H. A. OWEN.

THREAD BOARD.

APPLICATION FILED SEPT. 29, 1909.

**1,067,055.**

Patented July 8, 1913.

2 SHEETS—SHEET 1.

Fig: 1,

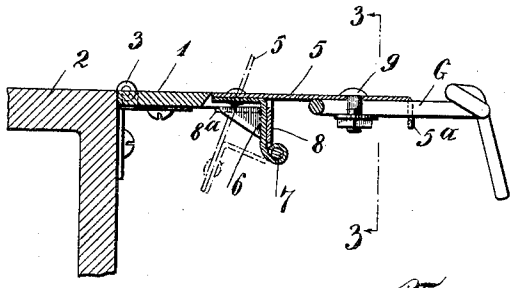



Fig: 2,

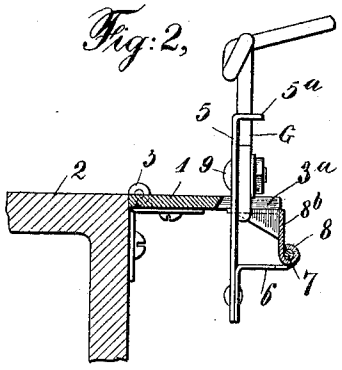



Fig: 3,

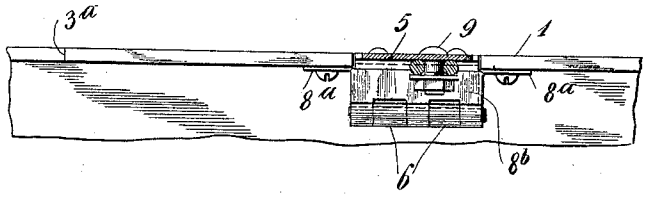
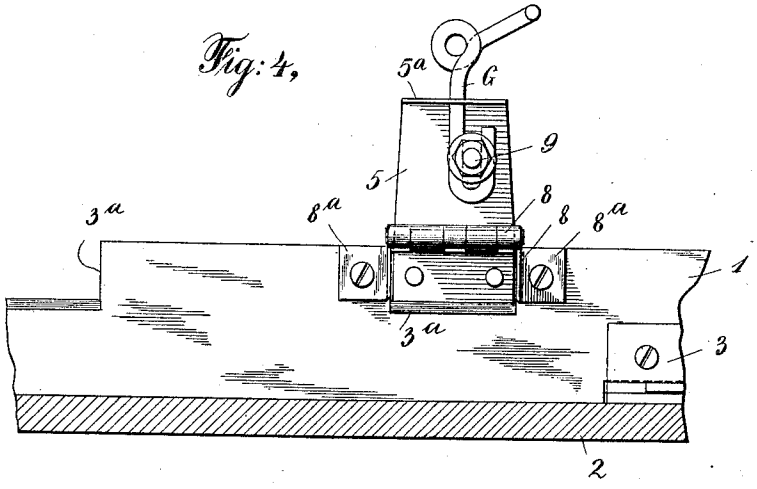



Fig: 4,




Witnesses:

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2 SHEETS—SHEET 2.

Fig: 5,

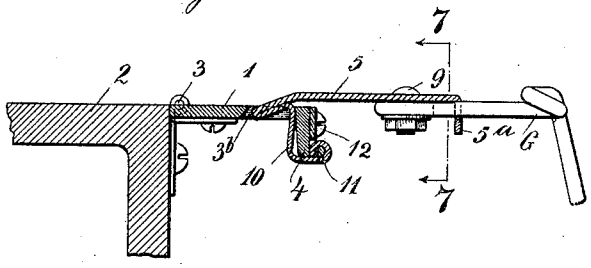



Fig: 6,

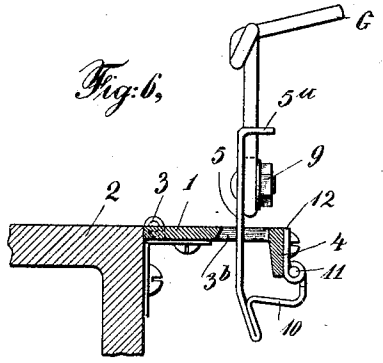
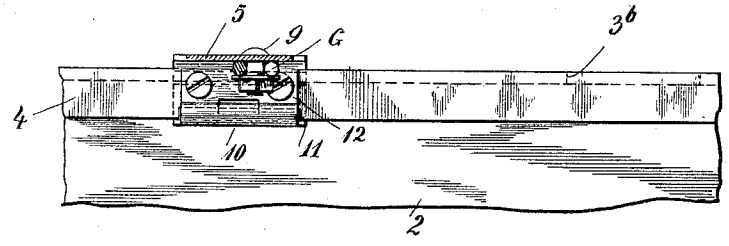



Fig: 7,




Witnesses:

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# UNITED STATES PATENT OFFICE.

