

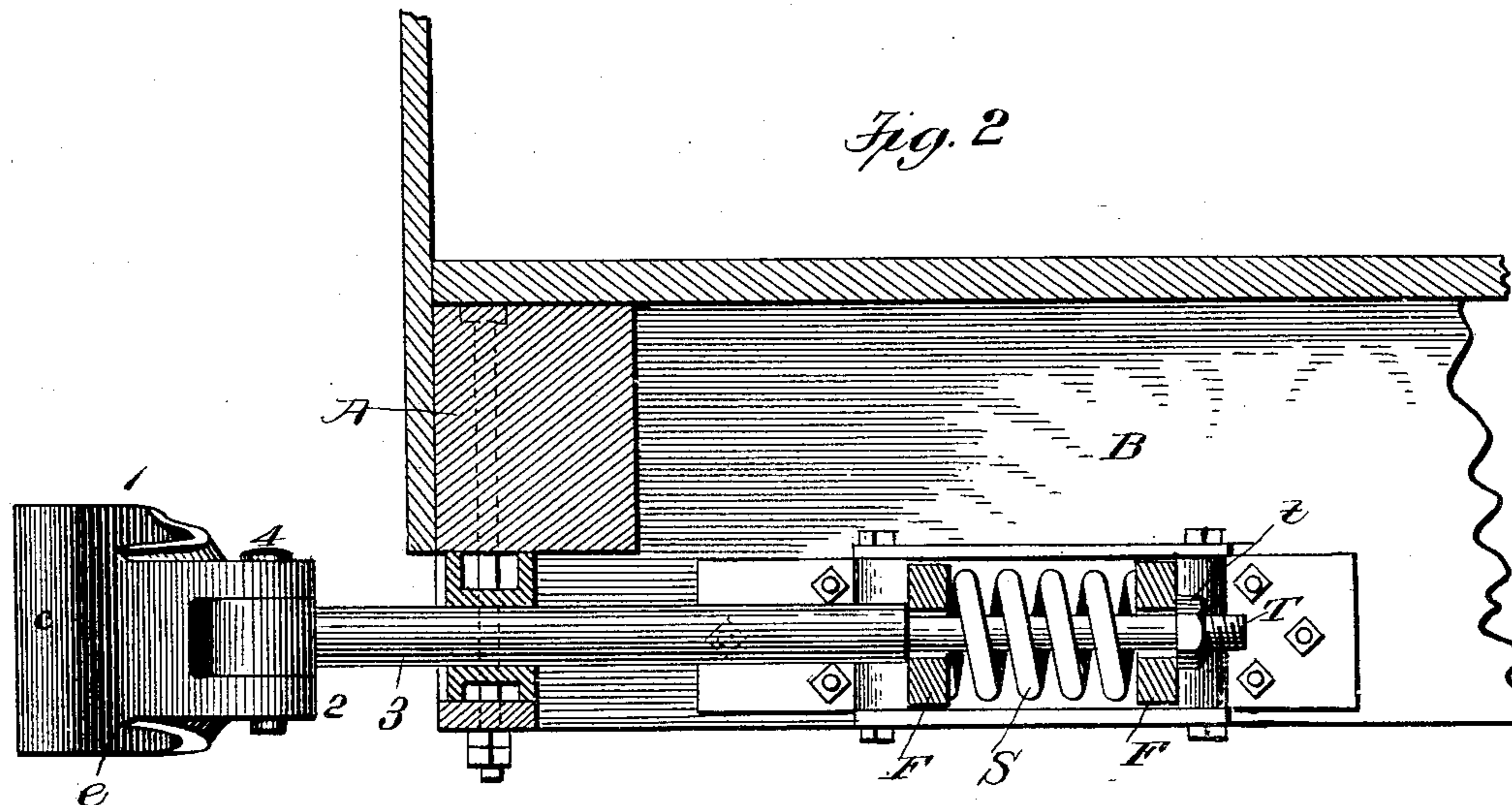
