

Exam Number: \_\_\_\_\_

**VILLANOVA UNIVERSITY SCHOOL OF  
LAW**

**Patent Law  
Risch  
Spring 2015**

**Final Exam**

Exam Number: \_\_\_\_\_

**VILLANOVA SCHOOL OF LAW  
EXAMINATION IN PATENT LAW  
8 HOURS**

Professor Risch

*Spring 2015*

**INSTRUCTIONS (READ THEM ALL)**

1. **Materials Permitted:** This is an OPEN book exam, with OPEN HARD DRIVE/OPEN NETWORK. **You may not receive help from any person.**
2. This exam consists of 10 pages, including the cover page. Please check to be sure your exam is complete and contains all pages.
3. Time allotted for the entire examination is 8 hours. This is a take-home exam. Thus, you have eight (8) hours from the time you download the exam to complete and upload the answer. If you experience technical difficulties, please follow registrar office directions or contact the registrar.
4. I recommend that you do not download the exam at a time when the due time will be outside of business hours of the law school.
5. **Note that the exam will be held until the 3L cutoff, but there may be make-up exam days. You must be careful not to disclose any details of the exam to your classmates, or discuss any aspect of the exam (or your answer!) until after I post a Blackboard announcement notifying you that you may do so.**
6. **Page three of this exam is a confirmation that you understand this – please print, sign, and turn in to Mira Baric at some point before May 9.**
7. **THIS EXAM INCLUDES A STRICT WORD LIMIT OF 4200 WORDS.** I am grading each exam all at once, so feel free to refer to a prior answer if relevant. NOTE: You do not have to use all of the words available – the questions can be answered in less space than allotted. **I will stop reading after the word limit is reached.**
8. Do not rely on page counts; you should count words using your word processor’s “properties” menu item or in the bottom bar of your word processor. You may divide the word limit among the different questions however you wish.
9. Your exam must be typed, double spaced, in legible font, and on 8.5 x 11 paper size.
10. Use **only** your exam number. You may not use your name or anything else that might identify you on these materials, so check your document properties. You may not identify yourself in any way to the professor as the author of an exam until the grades are published. Make sure that your exam number appears on each page, which is most easily done with a header or footer.

Have a great summer!

Patent Law Final Exam, Spring 2015.

I \_\_\_\_\_, confirm that I abided by the instructions of this exam and have obeyed and will obey the Villanova University School of Law Code of Conduct with respect to the above exam, and that I have not discussed and will not discuss any part of the exam, its contents, or my answer with any of my classmates until after I am notified that I may do so.

Dated: \_\_\_\_\_ Signed: \_\_\_\_\_

\_\_\_ Initial here if Prof. Risch may publicly post some or all of your answer (without your name associated with it) to aid future students

Please return to Mira Baric in Room 260 by 5PM on May 9, 2014. I cannot give you a grade without it.

Patent Law Final Exam  
Spring 2015

The questions are weighted as follows: Question 1, 8 points, Question 2, 57 points, Question 3, 29 points, and Question 4, 6 points for a total of 100. If any of your answers depend on facts not stated in the problem, feel free to identify which facts would be helpful, and how they would affect resolution of the issue. You may refer to answers to prior questions. Remember your word limit. **I WILL STOP READING WHEN I REACH THE LIMIT.**

ALL PEOPLE, WEBSITES, AND EVENTS ARE FICTIONAL, EXCEPT THOSE THAT ARE REAL, BUT EVEN THEN DO NOT LOOK OUTSIDE THE FACT PATTERN GIVEN. DO NOT RELY ON ANY CASES, STATUTES, CLAIMS OR OTHER ARGUMENTS THAT ARE NOT BASED ON ASSIGNED READINGS OR CLASS DISCUSSION – YOU DO NOT NEED TO DO RESEARCH TO COMPLETE THIS EXAM.

DO NOT ASSUME THERE IS ANY PRIOR ART OTHER THAN THAT DISCLOSED (IF ANY) IN THIS EXAM.

### **Pat Holder**

Patent “Pat” Holder is an amateur contractor but, unfortunately, Pat was not very good at measuring and math. Almost every board that Pat cut with a saw was a bit too long, a bit too short, or sometimes both at once(!?). The inability to measure well also caused Pat to hang bookshelves off-kilter, because the measurement from the ceiling or floor never matched up properly (and using a level was too difficult for one person).

