June 21, 1960 D. R. JACKSON 2,941,598

WIRELINE FEED-IN DEVICE

Original Filed Oct. 3, 1955 2 Sheets-Sheet 1

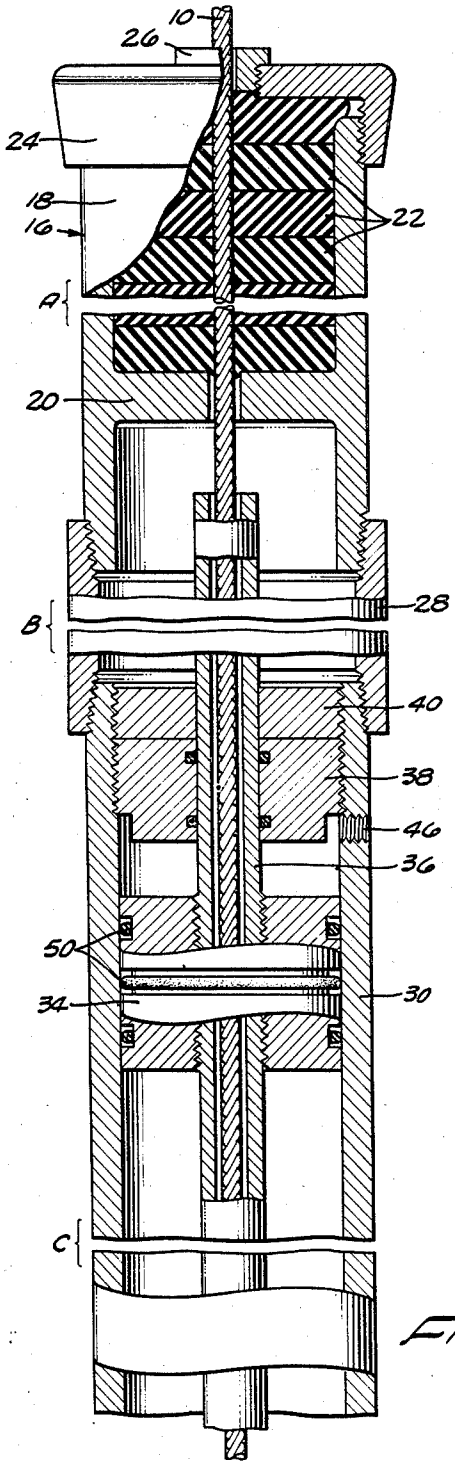


FIG. 1a.

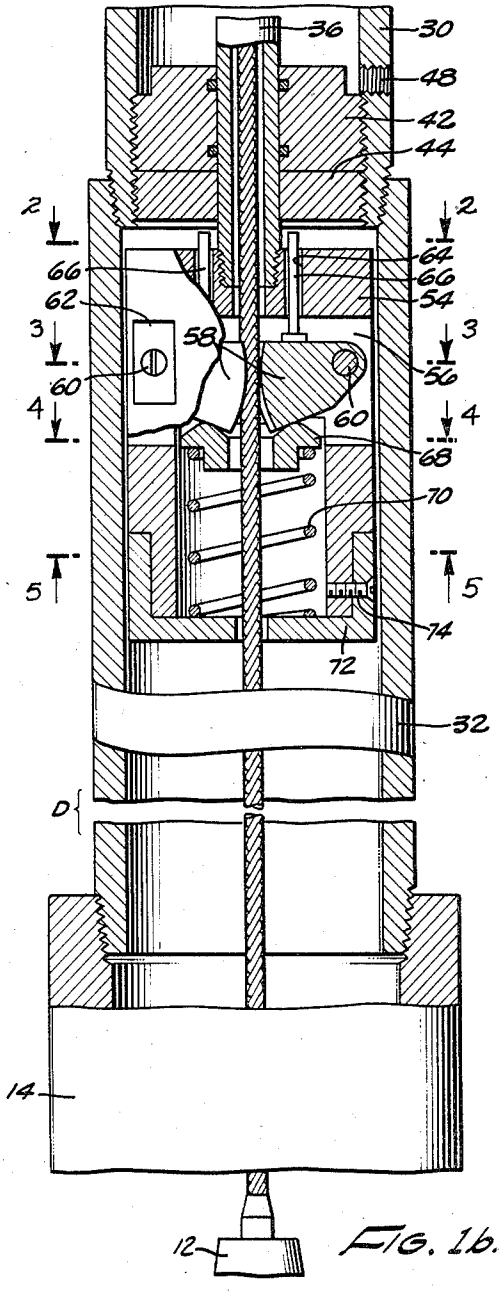


FIG. 1b.

