

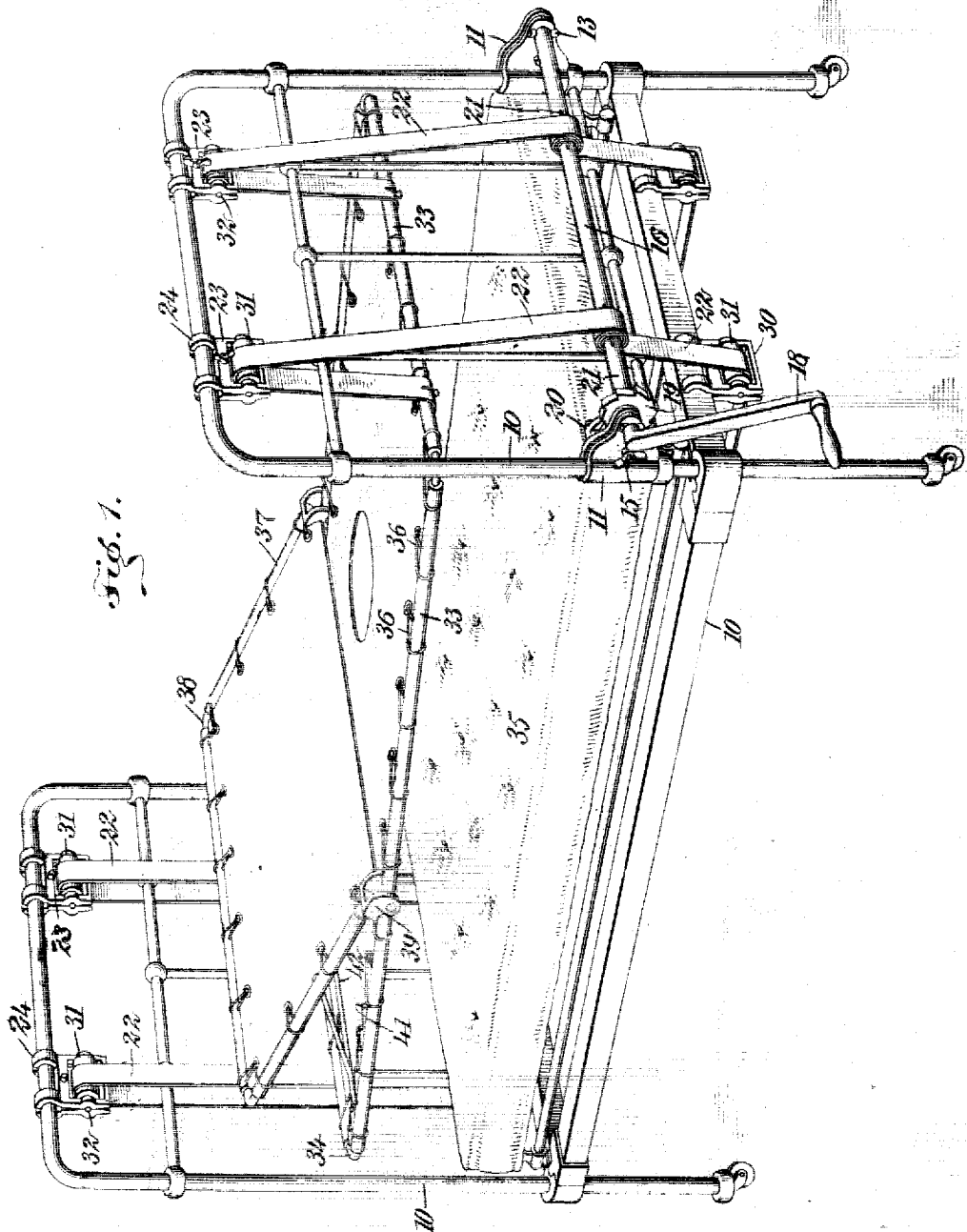
No. 852,507.

PATENTED MAY 7, 1907.

H. E. HENWOOD.
BEDSTEAD.

APPLICATION FILED OCT. 5, 1905.

2 SHEETS—SHEET 1.



WITNESSES:

R. C. Mott
A. E. Fay.

INVENTOR

Horace E. Henwood

BY

Mumford
ATTORNEYS

No. 852,507.

