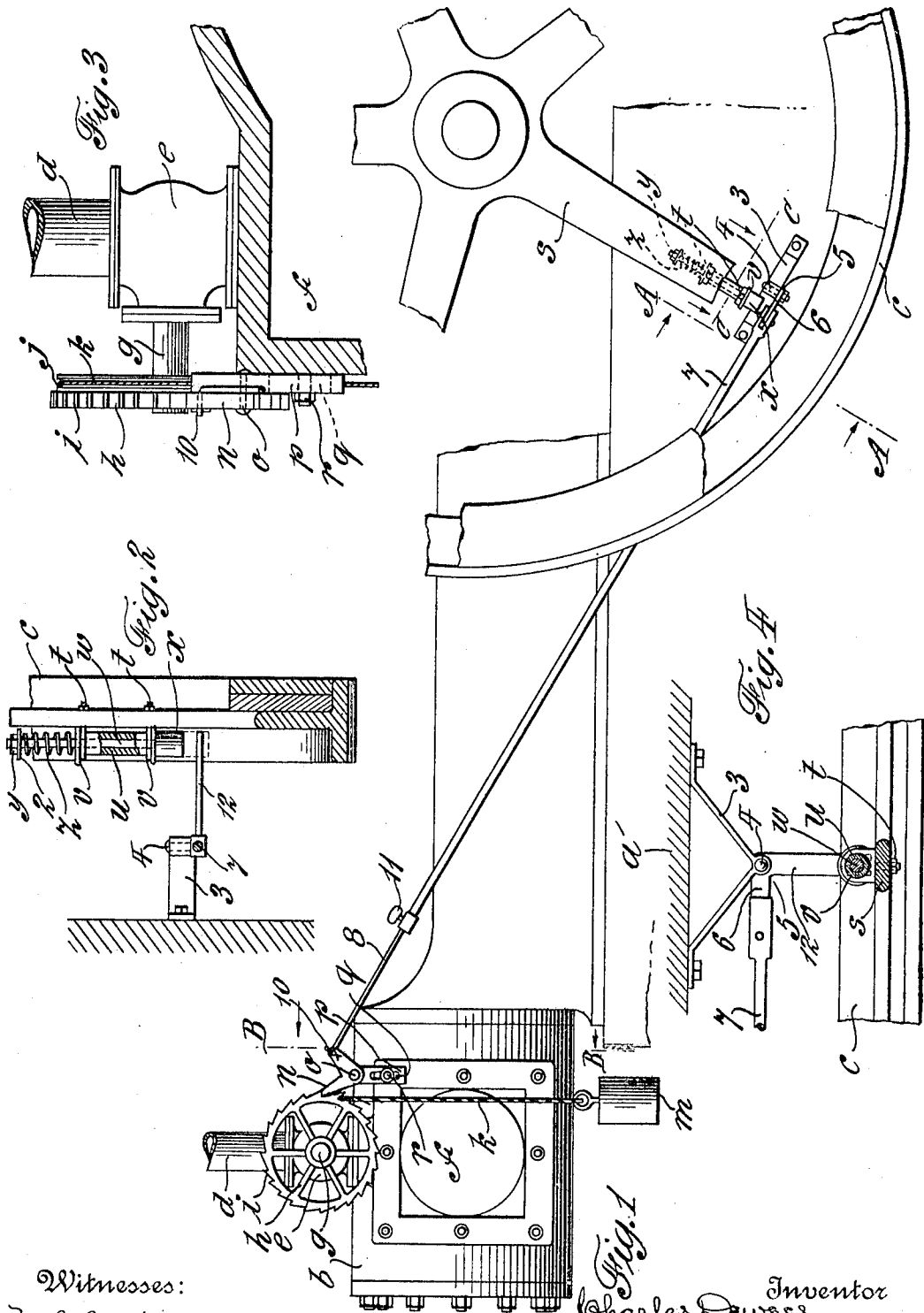


C. DEWEES.
ENGINE STOP.
APPLICATION FILED OCT. 12, 1909.

954,381.

Patented Apr. 5, 1910.



Witnesses:
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UNITED STATES PATENT OFFICE.

CHARLES DEWEES, OF BAKERSFIELD, CALIFORNIA.

ENGINE-STOP.

954,381.

Specification of Letters Patent.

Patented Apr. 5, 1910.

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To all whom it may concern:

Be it known that I, CHARLES DEWEES, a citizen of the United States, residing at Bakersfield, in the county of Kern and State of California, have invented certain new and useful Improvements in Engine-Stops, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to improvements in mechanism for limiting the speed of engines and particularly pumping engines used in oil-well regions; and an object of my invention is to provide a mechanism of the character described which will be simple in construction, comparatively cheap in manufacture and most efficient and reliable in use.

Another object of my invention is to provide an apparatus of the character described which will require a small expenditure of money for its upkeep or maintenance in repair and of which the first cost of installation will be comparatively low.