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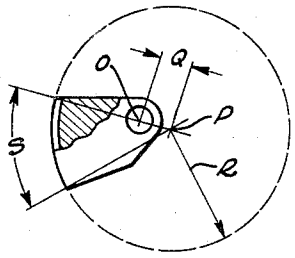


FIG. 6.

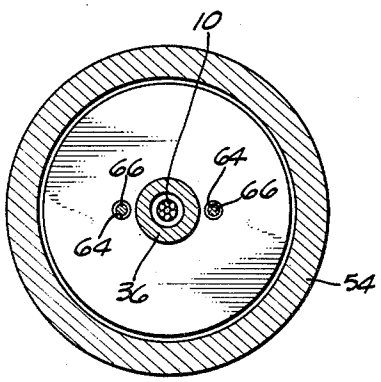


FIG. 2.

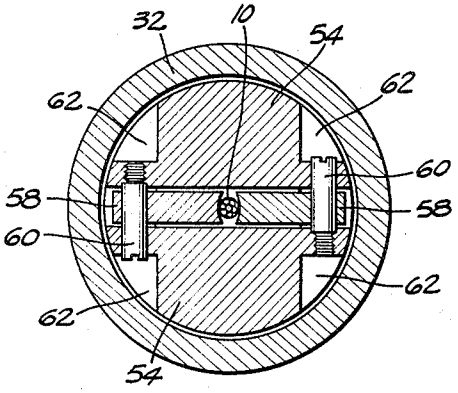


FIG. 3.

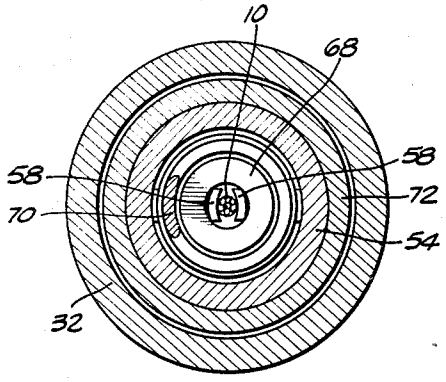


FIG. 5.

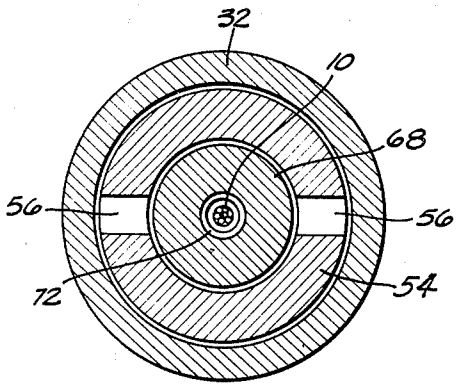


FIG. 4.

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2,941,598

WIRELINE FEED-IN DEVICE

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Continuation of abandoned application Ser. No. 538,176, Oct. 3, 1955. This application Feb. 10, 1958, Ser. No. 714,431

10 Claims. (Cl. 166—77)

The present invention relates to wireline feed-in devices adapted for feeding a wireline into a sealed chamber against pressure tending to expel the wireline from the chamber; and more specifically relates to means adapted for use at the casinghead of an oil or gas well to feed a wireline into the casing or to means attached to the upper end of the casing, against the pressure of the well. It is well known that some oil and gas wells are operated under high pressures, and that during wireline operations, such as, for example, perforating, it is often a matter of great difficulty to feed into such a well under pressure the wireline suspending the operating apparatus or tools. The present invention contemplates means for greatly facilitating feeding a wireline into a well or like chamber against pressure there encountered and against the frictional drag of a wireline seal, by simple means which may utilize as a source of operating power the pressure in the well, or alternatively, an external source of fluid under pressure.

This application is a continuation of copending application Serial No. 538,176, filed October 3, 1955.

The present invention is related, in some aspects, to an invention disclosed in an application filed by Floyd O. Bohn on October 3, 1955, Serial No. 538,093, now abandoned in favor of a continuation application filed February 10, 1958, Serial No. 714,432.

