

Jan. 5, 1954

M. S. ROMBY

2,665,109

SPRING TOOL

Filed Sept. 9, 1949

Fig. 1.

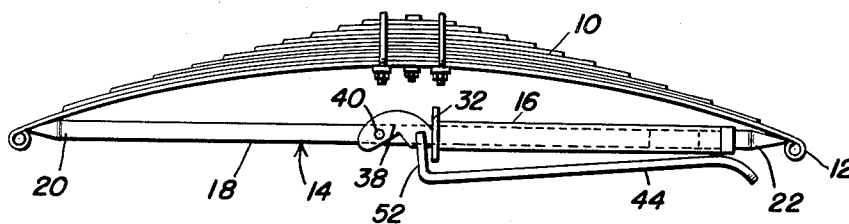


Fig. 2.

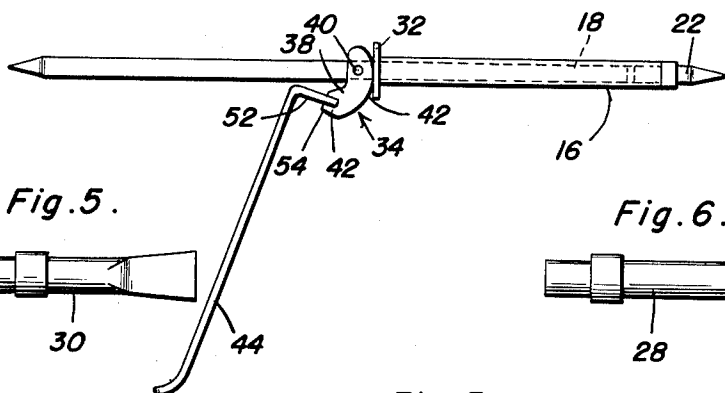


Fig. 5.

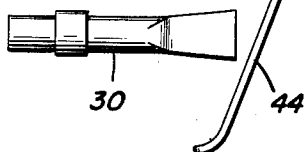


Fig. 6.

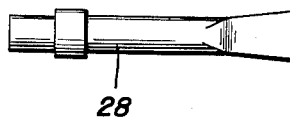


Fig. 3.

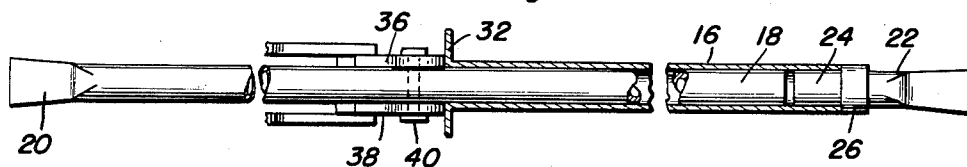
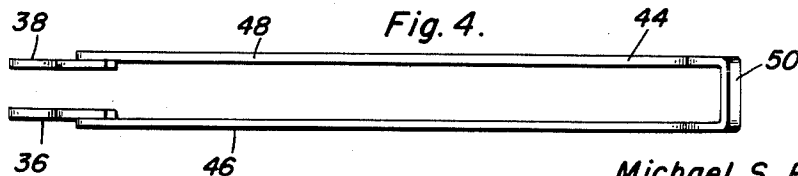


Fig. 4.



Michael S. Romby
INVENTOR.

BY *Almonce A. Orison*
and *Harvey B. Jacobson*
Attorneys

UNITED STATES PATENT OFFICE

2,665,109

SPRING TOOL

Michael S. Romby, Roanoke, Va.

Application September 9, 1949, Serial No. 114,832

1 Claim. (Cl. 254-114)

1

This invention relates to an automobile tool for use in removing and installing springs and spring shackles.

The main object of this invention is to provide a sturdy and compact tool for spreading and tensioning the spring by spreading the ends of the spring apart.

Another important object of this invention is to provide a tool which is light and can be easily operated by one person for facilitating easy removal and installation of spring shackles and transverse type springs, the device being adaptable for use with any type of transverse spring used on an automobile.

Another important object of this invention is to provide means for locking the spring in a spread position.

