

エアセンサバルブの特許権侵害訴訟に決着

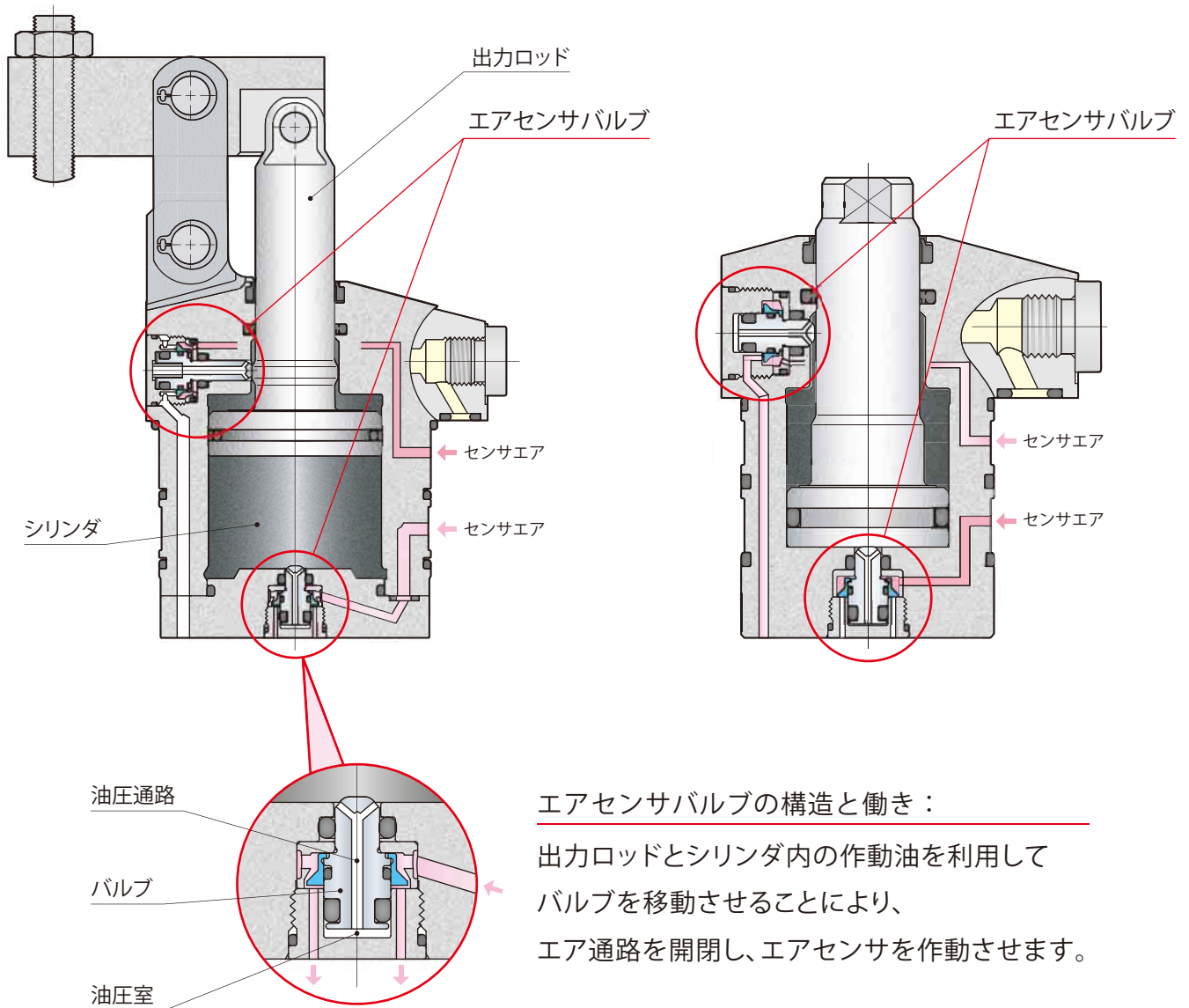
2019年7月、株式会社コスメックの敗訴(損害賠償 約4800万円)が確定

ワーククランプのエアセンサバルブ特許について

パスカルのエアセンサバルブ特許(第5337323号)は、2013年8月に成立し、リンククランプとワークリフトシリンダに採用されています。

リンククランプ model CLM