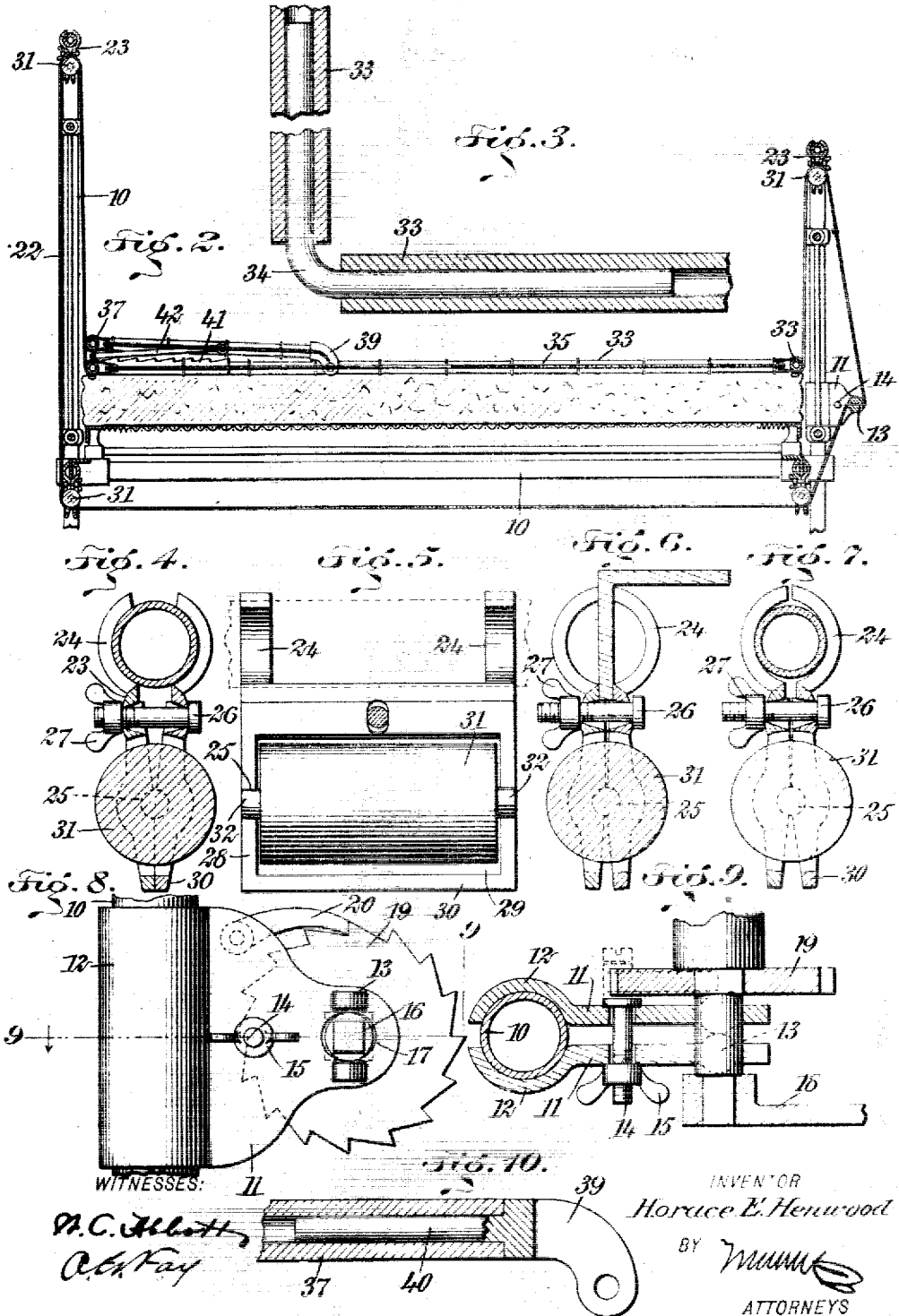
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UNITED STATES PATENT OFFICE.

HORACE E. HENWOOD, OF NEW YORK, N. Y.

BEDSTEAD.

No. 852,507.

Specification of Letters Patent.

Patented May 7, 1907.

Application filed October 6, 1905. Serial No. 281,425.

To all whom it may concern:

Be it known that I, HORACE E. HENWOOD, a subject of the King of Great Britain, and a resident of the city of New York, borough of Manhattan, in the county and State of New York, have invented a new and improved Bedstead, of which the following is a full, clear, and exact description.

My invention relates to that class of bedsteads one form of which is the subject-matter of my Patent No. 802,756 granted on the 24th day of October, 1905.

