

Aug. 14, 1923.

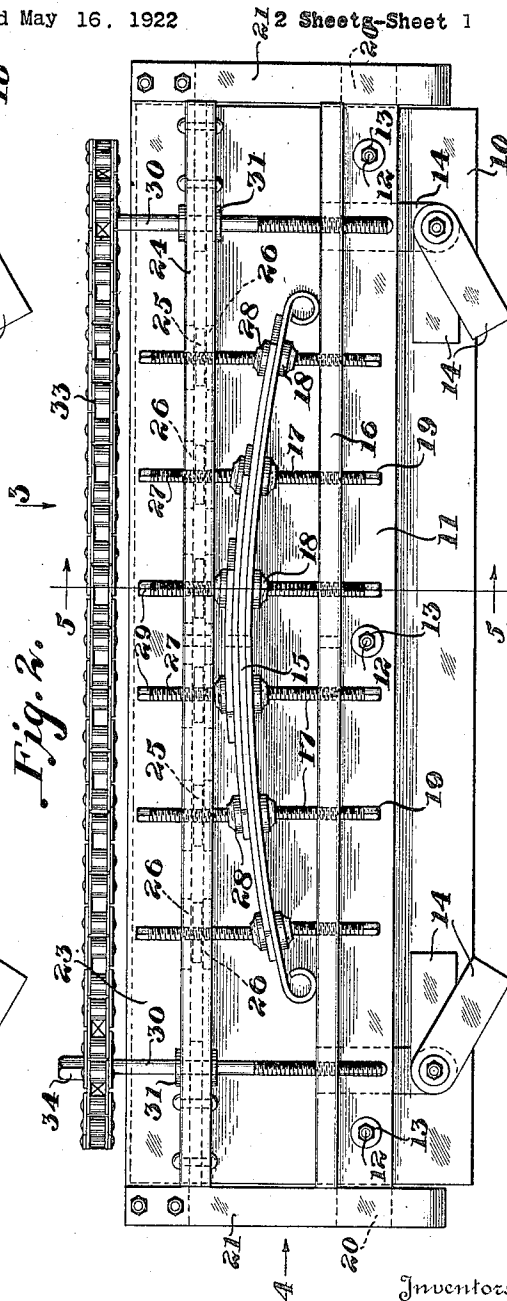
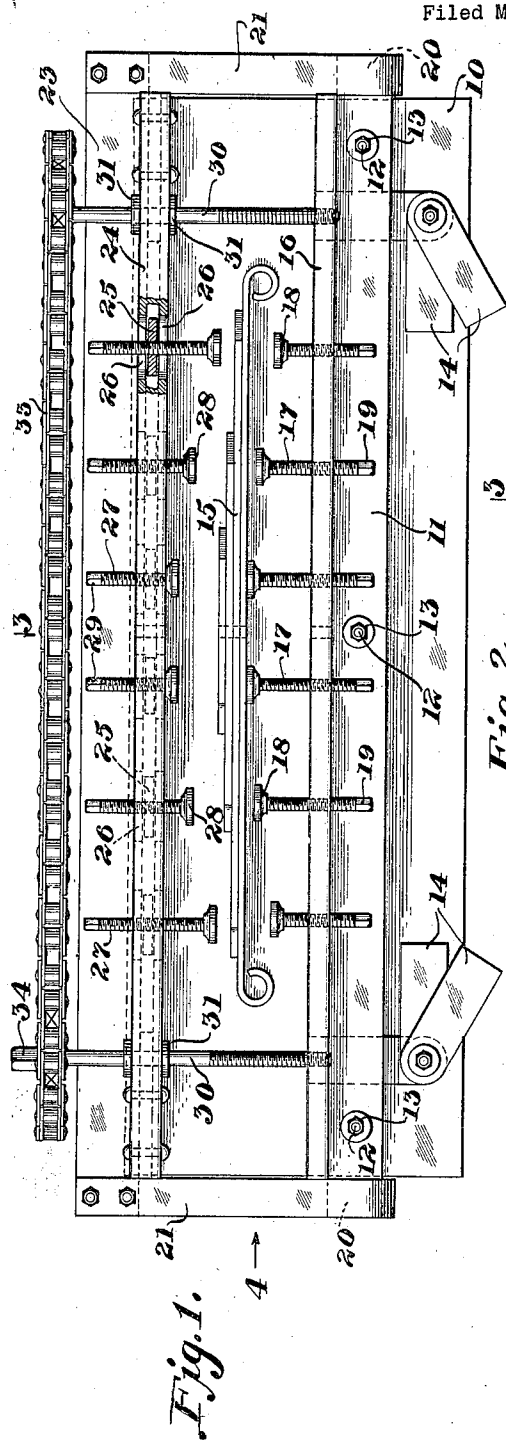
1,465,152

C. J. WILLIAMS ET AL.

SPRING FORMING DEVICE

Filed May 16. 1922

2 Sheetg-Sheet 1



Inventors
*Thomas Skinner and
Charles J. Williams.*

By Franklin H. Hoag Attorney

Aug. 14, 1923.

