J. W. SMALLMAN.

HAULAGE CLIP.

APPLICATION FILED APR. 6, 1907.

941,049.

Patented Nov. 23, 1909.

2 SHEETS—SHEET 1.

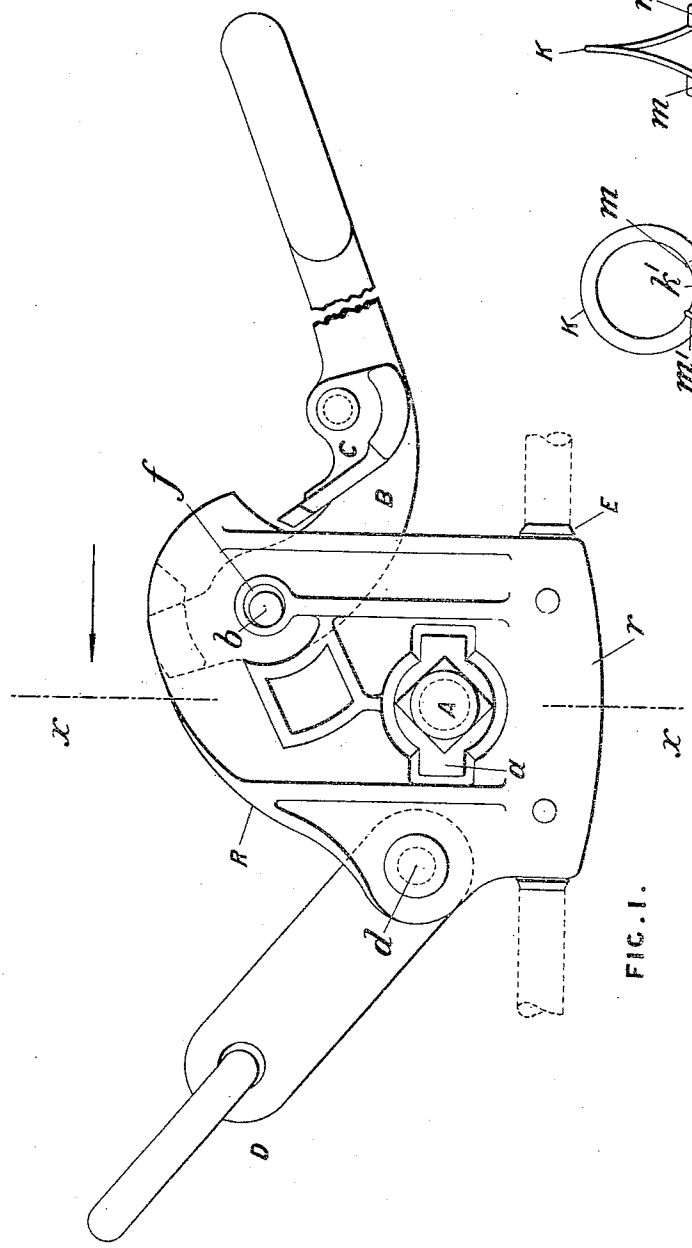

FIG. 1.

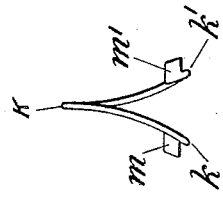

FIG. 6.

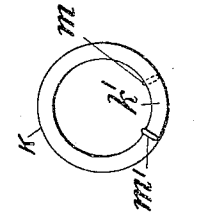

FIG. 5.

WITNESSES:

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Annie C. Smallman.

INVENTOR:

James W. Smallman.

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2 SHEETS—SHEET 2.

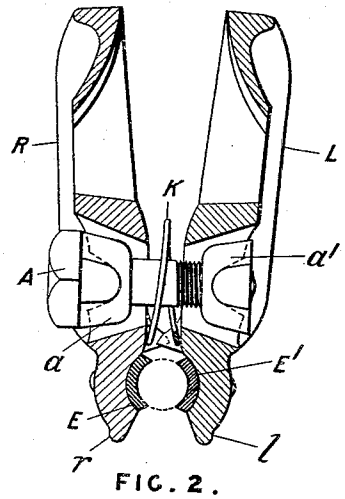

FIG. 2.

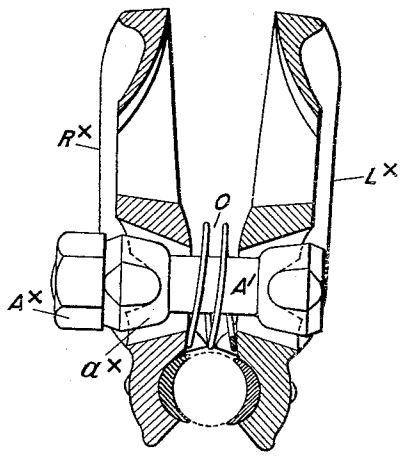

FIG. 7.

