

**The 16th BFSU-WANHUIDA IP MOOT COURT PROBLEM**

**Before:**

**Shanghai Intellectual Property Court**

**Guangdong Juli Automobile Machinery Manufacturing Co., LTD.**

**As Plaintiff**

vs.

**Shanghai Xinning Automobile Machinery Manufacturing Co., LTD.**

**As Defendant**

## Facts

Here are the indisputable facts.

### I

1. Guangdong Juli Automobile Machinery Manufacturing Co., LTD (hereinafter referred to as "Juli Company") was established on May 12, 2000, with a registered capital of 100 million CNY, whose business scope is to manufacture construction machinery, lifting machinery, general equipment and electromechanical equipment, etc., is a well-known domestic manufacturer of concrete pump trucks. Juli Corporation is the patentee of the invention patent with patent number 2010687889.2 entitled "A pumping machine". The application date of the invention patent is September 11, 2010, and the grant announcement date is December 15, 2011, currently within the validity period.
2. The "Abstract" section of the mentioned patent application document describes the patented technology as follows:

The invention discloses a pumping machine, which comprises a pumping system and an underbed. The pumping system comprises a pumping power unit, a hopper, an elastic buffer mechanism and a connecting rod. The elastic buffer mechanism is fixedly connected to one of the pumping power unit and the underbed to form a fixed connection point, and is hingedly connected to the other to form a hinged connection point. There is a predetermined distance between the fixed connection point and the hinged connection point. Both ends of the connecting rod are hinged with the hopper and the underbed respectively. A three-hinged structure is formed between the pumping system and the underbed of the pumping machine. when the pumping system is working, the three-hinged structure can ensure the stability between the pumping system and the underbed, and reduce the vibration transmitted to the underbed through the connecting rod. The elastic buffer mechanism can cushion the vibration and impact of the pumping power unit on the underbed. In the event of machining errors in the pumping system, the three-hinged structure can automatically adapt to the positional relationship between the underbed of the pumping system, facilitating the assembly of the pumping system and

the underbed.

Relevant contents of the patent specification are shown in Annex 1.

3. In this case, Juli Company claims the claim 1 of the patent as its scope of protection. The patent claim 1 is as follows:

Feature A: a pumping machine, comprising a pumping system (200) and an underbed (100);

Feature B: The pumping system (200) comprises a pumping power unit and a hopper (240), which is characterized in that it also includes an elastic buffer mechanism (300) and a connecting rod (400);

Feature C: The elastic buffer mechanism is fixedly connected to one of the pumping power unit and the underbed (100) to form a fixed connection point;

Feature D: The elastic buffer mechanism is hingedly connected to the other one of the pumping power unit and the chassis (100), forming a hinged connection point;

Feature E: There is a predetermined distance between the fixed connection point and the hinged connection point;

Feature F: Both ends of the connecting rod (400) are hingedly connected to the hopper (240) and the underbed (100) respectively.

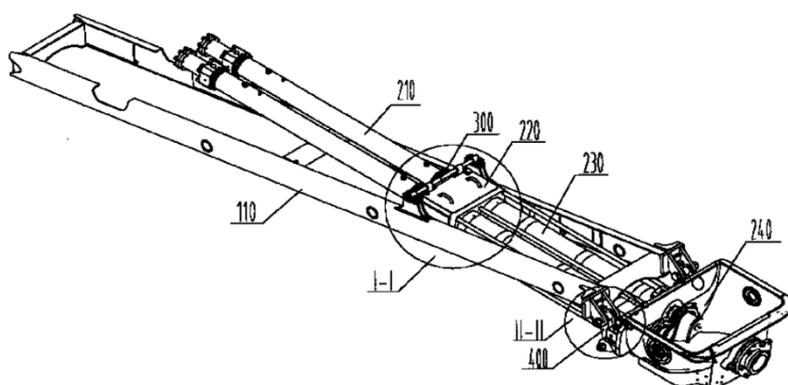


Fig.1-Patent of Plaintiff

## II

4. Shanghai Xinning Automobile Machinery Manufacturing Co., LTD. is a limited liability company (hereinafter referred to as "Xinning Company") with a registered capital of 40 million CNY. Its business includes the manufacture and sale of construction engineering machinery, environmental protection equipment, energy-saving equipment, concrete pump trucks, construction machinery vehicles, and environmental protection equipment. Equipment, machinery, vehicles, etc.
5. In September, 2022, Juli Company discovered that a type of concrete pump truck appeared on the market with a pumping system similar to the technical solution described in the claim 1 of its patent No. 2010687889.2, and the manufacturer of the truck is Xinning Company.



Fig.2- The alleged infringing product

6. The main function of the truck is to transport concrete for high-rise buildings. It comprises the main oil pump, pumping pipeline system, hopper, IFM electronic control system, jib and outrigger hydraulic system and other components. It contains at least six sections of jibs with pipeline connected, all stacked on the underbed. There is a water tank welded with the steel plate at the rear-mid part of

the truck, and on one side of the water tank, two circular pipes of the same size can be seen extending out, which are the transmission pipelines. At the other side, two pipes of the same size can be seen fixedly connected to the side of the water tank through nuts, that is the main oil cylinder, and a pipe bent into a "U" shape is connected to the main oil cylinder. On the side which the water tank and the main oil cylinder are connected, there are two devices symmetrical distributed, each with a connecting rod. One end of each connecting rod passes through the square component and is fixed on the underbed by six screws to form a fixed connection point. The other end of each connection rod is connected to the water tank through a component to form a hinged connection point. There is a predetermined distance between the connection points. When subjected to vibration and impact force, the positional relationship between the hinged connection point and the fixed connection point changes to achieve the functions of shock absorption and buffering. There is a hopper at the rear of the vehicle body, and the hopper is connected to the vehicle body base through a long connecting rod with arcuate ends. Two hanging plates stretched out from the underbed of the vehicle, hinged with the upper ends of the two connecting rods (long and curved at both ends), and the lower ends of the two connecting rods are hinged with the hopper.



