No. 888,303. PATENTED MAY 19, 1908.

J. M. BOWERS & W. R. CLOSE.

BOX SPRING.

APPLICATION FILED FEB. 19, 1907.

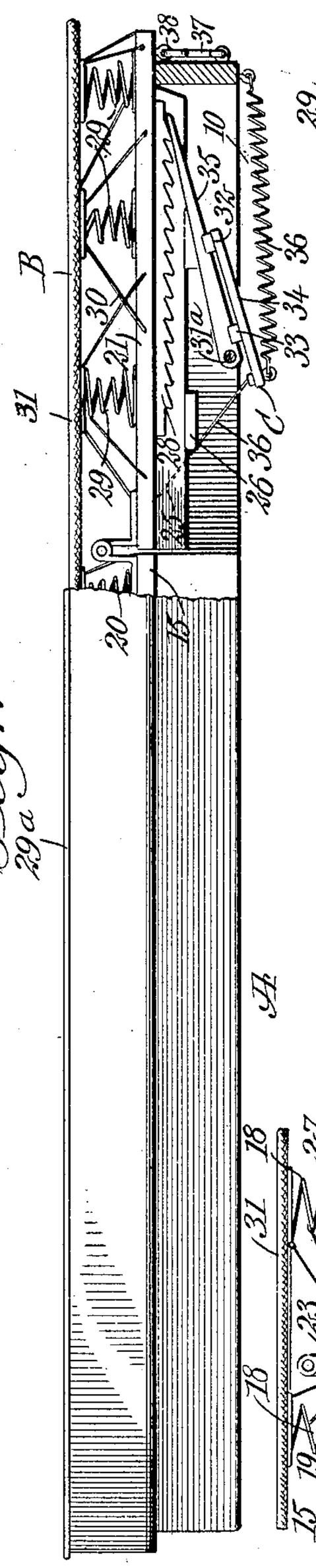

Fig. 1.

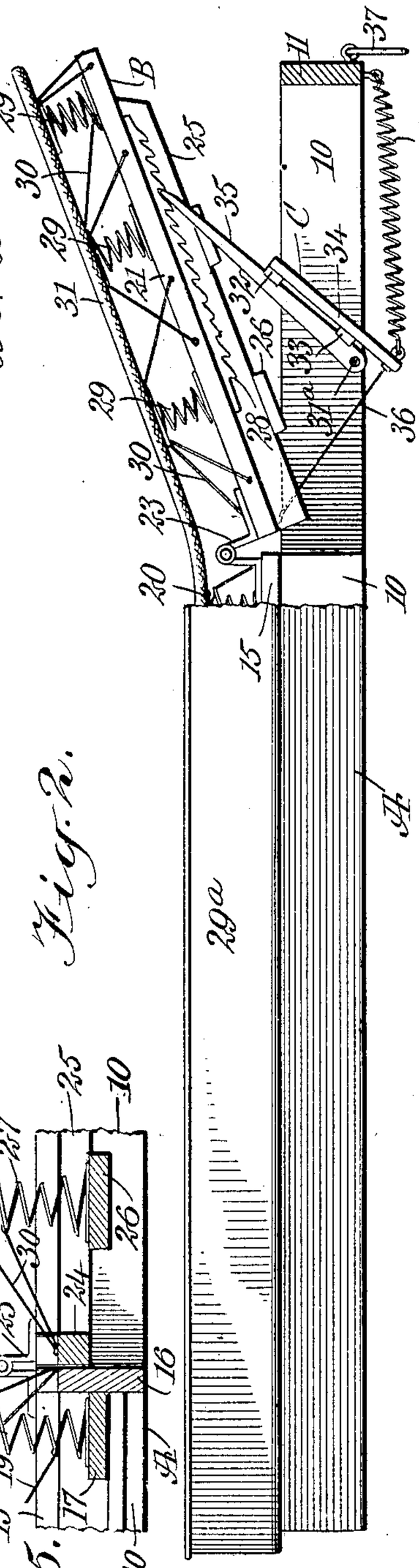

Fig. 2.

Fig. 5.

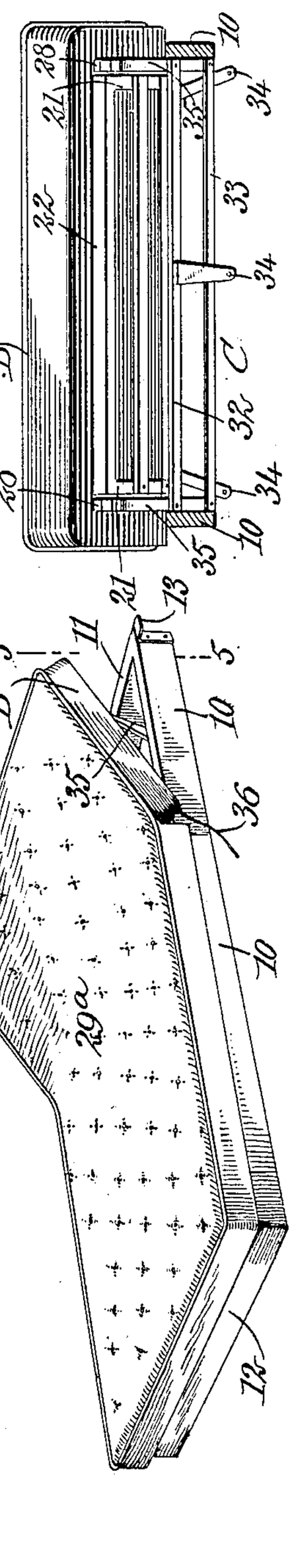

Fig. 3.

