W. O. ALDRICH.

THREAD BOARD.

APPLICATION FILED JUNE 18, 1907.

953,732. Patented Apr. 5, 1910.

Fig. 1.

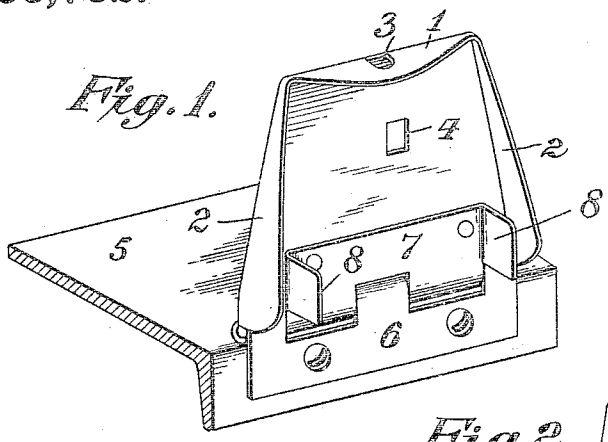


Fig. 2.

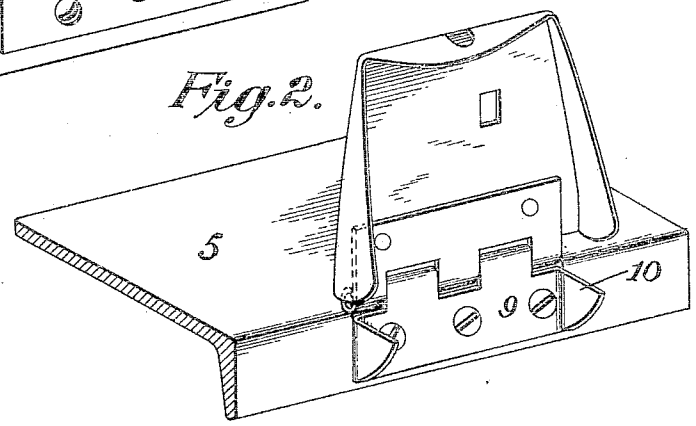


Fig. 3.

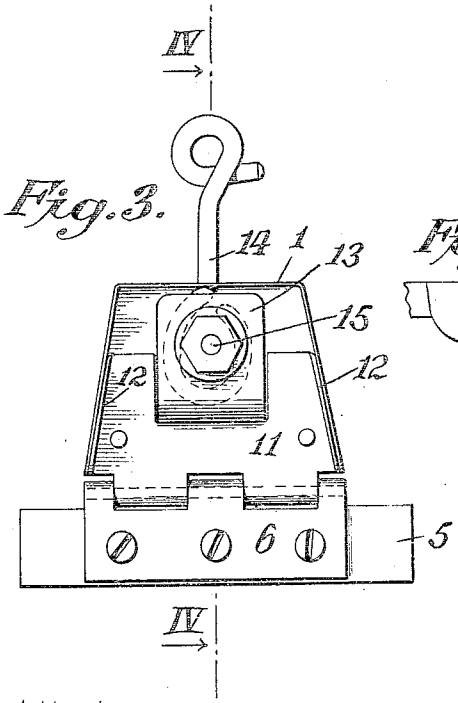


Fig. 5.

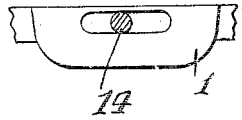
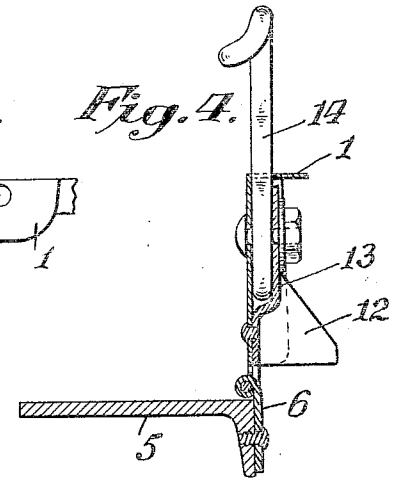


Fig. 4.



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UNITED STATES PATENT OFFICE.

WILLIAM O. ALDRICH, OF WHITINSVILLE, MASSACHUSETTS, ASSIGNOR TO THE WHITIN MACHINE WORKS, OF WHITINSVILLE, MASSACHUSETTS, A CORPORATION OF MASSACHUSETTS.

THREAD-BOARD.

953,732. Specification of Letters Patent. Patented Apr. 5, 1910.

Application filed June 18, 1907. Serial No. 379,546.

To all whom it may concern:

Be it known that I, WILLIAM O. ALDRICH, a citizen of the United States, residing at Whitinsville, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Thread-Boards, of which the following is a full, clear, and concise description.

My invention relates to thread-boards of spinning-frames and more particularly to improvements in the construction and mounting of the finger-heads and thread-guides thereon, with the object to increase their strength and durability and likewise to simplify the construction and reduce the cost thereof.

The invention is shown in the accompanying drawings, wherein—

Figures 1 and 2 represent in perspective view two forms of my invention; Fig. 3 represents in front elevation a developed form of the invention; Fig. 4 is a vertical section of Fig. 3 on the line IV, IV, with certain parts in elevation; and Fig. 5 is a detail view of the front flange of the finger-head.

