Aug. 31, 1965 M. T. PITSENBARGER 3,203,668

FLOOR JACK

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Fig. 1.

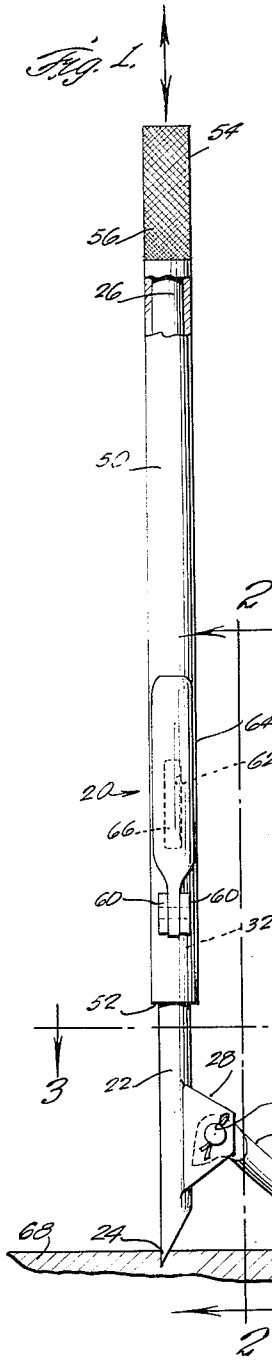


Fig. 3.

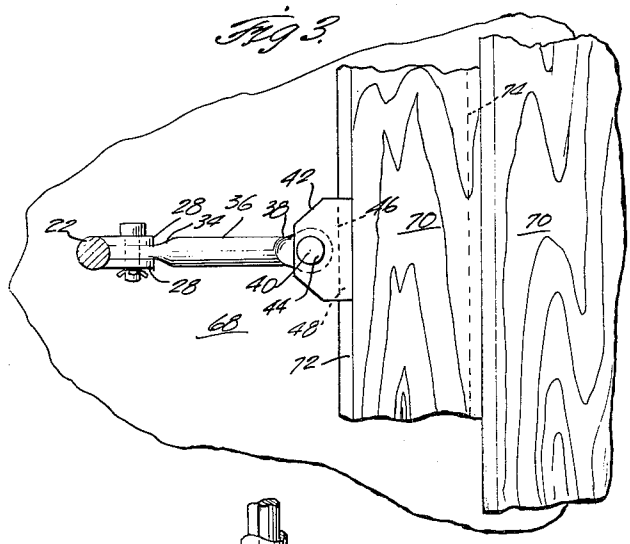


Fig. 2.

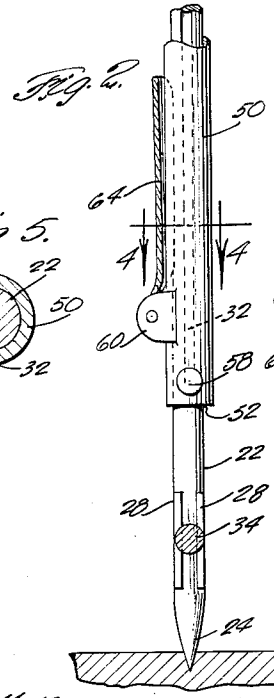


Fig. 5.

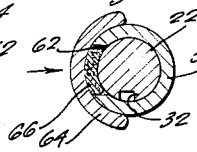
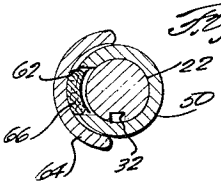


Fig. 4.