Fig.3- The alleged infringing product



Fig.4- The alleged infringing product

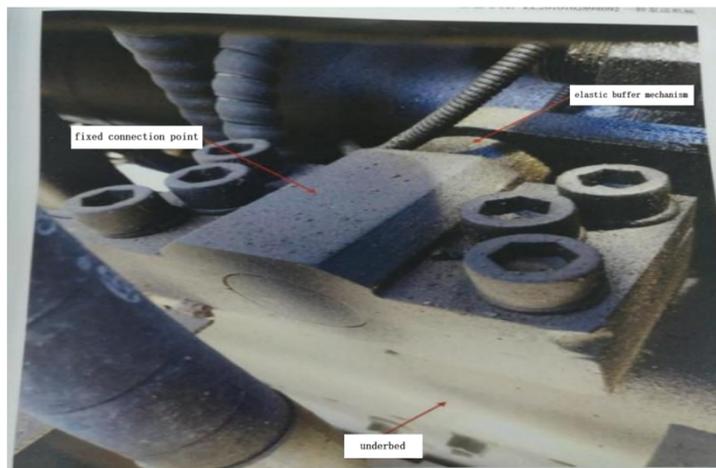


Fig.5- The alleged infringing product

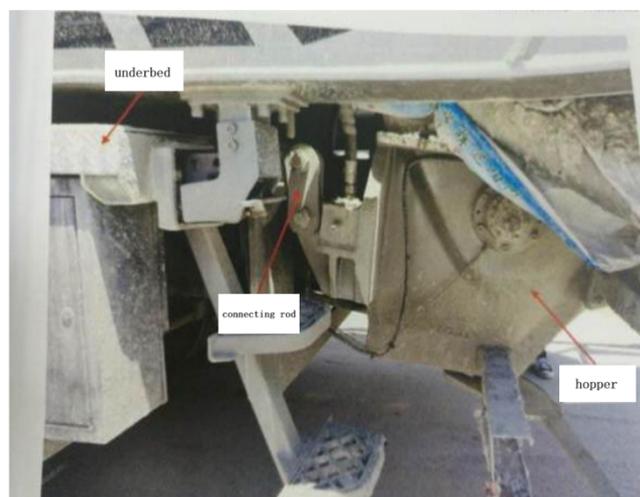


Fig.6- The alleged infringing product

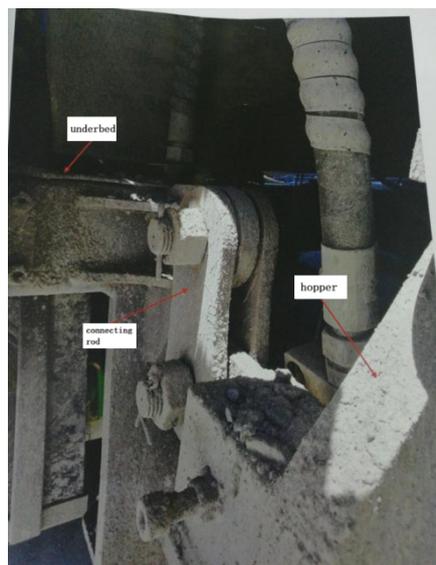


Fig.7- The alleged infringing product

7. Juli Company proved through notarization that the accused infringing concrete pump trucks were produced in 2021 and parked at some sales locations. In addition, Juli Company proved through evidence such as time stamps that the defendant has published relevant articles introducing the infringing products on its web pages and WeChat public account. The articles record that Xinning Company has participated in the Changsha International Construction Equipment Exhibition and China Commodity Concrete Annual Meeting, etc.

### III

8. Xinning Company proposed that before September 11, 2010, the application date of the Juli's patent, there was a prior technology: a Korean patent-a pumping device structure for concrete pump trucks. the grant announcement date is November 5, 1999. Details are in Annex 2.
9. Xinning Company also pointed out that in June 2002, a textbook titled Concrete

Machinery was published in China, which should be recognized as a commonly known technology, see details in Annex 3.

### **Disputes**

10. Juli Company filed an action for infringement of patent to Shanghai Intellectual Property Court, arguing that Xinning Company's accused infringing products fell within the scope of protection of patent No. 2010687889.2, thereby constituting patent infringement. Xinning company believed that its products did not fall within the scope of the plaintiff's patent, and argued that its products were identical to the two existing technologies, so claimed prior art defense. Regarding the prior art defense, Juli Company believes, among other things, that the Korean patent does not disclose some components and structural features, such as the lack of pumping power unit, while Xinning company believes that the main oil cylinder and the delivery cylinder are common components of the pumping power unit, and it can be considered that the textbook Concrete Machinery has already disclosed the pumping power unit. In this regard, Juli Company argues, among other things, that the Korean patent cannot be used for prior art defense in combination with the textbook Concrete Machinery, which was published later than the date of disclosure of the Korean patent.

***Annex 1: Relevant Content of the Plaintiff's Patent Specification*****A Pumping Machine****Technical field**

[01] The invention involves a pumping technology for pumping viscous materials such as concrete, and in particular a pumping machinery.

**Background technology**

[02] With the continuous development of building construction technology, the application of pumping machinery to transport concrete has become a common choice. Generally speaking, pumping machinery comprises a pumping system and an underbed. The pumping system is used to pump materials such as concrete to the outside. The underbed is used to carry the pumping system, and for movable pumping machinery, it also has a corresponding traveling mechanism to facilitate the transition between different working locations.

[03] Please refer to Fig. 1, which is a schematic of the structure of a pumping system in the prior art. The pumping system comprises a pumping power unit 10 and a hopper 20. The pumping power unit 10 provides power for pumping, including a main oil cylinder 11, a water tank 12 and a delivery cylinder 13 sequentially connected. The water tank 12 is connected to the main oil cylinder 11 and delivery cylinder 13. The transmission cylinder 13 is connected with the hopper 20. The hopper 20 has a distribution valve, a swing mechanism and an appropriate stirring mechanism. During the working process, the swing mechanism drives the distribution valve to swing back and forth. Within a predetermined first time period, one delivery cylinder 13 is communicated with the hopper 20, and the other delivery cylinder 13 is communicated with the distribution valve. The two main oil cylinders 11 drive the action of the two delivery cylinders 13 respectively, causing the concrete piston of one

delivery cylinder 13 to contract and suck concrete from the hopper 20, while the concrete piston of the other delivery cylinder 13 extends and pumps concrete outwards through the distribution valve. The reciprocating movement of the concrete pistons in the two delivery cylinders 13 drives the concrete to flow along the predetermined pipe and transport the concrete to the predetermined position.

