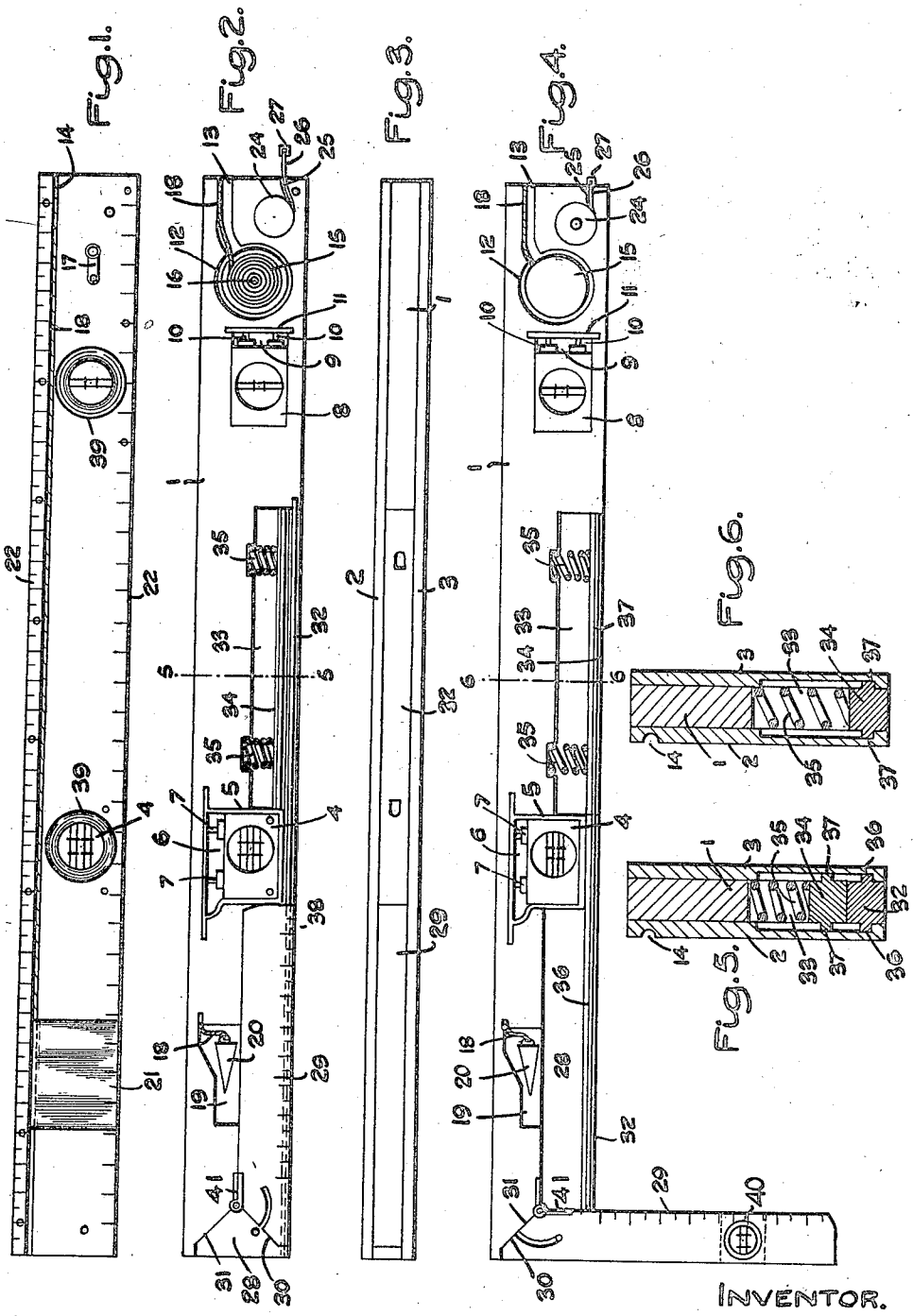
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S. ROME

COMBINATION TOOL

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UNITED STATES PATENT OFFICE.