ワークリフトシリンダ model CNB



エアセンサバルブの構造と働き：

出力ロッドとシリンダ内の作動油を利用してバルブを移動させることにより、エア通路を開閉し、エアセンサを作動させます。

Pascal

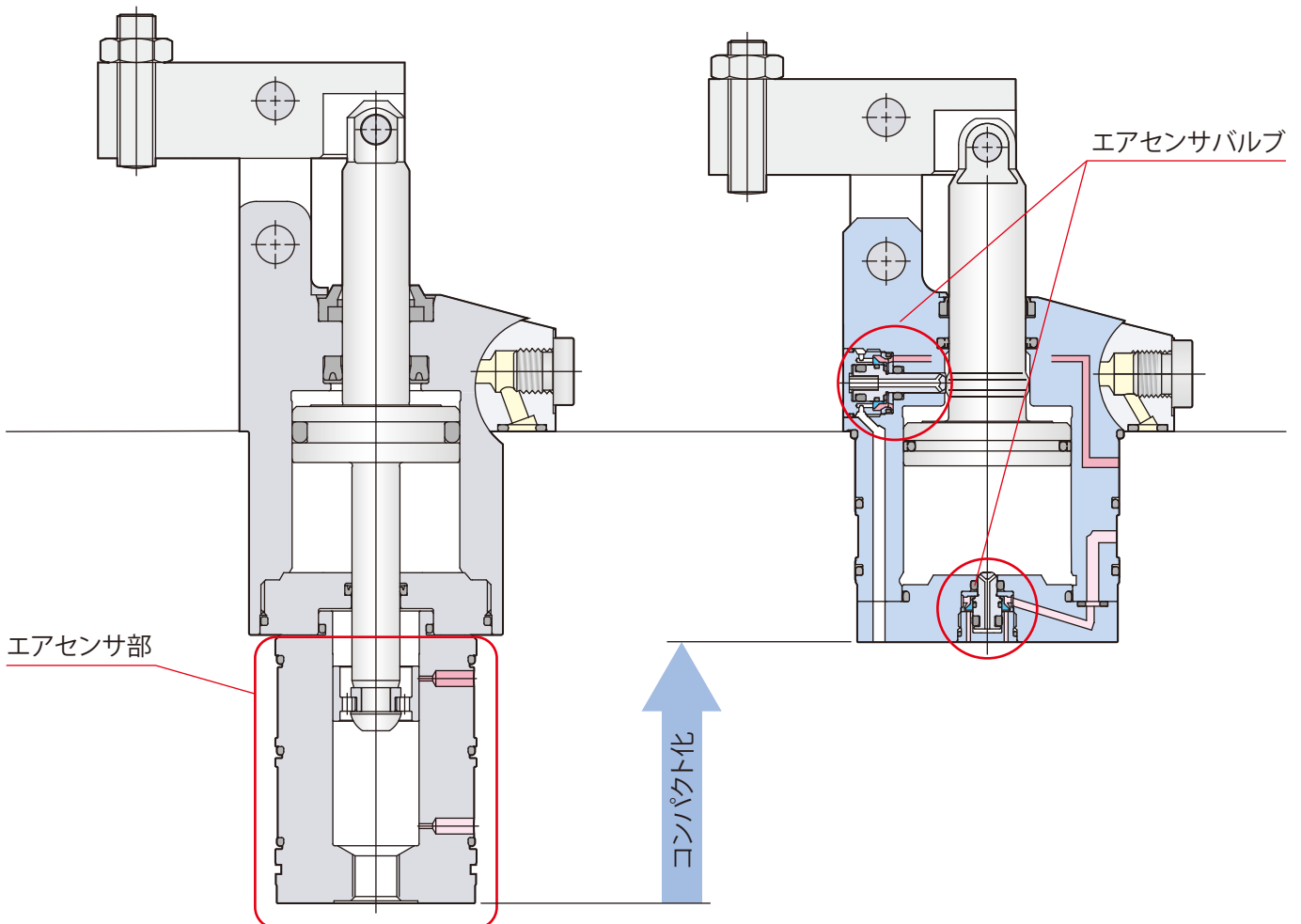
コンパクトなエアセンサバルブ付きワーククランプにより 治具の小型化が図れ、生産性が大幅に向上しました。