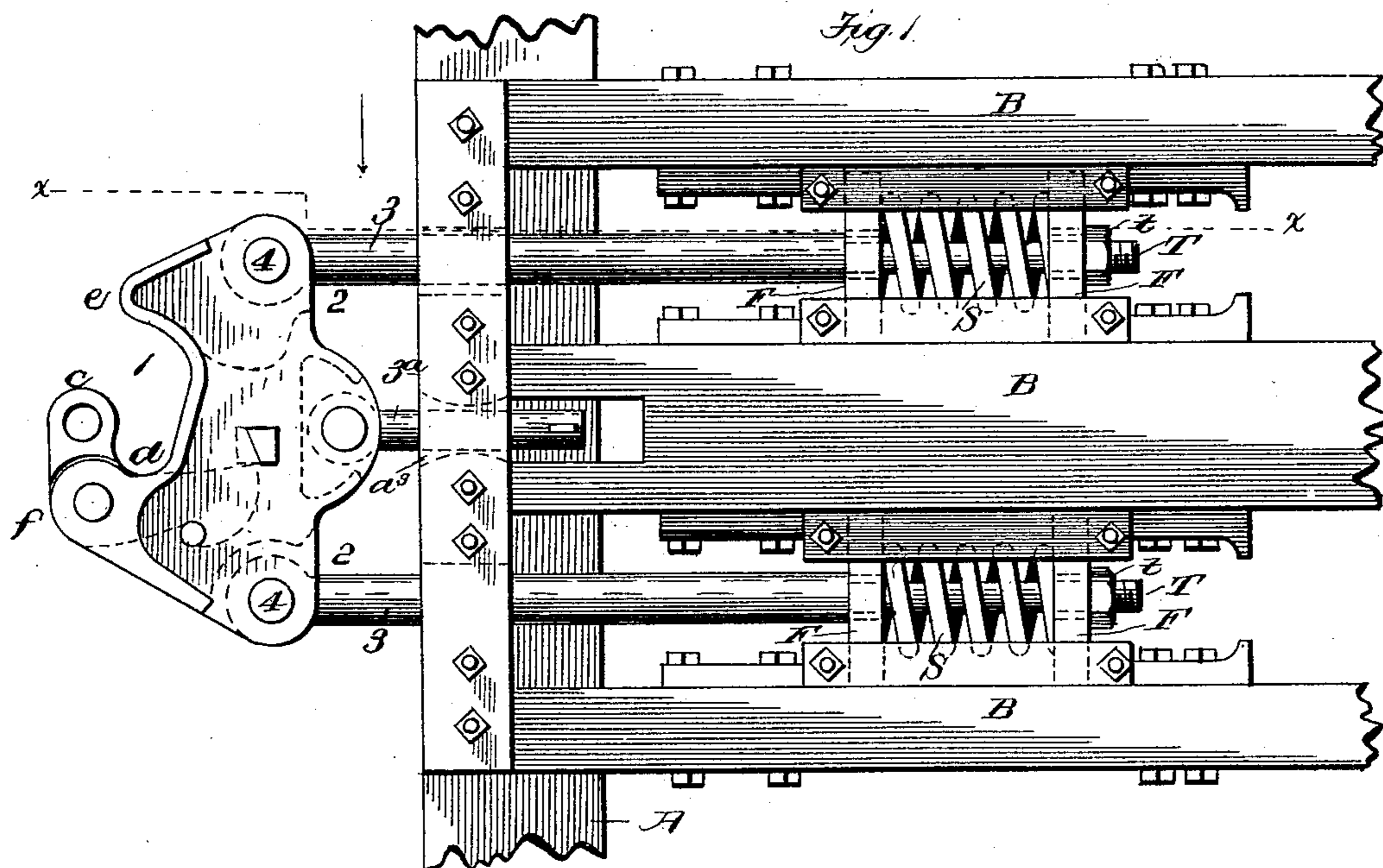
(No Model.)