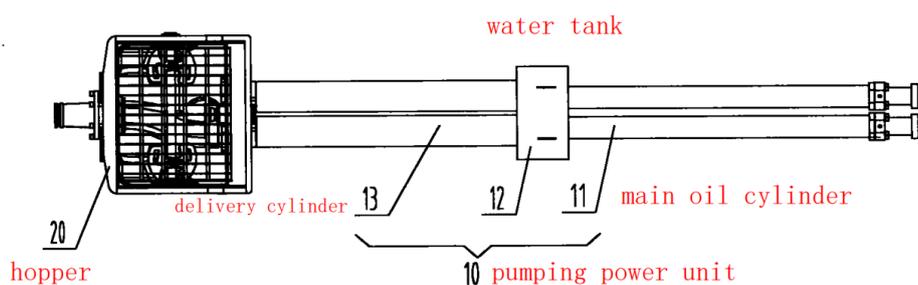


Fig. 1

[04] At present, in order to ensure the stability of the pumping mechanism, the pumping system and the underbed are fixedly connected to form a rigid connection. Due to the machining error of the pumping system, there are usually certain dimensional errors in the installation parts of the pumping system. Therefore, in order to improve the assembly efficiency and facilitate the assembly of the pumping machine, the pumping system and the underbed are fixedly connected through welding.

[05] Although the current rigid connection can meet the needs of normal operation of the pumping machine, there also exist the following shortcomings:

[06] First, in the working process, the swing mechanism, the distribution valve, the main oil cylinder and the delivery cylinder of the pumping system all move reciprocally, and the concrete or other materials also flow in a discontinuous manner. This results in strong vibration and impact in the pumping system. Since the pumping system and the underbed are rigidly connected, the vibration and impact of the pumping system will be transmitted to the underbed of the pumping machinery,

thereby affecting the performance and service life of the underbed and its components. When the pumping machine is a pump truck including jibs, because the jib is a long rod-shaped structure, the jib will also amplify the vibration, causing a large amplitude vibration at the end of the jib, which affects the position control of the material transportation.

[07] Second, since the pumping system and the underbed are connected through multiple rigid connection points, multiple rigid connection points can easily lead to over-positioning of the pumping system, causing the pumping system deform, thereby changing the fitting between the corresponding piston and the cylinder in the main oil cylinder and the delivery cylinder. This will not only affect the pumping efficiency and pumping pressure, but also lead to the increased wear of the piston, especially the concrete piston in the delivery cylinder, shortening the service life of the pumping system.

### **Summary of Invention**

[08] In response to the above shortcomings, this invention aims to provide a pumping machine that can not only reduce the vibration transmitted by the pumping system to the underbed, but also reduce the over-positioning of the pumping system.

[09] In order to achieve the above purposes, the pumping machine in this invention comprises a pumping system and an underbed. The pumping system comprises a pumping power unit, a hopper, and also an elastic buffer mechanism and a connecting rod. The elastic buffer mechanism is fixedly connected to one of the pumping power device and the underbed to form a fixed connection point, and is hingedly connected to the other to form a hinged connection point. There is a predetermined distance between the fixed connection point and the hinged connection point. Both ends of the connecting rod are hingedly connected to the hopper and the underbed respectively.

[10] Compared with the the prior art, in the pumping machine provided in this

invention, the pumping system is connected to the underbed through a connecting rod and an elastic buffer mechanism. The two ends of the connecting rod are respectively hinged with the underbed and the hopper. The elastic buffer mechanism is fixed on one of the underbed or the pumping power unit, and hinged to the other, and so as to form a fixed connection point and a hinged connection point on the elastic buffer mechanism, and a predetermined distance is set between the fixed connection point and the hinged connection point. In this way, the connection position between the pumping system and the underbed forms a three-hinge structure with three hinge points, which forms a stable triangular structure. The three-hinge structure ensures the stability between the pumping system and the underbed when the pumping machine is operating. The vibration generated by the pumping system causes the relative swing of the connecting rod to the underbed, thus reducing the vibration transmitted to the underbed through that connecting position. At the same time, the swing of the connecting rod transmits the vibration and impact force generated by the pumping system to the elastic buffer mechanism. When subjected to the vibration and impact force generated by pumping, the elastic buffer mechanism can produce elastic deformation, so that changes the positional relationship between the fixed connection point and the hinged connection point, thus the vibration and impact generated by the pumping system can be absorbed and the impact of the pumping power unit on the underbed can be buffered. When there is a machining error in the pumping system, since the pumping system and the underbed are connected through a three-hinge structure, which can automatically adapt to the positional relationship between the pumping power unit and the underbed, and between the hopper and the underbed, so that the pumping power unit can be conveniently installed on the underbed through the elastic buffer mechanism, and the hopper can be easily installed on the underbed through the connecting rod. This can not only avoid or reduce the over-positioning of the pumping system, but also easily assemble the pumping system and the underbed

through the detachable structure.

### **Brief Description of Annexed Figures**

Fig. 1 is the schematic of the structure of a pumping system in the prior art;

Fig. 2 is the schematic of the overall structure of a pump truck provided by the present invention;

Fig. 3 is the schematic of the connection structure between the underbed and the pumping system in the pump truck shown in Figure 2.

Fig. 4 shows the enlarged I-I part of Fig. 3;

Fig. 5 is the schematic of the structure of the fixed seat and the elastic rod shown in Fig. 3;

Fig. 6 is the schematic of the three-dimensional structure of the water tank of the pumping system shown in Fig. 3;

Fig. 6-1 is the schematic of the three-dimensional structure of another type of water tank in the pumping system;

Fig. 7 is the schematic of the three-dimensional structure of the hopper in the pumping system shown in Fig. 3;

Fig. 8 shows the enlarged II-II part of Fig. 3;

Fig. 9 is the sketch schematic of the connection structure between the pumping system and the underbed of the pump truck provided by the present invention;

### **Detailed Description of Embodiments**

[11] The following is a detailed description of the invention in combination with the annexed figures. The description in this part is only exemplary and explanatory, and should not have any limiting effect on the scope of protection of the present invention.