While the device of the present invention is of general applicability in feeding a wireline through a seal and chamber into a chamber under pressure, it will be illustrated and described in connection with apparatus at a casinghead at a typical oil or gas well. Various means and expedients have heretofore been resorted to in forcing wirelines into such wells operating under pressure, but none of these, to the knowledge of applicant, has been such as to permit feeding in of wireline into a well under extremely high pressures. Accordingly, the present invention has as one of its principal objects the provision of means whereby a wireline may be efficiently and rapidly fed into a well or similar chamber in which exists fluid under extremely high pressure. Another object of the invention is to provide means for drawing into a sealed chamber against the effects of the seal and a fluid under pressure in the chamber, a wireline extending through the seal and into the chamber. Other objects and advantages of the invention will hereinafter be made or become apparent in connection with the following description of a preferred embodiment of the invention considered in conjunction with the claims and accompanying drawings in which like parts bear like designations and in which:

Figure 1*a* is a view in elevation, partly in section, and with parts broken away for clarity of illustration, showing upper portions of the apparatus according to the invention;

Figure 1*b* is an extension of the lower end of Figure 1*a*, likewise principally in section and shown with parts broken away and illustrating the lower portion of apparatus according to the invention and one mode of attaching the apparatus to a conventional casinghead structure;

Figure 2 is a sectional view of a preferred form of apparatus according to the invention taken on a transverse plane indicated by the line 2—2 in Figure 1*b*, as viewed downwardly therein;

Figure 3 is a transverse sectional view of the apparatus illustrating the mode of mounting the wireline gripping dogs, the section being taken along a plane indicated by the line 3—3 in Figure 1*b*;

Figure 4 is a sectional view of the apparatus taken along a transverse plane indicated by the line 4—4 in Figure 1*b*, and viewed in the direction of the arrows there indicated;

Figure 5 is a transverse sectional view through the apparatus taken along a plane indicated by the line 5—5 in Figure 1*b*, and viewed in the direction of the arrow thereat; and

Figure 6 is a diagram illustrating the relationship of certain centers employed in laying out and constructing the wireline gripping dogs.

Referring now to the drawings and to Figures 1*a* and 1*b* in particular, there is shown a downwardly depending portion of a wireline **10** employed in lowering or traversing tools or apparatus into and from a well. As is understood in the art, the wireline extends from a hoist drum (not shown) to a guide sheave supported in suitable manner above the well and around which sheave a portion of the wireline extends in its path from the drum to the well. Apparatus suspended from the wireline and herein indicated diagrammatically at **12** is lowered into the well from casinghead structure which may be of a wide variety of forms, but here indicated as including as a topmost part of its structure and located directly above the well, a tubular piece **14** into the upper end of which may be secured a section of tubing in a manner hereinafter more fully described. In feeding a wireline into a well operating under pressure, it has heretofore been customary to pass the wireline through a pack-off or sealing means such as a conventional lubricator or blow-out preventer, which serves to seal the wireline entrance into the well from escape of well fluids during the wireline operations. Such a wireline sealing means is herein illustrated in the form of a conventional packing head **16** comprising a generally cylindrical shell **18** having a transverse inner wall **20** which serves to support a plurality of packing members **22** formed in this instance as discs of synthetic rubber. The discs may as usual be held in compression by means of a cap member **24** secured upon shell **18**, thus the discs may firmly grip and seal the wireline. A suitable central axial aperture is provided in member **20** for free passage therethrough of the wireline, and each of discs **22** is similarly provided with a centrally located aperture, but of a diameter such as to provide a tight fit upon the wireline. Cap **24** is provided with a guide plug **26**, preferably of nonferrous metal, which acts as a lead or guide for the wireline extending from the aforementioned sheave to the well. The packing head thus described, while it may be of conventional construction, forms in certain aspects a portion of the apparatus of the present invention, as will presently be made clear.

Packing head **16** is connected at its lower end to a length of spacer tubing **28** provided for a purpose hereinafter made clear. Inasmuch as the length of spacer tubing **28** must be such as to permit operation of apparatus hereinafter described, which apparatus may be made of various lengths, a section of the spacer tubing of appropriate length has been shown removed at B in Figure 1*a*. The spacer tubing is secured at its lower end to the upper end of a cylinder **30** which, since it also may be of various lengths according to the require-

ments of the operator, is similarly shown with a broken-out portion at C in Figure 1*a*. Cylinder **30** is in turn secured at its lower end to the upper end of a section of tubing **32** which may be of dimensions somewhat comparable to those of the aforementioned tubing **28**. Tubing **32** in turn is secured at its lower end to the aforementioned wellhead structure **14**. The arrangement of the enumerated parts thus far described is such that they are substantially coaxial with the axis of the wireline path extending from the aforementioned sheave into the well.

