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S. A. DUVALL

2,112,336

IRON STAND

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FIG. 1.

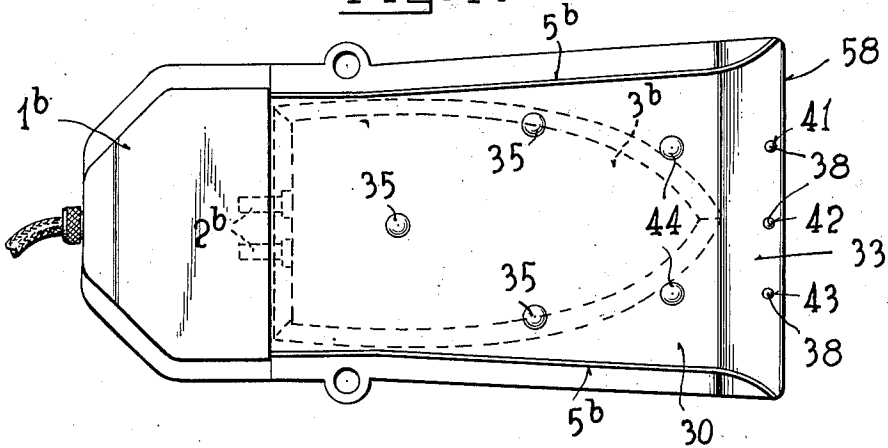


FIG. 2.

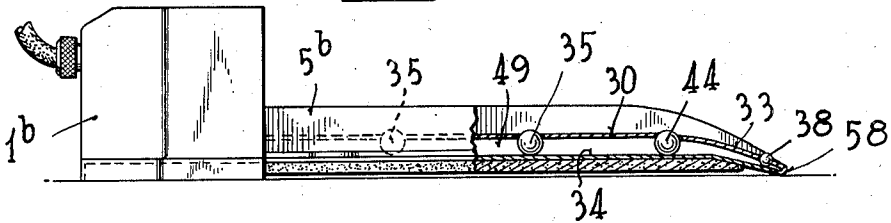


FIG. 3.

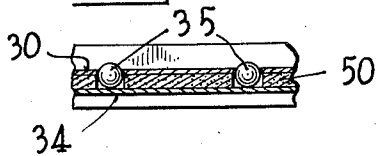
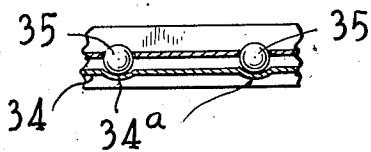


FIG. 4.



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2,112,336

IRON STAND

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Application October 3, 1935, Serial No. 43,425

3 Claims. (Cl. 248—117.3)

My invention relates to supports or stands for flatirons and is especially adapted to stands for electric flatirons although it is of improved usefulness with any form of iron. The present application is a continuation in part of my prior co-pending application filed November 14, 1934, Serial No. 753,037, in which I have described and claimed an improved iron stand and anchoring means for ready attachment and detachment to and from an ironing board. In the present case, I shall describe the same iron stand, together with specially improved supporting means, as well as certain specific features.

With the use of the ordinary iron holder requiring the iron to be lifted from the board in order to place it on the holder or requiring an upward pull on the iron in order to partly overcome the weight of the iron to reduce friction where the iron is slid up an incline from the board to the holder, it is impossible for the user to iron sitting down, because of the necessity for repeatedly lifting the iron with great fatigue. The result is that the user must stand up over the board in order to bring the shoulder of the lifting arm over the board and avoid having to reach out in lifting.

The present invention therefore seeks to provide an iron stand the use of which requires substantially no upward pull on the iron and offers a minimum resistance to movement of the iron onto and off of the stand. This object is accomplished in the main by the provision of an anti-friction support for the iron together with an anti-friction guide for guiding the iron up onto the support.

A further object is to provide a stand capable of conserving the heat of the iron while not in use or, in the case of an electric iron, while being heated, and capable of effectively insulating the heat of the iron from the ironing board, without subjecting the polished surface of the iron to rubbing contact with portions of the stand and with substantial elimination of any tendency of the iron to stick to the stand.

It has been observed in practice, especially in the case of electrically heated irons, that the iron has a tendency to stick to the surface of a support with slight though sufficient adherence to appreciably retard the sliding of the iron off of the support, and that even with anti-friction supporting members in the form of rollers of extended area, there is an appreciable tendency to stick. The present invention overcomes this tendency by the use of a novel arrangement and construction of anti-friction bearing members

with relatively small area of contact with the surface of the iron.

A further object is to provide a stand for use with modern electric irons that has a highly plated and polished bottom plate or sole plate, said stand being so constructed as to preserve the high lustre finish of the bottom plate of any iron placed thereon.

Other objects and advantages of the invention will be apparent from the reading of the following specification with reference to the drawing accompanying the same.

In the drawing, Figure 1 is a plan view of one form of the invention.

Figure 2 is a side view of Figure 1 partly in longitudinal section.

Figure 3 is a slight modification of Figure 2 in cross section to show a different arrangement of the insulation.

Figure 4 is a modification and shows a slight change in the ball-bearing supporting plate.