[12] It should be noted that in this invention, the fixed connection point and the

hinged connection point are the abbreviation of the connection position, and the fixed connection point is the connection position with greater rigidity than the hinged connection point. Fixed connection, also known as rigid connection, means that at the connection node, it can neither move nor rotate. Hinged connection, also known as flexible connection, means that at the connection node, the compartments cannot move, but can rotate.

[13] Please refer to Fig. 2 and Fig. 3, Fig. 2 is the schematic of the overall structure of a pump truck provided by the present invention. Fig. 3 is the schematic of the connection structure between the underbed and the pumping system in the pump truck shown in Fig. 2. The pump truck comprises an underbed 100 and a pumping system 200. The pumping system 200 comprises a sequentially connected main oil cylinder 210, water tank 220, delivery cylinder 230 and hopper 240, among which, main oil cylinder 210, water tank 220 and delivery cylinder 230 form the pumping power unit of the pumping system to provide power for the material pumping. The difference from the existing technology is that the pump truck also includes an elastic rod 300 and a connecting rod 400.

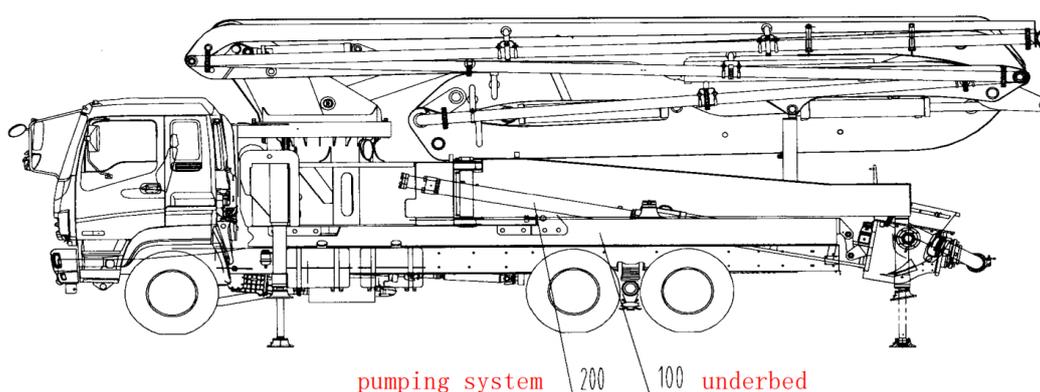


Fig. 2

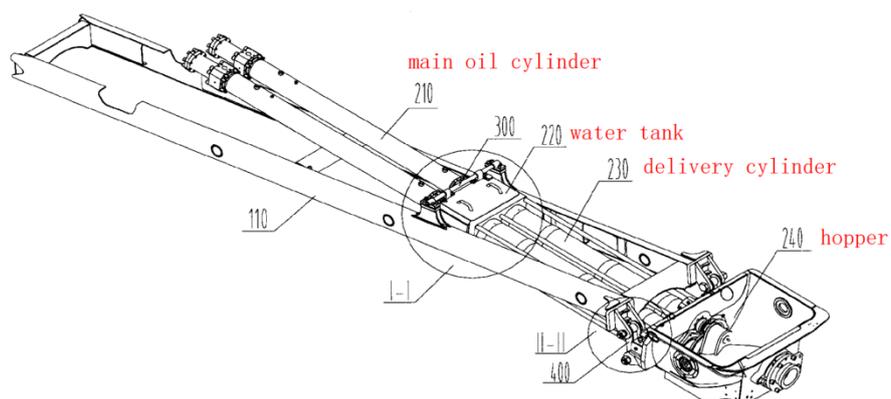


Fig. 3

[14] Please refer to Fig. 4 and Fig. 5, Fig. 4 shows the enlarged I-I part of Fig. 3, Fig. 5 is the schematic of the structure of the fixed seat and the elastic rod shown in Fig. 3. In this embodiment, underbed 100 comprises a beam 110 and two fixed seats 120. The fixed seat 120 further comprises two supporting plates 121 extending parallel and upward, a base plate 122 connecting the lower ends of two supporting plates 121 and a fixed plate 123 connecting the upper ends of two supporting plates 121. Base plate 122 and beam 110 are fixed by fasteners. In order to increase the strength of the fixed seat 120, a predetermined distance is set between the two supporting plates 121. The two ends of elastic rod 300 are respectively supported on the fixed plates 123 of the two fixed seats 120. In order to prevent the elastic rod 300 from being separated from the fixed plate 123, a cover plate 124 is also provided on the fixed plate 123. The cover plate 124 and the fixed plate 123 are fixedly connected through fasteners, clamping the ends of elastic rod 300, so that the two ends of elastic rod 300 are fixedly connected to the underbed 100, forming two fixed connection points. The connection mode between the fixed plate 123 and elastic rod 300 can be selected according to actual needs.