HENRY A. OWEN, OF WHITINSVILLE, MASSACHUSETTS, ASSIGNOR TO THE WHITIN MACHINE WORKS, OF WHITINSVILLE, MASSACHUSETTS, A CORPORATION OF MASSACHUSETTS.

## THREAD-BOARD.

1,067,055. Specification of Letters Patent. Patented July 8, 1913.

Application filed September 29, 1909. Serial No. 520,077.

*To all whom it may concern:*

Be it known that I, HENRY A. OWEN, a citizen of the United States, residing in Whitinsville, Worcester county, Massachusetts, have invented certain new and useful Improvements in Thread-Boards, of which a full and true specification follows.

The invention is a thread-board for spinning and like machines, and its object is to improve the construction and facility of operation thereof and to produce a cleanly, pivotal mounting for the finger-heads upon the thread-board rail, enabling them to be turned back thereon and become partially housed therein so as to leave an unobstructed space over the spindles, and the invention involves other features of improvement which will be obvious to those skilled in this art from the following detailed description, taken in connection with the drawings which form a part hereof.

In the said drawings, Figure 1 is a vertical sectional view through the roller beam thread-board rail and one of the finger-heads of this invention; Fig. 2 is a similar view with the finger-head in an upright position; Fig. 3 is a transverse section through the finger-head of Figs. 1 and 2 on the line III—III; Fig. 4 is a bottom plan of Fig. 1; Fig. 5 is a section through a modified form of thread-board mechanism taken centrally through the rail and finger-head; Fig. 6 is a similar view showing the same finger-head in an upright position; and Fig. 7 is a cross-section of the finger-head on line VII—VII of Fig. 5.

The thread-board of the above figures comprises the thread-board rail, marked 1, which is mounted in hinged relation to the roller beam 2, by means of the hinges 3, and is preferably flush with the upper surface thereof, being also continuous with the roller beam, so that it can form the support for a series of the thread-guides whereby all or a section of the latter can be turned back at once. It also forms a protecting cover, sheltering the parts beneath from falling waste and dirt, as will be well understood. In the form shown by Figs. 1 to 4, the said rail is a flat metal plate and in the form shown in Figs. 5 to 7 the plate is provided with a depending front flange, marked 4. As used for the purposes of this invention, a thread-board rail, of the kind referred to, is provided with a series of recesses $3^a$ in its outer side or margin, each recess extending inwardly from the edge of the rail for a depth about as shown in the drawing. A finger-head 5 is hinged to the rail so as to occupy each recess, forming a closure thereto which is substantially flush with the top surface of the rail, when in horizontal position, and projects outwardly beyond the outer margin thereof a sufficient distance to enable the eye of the thread-guide carried by it to reach the plane of the spindles. The finger-heads preferably fit their recesses rather closely so as to provide, in conjunction with the rail, a continuous flat upper surface which is devoid of protuberances or crevices likely to obstruct cleansing or retain the dirt and waste.

According to the preferred form of the invention, the finger-head is mounted to swing simultaneously upwardly and inwardly into its recess as it is lifted and turned on its hinge, and in its extreme turned-back position it abuts against the inner edge of the recess, which thus acts as a stop to limit the movement and hold the finger-head in upright position. For this movement the hinge axis is located below the finger-head and intermediate of its ends, being preferably directly beneath the outer edge of the rail, as shown, although said axis may be located outside or forwardly of the said outer edge, if desired. Various forms of hinging-means can be employed to produce this effect, as will be plain to the skilled mechanic, but a construction of hinge is preferred wherein a part adjacent to or coincident with the margin or edge of the rail and spanning the outer side of the recess $3^a$, cooperates with the pivoted parts as an abutment stop, to limit the finger-head in its downward and outward movement and hold it in its thread-guiding, that is to say, a horizontal, position. Thus, in Figs. 1 to 4 the finger head 5 has a hinge-leaf 6 extending from the inner edge thereof forwardly and downwardly to its hinge pintle 7, which is located beneath the extreme outer edge of the rail, and about in the vertical plane thereof. The complementary hinge-leaf 8 forms the part, just referred to, which spans the outer side of the recess in the rail, acting as the abutment stop holding the finger-head horizontal. This hinge-leaf 8 is preferably stamped of a shape such as shown clearly in the figures referred to, in which it

