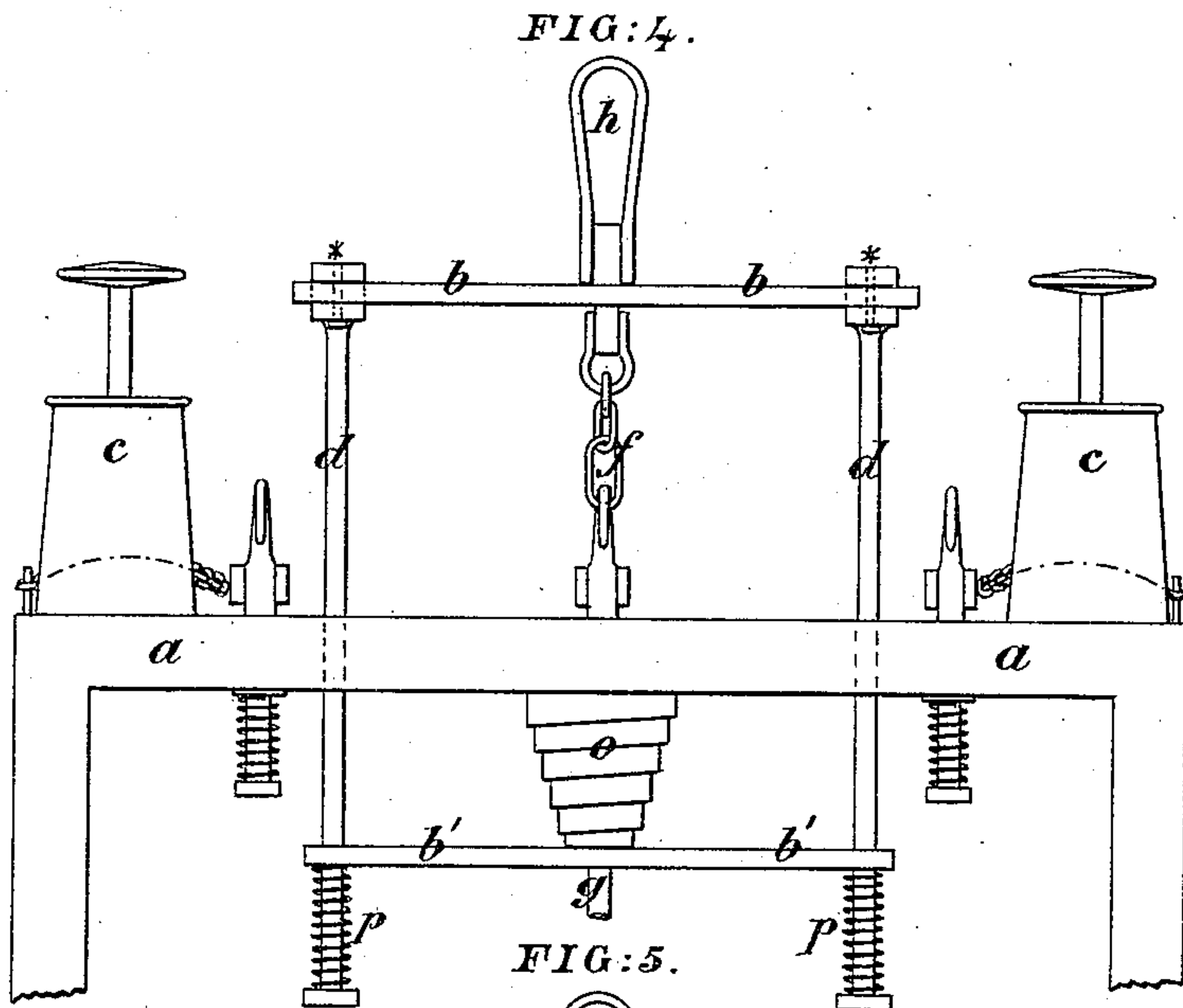
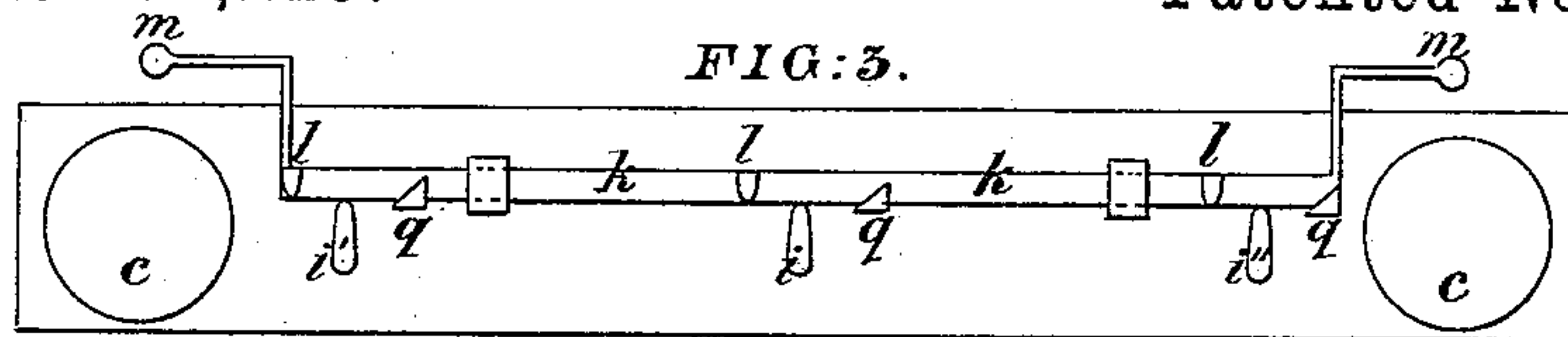