Mounted and suitably guided in cylinder **30** for reciprocation therein is a piston means comprising a piston head **34** suitably mounted upon and intermediate the ends of a tubular piston rod **36**. The upper end of the piston rod is adapted to reciprocate through and be guided by a cylinder head **38** and a backing plug **40** threaded into the upper end of cylinder **30**. The lower end of piston rod **36** is adapted to reciprocate through a lower cylinder head **42** and a lower plug **44** in a manner indicated in Figure 1*b*. The piston head is enclosed within and guided by the cylinder walls and is adapted to be reciprocated downwardly from the position indicated in Figures 1*a* and 1*b* by means of fluid under pressure introduced into cylinder **30** through tubing which may be secured in an upper tapped aperture **46**; and the piston may be reciprocated upwardly from its lowermost position by means of fluid under pressure introduced through a tubing affixed in a lower tapped aperture **48** provided near the lower end of the cylinder. Thus by properly admitting and exhausting fluid through apertures **46** and **48** the piston comprising piston head **34** and piston rod **36** may have imparted thereto up and down reciprocatory motion for a purpose hereinafter set forth. The interior bore of tubular piston rod **36** is of such diameter as to freely pass therethrough wireline **10**, preferably with no rubbing or contact occurring between the piston rod and the wireline. Piston head **34** may be and preferably is provided with suitable piston ring means herein shown in the form of a plurality of O-rings **50**, mounted in piston ring grooves in a conventional manner. The interior of cylinder **30** is adapted to be sealed from the entry of well fluids thereinto by means of suitable structures such as shown provided along the interiors of cylinder heads **38** and **42** as indicated; and by fluid-tight threaded joints at the heads. Securely mounted on the lower end of piston rod **36** is a drawing-in head **54** formed preferably from a cylindrical block or bar of metal in a manner indicated in the drawings and hereinafter more fully described. Thus drawing-in head **54** is adapted to be reciprocated upwardly and downwardly in the aforementioned tubing **32** as the piston means is reciprocated in cylinder **30**, tubing **32** being provided of sufficient length to accommodate maximum downward traverse of the head **54**. Pivotally mounted for rocking motion in a transverse slot **56** formed in head **54** are two wireline gripping jaws **58**, **58** adapted for cooperation with the wireline in a manner hereinafter more fully explained. Jaws **58**, **58** are mounted (see Figure 3) on a pair of pivot pins **60**, **60** having cylindrical pivot head portions received in suitable transverse bores in head **54** and also having suitable screw-threaded end portions received in tapped openings formed in head **54**, all as more clearly depicted in Figure 3.

Referring to Figure 6, it will be noted that the wireline engaging surface of a gripping jaw or dog is not of constant distance from the axis of rotation of the dog, but is formed with a radius R and another point P, as a center. Center P is preferably located as indicated and at a distance "Q" from the axis of rotation O of the jaw. The arc S subtended by the curved gripping surface of the jaw may be varied, as may the other dimensions, in accord with the size of the apparatus and sizes of wirelines to be accommodated. In a typical apparatus the jaws may be constructed according to the values listed in the following table, but it should be emphasized that the values may vary as before noted.

$$Q=.375''; S=46°; R=1.188''$$

Suitably externally milled cavities or depressions **62** formed in pairs about the periphery of head **54** may be provided for convenience in forming the bores for, and mounting, pivot pins **60**, **60**. The upper end of head **54** is provided with an axial bore of substantially the same diameter as the bore of tubular piston rod **36**, and is provided, spaced from its axis, with a pair of longitudinal bores **64**, **64** (see Figures 1*b* and 2) of suitable dimensions to slidably receive a pair of jaw-releasing plungers **66**, **66** provided for a purpose hereinafter described.