1,465,152

C. J. WILLIAMS ET AL

SPRING FORMING DEVICE

Filed May 16, 1922

2 Sheets-Sheet 2

Fig. 3.

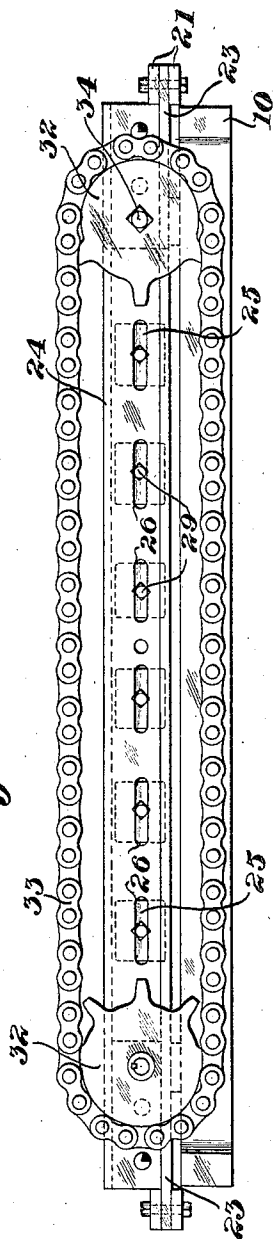


Fig. 5.

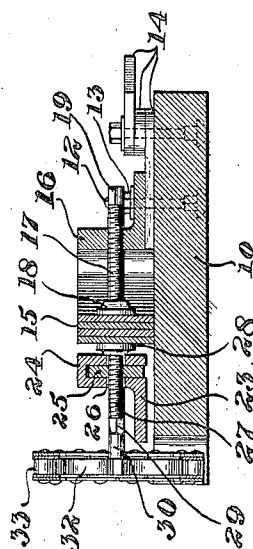
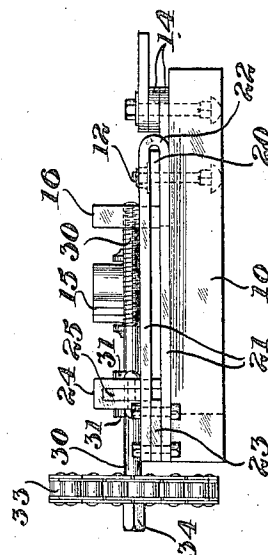


Fig. 4.



Inventors

Thomas Skinner and
Charles J. Williams.

By Franklin H. Hoag Attorney

UNITED STATES PATENT OFFICE.

CHARLES J. WILLIAMS AND THOMAS SKINNER, OF THERMOPOLIS, WYOMING.

SPRING-FORMING DEVICE.

Application filed May 16, 1922. Serial No. 561,451.

To all whom it may concern:

Be it known that we, CHARLES J. WILLIAMS and THOMAS SKINNER, citizens of the United States, residing at Thermopolis, in the county of Hot Springs and State of Wyoming, have invented certain new and useful Improvements in Spring-Forming Devices, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to spring shaping devices and has for an object to provide a device for shaping springs to a predetermined curvature embodying new and improved features of convenience, accuracy and adjustability.

A further object of the invention is to provide improved means for adjusting the device to operate in conjunction with springs of different widths.

A further object of the invention is to provide in a spring shaping device frame members with means for moving them in parallelism, said frame members being provided with spring engaging members, said members being adjustable longitudinally of the frame members to accommodate springs of different lengths.

With these and other objects in view, the invention comprises certain novel parts, elements, units, constructions, combinations and functions as disclosed in the drawing together with mechanical equivalents thereof as will be hereinafter more fully described and claimed.

In the drawings:

Figure 1 is a top plan view of the device with parts broken away showing the initial position of the device at the time the spring is inserted in its original or straight condition with the contacting members adjusted to form the spring as required.