Referring first to Fig. 1, the finger-head is stamped or otherwise formed of a sheet metal blank with downturned front and side reinforcing flanges 1 and 2 as shown, and with an appropriate aperture 3 through the front flange for receiving the shank of the usual thread-guide or pig-tail not here shown. The body of the finger-head is also perforated at 4 to receive the usual clamping bolt for the thread-guide. As thus formed, the finger-head presents a smooth upper surface which is devoid of sharp edges or corners that might catch upon the wiping cloth when the apparatus is cleaned and the corners of the marginal flanges are also rounded for the same purpose. The finger-head is supported upon the back-rail 5 by means of special hinge mechanism constituting my invention, which mechanism is formed independently of the finger-head and the back-rail and is particularly adapted for sustaining the shocks and strains to which these devices are liable to be subjected. In the form shown in Fig. 1 the hinge mechanism comprises two hinge leaves of which the lower leaf 6 is screwed to the front face of the back-rail 5, while the upper leaf 7 is riveted firmly to the under side of the finger-head body. The lateral extremities of the upper leaf are bent outwardly at an angle to the body of the leaf and transversely to its hinge axis, forming rigid ears or stops 8 which engage with the face of the lower leaf, when the finger-head is turned down, and hold it firmly in horizontal position.

In the form shown in Fig. 2 the hinge mechanism is reversed and the lower leaf 9 is provided with the outwardly bent extremities or ears designated 10, which form the stops for holding the finger-head horizontal. In this form of the invention the lower corners of the stop ears are rounded off so as to avoid their catching upon the wiping cloth or coat-sleeve of the operator when doffing the spindles, but in both cases it will be observed that the stop-ears are integral parts of the hinge mechanism and are entirely disposed in vertical or perpendicular planes with respect to the other hinge leaf, which thus adapts them to receive and resist the strains on the latter with great firmness, and it will be further observed that such strains as are liable to distort the apparatus are confined to a single device, *i. e.* the hinge mechanism which may be made adequately heavy for this purpose. That is to say, the desired strength for the horizontal support of the finger-head, both as to the stops and the hinge proper, may be obtained by selecting hinge mechanism of appropriate weight and thickness without making the finger-head, which must be kept as light as possible for obvious reasons, out of metal stock any heavier or thicker than is needed for the clamping of the thread-guide.

Referring now to Figs. 3–5 the upper hinge-leaf 11 conforms to the interior shape of the finger-head body and carries integral stop-ears 12 formed by bending out its ends as above described. The leaf 11 is also double-slotted and the portion or tongue 13 between slots is offset so as to form a clamping plate for holding the eye of the thread-guide or pig-tail 14, which latter is confined between the said clamping plate and the body of the finger-head. The clamping plate 13 and finger-head are perforated, in registry, for receiving the clamping bolt 15 of usual construction, and the parts are assembled so that the plate exerts a normal pressure upon the shank of the pig-tail irrespective of the bolt 15, so that release of the latter, or even its complete removal, will not entirely release the pressure on

the pig-tail, and the latter is thus held steady in the finger-head, which condition greatly facilitates accurate adjustment of the same in the correction of minute displacements. By reason of the fact that the hinge-leaves are made of comparatively stiff and heavy metal, in order to withstand the strains on the finger-head, as above fully described, it is possible for the clamping plate 13 to exert a very considerable pressure upon the pig-tail, and this pressure, being supplemental to the pressure of the tightened clamping bolt, materially increases the positiveness of the position in which the pig-tail may be bolted. As shown in Fig. 5 the aperture in the front flange 1 of the finger-head is made of sufficient lateral dimension to accommodate the angular adjustment of the thread-guide in the finger-head, and, it may be of sufficient width to enable the looped shank of the pig-tail to be inserted through it, although the pigtail may be placed beneath the clamping plate before the parts are riveted to the finger-head if desired.

Having described my invention, what I claim and desire to secure by United States Letters Patent, is, viz:—

1. A thread board for spinning frames comprising a back rail, a sheet metal finger head therefor provided with marginal reinforcing flanges, a thread guide secured to said finger head, and hinge mechanism independent of said finger-head, comprising hinge-leaves secured respectively to said back rail and finger-head, one of the said leaves having its lateral extremities bent outwardly, forming stop ears transverse to the hinge axis and within said reinforcing flanges, said ears being adapted to hold said finger-head in horizontal position.

2. A thread board for spinning frames comprising a back-rail, a sheet metal finger-head therefor provided with downturned reinforcing flanges, and a thread guide on said finger-head, in combination with independent hinge mechanism comprising hinge leaves secured respectively to said back-rail and finger-head, one of said leaves having its lateral extremities bent outwardly transverse to the hinge axis, and positioned to be engaged by the other hinge-leaf to hold the finger-head in horizontal position.

3. In a thread-board for spinning frames, the combination with the finger-head and means for supporting the same from the back rail and holding the same horizontal, of a thread guide angularly and longitudinally adjustable on said finger-head, being held against the underside thereof by a resiliently supported clamping plate secured to said finger-head and normally clamping said thread-guide independently of other clamping agency, and a positive clamping means operable upon said plate to lock the said guide positively between said plate and finger head.

4. A thread board for spinning frames comprising a back-rail, a sheet metal finger-head, a thread-guide and hinge mechanism comprising hinge leaves, one of said leaves being provided with laterally bent extremities forming stop-ears for holding the finger-head in horizontal position, in combination with a clamping plate formed integrally on the upper of said leaves and a bolt for binding the thread-guide, between the said plate and the finger-head.

5. A thread-board for spinning frames comprising a back-rail, a sheet metal finger-head and a thread-guide therefor, in combination with an independent hinge-leaf secured to said finger-head and having its lateral extremities bent transversely to the hinge axis and forming stop-ears, and provided further with a clamping plate adapted to hold the thread-guide to the finger-head.

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

WILLIAM O. ALDRICH.

Witnesses:

HARMON O. NELSON,

OSCAR L. OWEN.