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COMBINATION TOOL.

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To all whom it may concern:

Be it known that I, SAM ROME, a resident of the city of Toronto, in the county of York, in the Province of Ontario, Canada, have invented certain new and useful Improvements in Combination Tools, of which the following is the specification.

My invention relates to improvements in combination tools and the object of the invention is to devise a combination tool which will contain spirit level, plumb line, tape measure and square.

My invention consists of a combination tool constructed and arranged substantially as hereinafter more particularly described and illustrated in the accompanying drawing in which:

Fig. 1 represents a side elevation of the same.

Fig. 2 is a similar view to Figure 1 with the plate removed.

Fig. 3 is an inverted plan view.

Fig. 4 is a similar view to Figure 2 only with the movable arm of the square extended.

Fig. 5 is an enlarged cross sectional view through the line 5—5 of Figure 2, and

Fig. 6 is an enlarged cross sectional view through the line 6—6 of Figure 4.

Like characters of reference indicate corresponding parts in the different views.

1 is the body portion of the tool provided with the side plates 2 and 3 respectively. 4 is a horizontal spirit level adjustably mounted in the frame 5 inserted into the recess 6 in the body portion 1 of the tool. The setting of the level is adjusted by means of the setscrews 7 which are adapted to engage the upper edge of the level, said screws being threaded into the upper portion of the frame 5. 8 is the vertical spirit level adjustably mounted in the recess 9 in the body portion of the tool 1. The setting of the level 8 is adjusted by means of the setscrews 10 threaded into the plate 11.

12 is a plumb line recess having the channel 13 communicating therewith and extending to one end of the instrument, said recess and channel being situated in the body portion 1 of the tool. 14 is a longitudinal groove in the outer face of the lever plate 2, said groove lying immediately above the channel 13 upon the cover plate being applied to the body portion 1. 15 is a plumb line spool rotatably mounted in the recess 12 and having the spindle 16 extending through the cover plate 2, the end of said spindle being provided with the handle 17 by means of which the plumb line 18 is reeled in or paid out.

19 is a recess in the body portion adapted to receive the plumb bob 20 and any other small tool such as a wrench for adjusting the setscrews 7 and 10. 21 is a plumb bob recess cover plate slidable in the cover plate 2, said plumb bob recess cover plate normally covering the plumb bob recess 19.

22 are scales on the cover plate 2, the cover plate 3 being also provided with similar scales. 24 is a tape measure recess situated in the vicinity of one end of the body portion 1 and having the channel 25 communicating therewith, said channel extending through the end of the body portion 1. 26 is the tape line provided with the usual D 27 at the free end thereof, said tape line being preferably of the spring type which will reel in automatically when the end of the line is released.

28 is a recess extending from one end of the body portion 1 and adapted to receive the movable arm 29 of the square, said arm being suitably hinged to the top wall of the recess 28 and being provided with the inclined end 30 adapted to engage the inclined wall 31 of such recess when the arm is extended into the position shown in Figure 4, the inclination of said end 30 and said wall 31 being at forty-five degrees. 32 is a slide normally covering a recess 33 in the intermediate portion of the body portion 1, said recess extending to the bottom of the body portion.

34 is a filler strip adapted to close the recess 33 when the slide 32 has been slid into the position shown in Figure 4. 35 are spiral springs interposed between the top wall of the recess 33 and the filler strip 34. 36 are longitudinal tongues on the side faces of the slide 32, and 37 are longitudinal tongues on the side faces of the filler strip 34. The tongues 36 are adapted to slide in slots 38 in the side walls of the recess 28 when the slide 32 is slid to the position shown in Figure 4.

39 are apertures in the cover plate 2 adapted to register with the spirit levels 4 and 8 when the cover plate 2 is applied to the body portion 1. 40 is a spirit level in the square arm 29.