The wireline gripping jaws **58**, **58** are normally urged upwardly in head **54** by a spring-pressed ring **68** mounted for free reciprocation in a bore of somewhat larger diameter than the ring and formed in the lower end of the head and coaxial therewith. Ring **68** in turn is urged upwardly by a compression spring **70** housed in the aforementioned bore and retained therein by a spring retainer cap **72** which encircles the reduced lower end of head **54**. Cap **72** is suitably secured to the head, as, for example, by means of screws **74** spaced at intervals around the periphery of the cap and threaded into suitable tapped bores formed in the lower end of head **54**. Retainer cap **72** is provided with a central axial aperture as indicated in Figure 1*b*, for free passage therethrough of wireline **10**. Similarly, ring **68** is formed with an axial aperture for passage of the wireline and is provided at its upper surface with a jaw-engaging surface adapted for sliding engagement and cooperation with the jaws **58**, **58**. The configurations and arrangements of spring **70**, ring **68**, jaws **58**, **58**, plungers **66**, **66**, head **54** and associated structures are such that upon upward movement of piston head **34** toward its upper extremity of motion, plungers **66**, **66** are adapted to engage the lower surface of plug **44** (see Figure 1*b*) and are thereby moved downwardly in their respective bores as head **54** is raised to a position closely approaching plug **44**. This relative downward motion of plungers **66** relative to head **54** causes the plungers to rock their respective jaws or dogs **58**, **58** located immediately thereunder, downwardly about the respective pivot pins, at the same time forcing ring **68** downwardly in the head and compressing spring **70**. Thus the dogs or jaws are concurrently moved away from and out of engaging position with respect to wireline **10**. Subsequent downward motion of the piston in cylinder **30**, caused by admission of fluid under pressure through aperture **46**, results in head **54** being forced away from the lower surface of plug **44**, thus permitting spring **78** through the intermediate medium of ring **68** to again raise the wireline engaging dogs or jaws into firm gripping engagement with the wireline situated therebetween. Concurrently, plungers **66**, **66** may slide upwardly in their bores. Thereafter continued downward movement of the piston and head **54** results in tension being exerted upon the wireline by the jaws or dogs and the downward drawing of additional wireline through the pack-off means **16** and against pressure of the well fluid acting on the cross-section of the wireline and tending to expel the wireline from the well. Downward movement of the piston and associated structure is limited by engagement of the lower face of piston head **34** with the upper face of cylinder head **42** which termination marks the termination of a wireline drawing-in stroke by the apparatus. Following completion of a downward stroke of the piston and associated apparatus, admission of fluid under pressure through lower aperture **48** of the cylinder and concurrent upward movement of the piston and exhausting of fluid through upper aperture **46**, first causes sufficient rotation of jaws **58**, **58** to release the latter

from gripping engagement with the wireline. Thereafter the jaws are moved upwardly in idle slipping motion along the wireline. Thus when reciprocated, head 54 and its associated parts operate as a unidirectional wireline clutch means, effective to draw in an extent of wireline and return for more. During the return stroke of the piston the wireline is prevented from appreciable upward movement by the inertia of the wireline load, and/or by the frictional drag of the pack-off means if the latter is of the type shown. When a blow-by type of blow-out preventer or wireline seal is employed, appreciable exit of wireline upwardly out of the chamber may be prevented by effecting rapid return strokes of the piston. Hence it is not essential that the particular type of wireline seal shown be used.

Upward return movement of the piston means may be terminated short of the position in which the upper ends of plungers 66, 66 engage the lower face of plug 44, by regulating the amount of fluid admitted through aperture 48 of the cylinder. As upward motion of head 54 is terminated, spring 70 and ring 68 have brought the jaws into position for gripping the wireline preparatory to another operating or drawing-in stroke. The extent of the wireline drawing-in stroke is preferably limited by the permissible downward traverse of piston head 34 in cylinder 30. The sections of tubing 28 and 32 in which piston rod 36 and head 54 operate are provided of sufficient length to accommodate the required extent of reciprocation of those reciprocatory elements. The three interconnected tubular elements 28, 30 and 32 may in practice be of such length as is desired, or as is permitted under the environmental conditions under which the apparatus is intended to operate. In any event the interior of these tubular elements 28, 30 and 32 cooperate to define a chamber that is exposed at its lower end to a zone of well bore fluid existing at superatmospheric pressure, with the wire line extending through such chamber and into the atmosphere through the packing members 22.

It is evident that the apparatus may be operated by any suitable operating fluid under pressure, such as compressed air, hydraulic fluid, or well fluid. Since the pressure of the well fluid in the chamber in which the movable parts operate acts equally against opposite ends of the piston rod, only relatively low pressure is required for the operating fluid. If well fluid is employed as the source of operating power, it may be bled from a suitable part of the casinghead structure and valved into and out of the cylinder through valve and tubing means connected to the respective apertures 46 and 48. The well fluid exhausted from the cylinder in such practice may be either collected in a suitable receiver or wasted, as circumstances dictate. In case compressed air or other gas is employed, the exhaust may be wasted, received in a receiver, or re-used in a closed system which includes a compressor. If hydraulic fluid is used, a closed system including a pump for supplying the pressure differential is to be preferred. The tubing, valve means and the like are not herein shown nor specifically described, since they may be widely varied by one skilled in the art and in accord with requirements and environmental conditions, and per se are not of the present invention.