Fig. 4.

WITNESSES

Geo. W. Naylor.

J. Reddick Acken

INVENTORS

John M. Bowers

William R. Close

BY Munn & Co

ATTORNEYS

UNITED STATES PATENT OFFICE.

JOHN M. BOWERS AND WILLIAM R. CLOSE, OF NEW YORK, N. Y.

BOX-SPRING.

No. 888,303. Specification of Letters Patent. Patented May 19, 1908.

Application filed February 19, 1907. Serial No. 358,290.

To all whom it may concern:

Be it known that we, JOHN M. BOWERS and WILLIAM R. CLOSE, both citizens of the United States, and residents of the city of New York, borough of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Box-Springs, of which the following is a full, clear, and exact description.

The purpose of the invention is to provide a box spring with an end section capable of being raised and lowered without breaking the continuity of the accompanying padded or mattress section, and whereby such section may be elevated to a desired angle and held at such elevation; means also being provided whereby the occupant can lower the elevated section partially or entirely without leaving the bed, and wherein when said elevating section is in its lowered position, it is supported by the main frame in horizontal alinement with a fixed section.

A further purpose of the invention is to accomplish the said results by means of simple, durable, effective and economic mechanisms.

The invention consists in the novel construction and combination of the several parts as will be hereinafter fully set forth and pointed out in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of the improved bed spring, the portion or member to be elevated being shown in longitudinal section, and both members of the spring being also shown in horizontal alinement; Fig. 2 is a section similar to Fig. 1, but showing the movable member elevated and supported in elevated position; Fig. 3 is an end view of that portion of the spring at which the member is elevated, showing such member in elevated position; Fig. 4 is a perspective view of the spring with the member adapted to be elevated, raised and supported, and showing both of said members fully upholstered; and Fig. 5 is a longitudinal section at one corner of the spring, the section being taken on the line 5—5 of Fig. 4 and illustrating the two members in the same horizontal plane.

The main frame A of the spring consists of side bars 10 that extend the full length of the spring, a head cross bar 11 and a foot cross bar 12, and particularly at the head portion of the main frame A brackets 13 are secured to its side portions whereby to support this portion of the main frame upon any base that may be provided for the spring. Horizontal marginal strips 15 are secured upon the foot cross bar 12 at its top and the side bars 10 also at their upper edges, and the said marginal strips extend from the foot portion of the main frame A to a point some what beyond the center terminating short of the head cross bar 11, as is particularly shown in Figs. 1, 2 and 4.

An inner cross bar 16 is attached to the inner end portions or terminals of the marginal strips 15, as is especially shown in Fig. 5, and slats 17 are secured at their ends to the side bars 10 of the main frame at suitable intervals apart between the foot cross bar 12 and the inner cross bar 16. These slats 17 serve to support the lower end of helical springs 18 or their equivalents, connected by means of suitable lacing 19 arranged in the customary manner. Similar springs 20 are also secured to the upper faces of the marginal strips 15 and the said section just described of the main frame together with the forward and plain portion may be termed the stationary portion of the spring.

At the forward or head end of the main frame A, an elevating section B is located. This elevating section B consists of side bars 21 and an end bar 22, shown in Fig. 3, and these side bars and end bars are the equivalents of the marginal strips 15 of the fixed portion of the spring and virtually constitute a continuance thereof, being of the same structural formation. The elevating section B is connected with the fixed or stationary portion of the spring by means of hinges 23 of any approved type, which hinges are connected with the abutting ends of the side members 21 of the elevating section and the marginal strips 15, as is clearly illustrated in Figs. 1, 2 and 5. A cross bar 24 is made to connect the inner end portions of the side members 21 of the elevating section B, and when the said elevating section is in its lower position parallel with the raised portion of the stationary section of the main frame, the said cross bar 24 engages with the inner cross bar 16 of the said stationary section of the spring frame, as is clearly shown in Fig. 5.

At the inner marginal portion of both the side members 21 and the end member 22 of the elevating section B, downwardly extend-

ing body bars 25 are located in any suitable or approved manner and the side body bars serve as supports for slats 26, and these slats 26, as shown in Fig. 5, act as supports for springs 27, the equivalents of the spring 18 at the stationary portion of the structure.

Rack bars 28 are secured to the under faces of the side members 21 of the elevation section B, the teeth of which rack bars incline downward and forward, as is clearly shown in Figs. 1 and 2. Lacings 30 are made to connect the springs 27 and the said lacing is continuous with the lacing 19 that connects the springs 18, and it may be here remarked that springs 29 are also supported upon the side and end members 21 of the said elevating section B, corresponding to the springs 20 that are supported upon the marginal strips 15.