In the drawings illustrating the principle of my invention and the best mode now known to me of applying that principle, Figure 1 is an elevation showing my new engine-stop mechanism in position upon a pumping engine, so much of the latter being shown as is necessary to illustrate my invention; and Figs. 2, 3 and 4 are sections on the lines A—A, B—B and C—C of Fig. 1, respectively.

a is the bed, b is the cylinder and c is the fly-wheel of a pumping engine to which my new engine-stop mechanism may be applied. The live steam flows through the steam-main d past the throttle-valve e into the steam-chest f . Upon the valve-stem g of the throttle-valve e is mounted a wheel h the outer portion of the rim of which is formed with ratchet-teeth i and the inner portion of the rim of which is formed with a circumferential groove j . In the latter lies a cord k , one end of which is fastened to the wheel h and the other end of which is attached to a weight m . Adapted and designed to engage with the ratchet-teeth i is a pawl or dog n pivoted at o upon a post p . The latter is formed with a longitudinal slot q and is fastened to the side of the steam-chest f by a screw-bolt r which passes through the slot q , thereby permitting the post p to be so positioned that the dog n

will operate most efficiently. To one of the spokes s of the fly-wheel c is fastened by bolts t a guide-sleeve u formed at its ends with flanges v . Through this guide-sleeve u passes the shank or stem w of a plunger, the lower end of which is enlarged to form a weight x and the upper end of which is threaded to engage a nut y . A coil-spring z surrounds the upper end of the plunger-stem w and its outer end bears against one of the flanges v , while its inner end bears against a washer 2 . The tension of the coil-spring z tends to draw the enlarged end x of the plunger against the guide-sleeve u . To the engine-bed a is suitably fastened a bracket 3 in which is mounted a pivot-pin 4 . The latter lies in a plane oblique to the horizontal and upon it is mounted a bell-crank lever 5 , one arm 6 of which is pivotally fastened to the lower end of the sleeve-rod 7 . One end of a rod 8 is bent and passes through a hole in the heel 9 of the dog n and is fastened by a cotter-pin 10 . The other end of the rod 8 enters the upper end of the sleeve-rod or tubular connecting-rod 7 and is fastened therein by the set-screw 11 .

As the speed of rotation of the fly-wheel c increases, the enlarged end x of the plunger moves outwardly against the tension of the coil-spring z ; and when the speed of rotation of the fly-wheel c exceeds a predetermined allowable maximum, the enlarged end x is moved so far outwardly that it strikes the free end 12 of the bell-crank lever 5 , whereby the dog n is tripped and disengaged from the ratchet-teeth i . The weight m is thereby allowed to fall and the valve-stem g is rotated, cutting off the supply of steam and stopping the engine.

My new engine-stop mechanism will operate equally well no matter in which direction the fly-wheel c may happen to be rotating.

I claim:

1. An engine-stop mechanism consisting of a valve-controlling device; gravity-controlled means for actuating the same; a ratchet-wheel mounted on said device for locking the same; a dog which engages said ratchet-wheel; means for positioning said dog; means for tripping the latter to release said ratchet-wheel and permit said means to actuate said device; a fly-wheel; and mechanism carried thereby for actuat-

ing said tripping means, when the speed of the fly-wheel exceeds a predetermined maximum.

2. An engine-stop mechanism consisting
5 of a valve-controlling device; gravity-controlled means for actuating the same; mechanism for locking said means against operation; tripping mechanism for releasing said
10 locking mechanism; and a two-part connecting device which connects said mechanisms and one part of which telescopes into the other.

3. An engine-stop mechanism consisting
15 of a valve-controlling device; gravity-controlled means for actuating the same; mechanism for locking said means against operation; a fly-wheel spring-controlled plunger mechanism carried thereby; a bell-crank lever one end of which is arranged to be
20 tripped by said plunger mechanism; and a device for connecting the other end of said bell-crank lever and said locking mechanism.

4. An engine-stop mechanism consisting
25 of a valve-controlling mechanism; gravity-controlled means for actuating the same; pawl-and-ratchet mechanism for locking said means against operation; tripping

mechanism for releasing said pawl-and-ratchet mechanism to permit said means to 30 operate; and a two-part connecting device which connects said pawl-and-ratchet mechanism and one part of which telescopes into the other.

5. An engine-stop mechanism consisting 35 of a spring-controlled plunger; a guide for the latter; a valve-stem; a ratchet-wheel mounted thereon; a weight; a cord one end of which is fastened to said weight and the other end of which is fastened to said valve- 40 stem; a dog which engages and thereby locks said ratchet-wheel and valve-stem; a bell-crank lever one end of which is adapted to be tripped by said plunger; and a two-part 45 connecting device which connects the other end of said bell-crank lever and dog and one part of which telescopes into the other.

In testimony whereof I hereunto set my hand at said Bakersfield in the presence of the two undersigned witnesses this 30th day 50 of August, 1909.

CHARLES DEWEES.

Witnesses:

H. S. MINOR,
W. W. KAYE.