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But Examiner, We Have a Different Point of View — A case Report on Inventive Step

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Case info:

Intellectual Property High Court

Reiwa 1 (Gyo-Ke) Case No. 10159

Decision delivered on April 15, 2021

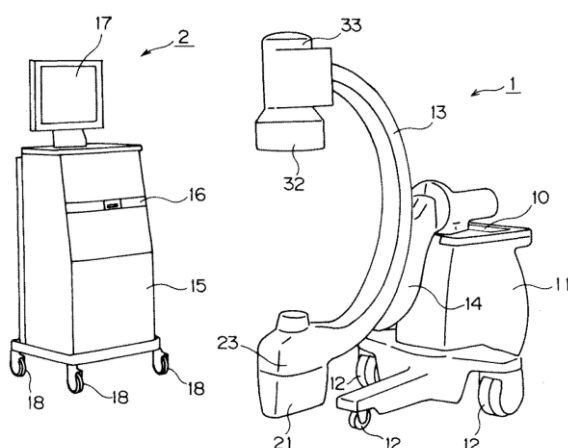
Plaintiff's patent application ([JP2014-220371](#)) relates to an X-ray fluoroscopy apparatus. The Patent Office rejected the claim as lacking inventive step.

The Court has now determined that the claim involves inventive step and rescinded the Patent Office's decision of rejection.

BACKGROUND

Plaintiff's inventive apparatus has essentially the same general structure and purpose as a conventional X-ray fluoroscopy apparatus, as illustrated in Figure 1 of the patent application. It is used during a surgery, by two persons (not including the patient!): a surgeon who performs the surgery, and an operator who operates the apparatus.

【図 1】



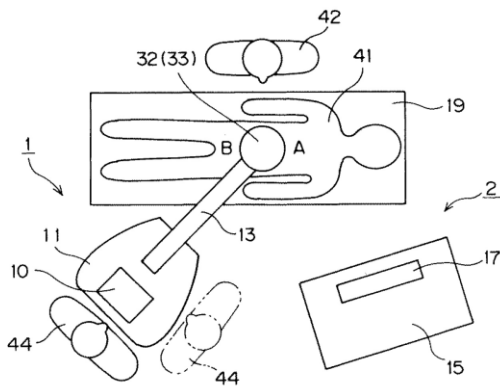
Imager **1** is movable at C-shaped arm **13** having X-ray source **21** and camera **32/33**. The operator moves imager **1** to direct the camera to the exact position of the patient's body

needing to be imaged. The surgeon performs the surgery while simultaneously monitoring the X-ray image displayed on monitor **17** of monitor cart **2**. The X-ray image provides the surgeon with additional visual information that he cannot obtain with the naked eyes. The same image is displayed on another monitor **10**, present on imager **1**, so that the operator can see what the surgeon is seeing and adjust the camera-position according to what the surgeon is wanting to see.

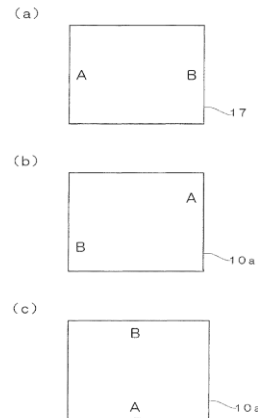
INVENTION

The problem with the conventional X-ray fluoroscopy apparatuses, as recognized by the present inventors, was the surgeon and the operator have different viewpoints. This is explained in Figure 3.

【図 3】



【図 6】



Operator **44** generally stands on the opposite side of the patient, so surgeon **42**'s right-hand side is operator **44**'s left-hand side, and *vice versa*. Moreover, operator **44** often needs to shift his own standing positions and directions, as shown in the figure, in order to properly manipulate imager arm **13**. Therefore, the image displayed on monitor **10** can be quite non-intuitive for operator **44** considering the actual standpoint from which he sees patient **41** at any given moment. This makes the operator's job difficult.

The essence of the claimed invention is that the image displayed on monitor **10** is configured to be rotatable.

This is explained in Figure 6 (compare Figure 6 with Figure 3). Figure 6 (a) is the image displayed on monitor **17** and seen by surgeon **42**. When operator **44** stands in the first position (drawn with solid lines in Figure 3), the operator may rotate the image displayed on monitor **10** to appear like (b). When operator **44** stands in the second

position (drawn with dashed lines in Figure 3), the operator may rotate the image displayed on monitor **10** to appear like (c). Thus, the operator can monitor the same image as seen by the surgeon, but in an orientation that is more intuitive for the operator himself. This makes his job (i.e., moving the camera-position for the surgeon) easier. The image can be rotated electronically, or monitor **10** itself can be rotated manually.