Referring to the drawing in detail, Figures 1 and 2 show an iron stand for supporting an electrically heated iron of the cordless type, comprising a flat top portion 30 having a pair of guide flanges 5b and a housing 1b at the rear end of the flat top portion 30, said housing containing a suitable jack or electric connecting socket (not shown) with which suitable plug contacts, 2b, carried by the iron, 3b, are arranged to engage each other for the purpose of supplying current to the iron while it rests on the stand. The top plate, 30, is provided with a downwardly sloping front edge portion, 33. A bottom plate, 34, is arranged below the top plate, 30, and held in spaced relation thereto by a plurality of ball bearings—35, 38 and 44—the rear edge of the bottom plate is attached in any suitable manner to the bottom of the housing, 1b. The front edge of the bottom plate is soldered to the front edge of the top plate at 58 or secured by any other desirable method. Anti-friction members, 38, in the form of ball bearings are mounted in the sloping front edge portion, 33, in openings 41, 42 and 43, formed in the upper plate, the openings being smaller in diameter than the ball bearings, with the openings in said upper plate sufficiently large to permit the ball bearings to project therethrough above the top surface of the upper plate so as to contact the iron as it is being slid up onto the stand. The two ball bearing members, 44, placed just beyond the downward sloping portion of the top plate in a horizontal plane also protrude through openings in the top plate, 30, far enough to act as anti-friction members for contact with the iron as it is

being slid up onto the stand and the three supporting bearings, 35. These three supporting bearing members, 35, are mounted in a similar manner to the previously described two bearing members, 44, i. e., they project through openings in the upper plate, 30, sufficiently large to permit their contact with the iron which rests upon their rounded surfaces. These bearings which project through openings in the upper plate, 30, all rest upon a plate, 34, said bottom plate, 34, having a smooth surface to better permit the free rotation of the ball bearings upon engaging with the iron as it is slid up onto the stand from the ironing board. It will be noted that the two ball bearings, 44, are so spaced and arranged that when the iron is in its proper position on the stand the nose of said iron comes in between the said ball bearings, 44, so as not to contact with them while the iron is being heated and in its supported position. It will therefore be seen that the three ball bearings, 35, are the only actual contacts with the bottom of the iron. This gives only a three point contact which is the smallest possible contact area practical. In providing for only a three point contact such as illustrated and described, I have reduced the possibility of the iron sticking or fusing to the stand far more than has ever been done before, the actual points of contact being a mere fraction of an inch.

A dead air space is formed between the top and bottom plates 30 and 34 respectively as shown in Figure 2 at 49. Mounted on the bottom of the bottom plate and opposite the dead air space is a piece of insulation material, 50, by means of screws not shown. The insulation, 50, and the dead air space, 49, both assist in properly insulating the stand so as to prevent waste energy or loss of heat. In Figure 3, I have shown another means of insulating the stand by placing the insulation material 50 within the dead air space and doing away with the bottom insulation, 50, entirely. In operation the roller bearing supporting members serve to enable the iron to be slid onto and off the holder with minimum expenditure of energy and are so proportioned and so arranged as to eliminate any tendency of the iron to stick to the support. It is likewise to be understood that this form of my invention may also be provided with anchor pins such as are shown in my Patent Number 2,043,508, Serial No. 724,420, filed May 7, 1934.

Figure 4 is a modification of my invention in which the bottom ball bearing supporting plate 34 is slightly changed by having formed therein depressions 34a. In depressions 34a rest the bearings 35, the concave portions of the depressions being larger than the diameter of the ball

bearings, to permit free rotation. This embodiment of my invention permits very free rotation of the bearings 35 even after they have become hot and have expanded from the heat of an iron resting on the stand. Otherwise this embodiment of my invention is the same as shown in Figures 1, 2 and 3. The insulation, 50, of course, may be placed between plates 30 and 34 or below plate 34 as in Figures 2 and 3 respectively.

While I have thus shown and described certain specific embodiments of the invention for the sake of disclosure, it is to be understood that the invention is not limited to such specific embodiments but contemplates all such modifications and variations thereof as fall fairly within the scope of the appended claims.

What I claim is:—

1. An iron stand including a flat top horizontal plate, a downwardly sloping front edge portion from the horizontal plate, upwardly extending guide flanges on each side of the said plate, openings in the said plate and sloping portion, a bottom plate below the said top horizontal plate and sloping portion, ball bearings resting on the bottom plate and projecting through said openings in the flat top plate and sloping portion, the bearings in the downwardly sloping front edge portion being anti-friction bearings and the bearings on the horizontal plate being arranged to act as supporting bearings for an iron resting on the stand, so as to contact the iron bottom at three points.

2. An iron stand comprising a top plate, holes in the top plate, a piece of insulation below the top plate with holes therein in alignment with the holes in the top plate, a smooth bottom plate and ball bearings resting on the smooth bottom plate and projecting through the aligned holes of the piece of insulation and the said top plate to support an iron resting on the stand.

3. An iron stand comprising a flat top plate, a downwardly sloping front edge portion from the said top plate, upwardly extending guide flanges on each side of the flat top plate, openings in the said flat top plate and sloping portion, a bottom plate below the said flat top plate and sloping portion, depressions in the surface of said bottom plate, ball bearings resting on the said bottom plate in said depressions and projecting through said openings in the flat top plate and sloping portion, the bearings in the downwardly sloping front edge portion being anti-friction bearings and the bearings projecting through the flat top plate being arranged to act as supporting bearings for an iron resting on the stand, so as to contact the iron bottom at three points.

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