発 明 の 効 果

従来、エアセンサ付きワーククランプのエアセンサ部は、下図のようにスペースを取り、治具が大型化していました。パスカルが世界に先駆けて開発したコンパクトなエアセンサバルブ付きのワーククランプにより、治具の小型化が図れ、生産ラインの省スペース化が飛躍的に進みました。また、コンパクトなエアセンサバルブの普及により、ワーククランプの動作を確実に検出できるようになった結果、ワーククランプとワークリフタの完全な同期運転化が可能となり、生産ラインのスピード化が図れ、生産性が大幅に向上しました。

従来のエアセンサ付きクランプ

パスカルエアセンサバルブ付きクランプ



特許権侵害訴訟の経緯

- ① コスメックは、長期にわたり、前述のパスカルの特許権を侵害する下記製品を製造し続けました。
- ・ スイングクランプ LHW***0
 - ・ リンククランプ LKW***0
 - ・ リフトシリンダ LLW***0
- ② 一方、コスメックは当社の特許を無効化するため、添付資料 1～3 に代表される 1960 年代の古い特許を含め、40 件に及ぶ文献をもって、特許庁に対し 3 回に渡って無効審判請求を繰り返しましたが、3 回とも特許を維持する審決※1 が下されました。
- ③ さらにコスメックは、2016 年 4 月及び 2018 年 6 月の 2 回、知的財産高等裁判所に審決取消訴訟※2 を起こしましたが、特許は維持されました。
- ④ 2015 年 3 月、当社は大阪地方裁判所に損害賠償を求めてコスメックを訴え、2017 年 9 月に勝訴しました(2015 年(ワ)第 3134 号)。
- ⑤ 2017 年 10 月、コスメックは判決を不服として知的財産高等裁判所に控訴しましたが、2018 年 8 月に再び当社が勝訴しました(2017 年(ネ)第 10094 号)。
- ⑥ コスメックは、さらに最高裁判所に上告受理の申し立て※3 をしましたが、2019 年 7 月 11 日、コスメックの敗訴と約 4,800 万円の損害賠償が確定しました。

※1. 特許庁が、裁判手続きに準じた審判手続きを経て行う公権的判断。

※2. 特許庁の審決に対して不服がある場合に申し立てる裁判。

※3. 高等裁判所の判決に対して判例違反その他の法令の解釈に関する重要な事項を含むことを理由とする場合の不服申し立て。

また、当社は 2015 年 2 月に取得したフローコントロールバルブに関する特許(特許第 5700677 号)の技術を採用したワーククランプについても、コスメックに対して特許権侵害の損害賠償請求を大阪地方裁判所に提訴しており(平成 30 年(ワ)第 4851 号)、2019 年 9 月時点で当社はコスメックに対し、一部請求として約 5 億円の損害金の賠償を求めています。

United States Patent

[11] 3,530,896



[72] Inventor **Marvin E. Whiteman, Jr.,**
10010 Shoshone Ave., Northridge,
California 91324

[21] Appl. No. **724,135**
[22] Filed **April 25, 1968**
[45] Patented **Sept. 29, 1970**

FOREIGN PATENTS

318,959 1/1957 Switzerland 137/596.12

Primary Examiner—Henry T. Klinksiek
Attorney—Whann and McManigal

[54] **HYDRAULIC POWER ACTUATOR AND PILOT VALVE UNIT ASSEMBLY**
15 Claims, 3 Drawing Figs.