2 Sheets—Sheet 1.

H. C. BUHOUP.
CAR COUPLING.

No. 480,839.

Patented Aug. 16, 1892.



Witnesses
J. P. Cornwall.
J. M. Copenhaver.

Inventor
Harry C. Buhoup
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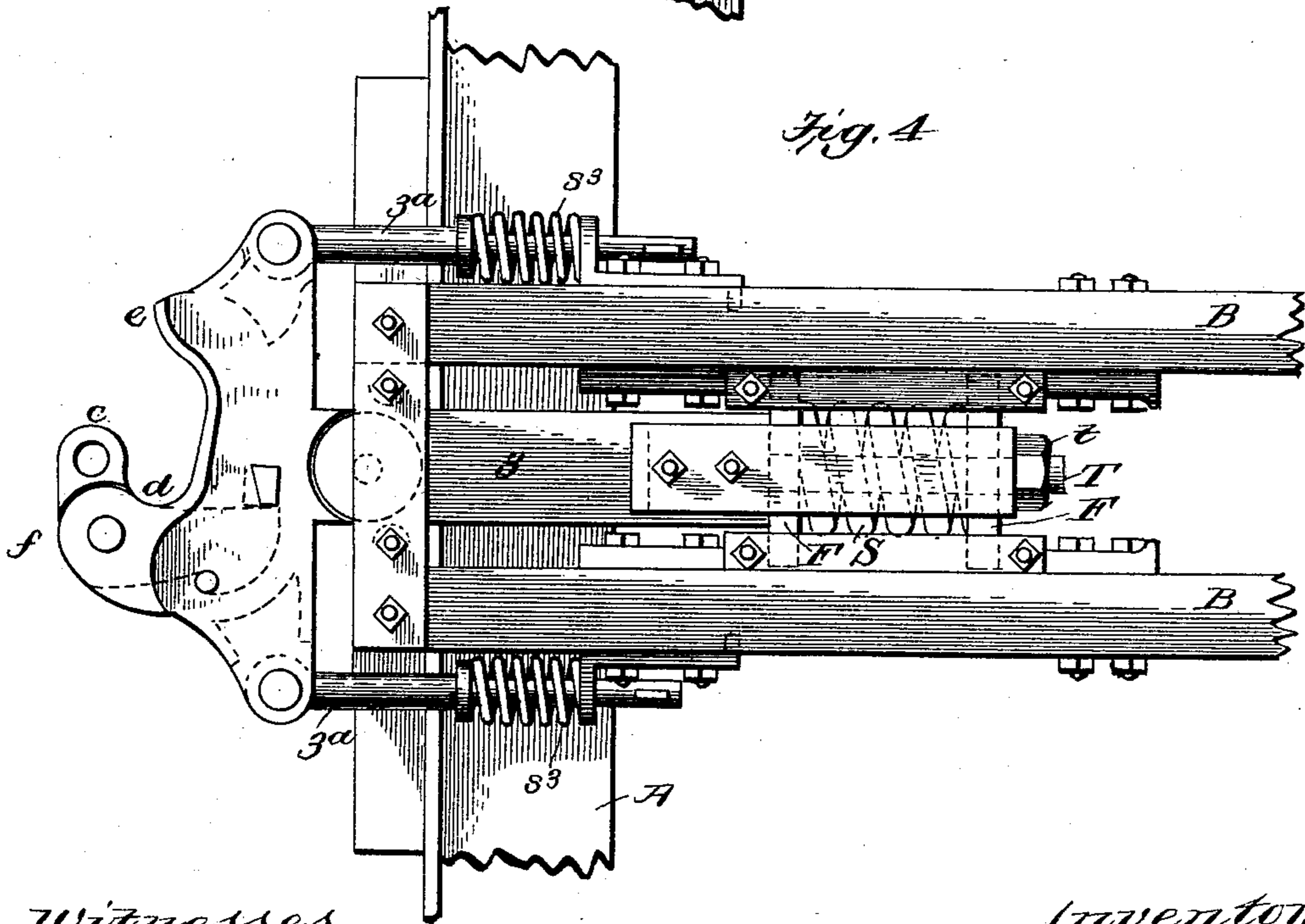
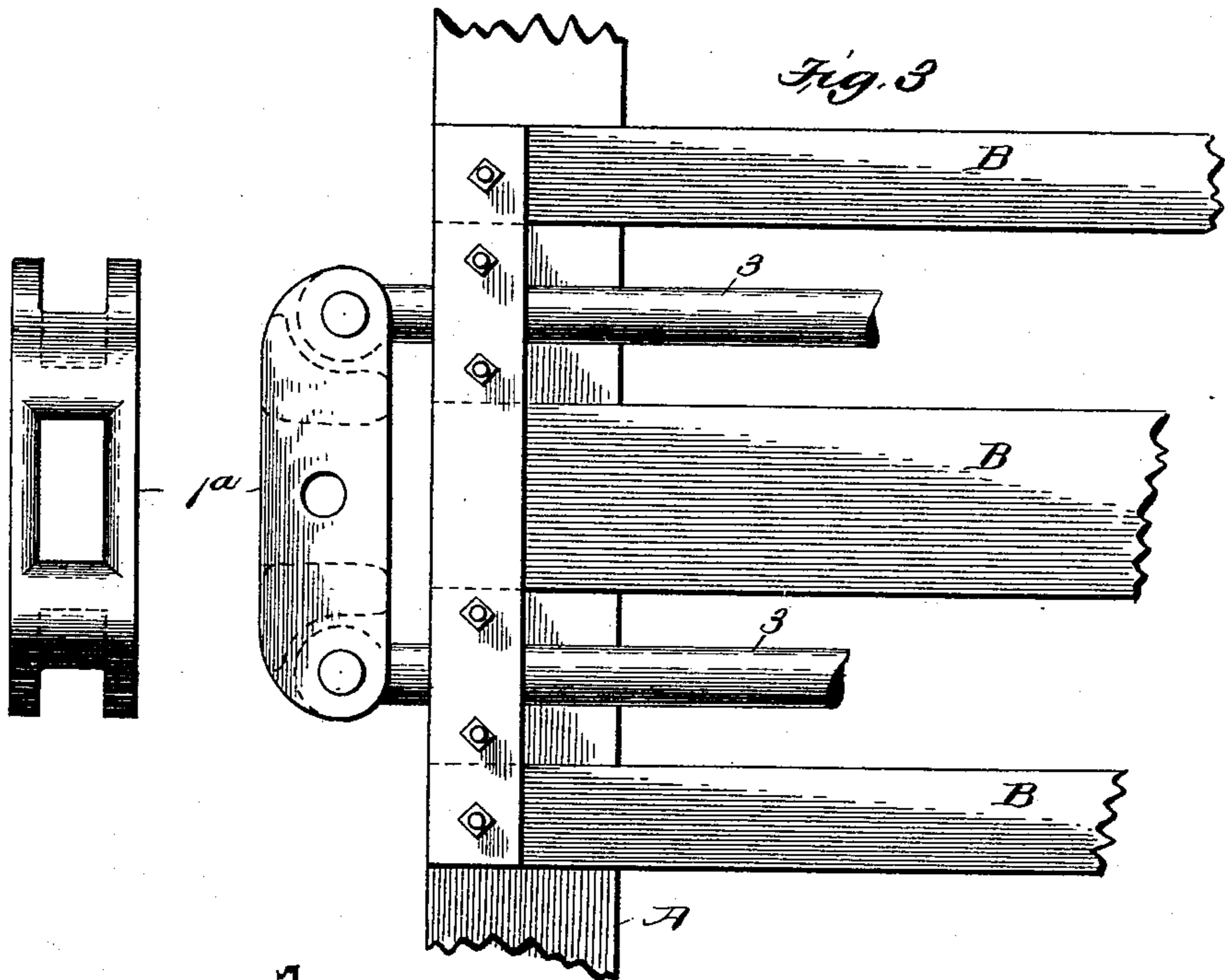
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UNITED STATES PATENT OFFICE.

