

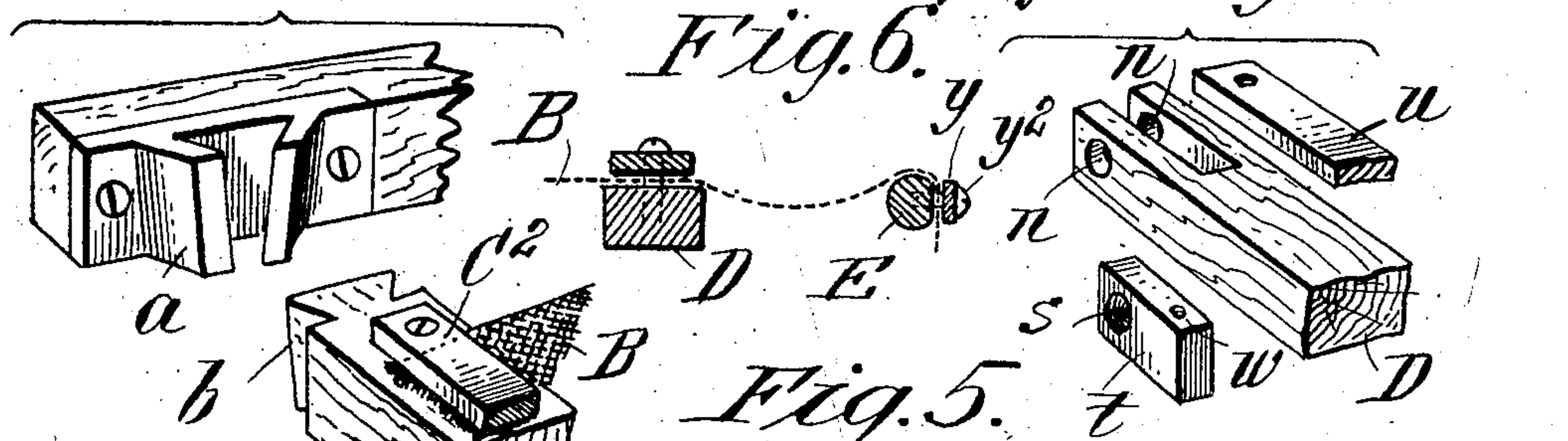
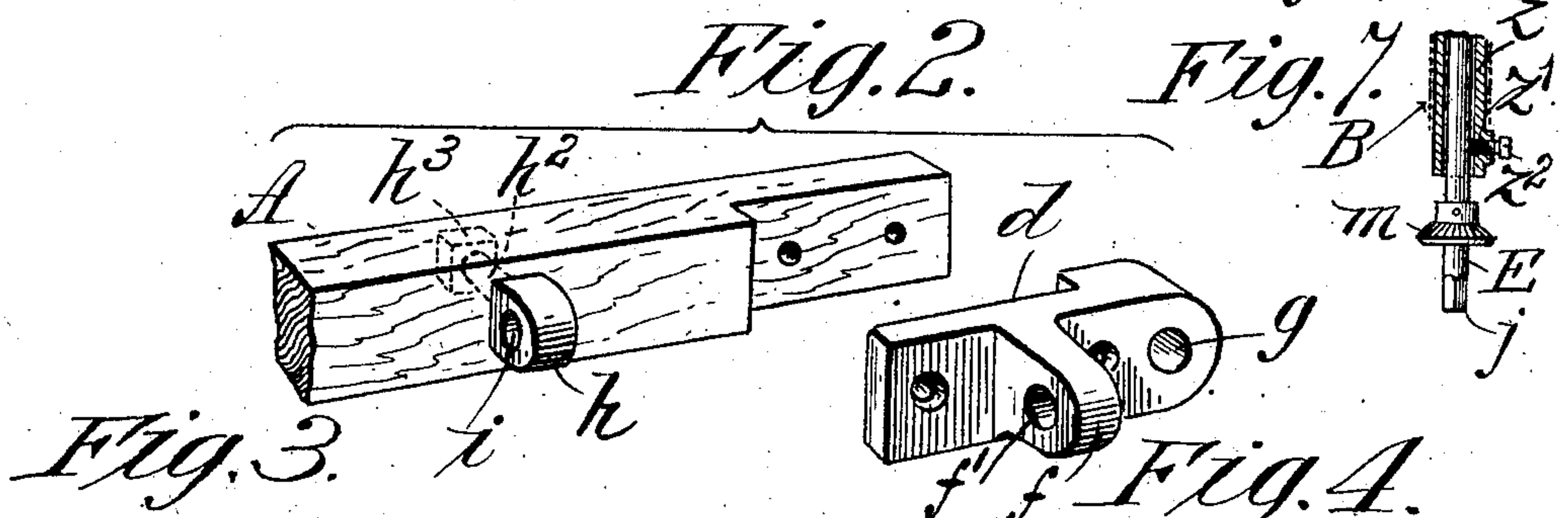