With apparatus according to the present invention, a wireline may be drawn or fed through a pack-off or seal and into a chamber in which fluid under great pressure may exist, by means which requires but a relatively low fluid pressure for its operation. The amount of force derived from the operating fluid during a wireline drawing stroke of the piston need never be greater than slightly in excess of that needed to overcome the frictional drag of the pack-off or seal, plus the effect of the well pressure on the cross-section of the wireline and the friction drag of the piston head in the cylinder, less the weight of the suspended apparatus in the well. After sufficient wireline has been fed in for gravitational feeding to occur, the piston may be raised to its uppermost position to completely free the wireline from rubbing by jaws 58, 58 and permit high feed-in and withdrawal speeds to be attained.

While for purposes of illustration and explanation there has been shown and described a specific physical embodiment of apparatus, it is evident that many modifications thereof may be made and that in view of the disclosure variations in structure will become or be made evident to those skilled in the art; and accordingly it is desired that the invention be not limited to the specific details of the disclosed preferred form of apparatus, but what is claimed is:

1. A wireline feed-in device for feeding wireline along a wireline path into a zone of fluid existing at superatmospheric pressure, comprising: a body member formed with a chamber exposed at one end to said zone, with said wireline being movable through said chamber; a jaw support member movably disposed in said chamber for reciprocation towards and away from said zone; an elongated element secured to said jaw support member and extending within said chamber in a direction away from said zone, said element being formed with a longitudinal fluid pressure-equalizing bore through which said wireline freely extends; closure means extending across said chamber and formed with opening means through which said elongated element slidably extends, the portion of said chamber on the side of said closure means remote from said zone being exposed to the pressure within said zone by said fluid pressure-equalizing bore; additional closure means on said body substantially sealing said portion of said chamber from the atmosphere, said wireline extending through said additional closure means into the atmosphere; means operatively interposed between said elongated element and said body member for effecting reciprocation of said elongated element towards and away from said zone; and jaw means carried by said jaw support member that grip said wireline solely during movement of said jaw support member towards said zone so as to feed said wireline into said zone, said jaw means being ineffective to grip said wireline during movement of said jaw support member away from said zone.

2. A wireline feed-in device for feeding wireline along a wireline path into a zone of fluid existing at superatmospheric pressure, comprising: a body member formed with a chamber exposed at one end to said zone, with said wireline being movable through said chamber; a jaw support member movably disposed in said chamber for reciprocation towards and away from said zone; an elongated element secured to said jaw support member and extending within said chamber in a direction away from said zone, said element being formed with a longitudinal fluid pressure-equalizing bore through which said wireline freely extends; closure means extending across said chamber and formed with opening means through which said elongated element slidably extends, the portion of said chamber on the side of said closure means remote from said zone being exposed to the pressure within said zone by said fluid pressure-equalizing bore; packing means on said body member substantially sealing said portion of said chamber from the atmosphere, said wireline extending through said packing means into the atmosphere; means operatively interposed between said elongated element and said body member for effecting reciprocation of said elongated element towards and away from said zone; and jaw means carried by said jaw support member that grip said wireline solely during movement of said jaw support member towards said zone so as to feed said wireline into said zone, said jaw means being ineffective to grip said wireline during movement of said jaw support member away from said zone, said packing means restraining said wireline from movement away from said zone during movement of said jaw support member away from said zone.