[52] U.S. Cl. 137/625.66,
137/625.68, 137/625.69, 251/282

[51] Int. Cl. F16k 11/07,
F16k 39/04

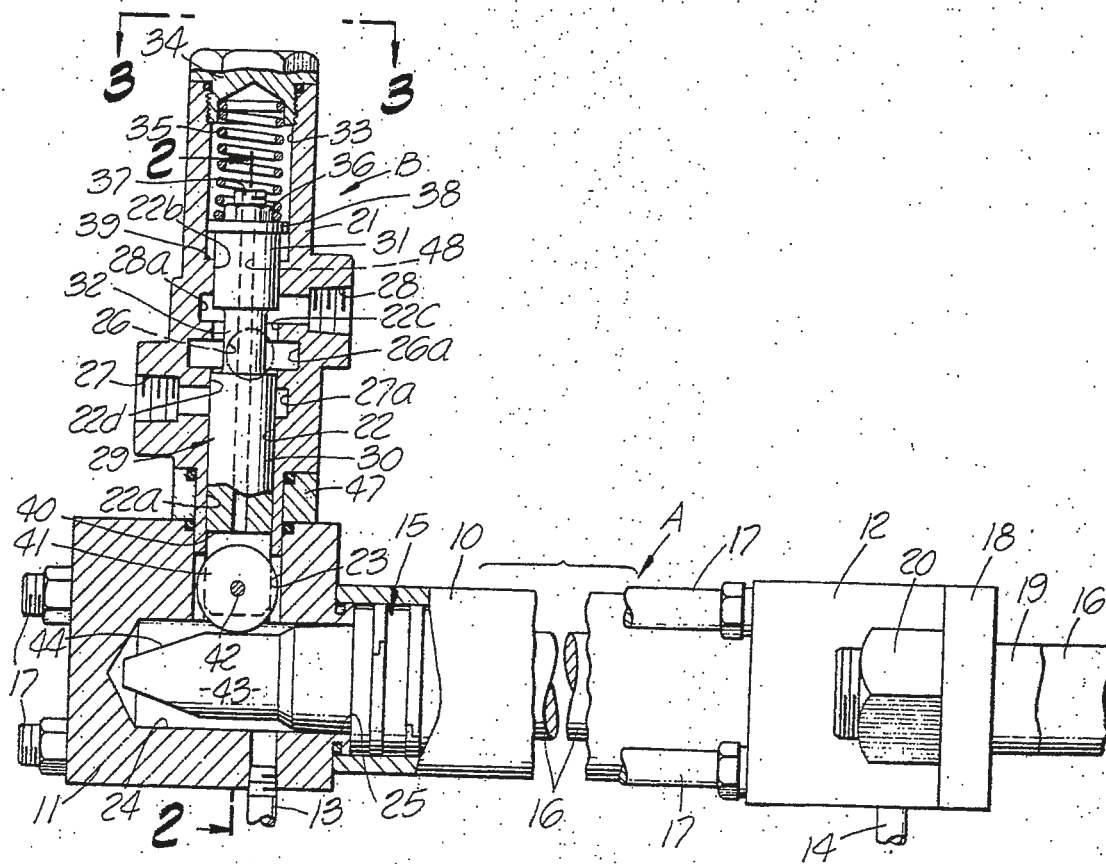
[50] Field of Search 251/282;
137/596.12, 596.13, 625.66, 625.67, 625.68,
625.69