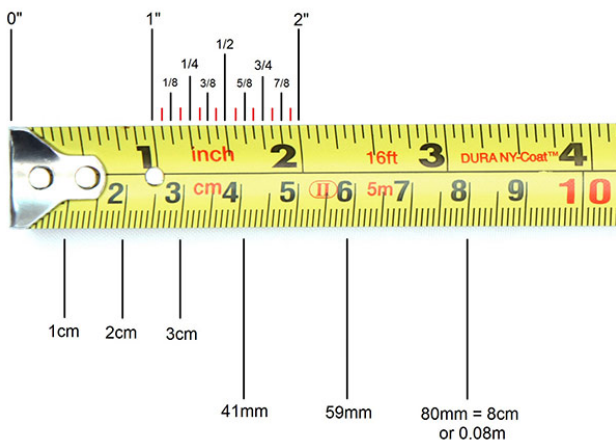
Pat’s tool of choice was the tape measure. The common tool has been in use for some time – certainly longer than Pat had been alive. It is a simple tool: a long metal strip is wound around a spring inside a casing. Measurement markings are placed on the strip in correspondence to their actual distance from the end. So, a 1” marking would be placed one inch from the end of the strip, and so forth.

One can pull the strip out, put one end of the strip against the end of whatever board is being measured, and pull the strip out to the other end of the board. One would then write down or remember which measurement marking aligned with the end of the board. That marking would represent the length of the measured board.

The following figure is an example of a tape measure:



But Pat found that reading these measurement markings isn't always as easy as it sounds. Sometimes the tape moves while you are trying to grab a pencil to write the measurement down. Sometimes the measurement was a smaller unit, like  $1/16''$  or even  $1/32''$ . These smaller measurements revealed two problems. First, the numbers were not on the tape measure – only tick marks. This left Pat trying to calculate which tick mark represented which measurement. Sometimes Pat calculated incorrectly. Second, with measurement differences that small, the angle of vision made a big difference. If Pat was directly over the tape, the measurement might be accurate, but if Pat were viewing the tape from one end or the other (which happens on occasion), the wrong tick mark would appear to be aligned with the end of the board.

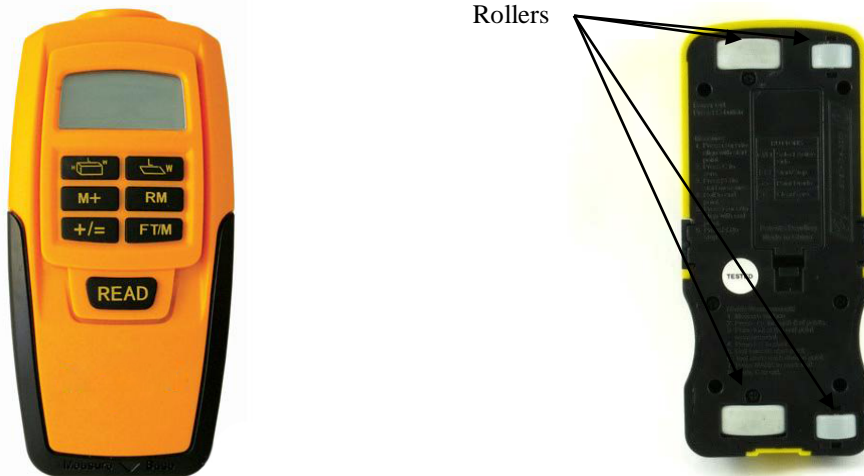


### The Digital Rolling Device

Pat needed a better solution, so Pat went to the store and bought a “rolling” measurement device from the Rolling Measurement Company (RMC). Pat had seen TV ads (only

\$19.95!) and glossy brochures about the device on January 1, 2000, but Pat couldn't buy one in the stores until April 1, 2001. In March, 2001, Pat called RMC to ask about it, and customer service told him, "We're working on it."

The RMC battery powered device, when it sold measured automatically using the circumference of its rollers to calculate distance. A picture of the front and back of this device is below.



To use the rolling measurement device, one would put one edge against the end of the board, and simply roll the device across the board. If the roller had a circumference of 1", then the sensors and processor would add one inch to the measurement each time the roller made a full revolution. The roller is highly precise, able to measure 1/64" through a slight roll of the device. There are many ways known in the art to measure distance from rollers, including magnetic, optical, or even simply counting bumps on the wheel as they pass a counter (like a card in the spokes of a bicycle wheel).

While the RMC rolling measurement device added some advantages, like the ability to pause the measurement and then restart it on a second board, or the ability to freeze the measurement so it wouldn't move while writing it down, Pat found that there were also several disadvantages. First, the supersensitivity was not all it was cracked up to be. Barely moving the device would change the measurement. Additionally, the rollers were free-wheeling, which meant that they could take a curved path as they rolled the length of a board (which added unwanted length to the measurement, which should be a straight line down the board). Finally, the device was not useful for measuring from floor to ceiling or other long/awkward measurements. In short, Pat just did not trust the device because Pat could not see what it was doing.

## The Digital Tape Measure

While waiting for the RMC device to become available, on December 1, 2000, an idea hit Pat. Adding rollers to a regular tape measure and displaying the measurements on a digital display might solve the problem. This would allow for extra-sensitive measurements, would allow for a button to freeze the display of the measurement, but would also give the user the peace of mind associated with comparing the digital readout with the markings on the measurement tape.