3. A wireline feed-in device for feeding wireline along

a wireline path into a zone of fluid existing at superatmospheric pressure, comprising: a body member formed with a chamber exposed at one end to said zone, with said wireline being movable through said chamber; a jaw support member disposed in said chamber for reciprocation towards and away from said zone; an elongated element secured to said jaw support member and extending through said chamber in a direction away from said zone, said element being formed with a longitudinal fluid pressure-equalizing bore through which said wireline freely extends; closure means extending across said chamber and formed with opening means through which said elongated element slidably extends, the portion of said chamber on the side of said closure means remote from said zone being exposed to the pressure within said zone by said fluid pressure-equalizing bore; additional closure means on said body substantially sealing said portion of said chamber from the atmosphere, said wireline extending through said additional closure means into the atmosphere; means operatively interposed between said elongated element and said body member for effecting reciprocation of said elongated element towards and away from said zone; jaw means carried by said jaw support member and movable between a first position wherein said jaw means grip said wireline during movement of said jaw support member towards said zone so as to feed said wireline into said zone and a wireline releasing position; and means interposed between said jaw means and said body member for automatically urging said jaw means to said wireline releasing position whenever said jaw support member is moved a predetermined distance in a direction away from said zone.

4. A wireline feed-in device for feeding wireline along a wireline path into a zone of fluid existing at superatmospheric pressure, comprising: a body member formed with a chamber exposed at one end to said zone, with said wireline being movable through said chamber; a gripping means support member disposed in said chamber for reciprocation towards and away from said zone; a tube secured to said support member and extending through said chamber in a direction away from said zone, said wireline freely extending longitudinally through said tube; closure means for said chamber through which said tube slidably extends, the portion of said chamber on the side of said closure means remote from said zone being exposed to said zone through said tube; additional closure means on said body substantially sealing said portion of said chamber from the atmosphere, said wireline extending through said additional closure means into the atmosphere; means operatively interposed between said tube and said body member for effecting reciprocation of said tube towards and away from said zone; and wireline gripping means carried by said gripping means support member that grip said wireline solely during movement of said support member towards said zone so as to feed said wireline into said zone, said gripping means being ineffective to grip said wireline during movement of said support member away from said zone.

5. A wireline feed-in device for feeding wireline along a wireline path into a zone of fluid existing at superatmospheric pressure, comprising: a body member formed with a chamber exposed at one end to said zone, with said wireline being movable through said chamber; a gripping means support member disposed in said chamber for reciprocation towards and away from said zone; a tube secured to said support member and extending through said chamber away from said zone, said wireline freely extending longitudinally through said tube; closure means for said chamber through which said tube slidably extends, the portion of said chamber on the side of said closure means remote from said zone being exposed to said zone through said tube; packing means on said body substantially sealing said portion of said chamber from the atmosphere, said wireline extending through said packing means; and wireline gripping means carried by said gripping means support member that grip said wireline solely during movement of said support member towards said zone so as to feed said wireline into said zone, said gripping means being ineffective to grip said wireline during movement of said support member away from said zone, and said packing means restraining said wireline from movement away from said zone during movement of said support member away from said zone.

6. A wireline feed-in device for feeding wireline along a wireline path into a zone of fluid existing at superatmospheric pressure, comprising: a hollow body member formed with a chamber exposed at one end to said zone, with said wireline being movable through said chamber; a gripping means support member disposed in said chamber for reciprocation towards and away from said zone; a tube secured to said support member and extending through said chamber away from said zone, said wireline freely extending longitudinally through said tube; closure means for said chamber through which said tube slidably extends, the portion of said chamber on the side of said closure means remote from said zone being exposed to said zone through said tube; additional closure means on said body substantially sealing said portion of said chamber from the atmosphere, said wireline extending through said additional closure means into the atmosphere; means operatively interposed between said tube and said body for effecting reciprocation of said tube towards and away from said zone; wireline gripping means carried by said gripping means support member and movable between a first position wherein said gripping means grip said wireline during movement of said support member towards said zone so as to feed said wireline into said zone, and a wireline releasing position; and means interposed between said gripping means and said body member for automatically urging said gripping means to said wireline releasing position whenever said support member is moved away from said zone to within a predetermined distance of said closure means.

7. A wireline feed-in device for feeding wireline along a wireline path into a zone of fluid existing at superatmospheric pressure, comprising: a body member formed with a chamber substantially coaxial with said wireline and exposed at one end to said zone, with said wireline being movable through said chamber; a gripping means support member disposed in the end of said chamber proximate said zone for reciprocation towards and away from said zone; a tube secured to said support member and extending through said chamber away from said zone, said wireline freely extending longitudinally through said tube; a closure element for said chamber through which said tube slidably extends; a second closure element in said chamber at a point spaced from the side of said first-mentioned closure element remote from said zone, with said tube slidably extending through said second closure element, and the portion of said chamber on the side of said second closure element remote from said zone being exposed to said zone through said tube; packing means on said body substantially sealing said portion of said chamber from the atmosphere, said wireline extending through said packing means into the atmosphere; a piston slidably disposed in a portion of said chamber between said closure elements and secured to said tube; aperture means formed in said body for transferring fluid into and out of said portion of said chamber between said closure elements and thereby effecting reciprocation of said piston towards and away from said zone; and wireline gripping means carried by said gripping means support member that grip said wireline solely during movement of said support member towards said zone so as to feed

said wireline into said zone, said gripping means being ineffective to grip said wireline during movement of said support member away from said zone.