[56] References Cited

UNITED STATES PATENTS

2,294,702 9/1942 Van Der Werff 251/282X
2,363,235 11/1944 Ellinwood 137/596.12X
3,229,721 1/1966 Bingel 137/625.69

ABSTRACT: Fluid powered actuator means in which a cylinder reciprocably contains a piston connected to a power delivery element and being operable by a pressurized fluid such as water, oil and the like, the cylinder being fitted with end caps, one or both of which mounts a pilot valve body having a bore therein containing a spool valve for selectively controlling flow paths between a plurality of fluid flow connection ports, the spool being spring urged to one operating position, and mechanically actuated to another operating position by means of a cam within the cylinder and which is supported for movement with the piston and arranged to engage a roller carried by the spool valve. One end of the pilot valve bore communicates directly with the cylinder interior so that the moving valve parts and cam are totally enclosed and lubricated by the motivating fluid of the actuator. A passageway through the spool valve applies cylinder fluid pressure against opposite ends of the spool so as to provide balanced operation thereof at all times.



United States Patent

[11] 3,555,966

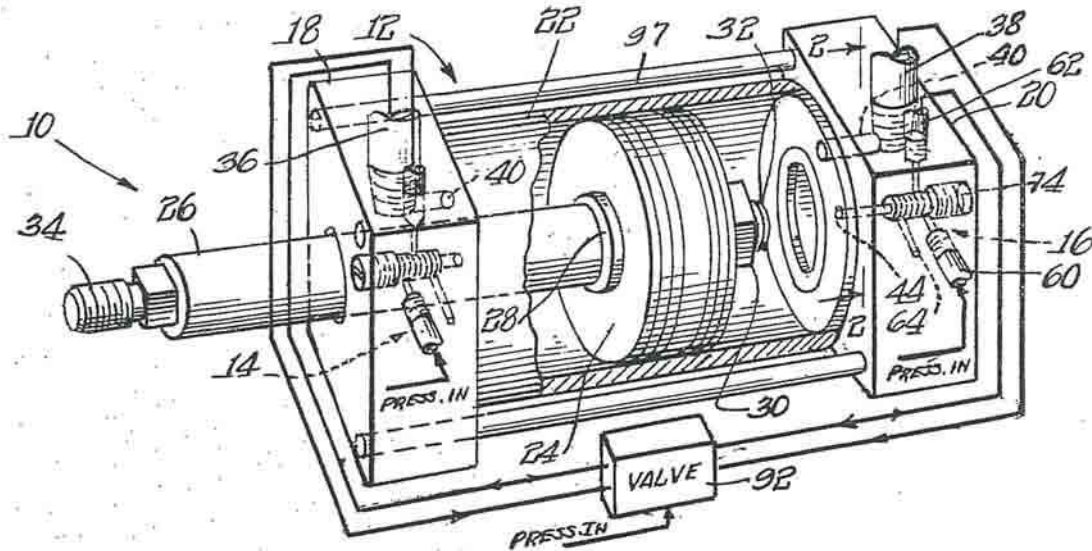
[72] Inventor Ignazio James Coniglio
Chicago, Ill.
[21] Appl. No. 880,468
[22] Filed Dec. 8, 1969
[45] Patented Jan. 19, 1971
[73] Assignee Mead Specialties Co., Inc.
a corporation of Illinois
Continuation of application Ser. No. 750,998, July 18, 1968, now abandoned, which is a continuation of application Ser. No. 570,075, Aug. 3, 1966, now abandoned.