So, Pat got to tinkering. It took some time, because Pat needed to learn how the roller technology worked. There were standard parts that could be purchased (the rollers, the sensors and the LEDs). Implementing these wasn't that complicated in the abstract, but Pat had never worked with it before so Pat had to learn how to apply them to a tape measure. Pat also spent time developing an algorithm that would combine the readings from three roller sensors to ensure that the reading was accurate. Pat asked a friend to take a prototype home to test the accuracy because, as we know, Pat was not good at measuring.

After about two months working on the design, Pat was finally satisfied with one of the prototypes. On February 1, 2001, Pat excitedly showed it to the helpful friend. A picture of the final tape is below.



One of the unexpected benefits of Pat's tape is that the metal strip is rigid. This allows measurements to be taken in a straight line, and also from floor to ceiling.

## The Patent

On January 1, 2002, Pat filed an application for a US patent. The specification and two claims are below. The patent application published after 18 months and the '123 patent issued on January 1, 2005.

This invention provides an inexpensive electronic tape measure that includes a digital display of a length measured by its tape. This invention further provides a tape measure that is readable by both machines and humans and which substantially retains the conventional form, operation, feel and inexpensive manufacturing costs of conventional tape measures.

The tape measure has an enclosure case with a lateral slot through which the measuring tape blade is pulled. The tape blade is wound inside the enclosure case on a tape reel that is mounted on an axis support that has a spring loaded rewind mechanism. These aspects of the tape measure are traditional and well known in the art.

Mounted within the enclosure case are rollers positioned to be in contact with the tape blade as it is pulled. As the blade is pulled (or retracted) the rollers move. Sensors are present in the enclosure to measure the rotation of the rollers as the tape blade is moved. The measured rotation coincides with the length of tape which has been pulled from the enclosure case. A conventional LCD displays measured lengths. Though the preferred embodiment includes a rigid tape blade, other measurement indicia might be used, such as rope or cloth tape.

I claim:

1. A digital display tape measure comprising:

a housing;

a tape wound on a reel within the housing, said tape including a series of substantially equally spaced and equally dimensioned marks along a common line;

a roller rotatable on a shaft positioned within the housing, the roller positioned such that when the tape is extracted or retracted from the housing, the tape causes the roller to rotate;

means for providing a measurement of the rotation of said roller;



a display component operable to i) receive the measurement from said means for providing a measurement and ii) convert the rotational measurement to a linear measurement digital readout. [Note: linear measurement digital readout here means to display the length in terms of a straight line - like feet and inches]

2. A digital display measuring device comprising:

a housing;

a measurement indicia within the housing;

a roller rotatable on a shaft positioned within the housing, said roller positioned such that it rotates in correspondence with removal of said measurement indicia from said housing;

means for providing a measurement of the rotation of said roller;

a display component operable to i) receive the measurement from said means for providing a measurement and ii) convert the rotational measurement to a linear measurement digital readout.

Pat made more prototypes after filing for the patent. Pat's friends reported that the device worked well, though there was often a 1/16" discrepancy between the roller measurement on the LCD screen and what the tape measure said.

### **The Marking Rolling Measuring Device**

Aware of the problems with its own rolling measurement device before it even shipped, by November 1, 2000 the Rolling Measurement Company had begun work on an alternate product. This product added marking to the product. At great research and development expense, it devised a way to temporarily draw a line down the path of where its device had rolled. The line served two purposes. First, it showed that the roller had, in fact, moved in a straight line. Second, it left measurement markings similar to a tape measure, so that the user would have some comfort level that the measurement on the screen matched the measurement on the board, because the user could see the markings right on the board, similar to a tape measure.

RMC finished a working prototype on July 1, 2001 that it sent to manufacturing, but manufacturing snafus on the special ink used in the device held up delivery to stores. The product started shipping on February 1, 2002.

## **The Lawsuit**

Pat was secretly hoping RMC would buy the patent, but that hope disappeared with the release of the new marking rolling measuring device. So, Pat sued RMC for patent infringement instead, specifically alleging that the marking rolling measuring device infringed the '123 Patent.

### **QUESTIONS:**

Q1: You are counsel for Rolling Measurement Company. In eight sentences or less, please explain your best argument that the '123 Patent is invalid for lack of patentable subject matter, and the response Holder will likely make. (8 points)

Q2: You are counsel for Pat Holder. Please draft a memo describing the challenges to the validity of the '123 Patent that Holder might see, and the responses Holder has to such challenges. You may skip patentable subject matter. (57 points)

Q3: You are counsel for Rolling Measurement Company. Please draft a memo describing the infringement claims RMC will likely see on its marking rolling measurement device, and the responses RMC has to such claims. There is no need to address contributory liability or any defense of invalidity from Q2. (29 points)

Q4: Assume for a moment that the AIA first-to-file provisions were in effect at the time Pat Holder filed for a patent. How might the analysis of the validity of the '123 Patent change at all? Answer in seven sentences or less. (6 points)