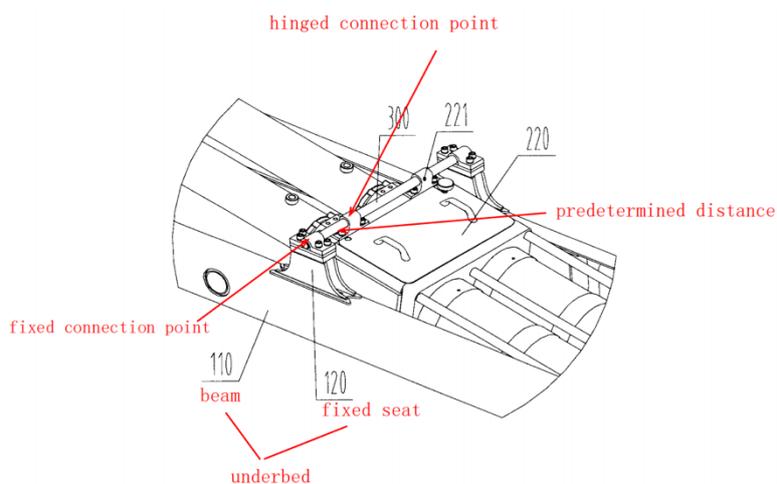


Fig. 4

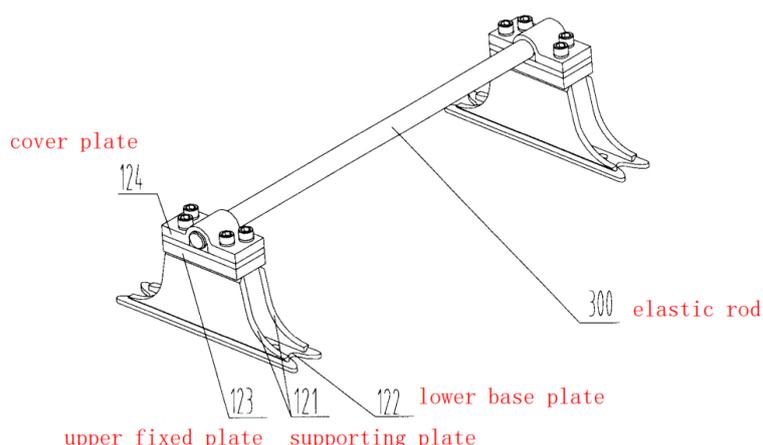


Fig. 5

[15] Please refer to Fig. 6, which is a schematic of the three-dimensional structure of the water tank of the pumping system in Fig. 3. In this case, two tank lugs 221 extend upward from the upper side of the rear wall panel of water tank 220. Tank lugs 221 can be integrated with the rear wall panel, or can be fixed with the rear wall panel of water tank 220 by other detachable means. Please refer to Fig. 6-1, which is the schematic of the three-dimensional structure of another type of water tank in the pumping system. In this water tank, the tank lugs 221 and the rear wall panel of the water tank 220 are fixedly connected through fasteners. Of course, tank lugs 221 are

not limited to being fixedly connected to the rear wall panel, but can also be connected to other parts of the water tank 220.

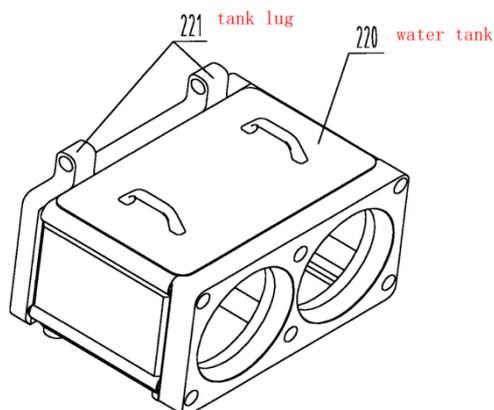


Fig. 6

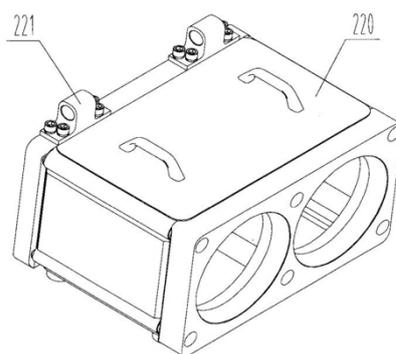


Fig. 6-1

[16] Please refer to Fig. 3 and Fig. 4 again, the front and rear sides of water tank 220 are connected with delivery cylinder 230 and main oil cylinder 210 respectively, and the two water tank lugs 221 are hingedly connected to the elastic rod 300, forming two hinged connection points. On the elastic rod 300, a predetermined distance is set between the said fixed connection point and the hinged connection point. The distance between the fixed connection point and the hinged connection point can be comprehensively determined according to the elastic modulus of the elastic rod 300, the vibration and impact generated by the pumping system 200, and

the weight borne by the elastic rod 300. The elastic rod 300 has an appropriate elastic modulus, when subjected to vibration or impact force, the relative positional relationship between the fixed connection point and the hinged connection point of elastic rod 300 will change to absorb vibration and shock.

[17] Please refer to Fig. 7, which is the schematic of the three-dimensional structure of the hopper in the pumping system shown in Fig. 3. The hopper 240 includes two hopper hinge seats 241 symmetrical to the left and right. The hopper hinge seats 241 include two lug plates that are fixed to the rear wall panel of the hopper 240 and extend in the same direction, and each lug plate is fixed to a transversely extending swing valve installation base plate 242. The lug plates are fixed with the swing valve installation base plate 242, which can enhance the strength of the swing valve installation base plate. Therefore, it is not necessary to specially provide the reinforcing plate or rib to ensure the strength of the swing valve installation base plate 242.

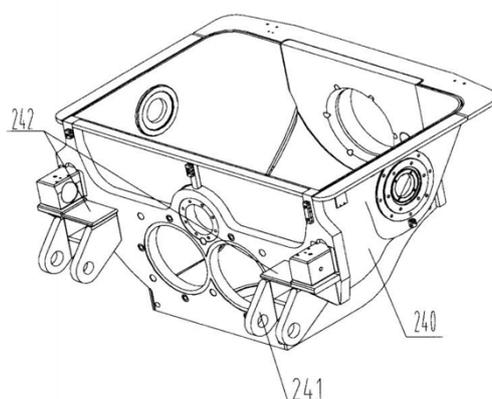


Fig. 7

[18] Please refer to Fig. 8, which shows the enlarged II-II part of Fig. 3. In this case, underbed 100 also includes a hopper hanger seat 130, which comprises a hanging base plate 131 and two hanging plates 132 extending in the same direction from one side of the hanging base plate 131. The hanging base plate 131 is fixed to

the end surface of the beam 110. The outer ends of two hanging plates 132 are hinged with one end of the connecting rod 400 through the hinge shaft 410. The protruding ends of the two lug plates of hopper hinge seat 241 are hinged with the other end of connecting rod 400 via hinge shaft 420. In order to enhance the strength of hopper hanger seat 130, a predetermined distance is provided between two hanging plates 132. Similarly, in order to increase the strength of hopper hinge seat 241, a predetermined distance is also provided between the two lug plates.

[19] The hinged connection between hopper hanger seat 130 and hopper hinge seat 241 can realize the standardized and serialized installation of the installation structure of hopper 240 and underbed 100, making hopper 240 possible to be matched with different underbeds 100, or making underbed 100 possible to be matched with different hoppers 240, so as to realize the modularization of the installation structure between hopper 240 and underbed 100.