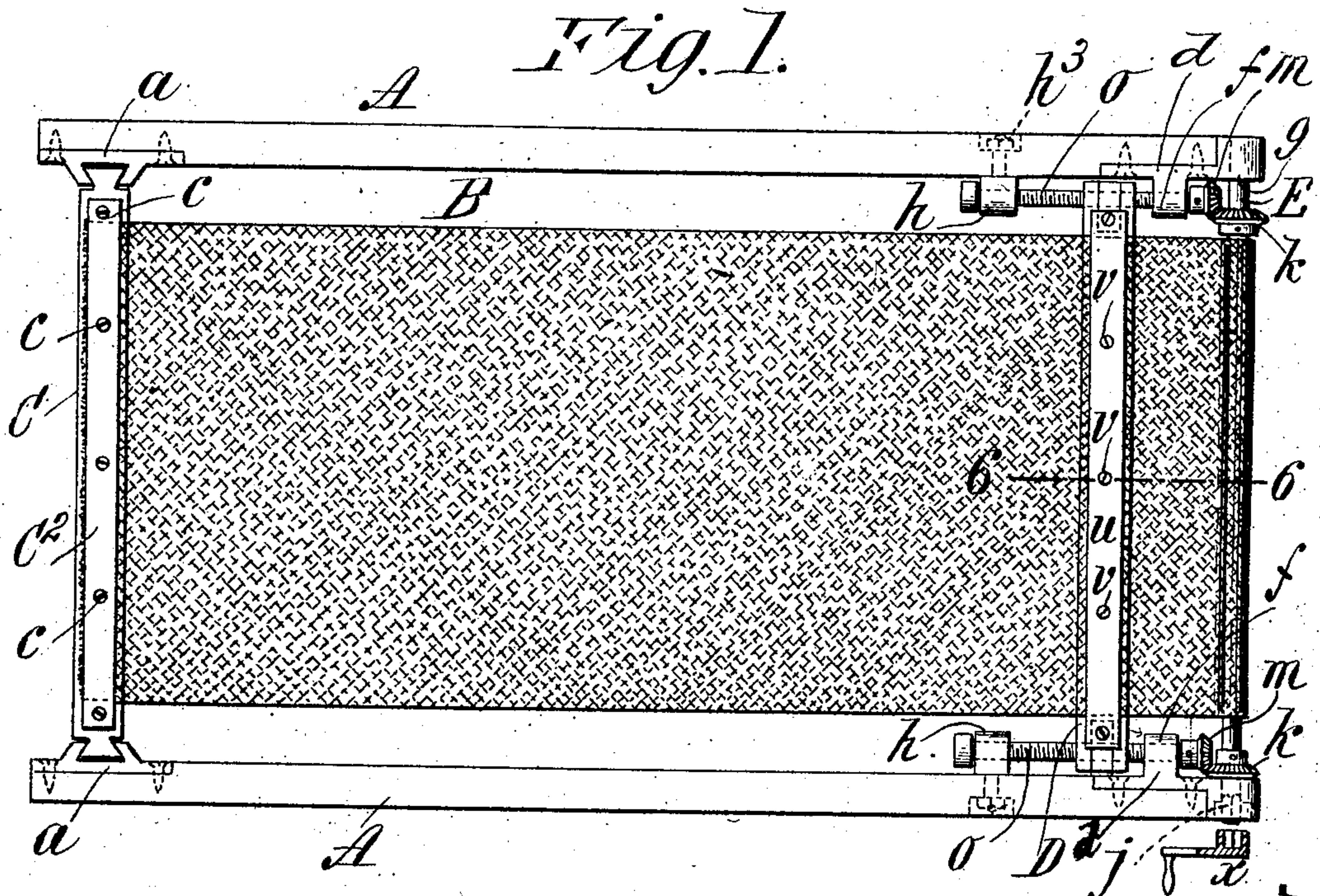
No. 754,255.