Fig. 2 is a top plan view of the device with the frame members closed together in parallelism with the engaging members contacting with and shaping the spring.

Fig. 3 is a view of the device in edge elevation as indicated by arrow 3 at Figs. 1 and 2.

Fig. 4 is a view of the device in end elevation as indicated by arrow 4 at Figs. 1 and 2.

Fig. 5 is a transverse sectional view taken on line 5—5 of Fig. 2.

Like characters of reference indicate cor-

responding parts throughout the several views.

The improved spring shaping device which forms the subject matter of this application comprises a base 10 of any approved or desired material and arranged to be supported in any approved or desired manner.

Along the base 10 and parallel with one side thereof a frame member, indicated as an entirety at 11, is secured by means of bolts 12, said bolts being of such length that by manipulating the nuts 13 the member 11 may be raised or lowered into contact with the base or raised therefrom and such raised position maintained by a plurality of shims 14, any one or more of which may be inserted under the member 11 so that the device will operate in conjunction with springs 15 of varying widths. As shown at Figures 1 and 2, three of these shims are provided, one of which is under the member 11 and two idle. It is obvious that the one which is inserted under the member 11 may be withdrawn therefrom or one or more of the idle shims placed upon the top of the one in use to vary the height of the member 11.

This member 11 is provided with an upstanding bar 16 through which are threaded a plurality of screws 17 having pivoted heads 18 for engagement with the spring 15. Squared extremities 19 facilitate the use of a wrench or the equivalent implement thereon for adjusting the pins 17 to correspond to the curvature of the spring to be shaped. As shown at Fig. 1, these pins 17 have been adjusted to the curvature required and the spring 15 placed in position resting upon the base 10 and standing upon its edge.

The member 11 is provided with ears upon which slide guide members 21. These guide members 21 are preferably composed of parallel bars and also preferably bent upon themselves, as indicated at 22 in Figure 4 and at their opposite ends are rigidly connected to a bar 23, so that the bar 23 connected with these guides 21 may slide laterally of the device upon the ears 20.

The bar 23 is provided with an upstanding member, indicated as an entirety at 24, preferably comprising a channeled construction which may be and preferably is integral with the bar 23 and providing space intermediate the channel members to receive the nuts 25. The member 24 is also provided

with a plurality of slots 26 registering through the two parts of the member 24, and through these slots and through nuts 25 disposed within the member 24 pins 27 are threaded. These pins 27 carry pivoted heads 28 similar to the heads 18 on the pins 17 and adapted to be likewise adjusted by the application of a wrench or like implement to the squared ends 29. This adjustment is arranged so that the pins 27 may be set to correspond to the several leaves of the spring, as indicated more particularly at Figs. 1 and 2.

Pivoted through the member 24 is a pair of threaded shafts 30, held against longitudinal displacement relative to the member 24 in any approved manner as by the collars 31. The threaded ends of the shafts 30 are inserted through the member 16 and are provided with sprockets 32 over which a sprocket chain 33 passes and one or both of the shafts 30 is provided with a squared end 34 to receive a wrench, crank or the like for actuating the sprocket to which it is connected and therewith the opposite sprocket by the action of the sprocket chain 33.

By reason of the connection of the two threaded shafts 30 by the sprocket chain 33, it is obvious that the member 24 will slide in parallelism with the member 16 so that with the device set to the proper adjustment, as shown at Figure 1, and the spring in its original or straight condition placed upon its edge between the heads 18 and 28 the member 24 with its associated parts may be

moved by the actuation of the device to the position shown at Fig. 2 whereby the spring is formed to the required curvature. It will be understood, of course, that the spring will be in heated condition when being so formed and will remain in the acquired form until cooled and will then be further processed by tempering or the like as occasion may make necessary.

From the foregoing description of the device, it is believed that the operation will be clearly understood and further description will be unnecessary.

What we claim to be new is:

A spring-forming device comprising a base, frames mounted upon said base, means to move the frames toward and from each other in continued parallelism, means carried by the frames for setting to adjustment to provide curvature of an interposed spring, and a plurality of shims mounted adjacent the frame corresponding in thickness to half the standard variations in widths of springs adapted to be inserted and superposed selectively beneath the frame to raise the frame adjustably to accommodate springs of different standard widths.

In testimony whereof we hereunto affix our signatures in presence of two witnesses:

CHARLES J. WILLIAMS.
THOMAS SKINNER.

Witnesses:

E. C. ROTHWELL,
P. J. SHEEHY.