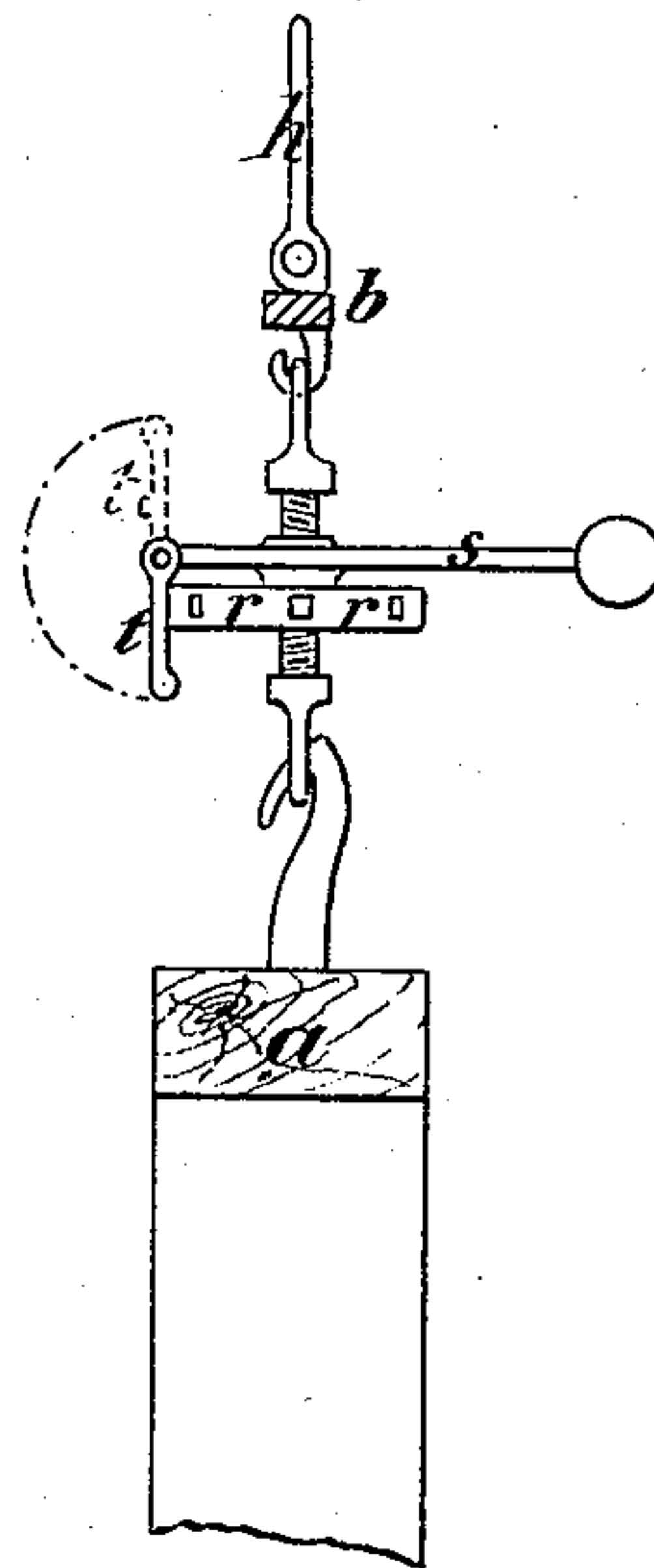