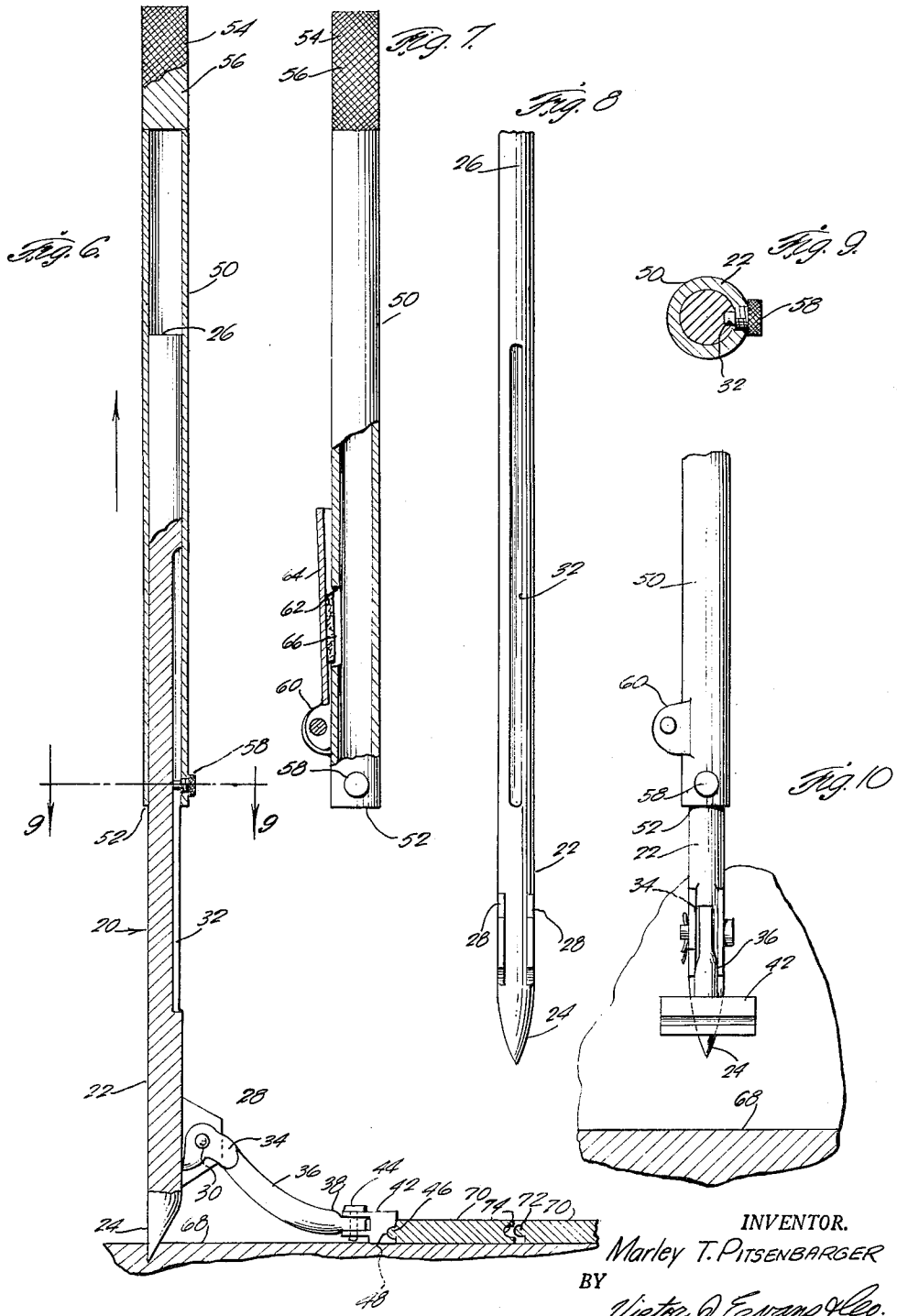


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FLOOR JACK

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FLOOR JACK

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3 Claims. (Cl. 254—15)

This invention relates generally to a carpenter's tool and more particularly to a flooring jack for installing tongue and groove boards.

The installation of tongue and groove flooring requires a considerable amount of care to insure a tight fit between each board. If this result is not attained during the installation of each board, gaps will result throughout the entire floor area. Furthermore, such gaps and uneveness will result in uneven floor edges, since larger gaps may result at one end of the boards than at the other ends.

These gaps may result from several conditions inherent in lumber presently available on the market. For instance, the boards may be bowed or warped or cut improperly. Furthermore, the tongue of one board may be slightly larger than the corresponding groove of another board, causing a misfitting when such boards are matched with one another. Of course, such gaps resulting from these inherent deficiencies are undesirable for for many obvious reasons.

