No. 716,341. Patented Dec. 16, 1902.

W. LIVINGSTONE.

CASTER SOCKET.

(Application filed Jan. 31, 1902.)

(No Model.)

Fig. 1.

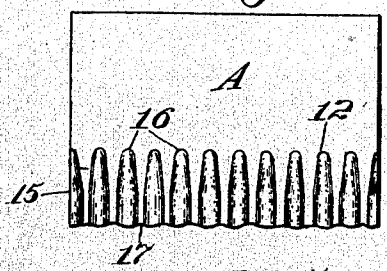


Fig. 2



Fig. 3.

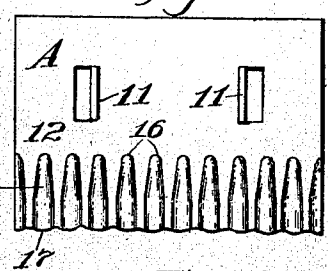


Fig. 4.



Fig. 5.



Fig. 6.

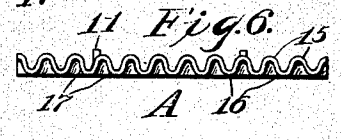


Fig. 7.

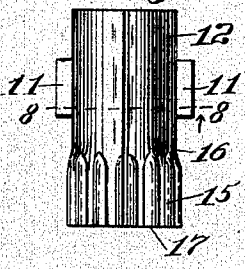


Fig. 8.

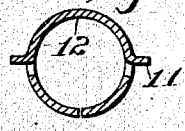


Fig. 9.

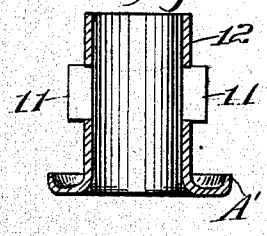


Fig. 10.

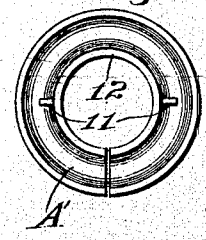
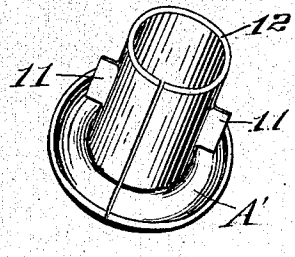


Fig. 11.



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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

WILLIAM LIVINGSTONE, OF FLUSHING, NEW YORK.

CASTER-SOCKET.

SPECIFICATION forming part of Letters Patent No. 716,341, dated December 16, 1902.

Application filed January 31, 1902. Serial No. 91,980. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM LIVINGSTONE, a citizen of the United States, residing in Flushing, in the county of Queens and State of New York, have invented certain new and useful Improvements in Caster-Sockets, of which the following is a specification.

This invention relates to caster-sockets, and more particularly to the construction of that class of such articles which are adapted to be made from sheet metal and are provided with track-plates.

The present improvements are closely related to the invention disclosed in my Patent No. 693,875, granted February 25, 1902. By that invention a form and structure of caster-socket is provided, in accordance with which the socket may be made from a blank whose configuration is such that the waste or scrap material resulting from the making of the blanks is reduced to a minimum. This reduction of waste material is an important consideration in the manufacture of sockets on a commercial scale, especially when the socket-blanks are struck up from sheets or strips of metal, since in their manufacture it is highly desirable that all the material as far as may be be utilized and that the scrap shall represent a minimum wastage. The blank for the caster-socket constituting the main feature of the subject-matter of that patent while of a substantially rectangular form is nevertheless, as shown and described, provided on opposite sides with projections extending beyond the boundary lines of the substantially rectangular body—that is, beyond the body or main portion of the blank. These projecting side portions are designed to ultimately be bent laterally to the body portion and after the blank is shaped to the cylindrical form of the socket such laterally-extending portions constitute tenon members for engaging the socket with the mortise in the furniture leg or other object with which the socket is combined. This particular form of blank I do not deem, however, to be the most economical one in all instances, since by reason of the aforesaid projections a considerable amount of scrap or waste material is formed in making the blanks. When large numbers of the blanks are made, this waste may constitute no inconsiderable item.