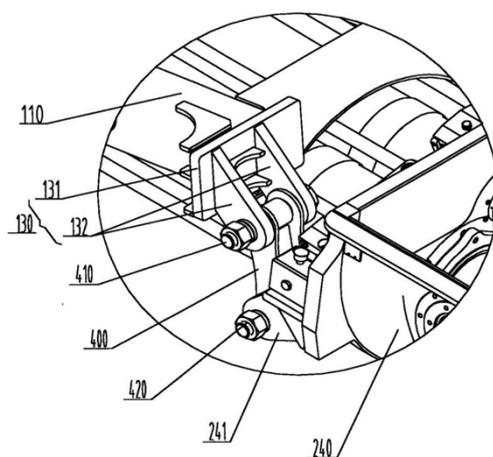


Fig. 8

[20] Please refer to Fig. 9, which is the schematic of the connection structure between the pumping system and the underbed in the pump truck provided in this invention. The main oil cylinder 210, water tank 220, delivery cylinder 230 and

hopper 240 are sequentially connected to form a rigid structure as a whole. Among them, the water tank 220 is hingedly connected to the elastic rod 300, and the elastic rod 300 is fixedly connected to the underbed 100 to form a hinge point 01. One end of the connecting rod 400 is hingedly connected to the underbed 100 to form a hinge point 02, and the other end is hingedly connected to the hopper 240 to form a hinge point 03. In this way, a three-hinge structure with three hinge points 01, 02, and 03 is formed between the pumping system 200 and the underbed 100, and the three-hinge structure forms a stable triangular structure. The triangle-hinged structure ensures the stability between pumping system 200 and underbed 100 when the pumping system is operating. The vibration generated by the pumping system 200 will cause the connecting rod 400 to swing relative to the underbed 100, which can reduce the vibration and impact transmitted to underbed 100 through the connecting rod 400. At the same time, the swing of connecting rod 400 transmits part of the vibration and impact force generated by pumping system 200 to elastic rod 300. When subjected to vibration and impact force generated by pumping system 200, relative displacement changes can occur between the fixed connection point and the hinge connection point of the elastic rod 300, thereby absorbing the vibration and impact force generated by the pumping, reducing the vibration impact transmitted to the underbed 100 through the elastic rod 300. Thus, the above structure greatly reduces the vibration and shock transmitted by pumping system 200 to underbed 100, and reduces the adverse effects caused by the vibration of the underbed 100. When there is a machining error in the pumping system 200, the hinge connection of the three-hinged structure can automatically adapt to the positional relationship between the water tank 220 and the underbed 100, and between the hopper 240 and the underbed 100, so that the elastic rod 300 and the connecting rod 400 can better correspond to the predetermined structure and position of underbed 100. In this way, hopper 240 can be easily installed on underbed 100 through connecting rod 400, and elastic rod 300 can be conveniently

installed on underbed 100, so as to avoid or reduce the occurrence of over-positioning of the pumping system 200. In addition, the pumping system 200 and the underbed 100 can also be assembled through a detachable structure, making the installation and disassembly between the pumping system 200 and underbed 100 faster, and the installation and maintenance of the pumping machine more convenient.

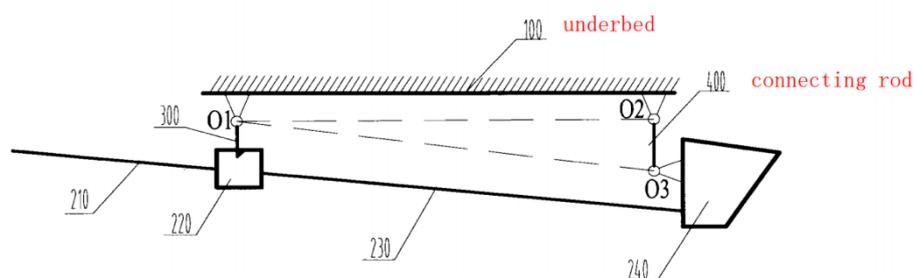


Fig. 9

[21] It can be understood that the elastic rod 300 is not limited to being fixed to the underbed 100 and hinged to the water tank 220. It can also be fixed to the water tank 220 and hinged to the underbed 100. In this way, the purpose of stabilizing the pumping system 200, buffering vibration impacts, and reducing vibration transmission can also be achieved.

[22] The elastic rod 300, as the elastic buffer mechanism, has the advantages of simple structure, reliable function and easy installation and maintenance. According to specific circumstances, the elastic buffer mechanism can also be other specific structures. When the elastic buffer mechanism meets the following conditions, it can absorb the vibration and shock generated by pumping system 200 while ensuring its working stability. The conditions to be met include: simultaneously connected with the underbed 100 and the pumping power unit of pumping system 200 to form a hinged connection point and a fixed connection point; a predetermined distance is set between the hinged connection point and the fixed connection point; when subjected

to vibration and impact force, the positional relationship between the hinged connection point and the fixed connection point changes.

[23] The above is only the preferred implementation of this invention, and it should be noted that for ordinary technicians in this field, several improvements and refinements can be made without deviating from the principles of the invention, and these improvements and refinements should also be considered as the scope of protection of this invention.

***Annex 2: The Korean Patent Document—A Pumping Device Structure of Concrete Pump Truck***

The invention discloses a pumping device structure of concrete pump truck. It consists of a first fixed part and a second fixed part. In the first fixed part (21-1) of this invention, the upper end of the connecting rod (14) is hingedly connected to the underbed (8), and the lower end of the connecting rod (14) is hingedly connected to the hopper (1). Therefore, when the upper/lower ends of the connecting rod (14) are hingedly connected respectively, the impact force of the vibration of the underbed (8) is overcome.

In addition, in the second fixed part (22-1) of this invention, there is a hinge tubular shaft (10) on both sides of the water tank (4), which is fixed by the fixing bolt (16). The lower end of the L-shaped connecting rod (17) is vertically inserted into the hinge tubular shaft to form a hinged connection point. The upper end of the L-shaped connecting rod (17) forms a fixed connection point through bolt (12) with the upper surface of the underbed (8) which is located on both sides of the water tank. Since the lower end of connecting rod (17) can rotate within the hinge tubular shaft (10), thereby absorbing the relative motion between the underbed and the water tank.