Therefore, carpenters employ a device, commonly referred to as a flooring jack, for providing a tight fit between the boards for removing any slack therein during nailing to a subflooring. Such jacks, however, in the past have been inadequate in one respect or another. For instance, freedom of movement of the device is not available in the prior known tools for tightening boards. This freedom allows changes in the direction of force without relocating the machine. Since anchoring means are required of such machines, relocating the device is troublesome.

Some of the prior art flooring jacks include sliding hammer structures for driving the anchor into the subflooring to provide a fulcrum point for the device. In use, however, this sliding structure presents disadvantages which as yet have not been overcome. For instance, such structures may slide when a force is exerted on the lever arm, thus releasing or destroying the workman's lever advantage.

Furthermore, the workman cannot lift the device from its anchor position with the sliding structures, since there are provided no engaging means with the anchor shank. For this reason, the workman is required to lift the device from another point when it is desired to relocate and then shift his hold to the sliding hammer again to anchor the device in the new position. The other alternative is for the workman to stand each time relocation of the device is required. Of course, such actions are detrimental to the efficient operation of the workman.

In addition, prior known floor jacks cannot perform properly or efficiently adjacent a wall or other obstruction.

It is, therefore, apparent that a need exists for interlocking the sliding hammer and anchor shank structures. For without such interlocking, the hammer remains freely slidable with resepect to the anchor shank and the operation is impaired.

It is, therefore, a primary object of this invention to provide a flooring jack with cooperating hammer structures which will not impair the efficient operation of the device.

It is another object of this invention to provide a flooring jack which does not require readjustment for small changes of the thrust plate.

Another object of this invention is to provide a flooring jack which is compact in structure, particularly in its portable state.

Still another object of this invention is to provide a

flooring jack which is economical to manufacture and simple in construction and operation.

Yet another object of this invention is to provide a flooring jack including a hammer which does not interfere with the leverage of the device.

And another object of this invention is to provide a flooring jack which can operate in close proximity to a wall or other obstruction.

These and other objects of the present invention will be more fully realized from the novel structure thereof which includes generally an anchor shank, a sliding hammer disposed on the shank, and a push rod extending from the shank and including a thrust plate for engaging a board. This novel combination includes a braking structure between the sliding hammer and the shank for retarding the sliding relative movement.

The invention, however, will be more fully realized and understood from the following detailed description when taken in conjunction with the accompanying drawings wherein:

FIGURE 1 is a side elevational view of the present invention shown anchored to a subflooring and engaging a tongue and groove board;

FIGURE 2 is a sectional view taken along lines 2—2 of FIGURE 1;

FIGURE 3 is a sectional view taken along lines 3—3 of FIGURE 1;

FIGURE 4 is a sectional view taken along lines 4—4 of FIGURE 2;

FIGURE 5 is a similar view to that shown in FIGURE 4, but showing the parts in operative engagement;

FIGURE 6 is a side elevational view similar to that shown in FIGURE 1, but illustrating some of the parts in partial section;

FIGURE 7 is a front elevational view partly in section of the sliding hammer;

FIGURE 8 is a front elevational view of the anchor shank;

FIGURE 9 is a sectional view taken along lines 9—9 of FIGURE 6; and

FIGURE 10 is a fragmentary front view of the device shown with the braking mechanism removed.

Like reference numerals throughout the various views of the drawings are intended to designate the same or similar structures.

With reference to the drawings, and in particular to FIGURE 1, there is shown the device of the present invention, which is generally designated with the reference numeral **20**. An anchor shank **22** includes a pointed end **24** and a blunt end **26**. Adjacent the pointed end are a pair of bosses **28** each having holes **30** therein which cooperate with one another. The shank also includes a longitudinal slot **32** which extends along the surface thereof and terminates intermediate the ends thereof.

