IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor:	B. Scott Maxfield		
Appln. No.:	18/490,715	Confirmation No.:	5970
Filing Date:	19 October 2023	Examiner:	Shiref M Mekhaeil
Title:	MULTIFUNCTION BUTTON FOR LADDER ADJUSTMENT	Group Art Unit:	3634

DECLARATION UNDER 37 C.F.R. §1.132

Mail Stop Amendment
Commissioner for Patents
P. O. Box 1450
Alexandria, Virginia 22313-1450

I, B. Scott Maxfield, declare that:

1. I have extensive experience in the ladder industry, including over 8 years doing new product design. I have designed many ladders and ladder accessories that are currently being used in the industry. I am currently a Mechanical Engineer at Little Giant Ladder Systems, LLC. I have been listed as an inventor on more than 10 patents for ladders and related equipment, with other patents pending.

2. I am familiar with the disclosure of the present application (U.S. Patent Application 18/490,715) and its relationship to other ladder products in the current marketplace and marketplaces of the past.

3. Based on my years of experience in this field, I respectfully submit that the claims of the present application would not have been obvious to a person having ordinary skill in the art at the time the invention was made. First, prior to the invention of the

devices of the current application, there was a long-unmet need for object hanging abilities for ladders. Over the course of my career in the ladder industry, the prevailing wisdom in the marketplace was that an adjustment button for a hinge of an articulating ladder was only for your hand and that the general area of the hinge of the ladder was not open and available for holding or storing objects. You would not put a top cap, tray, or other traditional storage devices in the hinge area of an articulating ladder because they would interfere with a user's ability to climb and stand on the ladder while the ladder is in a straight configuration. This conventional wisdom extended to the button area of the hinge since that area is so critical to the functionality and safety of the ladder.

4. I am familiar with the hinge button of U.S. Patent Application Publication No. 2009/0229918 to Moss that has a magnet (226) for attracting tools. Although this design provided some assistance to a user while in an elevated position on a ladder, it came with significant drawbacks that led our engineers away from pursuing hinge button hanging features for many years. I received reports that users of the magnetic hinge button ladder were dissatisfied with the utility of the magnetic button, its ability to hold heavier objects, and its ability to attract unwanted objects to it. Beyond these issues, its bill of materials was too expensive relative to the benefits it provided, primarily due to its inclusion of a large, strong magnet. As a result, the magnetic button product was discontinued after its initial design and sales. Accordingly, I am familiar with the marketplace at the time the Moss device was produced and sold, and I affirm that although there was an unmet need for hanging objects for articulating ladders, the magnetic button implementation had enough drawbacks to drive us away from further development of such technology.

5. Additionally, a person having the magnetic button of Moss would not have been inspired to modify the Moss button to include other kinds of hanging functions. As explained above, the Moss button was unsatisfactory in multiple ways, so there was no institutional will to further explore concepts of other ways for hanging objects from a button, and even if there was interest, the process of modifying a hinge button is not a trivial undertaking. A weight rating is given to any features intended to hold objects on a ladder, and materials and safety tests must be performed when something like the hinge button is changed. It would take at least 50-80 hours of engineer and technician time to design and verify changes to a hinge button designed to support objects. However, the failures of the Moss magnetic button led to circumstances where such a significant investment in time and other resources to investigate alternatives had low priority. The lack of appeal would have been recognized at the time by any person having ordinary skill in the art. Therefore, in my view, the existence of the Moss patent application is merely evidence of an attempt and failure to adequately serve the long-felt, unmet need for hanging objects from articulating ladders rather than disclosure that would inspire a person having ordinary skill in the art to obtain the devices of the present application.

6. I further affirm that the Examiner's proposed combination of the Moss button with the bracket of U.S. Patent No. 11,191,373 to Ng would not have been obvious. In view of the significant resources required to make a change to a hinge button, an engineer in our position would not have found it obvious to "simply" add a picture hanging bracket to the side of a hinge button to replace the Moss magnet.

7. A designer would not have turned to any picture frame brackets for inspiration in modifying a hinge button anyway. Picture frame brackets are placed on a

small object (*e.g.*, a picture frame) to support it on a *larger* object (*e.g.*, a wall), but the Examiner is arguing it would be obvious to use the Ng bracket to do the opposite – to place a bracket on a *large* object (*e.g.*, ladder) so that it can support a *smaller* object (*e.g.*, a tool). This would have been unconventional thinking prior to our invention of the hinge button assemblies of the present application. Additionally, picture frame brackets usually include notches and spikes (*e.g.*, to receive nails), and we would not want to add parts to a hinge button that would apply uncomfortable pressure to the palm of your hand. It would not make sense to make a button more uncomfortable to press by adding a picture bracket such as bracket 10 of Ng to the palm pressing surface.

8. Furthermore, the development of the hinge button assemblies of the present application led to unexpected results. Adding weight to the outer lateral sides/rails of a ladder is conventionally considered undesirable since the added weight shifts the center of gravity upward and laterally outward (toward where the weight is added) and therefore would make the ladder more unstable when it is impacted from a lateral side. It was thought that as more weight is added, the instability increases. Heavy objects cannot be held in place by the Moss magnets, so this stability issue would not have been as prominent for the Moss buttons. It was much more prominent of an issue for hinge buttons of the present application since they would support greater weight. Despite this, after testing our hinge button assembly design, we found that hanging objects from our hinge buttons *increased* the stability of the ladder. The added weight was positioned between the feet at the base of the rails and therefore increased the force necessary to tip the ladder. The hinge hanging functionality added by the present application therefore

was not obvious to us because it led to the unexpected result of increasing a ladder's stability rather than decreasing it.

9. I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment or both under section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the above-referenced application or any patent issuing thereon.

Date: Nov 27, 2024

B. Scott Maxfield

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PGR2026-00044
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