The principal object of the present invention is to improve bedsteads of this character in certain ways, so as to simplify the construction of the various features thereof and facilitate the adjustment of the occupant of the bed into the various positions in which the occupant has to be placed.

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 perspective view of an invalid bed, showing my present improvements; Fig. 2 is a longitudinal section of the same; Fig. 3 is a sectional view of a detail on an enlarged scale; Fig. 4 is a sectional view of a clamp shown in Fig. 2; Fig. 5 is a side elevation of one-half of the clamp; Figs. 6 and 7 are views similar to Fig. 4, showing other ways in which the clamp may be employed; Fig. 8 is an end elevation of a portion of the bedstead, showing a winch which is employed, and a clamp for supporting it; Fig. 9 is a sectional view on the line 9-9 of Fig. 8; and Fig. 10 is a sectional view of a joint for a head-rest.

I have shown my invention as being applied to one of the simpler forms of bedsteads 10. The uprights of the bedstead on one end are provided with means for supporting a winch. This means is shown in the form of a clamp consisting of two members 11. These members are formed from the same pattern and are duplicates of each other. Each is provided with a curved extension or jaw 12 projecting from the body at one end, and with disk-like projections 13 near the other end. These projections constitute curved bearing surfaces when the two parts of the clamp are secured together by means of a bolt 14 and nut 15 located between the parts 12 and 13. The jaws 12 are

adapted to clasp any object, as for example the upright of the bedstead 10.

When the nut is tightened up upon the bolt, the two members of the clamp swing toward each other about the projections 13 as pivots, until the jaws 12 securely clasp the object to be held. This permits the jaws to be varied to accommodate objects of varying sizes and shapes. When secured in this manner two of these clamps, one upon each of the two uprights at one end of the bed, are designed to support a shaft 16, and for this purpose they are provided with an opening 17 through which the shaft passes. This opening is elongated, thus permitting the expanding and contracting of the space between the curved portions 12. The shaft is provided with means for receiving a handle 18 by which it is operated, and it is also provided with a winch in the form of a toothed wheel 19 with which a pawl 20 on one of the clamps engages. It will be obvious that the rotation of the handle will cause the shaft to be turned and held in any desired position.

The winch which is illustrated in the drawings is substantially the same as that shown in my prior patent, the shaft being provided with perforations 21 for receiving a flexible member or belt 22, and the rotation of the shaft resulting in the winding of the belt on the shaft in two directions. From the shaft the belt passes upwardly on one side to a point near the top of the bed and downwardly on the other side passing under the bed. Instead of using a roller extending across the frame of the bed for supporting the belt, I provide a series of rollers supported by clamps constructed in the following manner:

Each clamp is somewhat similar to the clamp described above, being made of two duplicate parts 23, which can be cast from the same pattern. Each part is provided with two curved extensions or jaws 24 at one end, and at a point at some distance from the other end are two curved depressions 25. From the edges of these depressions the faces of the member constituting a half of the clamp extend in two directions, making an obtuse angle with other. Consequently if the two portions of the clamp are put together with their corresponding parts registering with each other, and a shaft is placed in the cylindrical openings formed by the

semi-circular depressions, the two members of the clamp will be capable of swinging upon a pivot formed by either of the two edges of the registering depressions. The extent of this motion is indicated by Figs. 4, 6 and 7. In order to hold the two parts of the clamp together, a bolt 26 is employed, having a nut 27, the bolt passing through perforations in the two members of the clamp at a point between the jaws and the depressions. The jaws 24 are designed to receive any article to which the clamp is to be secured, as for example a portion of the bedstead, and it will be obvious that the clamp is sufficiently adjustable to allow the insertion and clamping of bars or rods of various sizes and shapes, three different parts of the bedstead being shown in the drawings as engaged between the jaws.

Referring now to Fig. 5, it will be seen that the depressions 25 are located on bars 28 which extend from the body of the clamping member, and that an opening 29 is provided in the body. Below this opening is a guard or keeper 30. In use the clamp is designed to support a roller 31 in the opening 29, the roller having an integral shaft in the form of a pair of hubs 32 resting in the depressions 25. Between the roller and the walls of the opening 29 is sufficient clearance to allow the belt 22 to pass, and the guard 30 is for the purpose of keeping the belt from falling away from the roller. It will be observed that these clamps can be used in various forms and applied wherever it is desired to support a roller or similar device upon a stationary or movable object.