FIG: 6.



Witnesses.

John E. Parker.
James F. Tobin

Inventor.
Thomas Wood.
by his Attorneys
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UNITED STATES PATENT OFFICE.

THOMAS WOOD, OF MANCHESTER, COUNTY OF LANCASTER, ENGLAND.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 308,229, dated November 18, 1884.

Application filed August 14, 1884. (No model.) Patented in England April 25, 1883, No. 2,097.

To all whom it may concern:

Be it known that I, THOMAS WOOD, a subject of the Queen of Great Britain and Ireland, and residing at Manchester, county of Lancaster, have invented Improvements in the Construction of Self-Acting Couplings for Railway-Carriages, (for which I have obtained a patent in Great Britain, No. 2,097, dated April 25, 1883,) of which the following is a specification.

The object of this invention is to construct a self-acting coupling for railway-carriages which will not require the attendance of a man between the carriages at the time of coupling or fastening them to form a train.

Figure 1 in the annexed drawings, which form part of this specification, is a longitudinal section of part of the frame of two railway-carriages, showing the application of my invention thereto, and Fig. 2 is a plan view of the same. Fig. 3 is an end view of the frame of one carriage, showing the locking arrangement. Figs. 4 and 5 are plan views of modifications of the coupling, and Fig. 6 is a longitudinal section of another modification.

Referring to Figs. 1 and 2, the apparatus is constructed as follows: I attach to one end of the frame *a a* of a carriage a frame carrying three shackles. This frame consists of a plate or bar, *b b*, placed transversely across the end of the carriage between the buffers *c c*, and held in place by two rods, *d d*, which pass through the under frame or head-stock *a a* of the carriage, and may be connected thereto by springs after the manner of the ordinary draw-bars, or as shown on the drawings. Each end of this plate or bar is attached to the frame *a a* of the carriage by the ordinary chain, *e e*, a third chain, *f f*, connecting it to a hook on the usual central draw-bar, *g g*. The ordinary chains, *e e*, may, however, be dispensed with, if thought proper, as shown at Fig. 4, and an adjustable link, *f'*, may be substituted for the central chain, as shown at Fig. 2.

The shackles *h h' h''*, above mentioned, engage with three hooks, *i i' i''*, either fixed so as to be capable of a certain yielding action to the under frame-work or head-stock of the adjacent carriage, as shown, or carried by a frame similar to the shackle-frame. A locking arrangement (see Fig. 3) to be worked from either side of the carriage is provided to prevent

the shackles *h h' h''* from becoming accidentally disengaged from the hooks *i i' i''*.

At the front of the head-stock or frame *a a* of the carriage (or of the frame carrying the hooks) is a sliding bar, *k k*, provided with three hook-shaped projections, *l l l*, and with the handles *m m* at either end. These hook-shaped projections *l l l* correspond with the three hooks *i i' i''*, so that when on the two carriages coming in contact the shackles *h h' h''* are lifted and fall over the hooks this sliding bar *k k* may be moved from either side of the carriage until the hook-shaped projections *l l l* coincide with the ends of the hooks and lock the shackles in position, (see Figs. 2 and 3,) at the same that they allow free horizontal play thereto. (See Fig. 1.) The hooks may be provided in some cases with self-fastening locks consisting of small weighted levers which yield to the weight of the shackles, but immediately that they (the shackles) have fallen down onto the hooks return and lock them in. In this case the transverse sliding bars would be made with wedge-shaped projections to lift the weighted ends of these small locking-levers, in order to uncouple the carriages.