HARRY C. BUHOUP, OF CHICAGO, ILLINOIS.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 480,839, dated August 16, 1892.

Application filed April 11, 1892. Serial No. 428,692. (No model.)

To all whom it may concern:

Be it known that I, HARRY C. BUHOUP, a citizen of the United States, residing at Chicago, in the county of Cook, State of Illinois, have invented certain new and useful Improvements in Car-Couplings; and I hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, wherein—

Figure 1 is an inverted plan view of a coupler embodying my invention in its preferred form having two equalizing-stems, and also of portions of the car timbers or framing to which said coupling is attached. Fig. 2 is a longitudinal section of the same on the line *x x*, Fig. 1, the safety-stop being omitted. Fig. 3 is an inverted plan view of a link-coupler head adapted to be substituted for the twin jaw-head in case the latter becomes broken or deranged. Fig. 4 is an inverted plan view of a modification of the invention as applied to a single central stem, the safety-stops in such construction being utilized as equalizers.

Like symbols refer to like parts wherever they occur.

My present invention relates to the construction of that class of car-couplings which is also adapted to perform the function of a buffer, and has for its object the production of a combined equalizing coupler and buffer which will adjust itself on curves, so as to reduce greatly the wear on the coupler, will yield and deflect buffing blows, which might otherwise injure or destroy the coupling-head, and will in a great measure relieve the body of the car from strain due to rounding curves, &c.

It is well understood that couplers, especially of the "Janney" and similar types, commonly called "twin-jaw couplers," while especially designed as draft devices, are also called upon to perform the function of buffers, and in performing this latter function are subjected to severe shocks and blows, which tend to their destruction by the breaking off of the ears or pivotal support of the knuckles, the guard-arm, and other exposed and unsupported portions of the coupler-head, which have to sustain at times the impact of the buffing blow. This defect is so great that at least fifty (50) per cent. of the

breakages in couplers occur from such causes. To overcome these objections and render the coupler durable and effective, I propose to so construct the same that it shall always yield in the line of force, so as to relieve the ears or guard-arm, as the case may be, from undue or destructive crushing force.

To this end the first feature of my invention embraces, generally stated, the combination, with a car-coupler, of two or more horizontally-extending pivoted stems, which are so attached thereto as to permit the coupler to adjust itself to the line of force or draft.

A second feature of my invention embraces the combination, with a car-coupler, of two or more stems pivotally attached thereto, and suitable springs, so arranged as to impart a rocking or equalizing movement to the coupler.

A third feature of my invention embraces the combination, with a car-coupler, of safety-stops to prevent the separation of the coupling in case of fracture of the stem thereof.

There are other minor features of invention, all as will hereinafter more fully appear.

I will now proceed to describe my invention more fully, so that others skilled in the art to which it appertains may apply the same.

In the drawings, A indicates the cross-sill, and B B the draft-timbers. The number and arrangement of the draft-timbers B B will be determined somewhat by the number of main or draft and buffing stems which are combined with the coupler, as will hereinafter appear.