In Figs. 1 and 2 the upper part of the bedstead is shown as being used as a support for two of these clamps to carry the rollers for supporting the belts that extend upwardly from the shaft 16, while the angle-iron at the bottom of the bed is used for supporting the clamps used below for a similar purpose. As is shown in my above-mentioned patent, the belts, which extend upwardly from the shaft 16, pass downwardly over the rollers 31 and engage a frame located on the bed. In the same way the other belts pass first downwardly under the bed and then upwardly over rollers supported by similar clamps at the head of the bed, so as to support the other end of the same frame. This frame is shown as composed of four side and end members 33 and four L-shaped corner-pieces 34. Either of the elements 33 or 34 is made so that the other can enter its end. I have shown the two legs of each corner-piece extending into the ends of the adjacent members 33 which are in the form of tubes. This provides for holding the tubes together. In order to force the tubes toward each other, the fabric 35, which is designed to be supported by this frame, is connected with the tubes by means of cords 36 or the like passing around them.

As the fabric is stretched between the tubes it will be obvious that it will act to force them toward each other, so that the frame will be rigid and efficiently perform its office. The principal object in constructing this frame in this manner is to provide an inexpensive and efficient device for this purpose, all machine and hand work being dispensed with. It will be readily observed that the parts can be easily separated so as to occupy small space when packed for shipment, and can be readily assembled when the bedstead is set up, even by the most unskilled persons.

As in my former patent, I have shown a head-rest having a frame comprising tubes 37, and corner-pieces 38 of the same character as those described above. Each of the side tubes 37 is pivotally connected with one of the side tubes 33 by means of a casting 39, which itself is pivoted to one of the tubes 33. This casting is provided with a projection 40 adapted to enter the end of the tube 37 and afford a joint similar to the joints formed by the corner-pieces 34 and 38, and having substantially the same advantageous properties. The head-rest is supported on a rack 41 in any desired position by means of a frame 42. By the use of these clamps and the other devices specified, a bed suitable for use in hospitals and for like purposes is obtained, which is most simple in construction and can be very cheaply manufactured and very easily set up. This bedstead is so constructed, that by dismantling it of the clamps, stretcher-frame, belts and winch it can be used as an ordinary bed, leaving no evidences that it is designed for other purposes.

Among the advantages claimed for the clamps specified, are the following: they are capable of being clamped on varied sizes and shapes of members; the two parts can be cast from the same pattern; they are interchangeable; when cast they can be applied for the purposes for which they are intended, without requiring that any machine-work or hand-work be expended upon them. The joints or connections of the stretcher-frame possess the same advantages of not requiring any shop-work on them before putting them into use. It is the simplicity of construction of these parts, and the elimination of expense for extra work, that constitutes the difference between a commercially successful and a non-successful invalid bed.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. The combination with a bedstead of a clamp comprising two duplicate members, each having a semi-circular depression to serve as a bearing, each member being provided with two surfaces extending from said bearing at an obtuse angle to each other, a jaw at the end of one of said surfaces, a stud passing through the semi-circular depression

sions and serving as a pivot for the jaws, and means for forcing the jaws together about said pivot.

2. A clamp for a bedstead comprising a pair of members each having a semi-circular depression to serve as a bearing, two surfaces extending from said bearing at an obtuse angle to each other, and a jaw at the end of one of said surfaces, a roller having an integral projection entering said depressions and serving as a pivot for said members, and means for forcing said members together.

3. A clamp for a bedstead comprising a pair of members each having a semi-circular depression to serve as a bearing, two surfaces extending from said bearing at an obtuse angle to each other, and a jaw at the end of one of said surfaces, a roller having an integral projection entering said depressions and serving as a pivot for said members, and means for forcing said members together, said members each being provided with a guard located beyond said roller and adapted to keep a belt upon the roller.

4. A clamp comprising a pair of members each having an opening therein, the opposite

walls of said opening being provided with semi-circular depressions, the surfaces of said members extending from said depressions on two sides thereof at an obtuse angle to each other, jaws on both members, adjustable means for securing the members together, and a roller mounted in said openings in the two members, said roller having integral studs projecting into said depressions serving as bearings for said studs.

5. A clamp comprising a pair of duplicate members adapted to be pivotally mounted with respect to each other, each member comprising a jaw and a body on which the jaw is mounted, the body being provided with a perforation, and a guard located at the end of said perforation, the two members when connected together providing a bearing for a roller within said perforation.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HORACE E. HENWOOD.

Witnesses:

JNO. M. RITTER,
ALBERT E. FAY.