PATENTED MAR. 8, 1904.

J. F. SULLIVAN.
SPRING BED.

APPLICATION FILED AUG. 28, 1903.

NO MODEL.



Witnesses:
J. G. Gayfield
A. V. Leahy.

Inventor:
John F. Sullivan,
by M. F. Bellows,
Attorney.

UNITED STATES PATENT OFFICE.

JOHN F. SULLIVAN, OF CHICOPEE, MASSACHUSETTS.

SPRING-BED.

SPECIFICATION forming part of Letters Patent No. 754,255, dated March 8, 1904.

Application filed August 28, 1903. Serial No. 171,105. (No model.)

To all whom it may concern:

Be it known that I, JOHN F. SULLIVAN, a citizen of the United States of America, and a resident of Chicopee, in the county of Hampden and State of Massachusetts, have invented certain new and useful Improvements in Spring-Beds, of which the following is a full, clear, and exact description.

This invention relates to improvements in bed-bottoms, and particularly such as comprise a comparatively wide strip of woven wire for constituting the bottom in conjunction with means for bringing and maintaining the woven wire into tension.

In the drawings, Figure 1 is a plan view of the bed. Fig. 2 is a perspective representation of a portion of one of the side frames and equipments therefor. Fig. 3 is a perspective representation of an end portion of one of the side frames and one of the transverse clamping-bars for the end portion of the woven wire adapted for engagement with such portion of the side frame. Fig. 4 is a perspective representation of the details of construction of the movable clamping-bar for the woven wire. Fig. 5 is a perspective view of the member opposite one of the portions shown in Fig. 2 and showing the operating end of the winding-shaft engaged therethrough. Fig. 6 is a partial sectional view as taken on the line 6-6, Fig. 1, to be hereinafter referred to. Fig. 7 is a sectional view in detail of a feature of construction hereinafter referred to.

Similar characters of reference indicate corresponding parts in all of the views.

In the drawings, A A represent the side rails or bars; B, the bottom-forming woven wire; C, the movably-connected transverse clamping and supporting bar; D, the movable opposite end clamping-bar, and E indicates the take-up shaft or bar.

At the left-hand end of the side bars A A are upwardly-open socketed castings *a a*, the opening in which is downwardly convergent for receiving the engagement therein of the dovetailed end portion *b* of the clamping cross-bar C, on which the extremity of the woven wire B is superimposed and confined by the clamping-strip *C*¹², screws, nails, or like fastenings *c* connecting the strip and bar and

the interposed woven wire together. At the opposite end of each side bar A is a casting or fitting *d*, having an inwardly-projecting journal-lug *f*, the journal-hole of which is in a line parallel with the length of the side bar, while through its end portion is the journal-hole *g*. In addition to the said fitting *d* is a metallic lug *h*, having a journal-hole *i* to be aligned with the journal-hole *f* in the aforementioned lug *f*, said journal-lug *h* having a screw-shank *h*² penetrating the side bar transversely and receiving at its outer end the confining-nut *h*³.

The take-up shaft E is mounted to have rotational movements in the journals *g*, formed in the aforementioned casting *d*, one end of said shaft being squared, as indicated at *j*, for the reception of a crank-handle wrench *j*, and the said shaft E has adjacent each side rail a bevel gear-wheel *k* affixed thereto, each of which bevel gear-wheels meshes into a bevel gear-wheel *m*, which is affixed on the adjacent end of the screw-shaft *o*, each shaft being mounted to turn in the aforementioned journals *f* *i* of the lugs *f* and *h*.

The ends of the movable clamping-bar D are formed bifurcated and have in the separated members the holes *n n*, corresponding to the lines of the screw-shafts *o*, and located in the space in each bifurcated end is a metallic block *t*, which is, in effect, a nut, in the screw-tapped hole *s* thereof the screw-shaft being engaged.

The clamping-strip *u* on the movable bar D is by the detachable fastenings, such as represented by the screws *v*, held to bind the woven-wire fabric back from its left-hand end against the clamping-bar, and the extremities of this strip *u* extend over the top of the aforementioned metallic block or nut *t*, and screws are downwardly passed through the end portions of the strip *u* into the vertical threaded hole *w* therefor in the block *t*, this engagement steadying the nut.

The portion of the woven-wire fabric carried beyond the right-hand bar has a winding engagement with the take-up shaft E, which shaft, as shown in Fig. 6, has a flattened side, across which the end margin of the fabric is carried and over which the clamping-strip *y*

is placed and screwed by a suitable number of screws y^2 .