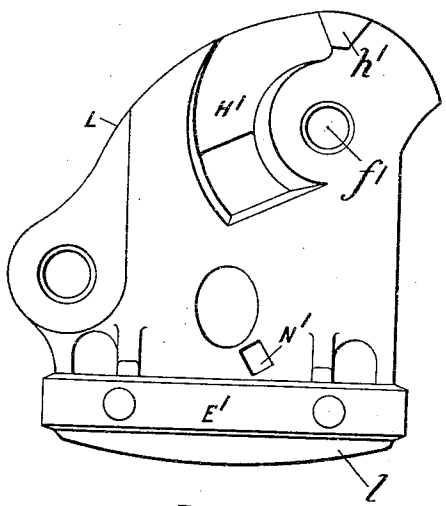

FIG. 3.

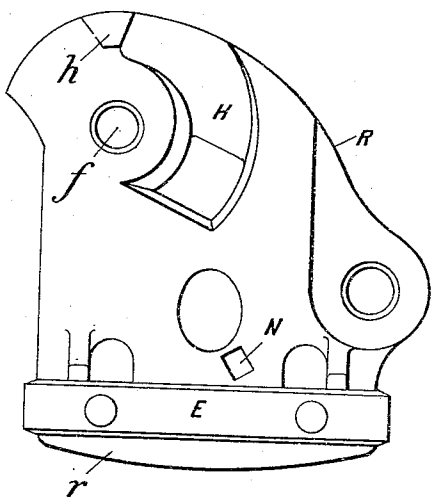

FIG. 4.

WITNESSES:

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UNITED STATES PATENT OFFICE.

JAMES W. SMALLMAN, OF NUNEATON, ENGLAND.

HAULAGE-CLIP.

941,049. Specification of Letters Patent. **Patented Nov. 23, 1909.**

Application filed April 6, 1907. Serial No. 366,837.

To all whom it may concern:

Be it known that I, JAMES WILLIAM SMALLMAN, a subject of the King of Great Britain and Ireland, of Nuneaton, in the county of Warwick, England, have invented an Improved Haulage-Clip, of which the following is a specification.

This invention relates to haulage clips of the kind described and claimed in the specification to Letters Patent No. 728,421, dated 19 May, 1903.

The accompanying drawings will now be referred to.

Figure 1 is a side elevation of the new model clip. Fig. 2 is a vertical section on the line x x in Fig. 1 (looking in the direction of the arrow); the coupling with its pin and cotter being omitted. Fig. 3 illustrates the inner surface of the left-hand shell. Fig. 4 is a similar view of the right-hand shell. Fig. 5 is a side elevation of the single-coil hooked spring. Fig. 6 is an end view of that spring. Fig. 7 is a vertical section of a clip having shells with wider jaws for larger ropes; the hooked spring being double-coil instead of single-coil.

In the kind of clip cited above as having been patented in 1903, a spiral spring between the shells encircles the connecting bolt. As the pressure of the spiral spring is distributed all around that bolt, the jaws of the shells have only a slight tendency to open. According to the present invention, the whole or most of the force of a spring is applied below said bolt; thus giving the jaws a strong tendency to open. A single-coil or double-coil spring made of flat wire with hooked ends is preferred. The hooked ends of the spring run parallel or nearly so for about 60°. Each shell has a recess for one of the hooks of the spring. The spring surrounds the connecting bolt; the ends of the spring pressing against the shells just above the jaws. The spring, though having great freedom of movement, is well supported owing to the recesses for the hooks not coming opposite one another.

R is the right-hand shell.

L is the left-hand shell.

A is the square-headed bolt which is turned for adjusting the clip.

a is the bearing-collar and a^1 the bearing-nut.

B is the lever with its trunnion-peg b.

C is the pivoted catch that locks the lever B.

D is the coupling and d the pin by which it is attached to the clip.

E and E^1 are liners riveted in the jaws k and l.

f and f^1 are the holes for the trunnion-peg b.

H and H^1 are the inclines for the head of the lever B.

h and h^1 are stops.

K is a single-coil spring with ends k and k^1 that lie opposite each other in order to keep the jaws n and l parallel or nearly so. The spring K has hooks m and m^1.

In the shell R there is a recess N that takes the hook m; N^1 being a recess in the shell L for the hook m^1.

O is a hooked double-coil spring engaging with recesses in the shells $R^\times$ and $L^\times$.

A^1 is a bolt with a T-shaped head.

$a^\times$ is a deep bearing-collar.

$A^\times$ is the hexagonal nut that is turned for adjustment.

What I claim as my invention and desire to secure by Letters Patent is:—

1. A haulage clip comprising a pair of rocking shells, a bolt connecting the shells, a lever acting between said shells and a spring that exerts substantially the whole of its force below the bolt, as described.

2. In a haulage clip, the combination, with a pair of rocking shells, a bolt connecting the shells and a lever acting between said shells, of a spring having hooks that enter recesses in the aforesaid shells, substantially as set forth.

3. In a haulage clip, the combination, with a pair of rocking shells, a bolt connecting the shells and a lever acting between said shells, of a single-coil spring having ends that lie opposite each other below the bolt and press against the aforesaid shells, keeping the jaws substantially parallel, as set forth.

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

JAMES W. SMALLMAN.

Witnesses:

ANNE HUDSON,

ANNIE C. SMALLMAN.