[56] References Cited
UNITED STATES PATENTS
2,296,647 9/1942 McCormick 91/306
3,162,093 12/1964 Zoller 91/306
3,352,324 11/1967 Stryker 137/625.69

Primary Examiner—Paul E. Maslousky
Attorney—Olson, Trexler, Wolters & Bushnell

[54] AIR CYLINDER WITH PILOT VALVE IN HEAD
5 Claims, 5 Drawing Figs.
[52] U.S. Cl. 91/306,
137/625.6, 137/624.14
[51] Int. Cl. F01J 25/06
[50] Field of Search
91;306;305/04001970; 137/(Inquired), 625.69

ABSTRACT: A fluid control arrangement including a cylinder having a pair of spaced heads joined by a hollow body in which a piston is mounted for reciprocal movement. A valve unit is provided in a valve bore integrally formed within at least one of the heads of the cylinder. The valve unit includes a spring-biased reciprocable valve member having a valve operator integrally formed therewith and extending into the hollow body so as to be in actuatable relation with the piston. A pair of conduit openings extend into the valve bore, and, depending upon the positioning of the valve member in the bore due to the operation of the piston, communicate with or are blocked from each other.



PATENT SPECIFICATION

DRAWINGS ATTACHED

Inventor: HERMANN PENTHER

1.140.216

1.140.216



Date of Application and filing Complete Specification: 19 May, 1966.

No. 22239/66.

Application made in Germany (No. St23856 Ic/59a) on 20 May, 1965.

Complete Specification Published: 15 Jan., 1969.

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Index at acceptance:—F1 A(14B2, 15A3, 15F); F1 M(15B1B, 16D1B); F1 N2A2B1; F1 P19

Int. Cl.:—F 04 b 21/02

COMPLETE SPECIFICATION

Improvements in Hydraulic or Pneumatic Reciprocating Piston Drive Systems

We, STAHL- UND APPARATEBAU HANS LEFFER G.m.b.H., a German Company, of 1 Pfählerstrasse, Dudweiler, Saar, Germany, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed to be particularly described in and by the following statement:—

The present invention relates to improvements in reciprocating fluid pressure devices and particularly to a hydraulic or pneumatic continuously operated piston drive with reciprocatory movement especially a double acting pressure booster in which the movements of the low pressure piston reverse the control pressure in the end positions. Although the invention is not limited to pressure boosters but can be applied in the same way to hydraulically or pneumatically operated motors, reference will be made hereinafter mainly only to a double acting pressure booster.

In the field of double acting air motors it is known to effect reversal by the fact that the movements of the work piston reduce the control pressure of an impulse controlled four-way valve in the end positions, that is to say controlled by reducing the pressure, and in which control pipes open on both sides of the control valve connecting the control chambers to the pressure source.

In another type of air motor the otherwise usual three-way pilot valve operated mechanically by the work piston has been replaced by a simple two-way pilot valve for controlling the four-way valve in that constant pressure action in the two control chambers of the four-way valve has been ensured by auxiliary bores in the control valve or in the valve body of the four-way valve, which connect

the pressure source to the two control chambers, instead of by the three-way pilot valve.

This arrangement has the disadvantage that it fails with slow movement of the work piston. The reason for this is that at very slow operation the pilot valve also opens very slowly so that the pressure loading of the control chamber is effected slowly in the end positions whereby the control valve commences to shift slowly to its opposite end position and then remains in the mid-position since the pressure difference is not sufficient to overcome the resistance to further movement. Since in the mid position according to the construction of the slide valve:

(a) the pressure connection and both cylinder connections are cut off, or

(b) the pressure connection is cut off and both cylinder connections are without pressure, the low pressure piston remains stationary and the pilot valve is held in the open position in which it was already located.

The invention is directed to the problem of providing a delay in the changeover for continuous piston drives of the kind referred to by means of a simple operating device which delay—like the known spring controlled switching or regulators in control pipes—hinders stoppage of the piston drive at slow speed operation, but on the other hand results in no impairment of high speed operations which may be the case when regulators are used in control pipes.

The invention consists in a hydraulic or pneumatic continuously operated piston drive system comprising a reciprocatory main piston mounted on a piston rod in a main cylinder for reciprocatory movement therein between two end positions, and a valve means for directing the flow of pressure fluid alternately to the two sides of the reciprocatory

[P1 J]

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