The hooks *i i' i''* being unlocked, the shackles *h h' h''* may be lifted by the hand-levers *n n* at the sides of the carriages, in order to uncouple the same; and it will be evident that by this construction the man in attendance need not go between the buffers to couple or uncouple the carriages; or, instead of the hand-levers, the shackles may be lifted by the inclined planes *q q* on the sliding bar *k k*, as shown at Fig. 3, by sliding the same in the reverse direction to the locking movement.

In some cases I prefer to use only one shackle, *h h*, and hook *i i*, and to connect the shackle-frame *b b d d* to the spring *o o* of the draw-bar *g g*, as shown at Fig. 4. The rods *d d* are united inside the frame by a second plate or bar, *b' b'*, which is fixed to the draw-bar and bears against the draw-bar spring *o o*, and through which pass the rods *d d*, being also provided with additional springs *p p*. Thus, should any of the connections between the draw-bar and the bar *b b* break, the side rods, *d d*, will take up the coupling. This connection may be a simple chain, as in Figs. 1, 2, and 4; or it may be in the form of an ordinary screw-coupling; or,

instead of the weighted lever of the latter, I sometimes attach to the right-and-left screw a pulley having studs or teeth round its circumference taking into the links of an endless chain passing round any convenient part of the ordinary buffer, so that by pulling these chains from the outside the shackles can be screwed up when required, (see Fig. 5;) or I fix on the screw a small disk or wheel, *r r*, as shown at Fig. 6, having notches in its periphery, whereby it may be turned round by a lever or key without going between the carriages. This disk or wheel is provided with a loose swinging bracket, *s s*, carrying a catch, *t t*, which, when the shackle has been screwed up, is allowed to fall into one of the notches, so as to prevent the screw from turning round and working loose.

These improved couplings may be used either with or without the ordinary side chains and hooks. In the latter case the side chains may be hooked up out of the way, as indicated by the dotted lines in Fig. 4.

The shackle-bar *b b* is not attached permanently to the side rods, *d d*, but is dropped into a notch in the ends thereof, (see Figs. 2, 4, and 5,) and secured by a pin, *, or other suitable device, so that should two carriage-ends provided with shackle-frames accidentally come together the bar carrying one set of shackles can be removed, and the shackles of the other bar will then couple with the ordinary draw-hooks on the carriage-frame or head-stock from which the bar was detached, the above-described locking apparatus being applied in either case. On the other hand, should two carriage-ends provided with hooks only come together, a shackle-bar could in like manner be substituted, as each end of each carriage is provided with the notched side rods, *d d*.

I claim as my invention—

1. The sliding frame composed of the rods or bar *b b* (carrying the three self-acting shackles *h h' h''*) and the rods *d d*, fitted to slide through the ordinary head-stock, *a a*, of the carriage, and provided with coiled springs abutting against the same, as illustrated by Figs. 1 and 2 of the drawings.

2. The arrangement for locking the shackles from either side of the carriage, consisting of a sliding bar, *k k*, provided with three hook-shaped projections, *l l l*, and with handles *m m* at either end, as illustrated by Figs. 1, 2, and 3.

3. The combination, with the sliding bar *k k*, of the wedge-shaped projections *q q*, for lifting the locking-levers of the shackles when such are employed.

4. The combination, with the sliding frame *b b d d*, (carrying one self-acting shackle only,) of the additional plate *b' b'*, bearing against the draw-bar spring *o o*, as shown at Figs. 4 and 5.

5. The combination, with the sliding frame *b b b' b' d d*, of an ordinary screw-coupling having attached to the right and left hand screw thereof a stud-wheel or a notched disk, whereby the coupling can be screwed up by a chain or lever from either side without going between the carriages, as illustrated by Figs. 5 and 6, all the parts being constructed, arranged, and operated substantially as for the purposes hereinbefore set forth, described, and illustrated.

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

THOMAS WOOD.

Witnesses:

J. EDW. BEESLEY,
EDMUND S. SNEWIN,
Both of 2 Pope's Head Alley, Cornhill, London, gentlemen.