PATENT OFFICE'S REJECTION

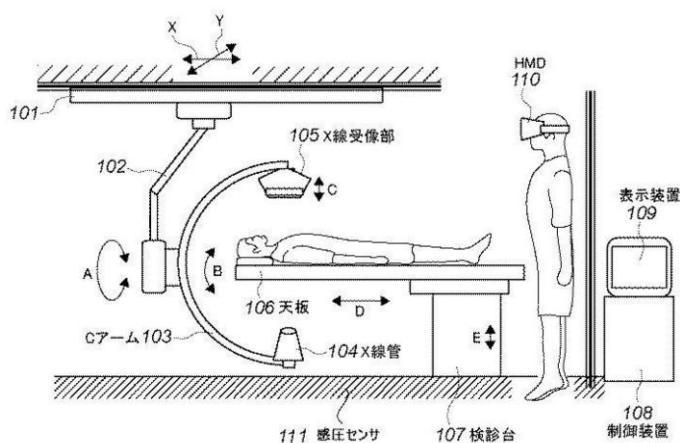
Patent Office cited two prior art documents, D1 and D2.

D1 ([JP 2006-122448A](#)) discloses a prototype (conventional) X-ray fluoroscopy apparatus. D1 discloses monitors but not rotatable monitors.

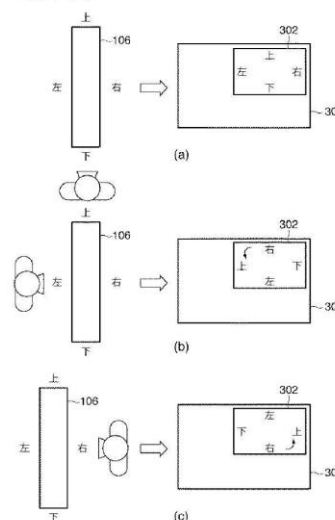
D2 ([JP 2009-022602A](#))

) discloses an X-ray fluoroscope system in which the surgeon wears a Head-Mounted Display (HMD). Figure 1 of D2 is shown below.

【図 1】



【図 1 4】



HMD **110** is a see-through glass and an X-ray image monitor at the same time.

Importantly, according to the disclosures of D2, the surgeon's standing position is detected by pressure sensor **111** in the floor, and the orientation of the X-ray image displayed on HMD **110** is automatically changed according to his standing positions sensed by pressure sensor **111**. Figure 14 (a) to (c) show the surgeon's different standing positions relative to operating table **106** and the surgeon's corresponding visions **301** through HMD including X-ray images **302**.

Patent Office rejected the claim as lacking inventive step based on the combination of D1 and D2, reasoning that D2 teaches to rotate the X-ray image based on the position of the viewer so that the viewer's naked-eye vision and the X-ray image are aligned in the

same orientation.

COURT'S JUDGEMENT

- As stated in D2, the problem solved by the invention of D2 is to enable the surgeon to view a preferred X-ray image without help from another person.
- As a solution to the problem, D2 discloses rotating the X-ray image of the HMD based on the information sent from the floor sensor detecting the surgeon's standing positions.
- In contrast, the problem addressed by the present invention is that X-ray image which is viewed by both surgeon and operator does not align with the operator's point of view since the operator looks at the patient from different positions/directions than the surgeon does. This problem is not disclosed or suggested by D1 or D2.
- Patent Office erred by disregarding the facts that the rotated X-ray image of D2 is seen by the surgeon and that the rotation is based on the standing position of the surgeon, and as a consequence, Patent Office unfairly abstracted/expanded the D2's disclosures.

COMMENTS

Defendant (Patent Office) submitted two Exhibits, among others, which were patent documents describing a surgical microscope system and a surgical endoscope system, respectively, in each of which a first surgeon and an assistant surgeon view the same microscopic or endoscopic image but displayed on different monitors, at least one of the monitors being invertible/rotatable according to the view-angle of the respective viewer. Interestingly, the Court opined that the surgeon-operator pairs in the X-ray fluoroscope surgeries are in different work dynamics than those seen between two surgeons, because traditionally the operators of X-ray fluoroscope are reconciled to the auxiliary role and obediently follow the instructions from the surgeon to move the camera, without being particularly conscious about their own inconveniences. The Court commented that the present invention can be regarded as significant in that it picked up the problem from the viewpoint of the apparatus operator who is not a surgeon. This case may illustrate that a particular workplace context in which the technology is practiced can influence the determination of whether a claim involves inventive step.

This article is meant to provide a general introduction to the Japanese IP case in an easy-to-read format for foreign audience. In translating the languages used by the laws, courts, patent office, patents, patent applications, and any cited documents, literal accuracy may have been sacrificed in favor of ease of reading and simplification. The original texts of the court's decision discussed in this article are available from the following link. https://www.ip.courts.go.jp/app/hanrei_jp/detail?id=5544