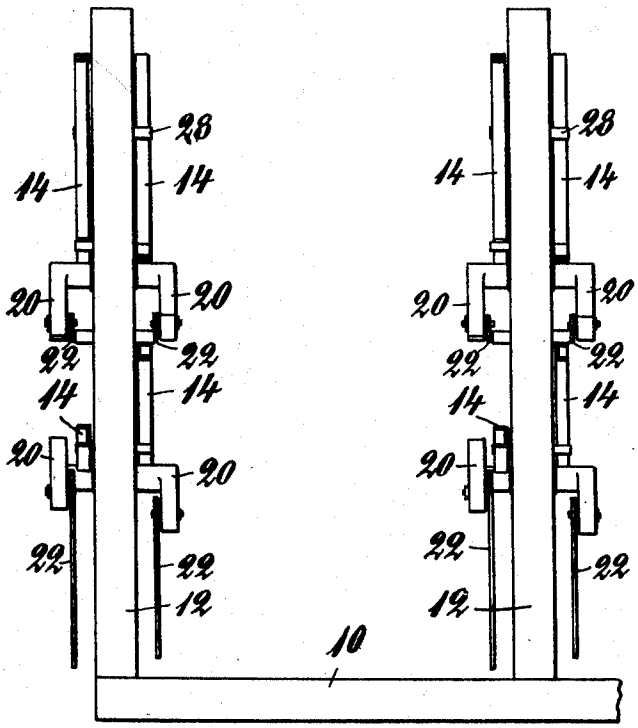
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STAND FOR BAR SHAPED MATERIAL

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Fig. 1.



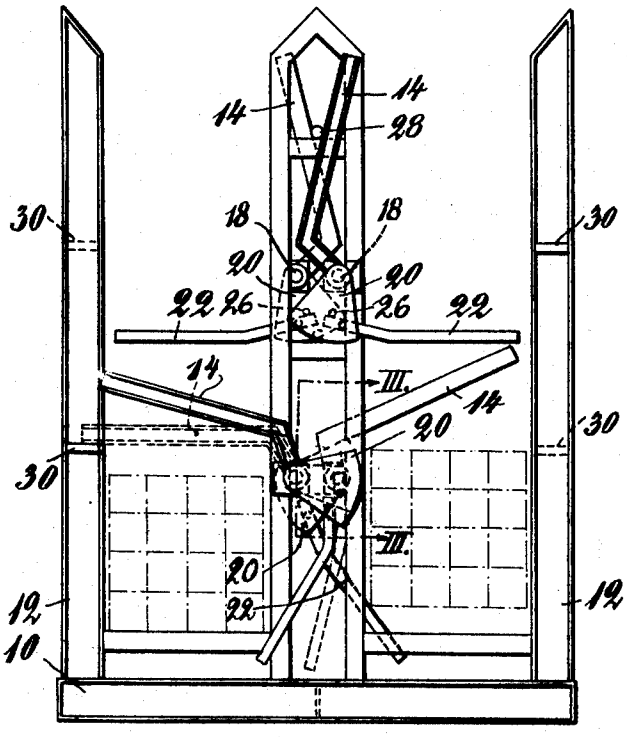
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STAND FOR BAR SHAPED MATERIAL

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Fig. 2.



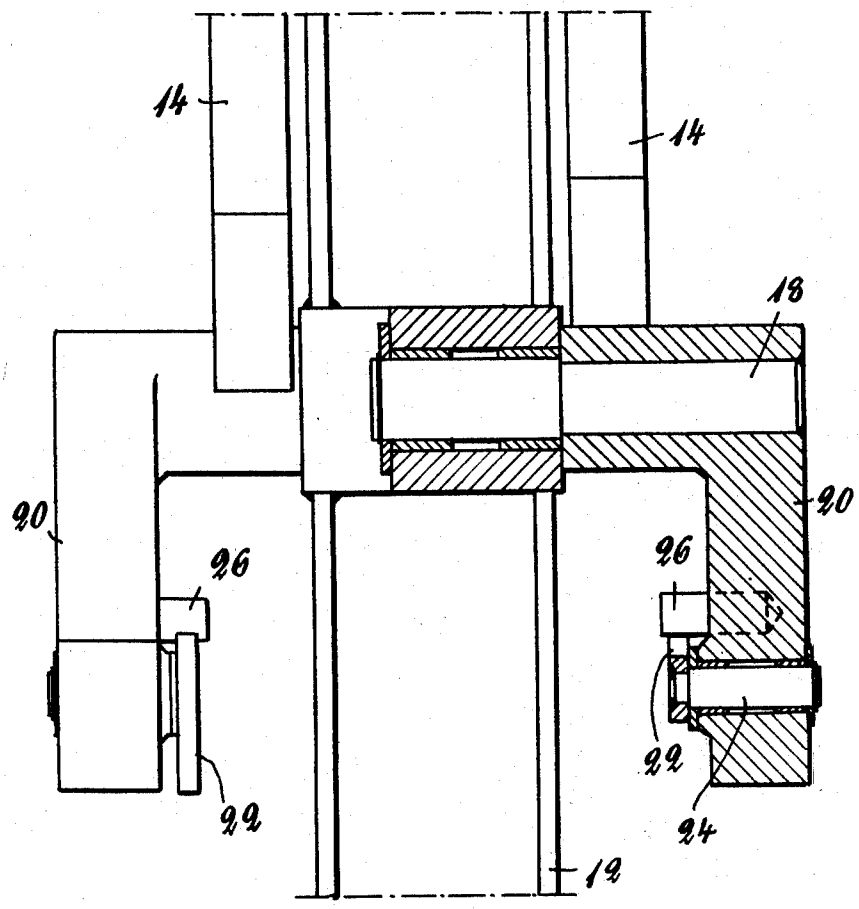
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Fig. 3.