These and ancillary objects are attained by this invention, a preferred embodiment of which is set forth in the following description and illustrated in the accompanying drawing, wherein:

Figure 1 is a front elevational view of a spring, illustrating the preferred embodiment of this invention in operative use;

Figure 2 is a side elevational view of the improved spring tool;

Figure 3 is an enlarged plan view of the spring tool, with a portion thereof shown in section;

Figure 4 is a plan view of the actuating bar; and

Figures 5 and 6 are plan views of adapter tips, which can be used to enable the spring tool to conform to transverse springs of all lengths.

In the accompanying drawings, a conventional leaf spring 10 is illustrated and is formed at its opposite ends with eyes or cylindrical portions 12 which form journals for the shackle bolts. The improved spring tool 14 is provided for spreading the spring apart, the tool being adapted to engage the opposing ends 12 of the spring.

The tool includes a pair of telescopically arranged tubular male and female members 16 and 18. The member 18 is formed with an integral wedge-shaped outer end 20, the inner end of the inner member 18 being disposed within the outer member adjacent the outer end thereof. A wedge-shaped tip 22 is formed with an extending shank 24 received in the outer end of the member 16, an enlarged stop or shoulder 26 being formed on the shank to limit the inward movement thereof. To adapt the tool for use with various types of springs, various sizes of adapter tips may be employed and, for example, adapter tips 28 and 30 are illustrated in Figures 5 and 6,

2

An annular flange or collar 32 extends laterally from the inner end of the member 16 and is adapted to be engaged by movable actuating means 34 carried by the member 18, whereby the members are extended. In this respect, the means 34 preferably includes a pair of elongated cams 36 and 38 which are commonly pivoted adjacent one of their ends to the member 18 by a headed pivot pin 40, which is transversely disposed through the member 18 and through the ends of the cams. The working faces 42 of the cams are adapted to bear against the outer face of the shoulder or flange 32 on the member 16 and thereby spread the members apart. The cams are formed on one end with opposing offset heels 42 to which a substantially U-shaped actuating bar or lever 44 is secured. The actuating bar 44 includes a pair of parallel arms or legs 46 and 48 joined at their outer curved ends by a transverse bar 50. The inner ends of the legs 46 and 48 terminate in angularly extending portions 52 which are secured to the heels of the cams 36 and 38 and which permit the lever 44 to clear the flange 32 and swing to a position adjacent to and substantially parallel with the female member 16, as shown in Figure 1 of the drawing, when said cams are in operative position.

The heels of the cams are formed with straight edges or flats 54 which, as seen in Figure 1, are provided to lock the members in an extended relation.

In use, the common actuating bar 44 is moved relative to the outer end of the member 16 and the cams are thereby moved about their common pivot, bringing the working faces of the cams into operative relation with the flange 32. When the bar is moved into the position illustrated in Figure 1, the flats 54 of the heels are brought into engagement with the flange 32 and the members are locked in extended relation.

Thus, it can be seen that a simple and sturdy tool is provided and it is to be understood that certain changes in style, size and components may be effected without a departure from the spirit of the invention and within the scope of the appended claim.

Having described the invention, what is claimed as new is:

50 A spring tool of the character described comprising relatively slidable, telescopically connected male and female members, spring engaging means on the outer ends of said members, a flange on the inner end of the female member, a pin

3

mounted diametrically in the male member at an intermediate point and including headed projecting end portions, a pair of elongated cams pivotally mounted on the end portions of said pin and operable on the flange for extending the members, a substantially U-shaped operating lever including main portions and angularly extending end portions fixed to one end portion of the cams, and said main portions substantially paralleling the female member in close proximity thereto when the members are extended and flats on said one end portion of the cams engageable with the flange for releasably securing the members in extended position.

MICHAEL S. ROMBY.

4

References Cited in the file of this patent

UNITED STATES PATENTS

	Number	Name	Date
	178,014	Lull	May 30, 1876
5	206,231	Deeds	July 23, 1878
	208,940	Williams et al.	Oct. 15, 1878
	222,492	Hamilton	Dec. 9, 1879
	740,122	Greenwood	Sept. 29, 1903
	1,755,088	Vickrey	Apr. 15, 1930
10	1,784,033	Swanby	Dec. 9, 1930
	1,878,624	Estes	Sept. 20, 1932
	1,898,121	Gayne	Feb. 21, 1933

FOREIGN PATENTS

	Number	Country	Date
15	671,003	France	Dec. 7, 1929