8. A wireline feed-in device for feeding wireline along a wireline path into a zone of fluid existing at superatmospheric pressure, comprising: a hollow body member formed with a chamber substantially coaxial with said wireline and exposed at one end to said zone, with said wireline being movable through said chamber; a gripping means support member disposed in the end of said chamber proximate said zone for reciprocation towards and away from said zone; a tube secured to said support member and extending through said chamber away from said zone, said wireline freely extending longitudinally through said tube; a closure element for said chamber through which said tube slidably extends; a second closure element in said chamber at a point spaced from the side of said first-mentioned closure element remote from said zone, with said tube slidably extending through said second closure element, and the portion of said chamber on the side of said second closure element remote from said zone being exposed to said zone through said tube; packing means on said body substantially sealing said portion of said chamber from the atmosphere, said wireline extending through said packing means into the atmosphere; a piston slidably disposed in the portion of said chamber between said closure elements and secured to said tube; aperture means formed in said body for transferring fluid into and out of said portion of said chamber between said closure elements and thereby effecting reciprocation of said piston towards and away from said zone; wireline gripping means carried by said gripping means support member that grip said wireline solely during movement of said support member towards said zone so as to feed said wireline into said zone, said gripping means releasing said grip during movement of said support member away from said zone; and means interposed between said gripping means and said body member for automatically urging said gripping means to wireline releasing position whenever said support member is moved away from said zone to within a predetermined distance of said first-mentioned closure element.

9. A wireline feed-in device for feeding wireline along a wireline path into a zone of fluid existing at superatmospheric pressure, comprising: a hollow body member formed with a chamber exposed at one end to said zone, with said wireline being movable through said chamber; a jaw support member disposed in said chamber for reciprocation towards and away from said zone; an elongated element secured to said jaw support member and extending through said chamber away from said zone, said element being formed with a longitudinal fluid pressure-equalizing bore through which said wireline freely extends; closure means for said chamber through which said elongated element slidably extends, the portion of said chamber on the side of said closure means remote from said zone being exposed to the pressure

within said zone by said fluid pressure-equalizing bore; additional closure means on said body substantially sealing said portion of said chamber from the atmosphere, said wireline extending through said additional closure means into the atmosphere; means operatively interposed between said elongated element and said body for effecting reciprocation of said elongated element towards and away from said zone; a plurality of jaw elements pivotally carried by said jaw support member; and biasing means interposed between said jaw elements and said jaw support member to urge said jaw elements against said wireline with a gripping force during movement of said support member towards said zone, said jaw elements relaxing said force during movement of said support member away from said zone and sliding idly along said wireline.

10. A wireline feed-in device for feeding wireline along a wireline path into a zone of fluid existing at superatmospheric pressure, comprising: a hollow body member formed with a chamber exposed at one end to said zone, with said wireline being movable through said chamber; a jaw support member disposed in said chamber for reciprocation towards and away from said zone; an elongated element secured to said jaw support member and extending through said chamber away from said zone, said element being formed with a longitudinal fluid pressure-equalizing bore through which said wireline freely extends; closure means for said chamber through which said elongated element slidably extends, the portion of said chamber on the side of said closure means remote from said zone being exposed to the pressure within said zone by said fluid pressure-equalizing bore; packing means on said body substantially sealing said portion of said chamber from the atmosphere, said wireline extending through said packing means; means operatively interposed between said elongated element and said body for effecting reciprocation of said elongated element towards and away from said zone; jaw means carried by said jaw support member that grip said wireline solely during movement of said jaw support member towards said zone so as to feed said wireline into said zone, said jaw means automatically releasing said grip during movement of said jaw support member away from said zone, said packing means restraining said wireline from movement away from said zone during movement of said jaw support member away from said zone; and release elements carried by said jaw support member and engageable with said body whenever said jaw support member is moved a predetermined distance in a direction away from said zone so as to automatically urge said jaw elements out of gripping engagement with said wireline.

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