1 indicates the coupler-head, which may be of any desired pattern, provided with the usual guard-arm and ears, wherein the knuckle is pivoted, though the well-known "Janney type" has been chosen for purposes of illustration. That portion of the coupling-head adjacent to the sill A is extended, as at 2 2, so as to afford attachment for at least two parallel horizontally-extending stems 3 3, which stems are pivotally attached to the head, as at 4 4, in such relation to the guard-arm and ears as to permit the head to adjust itself to the line of force in rounding curves, buffing, &c. Preferably two of said stems 3, being draft and buffing stems, (see Fig. 1,) or ears, as the case may be, will yield under the impact of the couplers while a third 3^a may be

simply a safety-stem or safety-stop to prevent the separation and fall of the coupler 1 in case the draft or buffing stem should be broken. The draft and buffing stems 3 extend longitudinally between the draft-timbers B B (two or three, as the case may be) and are provided with the usual springs S and follower-plates F F, secured by the tail-bolt T and nut *t*. In case a strap is used instead of a tail-bolt, (see Fig. 4,) said parts will be applied to the stems 3 in the manner now well understood in the art.

Where two parallel main draft and buffer stems 3 are employed, as shown in Fig. 1, they are usually placed and pivoted at the opposite sides of the coupling-head 1, in which case the springs S S will balance and equalize each other, and the safety-stem 3^a, if used, is pivoted centrally of the coupler-head 1 and passes through a bolt-hole *a*³ in the sill A, of a form adapted to accommodate the extension and rocking of the coupler-head without cramping either bolt or head.

In case a single main draft and buffer stem 3 is employed, as shown in Fig. 4, the same is pivotally attached centrally to the head and is supplemented on each side by a safety-stem 3^a, to which stems 3^a are applied light springs s³ to equalize and balance the coupler-head 1.

In case of injury to twin-jaw and similar couplers it has heretofore been necessary to substitute chains for hauling purposes or else to cut out and leave the car or cars, to avoid which I provide a substitute link-coupler head 1^a, Fig. 3, which can be readily carried and easily substituted for a broken head by unskilled labor, all that is necessary to do being to remove the pins 4, Fig. 1, and attach the substitute head 1^a to the main draft and buffer stems 3, as shown in Fig. 3 of the drawings.

The construction being substantially such as hereinbefore specified, the devices will operate as follows: When the cars are coupled, in rounding curves the stems 3 (or 3^a) on the inner side of the curve will yield and the one on the outer side will extend, thus equalizing and balancing the head while permitting it to adjust itself to the line of draft or force without (as at present) straining the body of the car. At the same time, in case of the vertical type, pivoted nose, or Janney type of

couplers the wear on the parts *c d* is diminished or avoided, and in buffing, in case the parts *c f* are struck by a link-pin draw-bar or by a closed knuckle, the coupling-head 1 will yield on that side, converting the blow into a glancing one, which will diminish the force and prevent injury to or the breaking off of the parts, the coupler-head 1 being immediately righted by the equalizing-stems as soon as the force or pressure is withdrawn.

In addition to the hereinbefore-recited advantages of my invention are the ability to graduate the spring compression (which cannot be readily done in case of a single stem and spring) and the greater strength and security against the breaking off and falling to the ground of the coupler-head, an accident which has been the cause of many disastrous wrecks.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination, with a coupler-head, of two or more stems pivotally attached to the head, substantially as and for the purposes specified.

2. The combination, with a coupler-head, of two or more pivotally-attached stems and a spring or springs actuated thereby, substantially as and for the purposes specified.

3. In a twin-jaw coupler, the combination, with the coupler-head, of one or more pivoted stems and springs arranged with relation to the guard-arm and ears of said head to cause the deflection of buffing force, substantially as and for the purposes specified.

4. The combination, with a coupler-head, of three pivotally-attached stems, one of which is a draft-stem, and balance-springs, substantially as and for the purposes specified.

5. The combination, with a coupler-head, of a draft and buffer stem and a safety stem or stems, substantially as and for the purposes specified.

In testimony whereof I affix my signature, in presence of two witnesses, this 9th day of April, 1892.

HARRY C. BUHOUP.

Witnesses:

P. HIEN,

R. E. JANNEY.