The plumb line 18 when reeled in has its free end extending through the channel 13

about the end of the cover plate 2 and along the groove 14 (as shown in Figure 1), the plumb bob being situated in the recess 19 and such line 18 being held in place by the cover plate 21 extending across the groove 14 (as is shown in Figure 1).

To use the plumb line it is only necessary to withdraw the cover plate 21, remove the plumb bob 20 from the recess 19, paying out such line 17 by means of the handle 17, then applying the tool to a wall or other structure in the ordinary manner. When the plumb line is finished with it can be reeled up by means of the handle 17 and the plumb bob 20 replaced in the recess 19 and the cover plate 21 closed to the normal position shown in Figure 1.

To use the tape measure it is merely necessary to pull out the line 26 by means of the D 27 the required extent.

In using the square it is only necessary to swing the arm 29 about the hinge 41 until the inclined end 30 engages the inclined wall 31 of the recess. The slide 32 is then slid along into the position shown in Figure 4 wherein the end thereof abuts the arm 29, when the springs 35 will force the filler strip 34 into the position shown in Figure 4, thus filling the recess 33.

To restore the square arm 29 to its closed position the filler strip 34 is pressed down against the springs 35 and the slide 32 slid along to the position shown in Figure 2 when the arm 29 may be swung into the closed position as illustrated in Figure 2.

The spirit levels 4 and 8 are used identically as is the case with the ordinary level.

From the above description it will be seen that I have devised a simple and effective combination tool in which the workman will have a level, scale, plumb line, square and tape measure always at hand. He will thus be saved the inconvenience of having to use each tool independently.

What I claim as my invention is:

1. In a combination tool, a lever bar having plumb line and plumb bob recesses therein, a plumb line spool journalled in said plumb line recess, a plumb line wound on said spool, a plumb bob connected to the line and normally situated in the plumb bob recess, an operating handle for the spool, said handle being situated exteriorly of the level bar and means for normally covering the plumb bob recess and retaining the plumb bob therein, said plumb line extending from the spool through a channel to the end of the bar, and in a reverse direction along a groove in the face of the level bar.

2. In a combination tool, a level bar having plumb line and plumb bob recesses therein, a plumb line spool journalled in said plumb line recess, a plumb line wound on said spool, a plumb bob connected to the line and normally situated in the plumb bob recess, an operating handle for the spool, said handle being situated exteriorly of the level bar and a spring held cover plate for the plumb bob recess, said plumb line extending from the spool through a channel to the end of the bar, and in a reverse direction along a groove in the face of the level bar.

3. In a combination tool, a level bar having a recess in its underneath side extending to one end thereof, of a swingable arm adapted to be swung into an open position at right angles to the level bar and forming a square therewith, and means for closing the recess in the underneath side of the level bar upon the arm being swung into the open position.

4. In a combination tool, a level bar having a recess in its underneath side extending to one end thereof, of a swingable arm adapted to be swung into an open position at right angles to the level bar and forming a square therewith, said arm having a hinged end inclined at forty-five degrees to the side faces of the arm adapted to engage a corresponding inclined face on the upper wall of the recess, and means for closing the recess in the underneath side of the level bar upon the arm being swung into the open position.

5. In a combination tool, a level bar having a recess in its underneath side extending to one end thereof, of a swingable arm adapted to be swung into an open position at right angles to the level bar and forming a square therewith, said arm having the hinged end inclined at forty-five degrees to the side faces of the arm and adapted to engage a corresponding inclined face on the upper wall of the recess, a filler strip in said recess, springs between said filler strip and the upper wall of the recess, and a slide below said filler strip capable of being slid along clear of the filler strip upon the arm being swung into the open position, and with the filler strip closing the bottom of the recess.

6. In a combination tool, the combination with a level bar having removable face plates with scales thereon, of removable spirit levels in said bar, a plumb line and bob in said bar, and a swingable arm capable of being swung at right angles to the bar and forming a square therewith.

SAM ROME.