A marginal wire suitably covered and of proper gage is made to continue over the marginal portions of both the marginal strips 15, and the corresponding side and end bars 21 and 22 of the elevating section B, and this marginal wire 31 is attached to the marginal springs 20 and 29 in any approved manner, being adapted as a support for the upholstering 29[a] employed in connection with the spring, which upholstering is continuous from side to side and end to end of the entire structure.

In connection with the elevating frame B, we employ a supporting frame C. This supporting frame may be differently constructed, but is pivotally attached to the side bars 10 of the main frame between the cross bar 16 and the head cross bar 11, as is particularly shown in Figs. 1 and 2. The pivot for the said frame is designated as 31[a]. This supporting frame C as shown consists of upper and lower longitudinal bars 32 and 33, and connecting bars 34 vertically located. These connecting bars 34 are preferably three in number, one at each end of the supporting frame and one at the center, and the said supporting frame C carries pawls 35, one being located at each of its ends and these pawls are adapted to engage with the teeth of the rack bars, as is also shown in Figs. 1 and 2.

A spring 36 is connected to the central vertical bar 34 of the said supporting frame C and to the central portion of the head cross bar 11 of the main frame A, as is also best shown in Figs. 1 and 2, and this spring has a tendency to force or draw the pawl 35 upward to an engagement with the rack bars 28, always maintaining said pawls in engagement with said rack bars no matter what position the elevating frame B may occupy, so that as the elevating frame B is raised the pawls 35 follow it and hold it in the position to which it was adjusted.

When it is desired to lower the elevating frame B it can be done without the occupant of the bed leaving the same, and this is accomplished by attaching a cord 36 to a lower end portion of the said frame C and carrying the said cord out through a suitable guide if necessary, at one side of the structure, as is best show in Fig. 4. When the elevating section or frame B is in its lowest position it is held in such position when desired by any suitable form of latch, in this instance a hook 37 is pivoted to the central portion of the head cross bar 11 of the main frame, and is made to enter an eye 38 extending down from the central portion of the forward cross bar 22 of the said elevating frame or section B.

It is evident that when the elevating section or frame B is in elevated position it may be partially dropped according to the fancy of the occupant of the bed by drawing upon the spring 36 until the proper downward inclination is reached, whereupon the pawls 35 will immediately engage with the rack bars 28 and hold the said section B in the position to which it was adjusted. This form of box frame is adaptable to any bed or to a couch, in fact may be used wherever the ordinary box spring can be employed, and it also enables the occupant of the bed to get any desired inclination of the head and shoulders.

The marginal strips 15 and likewise the corresponding side members 21 of the elevating frame B, together with the end members 22 and the end marginal strips 15 extend beyond the corresponding members of the main frame A, and in upholstering the spring the covering or ticking is made to extend down beyond the lower edges of the marginal members of both of the sections of the spring.

Having thus described our invention, we claim as new and desire to secure by Letters Patent:—

1. In a box spring, a stationary main or body section having side bars, an elevating section hinged to the main section, racks at the bottom portion of the elevating section, a supporting frame pivoted directly to the fixed side bars of the main or stationary section and having a central member extending at its lower end below the pivot of the supporting frame, pawls carried by the said supporting frame for engagement with the said racks, and a tension device connected with the lower end of said downwardly extending member of the supporting frame for holding the said pawls constantly in engagement with the said racks.

2. The combination with a stationary main frame having side bars, a head cross bar and a foot cross bar, and bed springs supported by the main frame, of an end elevating section hinged to the main frame and likewise provided with bed springs, rack bars secured to the under face of the elevating section, a supporting frame pivoted directly to the side bars of the main frame below the elevating frame and having a member extend-

ing downward below the pivot of said supporting frame, pawls carried by the supporting frame, a spring connected with the head cross bar of the main frame and with the lower end of said downwardly extending member of the supporting frame for holding said pawls in constant engagement with the said racks, the said pawls being held in engagement with the ends of the racks when the elevating frame is in its lowest or horizontal position and following said elevating frame when the latter is raised, means exteriorly operated for withdrawing the pawls from engagement with the said racks, and an upholstered section supported by the bed springs and extending in continuity from end to end of the structure.

3. The combination with a main frame, and bed springs supported thereby, of an end section hinged to the main frame and likewise provided with bed springs, rack bars secured to the under faces of the side members of the said end section, a supporting frame pivoted directly to the side members of the main frame and comprising upper and lower horizontal bars, and vertically arranged connecting bars located one at each end of the supporting frame and one at the center thereof, the central bar extending downward below the pivot of the supporting frame, pawls carried at the ends of said supporting frame and adapted to engage with the teeth of said rack bars, and a spring connected to the main frame and to the lower end of the central vertical bar of the supporting frame for holding the pawls in engagement with the teeth of the rack bars.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

JOHN M. BOWERS.
WILLIAM R. CLOSE.

Witnesses:
J. FRED. ACKER,
JNO. M. RITTER,