According to the present invention I provide a form of blank (and a socket made therefrom) in which the blank has no projections extending from the boundary lines of its main or body portion, and for this reason such blanks may be made truly rectangular. When the blanks are struck up or otherwise formed from sheets or strips of metal, the wastage factor may therefore be made substantially if not quite *nil*.

In the drawings accompanying the present specification, Figure 1 is an outline of a sheet-metal blank from which a socket may be formed, one of the edges of the blank being represented as corrugated for the purpose of providing metal for an integral laterally-extending track-plate, as in my hereinbefore-mentioned patent. Fig. 2 is an end or edge elevation of the blank indicated in Fig. 1. Figs. 3 and 4 are views similar to Figs. 1 and 2, respectively; but in these figures the blank is represented as having portions of its body displaced from their normal positions to form ears projecting laterally from the face of the blank. Fig. 5 is a view looking at the lower or corrugated edge of the blank. Fig. 6 is a view similar to Fig. 3, but shows the laterally-extending ears. Fig. 7 is an elevational view of the partially-formed socket, representing the blank as having been shaped to a cylindrical form, this shaping constituting one of the steps involved in the manufacture of the complete socket. Fig. 8 is a sectional view on the plane of the line 8 8 looking in the direction of the arrow adjacent to that line. Fig. 9 is a central longitudinal section of the completed socket and represents the same in a more advanced stage of manufacture than that indicated in Fig. 7. The corrugated end portion of the blank has here been forced laterally with respect to the body portion of the socket to form the laterally-extending track-plate thereof. Fig. 10 is a view of the completed socket looking in the direction of the axis thereof, and Fig. 11 is a perspective view of a socket made in accordance with the present improvements.

Similar characters of reference designate corresponding parts in all the figures.

In manufacturing my present socket, as in manufacturing the one set forth in my hereinbefore-referred-to patent, a suitable blank

of proper dimensions is stamped or otherwise formed from suitable sheet metal, and it will likewise be generally provided along one edge with a series of indentations or corrugations. As the result of the corrugating process in whatever manner the same is performed, whether before the blanking-out process or during the process of forming the blank or subsequent thereto, the metal of the corrugations is somewhat thinner than the metal before the corrugations have been formed therein. The length of the corrugations—that is, their measurement in line therewith—is substantially equal to the width of the completed track-plate as measured across the surface radially of the socket. The outer ends of the corrugations lie in a sinuous line whose length is substantially equal to the length of the circumference of the finished track-plate. As ordinarily made the side walls of each of the corrugations will taper for a distance measured lengthwise of the corrugation corresponding to the radial width of the track-plate, while such walls at the outer ends of the corrugations will be substantially parallel, corresponding to that part of the blank which is ultimately to be extended in line with the axis of the socket to form the upturned rim of the track-plate.

The blank for convenience of reference is designated in a general way by A, while the corrugations before referred to are designated by 15, each corrugation comprising a portion 16, having tapering side walls, and a portion 17, having substantially parallel side walls.