Fig. 1 is the schematic of the structure of the Korean invention.

Fig. 2 is the cross-sectional view of Z-Z of figure 1.

Fig.1 of Korean Patent:

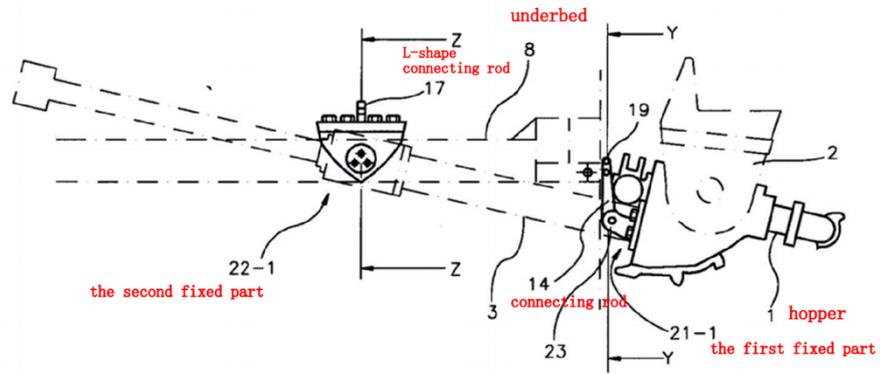
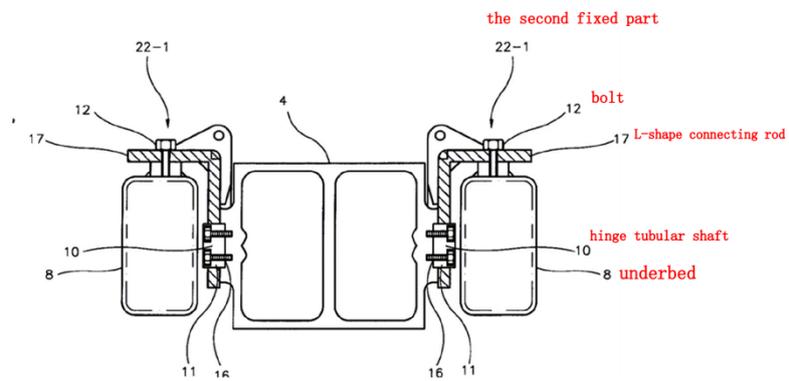
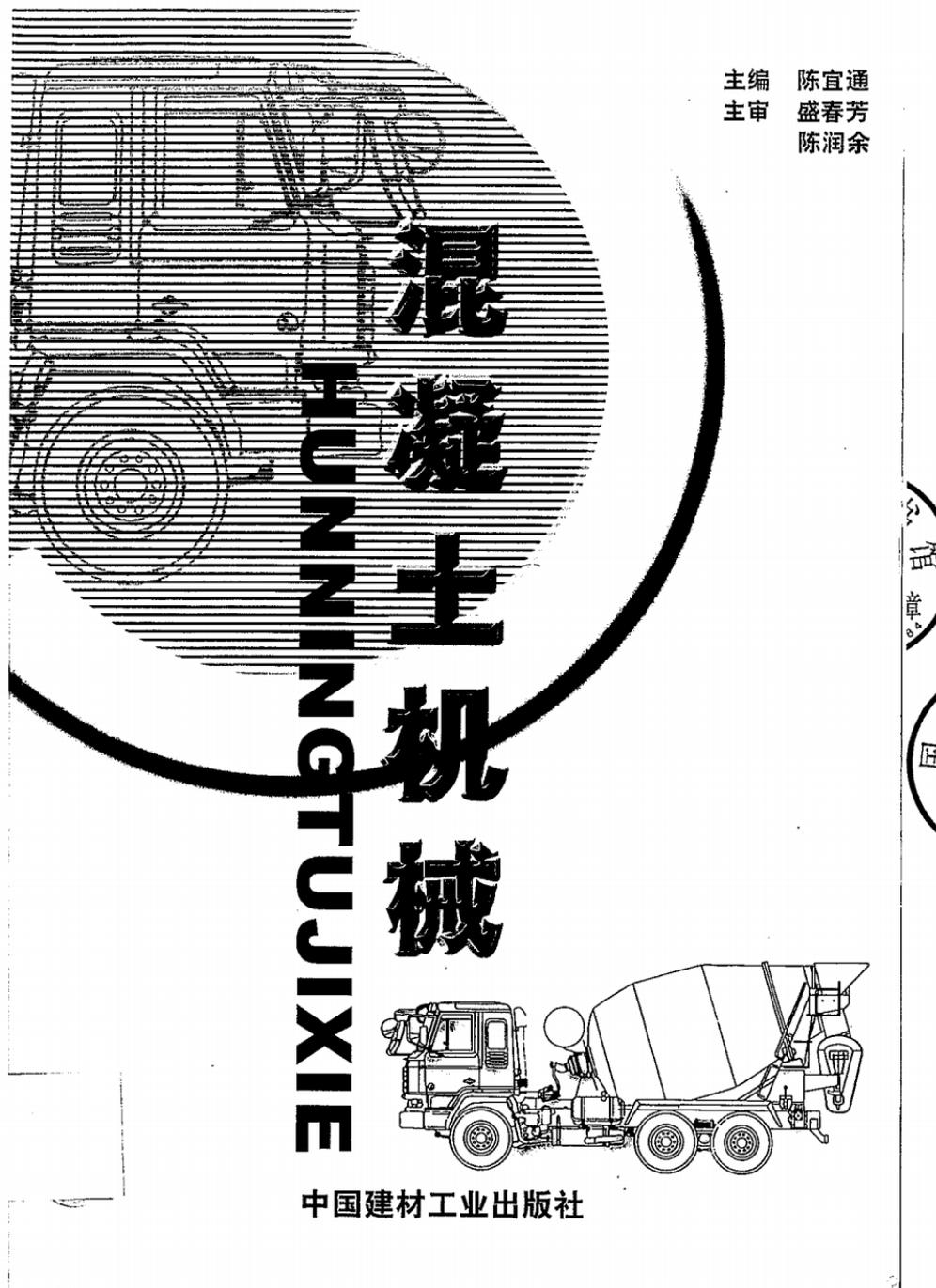