has ears $8^a$ screwed to the under side of the rail at each end of the recess, and also a web $8^b$ the bottom of which is curled to form hinge knuckles surrounding and holding the pintle 7. The inner face of the web $8^b$ is engaged by the face of the hinge-leaf 6 when the finger-head reaches its horizontal position, shown in Fig. 1. In this position the inner extremity of the finger-head 5 may also abut against the inner side of the recess $3^a$, which is beveled on its under side, as shown, and such abutment may serve to reinforce the support provided by the web. The thread-guide, which may be the usual wire pigtail or other form of thread-guiding means, has a shank G which is passed through the perforated front flange $5^a$ of the finger-head and adjustably secured in place by a bolt and nut 9, in the usual way.

In the form illustrated by Figs. 5 to 7, the recess $3^b$ thereof is cut in the flanged thread-board rail so as to leave the flange 4 or a part thereof intact, to serve as the part spanning the outer side of the recess which holds the finger-head horizontal. The inner end of the finger-head 5 is supplied with an outwardly and downwardy projecting part 10 which constitutes the finger-head hinge-leaf (being integral with the finger-head in this form). This hinge-leaf is extended under the flange and is curled around the hinge pintle 11, which is supported by an ordinary hinge-leaf 12 screwed to the outer face of the flange. The inner face of the flange is engaged by the hinge-leaf 10 when the finger-head is horizontal and forms a specially rigid and permanent support therefor.

In each of the above forms it will be observed that the hinging mechanism, being beneath the finger-head, is sheltered thereby and hence most easily kept clean of fly and dirt, and that when the finger-head is turned back on the rail, it falls into its recess, where it is the least in the way, while all of the finger-heads can be simultaneously turned back when necessary. It will be further observed that the depth of the recess may be made according to preference and that it may be formed wholly in the rail or partly in the rail and partly in the pintle-supporting member, or wholly in or by the latter, in which case the hinge axis will be located beyond the outer edge of the rail proper, but in any case the rear parts of the finger-head will swing downwardly through the recess and will occupy the same when in its thread-guiding position as above fully described.

I claim—

1. In a thread-board, a hinged thread-board rail, a finger-head, having its hinge axis on the rail and disposed below the level thereof, and a part having an inwardly disposed face coacting with said finger-head as an abutment stop therefor.

2. In a thread-board, a thread-board rail mounted in hinged relation to the roller beam to project horizontally therefrom, a finger head axle supported on said rail below its level and a fixed part above said axle forming an abutment face, in combination with a finger head mounted to extend forwardly of the hinged rail and having a hinge part depending in rear of said abutment face to engage the same and swing downwardly and rearwardly therefrom on the said axle.

3. In a thread board, a metallic thread board rail having recesses cut in its outer margin and spanned by finger head axles arranged at the forward sides of the recesses, in combination with finger-heads having hinge-leaves depending downwardly therefrom and mounted on the said axles, the said finger-heads being shaped to fill the said recesses when in horizontal position and adapted to fall into the recesses when turned back.

4. In a thread-board, a thread board rail having an outer recess, an axle spanning the outer side of the recess and an abutment member disposed above the axle, in combination with a finger-head mounted on the axle to close and swing into the recess, and having a part coacting with said abutment member to hold the finger-head in working position.

5. In a thread-board, a thread-board rail having an outer recess, an axle mounted below the upper surface of the rail and spanning the outer side of the recess, a finger-head in the recess mounted on the axle, and abutment means for the finger-head disposed above the level of the axle.

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

HENRY A. OWEN.

Witnesses:
CHARLES A. ALLEN,
OSCAR L. OWEN.

**Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."**