In the manufacture of the bed-bottom having the construction described and shown the fabric is permanently attached at the left-hand end supporting and clamping bar and carried as nearly taut as conveniently possible across and beyond the clamping-bar D w and to engagement with the take-up roll, a certain degree of slack in the fabric, as represented in Fig. 6, being left, so that the rotational movements of the take-up shaft, which, through the gearing and screw-shaft connections with the stretching-bar C, induces a more powerful and yet less extended movement of the bar D proportionately to the winding-up motion of the shaft, will be permissible notwithstanding the differential motions between the take-up and operating shaft and the stretching-bar.

In case after use the taking up of the fabric beyond the stretching-bar incidental to the rotations of the shaft to bring the main portion of the wire fabric taut also brings the fabric between the stretching-bar and the take-up shaft taut the confining-strip y may be temporarily detached and the fabric may be let back to sag between the shaft E and D, the confining-strip being again fastened in place, and now further takings up may be accomplished as occasion may demand.

The take-up shaft may have thereon a long sleeve or tube z , having fitted in a socket therein and located against the periphery of the shaft a spring z' , held to proper tension by screw-plug F^2 , the right-hand end of the woven wire in this case being permanently connected to the sleeve, and in this arrangement the rotation of the shaft, causing the stretching of the main and major portion of the fabric to the leftward of the movable bar D, will induce, through the frictional engagement between the sleeve and shaft, all necessary take-up rotational movement to the sleeve, and yet the excessive rotational movement of the shaft beyond that necessary for the sleeve to have to keep the fabric between the sleeve and bar D substantially taut will be permissible by the capability of the shaft to slip relatively to the frictionally-engaged sleeve.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a bed-bottom, in combination, the side bars A A having at one end portion of each the inwardly-disposed socketed casting a and having at its opposite end portion the casting d provided with the transverse journal-hole g and endwise inwardly therefrom having the inwardly-extending lug f provided with the longitudinally-alined journal-hole f' , and the journal-lug h , also supported by and inwardly extended from the side bar having the journal-hole i therein, in alinement with the jour-

nal-hole f' , the end cross-bar C endwise engaged in said socketed castings a , the movable cross-bar D, the shaft E having the gear-wheels k k and means for turning said shaft, the screw-shafts o o journaled for rotation in said lugs f and h having the gear-wheels m m and, by their intermediate portions, screw-engaging the end portions of said movable bar D, and the woven-wire fabric, secured to, and extending between, the said bars C and D, substantially as described and shown.

2. In a bed-bottom, in combination, the side bars A A having at one end portion of each the inwardly-disposed socketed casting a and having at its opposite end portion the casting d provided with the transverse journal-hole g and endwise inwardly therefrom having the inwardly-extending lug f , provided with the longitudinally-alined journal-hole f' , and the journal-lug h , also supported by and inwardly extended from the side bar having the journal-hole i therein, in alinement with the journal-hole f' , the end cross-bar C endwise engaged in said socketed castings a , the movable cross-bar D, having its ends bifurcated and horizontally perforated parallel with the side bars, and having the nut t fitted in each bifurcated portion, said nut having the vertical upwardly-open screw-hole w , the shaft E having the gear-wheels k k , and means for turning said shaft, the screw-shafts o o journaled for rotation in said lugs f and h , having the gear-wheels m m in mesh with said gear-wheels k k , and, by their intermediate portions penetrating the horizontal perforations in said bar D, and screw-engaging through said nut t , the woven-wire fabric secured to the bar C extending therefrom and over said bar D, the clamping-strip c binding the fabric against the said bar D, and having a series of confining-screws, the end ones thereof screw-engaging down into the screw-holes w in the nuts t , substantially as described and shown.

3. In a bed-bottom, in combination, the side bars A A, the rigidly-united one end cross-bar C, the movable bar D, and the shaft E, journal-supported in the side bars, having a sleeve frictionally engaged thereon, and means for turning the shaft, the woven-wire fabric secured to, and extending between, the bars C and D, and further extended to a take-up engagement with said sleeve, the screw-shafts o o , journal-supported, at the inner side portions of the side bars, and having screw engagements with the end portions of said bar D, and bevel-gears secured on the screw-shaft and said shaft E, and in mesh with each other, substantially as and for the purposes set forth.

Signed by me at Springfield, Massachusetts, in presence of two subscribing witnesses.

J. F. SULLIVAN.

Witnesses:

THOMAS A. SULLIVAN,
WM. T. BELLows.