Pivotally secured between the bosses is one end **34** of a push rod **36**. The other end **38** of the push rod is flattened and includes a hole **40** therein. The push rod is preferably fashioned such that when the shank is vertically disposed, the flattened portion or end **38** is substantially horizontally disposed along a line through the pointed end of the shank This configuration allows a forward and parallel thrust by end **38** at all times.

A thrust plate **42** is pivotally secured to end **38** by means of a fastener **44** extending therethrough and through hole **40**. Plate **42** includes a groove **46** extending across one face thereof. Groove **46** is adapted to receive a portion of a tongue **48** therein.

Disposed over end **26** of the shank is a sliding hammer **50** having an open end **52** for receiving the shank and a weighted and closed end **54**. End **54** is preferably knurled as designated by the reference numeral **56** for providing a grip thereon. Secured in the side wall of hammer **50**

and adjacent the open end thereof is a pin **58** disposed for engaging shank **22** in the slot therein. The pin and slot arrangement maintains the hammer and shank in a respective relative position for facilitating use of the braking structures. Furthermore, the pin and slot retain the hammer structure within a prescribed path during the sliding movement.

A pair of bosses **60** extend from the hammer and include a pair of aligned holes therein. The bosses are disposed relative to the open end of the hammer such that the braking structures will be in working position for the workman. Spaced from bosses **60** and in line therewith is a slot **62** in the side wall of the hammer. A lever **64** is pivotally connected between the bosses and is preferably arcuately shaped to conform to the side wall of the hammer. A brake shoe **66** is secured to the inner side of the lever and extends into slot **62** for engagement with the surface of shank **22**. This structure provides many of the novel features that this invention shows over prior known flooring jacks. When lever **64** and hammer **50** are gripped by the workman's hand, the brake shoe frictionally engages a corresponding surface of shank **22**. Such frictional engagement impedes any relative movement between the hammer and the anchor shank.

As shown, end **24** of the shank is disposed for being anchored in the subflooring. This anchor point serves as a fulcrum for the device while hammer **50** serves as a lever to exert a force at the front face of the thrust plate. As shown in FIGURE 1, the subflooring is designated with the reference numeral **68** and tongue and groove boards are designated with the reference numeral **70**. Each board includes cooperating tongue members **72** and groove members **74**.

In operation the device performs as follows:

End **24** of the anchor shank is placed on the subflooring at a convenient distance from the board being inserted. This location of end **24** can be easily and quickly determined by the carpenter if the board is first placed adjacent the preceding one, the thrust plate is placed adjacent the board, and then the pointed end **24** is placed on the subflooring with the shank substantially vertical. This operation is quickly and easily accomplished from a kneeling position of the carpenter. When the location of end **24** is determined, the carpenter releases his hold on lever **64** and raises the hammer to strike the shank and push end **24** into the subflooring. The carpenter then holds

the lever to impede relative movement of the hammer with the shank and exerts a force on the hammer and shank to cause the last board to tightly engage the preceding board.

As shown in FIGURE 3, the thrust plate is sufficiently small to allow nailing into the board. Since the nails are inserted adjacent the tongue portion, the thrust plate should allow sufficient room for them.

The principles of the invention explained in connection with the specific exemplification thereon will suggest many other applications and modifications of the same. It is accordingly desired that, in construing the breadth of the appended claims they shall not be limited to the specific details shown and described in connection with the exemplification thereof.

What is claimed is:

1. A flooring jack comprising an anchor shank having a pointed end, a push rod having one end pivotally connected adjacent the pointed end on said shank, a thrust plate pivotally connected to the other end of said push rod and having a groove to engage and receive a tongue portion of board flooring, a hammer slidably disposed on the other end of said shank, said shank including a longitudinal slot intermediate the ends thereof, a pin secured to said hammer and disposed in said slot in sliding engagement therewith for guiding said hammer along said shank, and means on said shank for braking relative movement between said hammer and said shank when said hammer is disposed proximate to the end of its path of movement.

2. The flooring jack of claim **1** wherein said braking means includes a lever pivotally connected to said hammer.

3. The flooring jack of claim **2** wherein said hammer includes a slot therein, said braking means includes a shoe connected to said lever and disposed in said slot.

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