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UNITED STATES PATENT OFFICE

2,675,133

STAND FOR BAR SHAPED MATERIAL

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3 Claims. (Cl. 214—10.5)

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The present invention relates to stands for bar shaped material, the stands including substantially vertical uprights arranged in pairs and in laterally spaced relation as well as beams inserted between said uprights for supporting the material, e. g. bundles of bar iron, to be placed in the stand. Hitherto, these support beams have been fitted in between the uprights manually, according as the stand has been filled with the bar shaped material. Now, the present invention has for its object to bring about an automatic arrangement for inserting the beams.

The arrangement according to the invention is characterized by the fact that each beam is pivotally secured to an upright and is influenced by a force tending to swing the beam into an upright position of rest in which it does not obstruct the interspace between the uprights. Each beam is provided with an operating lever which is pivotally connected to the beam in such a manner that when the beam occupies its upright position, the lever extends into the interspace between the uprights and occupies a horizontal position. In such position the lever has reached the limit of its pivotal motion with respect to the beam and hence further downward movement of the lever by a bundle of bar iron pressing thereon serves to rotate the beam from its upright position into a horizontal position between the uprights thus establishing a support for the next bundle of iron to be put into the stand.

The accompanying drawings illustrate by way of example an embodiment of the invention, Fig. 1 being a side view and Fig. 2 an end view. Fig. 3 is a side view, partially in section, of the mechanism proper on a larger scale.

The stand illustrated in the drawings comprises a bottom frame 10 forming an attachment for vertical uprights 12. These uprights are arranged in groups which are distributed at suitable distances from each other in the longitudinal direction of the stand. Each group consists of three uprights spaced from each other to establish two interspaces therebetween for the support of bar iron bundles. The middle upright in each group carries beams 14 together with the turning devices of these latter. The beams 14 are pivoted on pins 18 and each beam is provided with a counterweight portion 20 which tends to maintain the beam in its position of rest within the contour of the upright 12. Swingably mounted on the counterweight 20 by means of a pivot pin 24 is an operating lever 22. The lever 22 is freely movable upwards in relation

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to the counterweight and hence also beam 14, while its descending movement is limited by an abutment 26 on the counterweight 20. In their swung-up position, the beams 14 rest against pin 28 secured to the upright 12. The two outer uprights 12 are provided with angle pieces 30 for supporting the free ends of the beams when the latter are swung down into their horizontal position by their operating levers.

The arrangement according to the invention operates in the following manner.

By means of a lifting device, e. g. a travelling crane, the bar shaped material in the form of a bundle shown in broken lines in Fig. 2 is lowered longitudinally between a pair of uprights, the operating levers 22 being pressed down by the bundle and swinging the beams 22 into their position transversely across the interspace. According as the bundle passes the operating levers, the beams become, however, free to swing, under the influence of the counterweight, back to their position of rest with the exception of the operating lever of that beam, nearest under which the bundle stops (the lefthand part of Fig. 2). As this operating lever is prevented by the bundle from swinging back, the beam will stop in a position in which it extends across the interspace between the uprights at a slight angle upward from horizontal as shown in the full lines. Therefore, the next bundle lowered down between the uprights will press down this beam to the horizontal position shown in broken lines which then by its end will rest against the support 30. This last-mentioned bundle prevents in turn the operating lever of the immediately overlaying beam from swinging back into its position transversely across the interspace which instead is obstructed by the beam. Hence, a succeeding bundle will press down this beam and rest upon the same.

In emptying the stand, the beams 14 will swing back to their position of rest, according as they are freed from their load, the interspace between the uprights only being obstructed by the operating levers 22. Since these can swing freely upwards without actuating the beams, the levers will not impede the lifting up of the underlying bar bundles from the stand.

Of course, certain changes may be made in the arrangement according to the invention without departing from the scope of the invention. For example, the counterweights, which provide a biasing force tending to swing the unloaded beams into their position of rest, may be replaced by springs or equivalent members for

producing the force necessary for lifting the beams.

What is claimed is:

1. A stand for bundles of bar shape material comprising at least two longitudinally spaced pairs of upright supports, the distance between the supports of each pair defining a space for receiving the material, each pair of said supports including a plurality of carrier beams pivotally mounted in superposed relation upon one of the supports so as to be movable respectively in said space between a substantially vertical unloaded position of rest and a horizontal material supporting position bridging the distance between said supports, means biasing each said beam to said rest position, a stop member for each said beam on one of said supports to prevent said beam from moving downwardly beyond said horizontal position, an operating lever pivotally mounted on each said beam and which is free to move in an upward direction relative to said beam, and means limiting relative pivotal movement between each said lever and beam such that said levers occupy substantially horizontal superposed positions in the space between said upright supports when their associated beams occupy their unloaded rest position, said beams being moved in succession from their rest position to their horizontal material supporting position by the levers as the latter are pressed downwardly in succession by contact with the bundles of material as the latter are lowered into the stand and all of said beams except the one next to be loaded with a bundle being freed to again move to their rest positions upon passage of the bundles, the lever associated with the beam next to be loaded being engaged and held down by the bundle supported upon the beam next below thereby holding the beam next to be loaded in its horizontal supporting position.

2. A stand as defined in claim 1 wherein the said means limiting relative pivotal movement between said lever and beam is constituted by an abutment on said beam which engages said lever.

3. A stand as defined in claim 1 wherein the means biasing said beam to its rest position is constituted by a counterweight portion on said beam at the side of the pivotal mounting therefor opposite the material supporting portion of the beam.

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