As already adverted to, the members for forming the tenon of the socket are in my mentioned patent in the nature of projections extending from the side edges of the blank and which projections, therefore, extend beyond the boundary lines of the body or main portion of the blank. According to the present improvements such tenon-forming members are made from the body portion itself, being struck up or otherwise formed therefrom and bent over in such a manner as to project laterally from the face of the blank. In the manufacture of the present socket such tenon-forming members may be used in connection with such a blank as that indicated by A, provided with corrugations 15. I prefer that their locations relatively to each other shall be such that when the blank is shaped to a cylindrical form these members will be disposed substantially diametrically opposite to each other. In the completed socket, therefore, an arc of the circle defining the circumscribing cylinder of the socket intervenes between the seam and the tenon members. In this instance each projecting ear, constituting a tenon member 11, is formed by separating the metal of the blank along three intersecting lines and then bending such free portion about its integral connection with the body portion 12 of the blank to a position in which it extends outward from the face of the blank. Moreover, in the blank and caster socket shown in my mentioned patent the blank is provided along that edge opposite to the one provided with corrugations with a plurality of projections designed and adapted to form resilient members whose purpose is to hold the pintle of the caster in position, yet permitting the forcible withdrawal of such pintle when desired. I have not in the blank and socket illustrated in the drawings attached to the present specification shown the former as provided with any such projections nor the socket as having any spring members designed for the purpose referred to. I do not, however, wish to limit the employment of the present invention to embodiment in a socket or a blank therefor devoid of such spring members, since such pintle-supporting members may likewise be provided on the socket. With a form of socket, however, such as herein illustrated and described it is designed that a pintle shall be used which itself embodies spring-like members for the purpose of yieldingly holding the pintle in position in the socket. After the blank has been bent to a cylindrical form, as indicated in Figs. 7 and 8, the next operation may be that of forming the laterally-extending track-plate of the socket. This may be done by the aid of suitable dies or by other appropriate means during which the corrugated end of the tubular blank is flared outward and, if desired, bent upward at its extreme outer edge to constitute an annular upturned track-plate integrally connected with the tubular body of the socket. This plate is designated by A′, the metal for the plate being furnished by reason of the conformation of the corrugated portion the individual corrugations of which during the process of forming the track-plate straighten out, yielding ultimately a plate having a comparatively smooth surface. A caster-socket of the construction hereinbefore set forth may thus be made from a blank which is rectangular in form and devoid of any projection or projections extending beyond the outline of the rectangle and entailing a waste of metal in forming the blanks. A caster-socket thus formed, moreover, is provided with a comparatively wide and substantial track-plate and may have one or more projecting tenons for engagement with a mortise or mortises previously formed in the furniture leg, &c., for the reception thereof or made therein by the forcible insertion of the socket.

Having described my invention, I claim—

1. A rectangular blank for forming a one-piece caster-socket, said blank being provided with corrugations in that edge portion which is to form the track-plate of the socket and with a tenon member struck up from metal lying wholly within the boundary lines of the body portion of the blank.

2. A rectangular blank for forming a one-piece caster-socket, and provided with corru-

gations in that edge portion which is to form the track-plate of the socket, each corrugation having parallel sides for a portion of its length and tapering sides at the inner extremity of the corrugation, and the blank having laterally-extending tenon members located wholly within the boundary lines of the body portion of the blank.

3. A blank for forming a tubular caster-socket, said blank having the configuration of a rectangle, the sides of the blank corresponding to the sides of the rectangle, and one edge of the blank being corrugated.

4. A blank for forming a tubular caster-socket provided with an integral track-plate, said blank having the configuration of a rectangle, the sides of the blank corresponding to the sides of the rectangle, and the blank having tenon members struck up from metal lying wholly within its boundary lines, the planes of which members are disposed substantially parallel to the seam-forming edges of the blank.

5. A tubular socket provided with an integral track-plate, said socket having a single longitudinal seam forming a smooth joint located wholly within the circumscribing cylinder of the socket, and the socket having outwardly-extending tenon members between which and said seam there intervenes an arc of the circle defining said circumscribing cylinder, the planes of said tenon members being disposed substantially parallel to said seam.

6. A tubular socket for a caster, said socket having a single seam forming a smooth joint located within the circumscribing cylinder of the socket and extending the entire length of the socket from end to end, and the socket having one end bent transversely to the body of the socket to form an integral track-plate, the thickness of the material of the track-plate decreasing radially outward throughout the entire breadth thereof, whereby metal is supplied for forming those portions of the track-plate extending beyond the body of the socket.

7. A tubular socket for a caster, said socket having a single seam forming a smooth joint located within the circumscribing cylinder of the socket and extending the entire length of the socket from end to end and its socket having one end bent transversely to the body of the socket to form an integral track-plate, with an upturned outer edge, the thickness of the material of the track-plate decreasing radially outward throughout the entire breadth thereof, whereby metal is supplied for forming those portions of the track-plate extending beyond the body of the socket.

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