Fig.2 of Korean Patent:



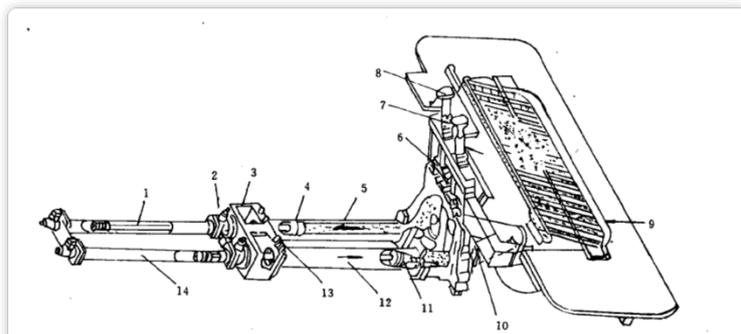
*Annex 3 Exhibit of Commonly Known Technology — Textbook “Concrete Machinery”*

Page 1



**Annex 3-Page 2**

In the book, the structure of concrete pump truck is recorded, which reads: "As shown on Fig. 6-31, it is composed of main oil cylinders 1 and 14, washing chamber 3, concrete piston 4 and 11, delivery cylinder 5 and 12, spool valve 6, spool valve reversing cylinder 7 and 8, Y-shaped tube 10, hopper 9 and stirring device 13, etc..."



Concrete bumping mechanism

- |                                  |                        |                   |
|----------------------------------|------------------------|-------------------|
| 1.14.main oil cylinder           | 2.pilot valve          | 3.washing chamber |
| 4.11concrete piston              | 5.12 delivery cylinder | 6.spool valve     |
| 7.8.spool valve reverse cylinder | 9.hopper               | 10.Y-shaped tube  |
| 13.stirring unit (in the hopper) |                        |                   |

**Annex 4: Relevant (not Exhaustive) Statutes**

Unofficial English Translation	Chinese Texts
<p><b><i>Patent Law (2020)</i></b> Article 11 (clause 1): After the granting of patent for an invention or utility model, unless it is otherwise prescribed by this Law, no entity or individual is entitled to, without permission of the patentee, exploit the patent, that is, to make, use, promise the sale of, sell or import the patented product, or use the patented process and use, promise the sale of, sell or import the product directly obtained from the patented process, for production or business purposes.</p>	<p><b>《专利法》(2020)</b> 第11条(第1款) 发明和实用新型专利权被授予后,除本法另有规定的以外,任何单位或者个人未经专利权人许可,都不得实施其专利,即不得为生产经营目的制造、使用、许诺销售、销售、进口其专利产品,或者使用其专利方法以及使用、许诺销售、销售、进口依照该专利方法直接获得的产品。</p>
<p><b><i>Patent Law (2020)</i></b> Article 64 (clause 1) The scope of protection of the patent right for an invention or utility model shall be determined by the contents of the claims. The specification and the annexed figures may be used to interpret the contents of the claims.</p>	<p><b>《专利法》(2020)</b> 第64条(第1款) 发明或者实用新型专利权的保护范围以其权利要求的内容为准,说明书及附图可以用于解释权利要求的内容。</p>
<p><b><i>Patent Law (2020)</i></b> Article 67 In patent infringement disputes, if the accused infringer has evidence to prove that the technology or design he implemented belongs to the existing technology or existing design, it does not constitute patent infringement.</p>	<p><b>《专利法》(2020)</b> 第67条 在专利侵权纠纷中,被控侵权人有证据证明其实施的技术或者设计属于现有技术或者现有设计的,不构成侵犯专利权。</p>
<p><b><i>Interpretation of the Supreme People's Court: Several Provisions Concerning the Application of Laws in the Trial of Patent Dispute Cases (2020 Amendments):</i></b> Article 13 “The scope of protection of the patent</p>	<p><b>《最高人民法院关于审理专利纠纷案件适用法律问题的若干规定》(2020)</b> 第13条 专利法第五十九条第一款(注:2020《专利法》第64条第1款)所称的“发明或者实用新型专利权的保护范围以</p>

<p>right for an invention or utility model shall be determined by the contents of the claims. The specifications and annexed figures may be used to interpret the contents of the claims” as mentioned in paragraph 1 of Article 59 of the Patent Law (<i>Note: Article 64, Paragraph 1 of the 2020 Patent Law</i>) means that the scope of protection of the patent right shall be determined by the extent determined by all technical features indicated in the claims, and shall also include the extent determined by the features that are equivalent to those technical features.</p> <p>Equivalent features refer to the features that use basically the same means, realize basically the same functions and reach basically the same effects as the technical features indicated in the claims, and that a person of ordinary skill in the field can associate them without having to go through creative work when the alleged infringement occurs.</p>	<p>其权利要求的内容为准，说明书及附图可以用于解释权利要求的内容”，是指专利权的保护范围应当以权利要求记载的全部技术特征所确定的范围为准，也包括与该技术特征相等同的特征所确定的范围。</p> <p>等同特征，是指与所记载的技术特征以基本相同的手段，实现基本相同的功能，达到基本相同的效果，并且本领域普通技术人员在被诉侵权行为发生时无需经过创造性劳动就能够联想到的特征。</p>
<p><i>Interpretation of the Supreme People's Court on Several Issues concerning the Application of Laws in the Trial of Patent Infringement Dispute Cases (2009)</i></p> <p>Article 14</p> <p>Where all the technical features which are alleged to fall into the scope of protection of a patent are identical to or are not substantively different from the corresponding technical features of an existing technical solution, the people's court shall determine the technology implemented by the alleged infringer as an existing technology as provided for in Article 62 of the Patent Law (<i>Note: Article 67 of the 2020 Patent Law</i>).</p>	<p>《最高人民法院关于审理侵犯专利权纠纷案件应用法律若干问题的解释》（2009）</p> <p>第14条</p> <p>被诉落入专利权保护范围的全部技术特征，与一项现有技术方案中的相应技术特征相同或者无实质性差异的，人民法院应当认定被诉侵权人实施的技术属于专利法第六十二条规定（注：2020《专利法》第六十七条）的现有技术。</p>