Oct. 6, 1925. 1,556,313

J. H. DODD

COMBINED SPACING AND TIEBAR FOR CONCRETE FORMS

Filed Dec. 10, 1924

Fig. 1

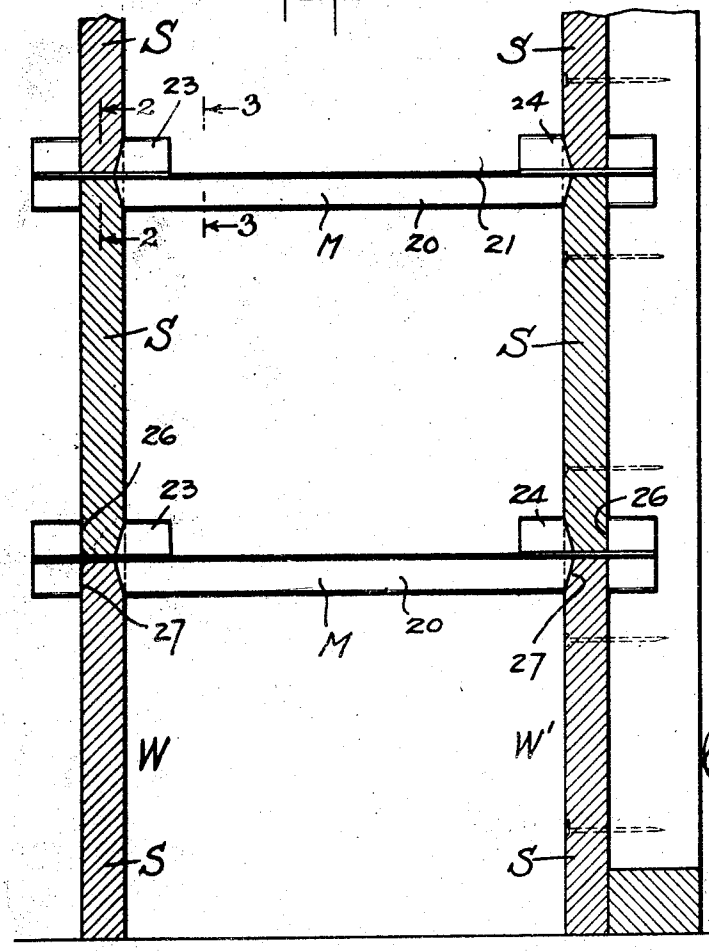


Fig. 2.

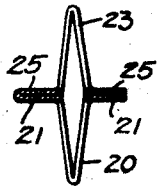


Fig. 3.

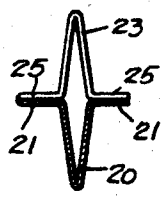


Fig. 5.

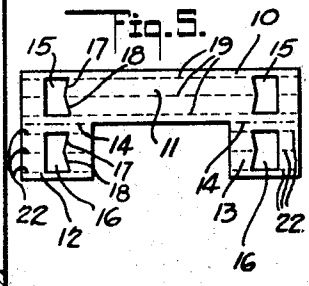
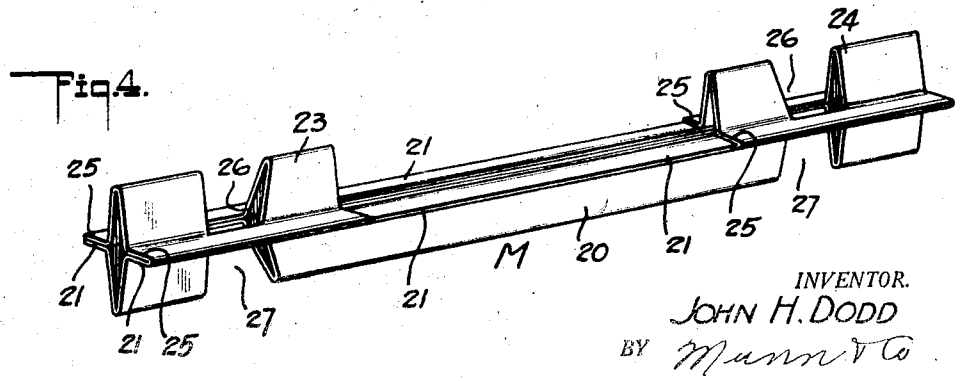


Fig. 4.



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Patented Oct. 6, 1925. 1,556,313

UNITED STATES PATENT OFFICE.

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COMBINED SPACING AND TIE BAR FOR CONCRETE FORMS.

Application filed December 10, 1924. Serial No. 754,992.

To all whom it may concern:

Be it known that I, JOHN H. DODD, a citizen of the United States of America, and a resident of Los Angeles, in the county of Los Angeles and State of California, have invented certain new and useful Improvements in Combined Spacing and Tie Bars for Concrete Forms, of which the following is a specification.

My invention relates to and has for its purpose the provision of a combined spacing and tie bar of simple, durable and inexpensive construction which is particularly adapted, although not necessarily, for use in connection with the usual wooden forms or molds employed when building concrete walls, foundations and the like, and which functions to securely tie the walls of the form together in proper spaced relation and against relative lateral movement, in order that a concrete wall of a uniform thickness will be obtained.

Another purpose of my invention is the provision of a spacing and tie bar of such cross section that the plastic concrete when poured into the form will entirely surround the member and produce a solid homogeneous wall, thus dispensing with the additional operation of filling in by hand the cavity usually found immediately beneath the ordinary tie bar when the form is dismantled.

I will describe only one form of combined spacing and tie bar embodying my invention and will then point out the novel features thereof in claims.

In the accompanying drawings,

Figure 1 is a view showing in vertical section a form or mold having applied thereto one form of combined spacing and tie bar;

Figures 2 and 3 are enlarged detail sectional views of my combined spacing and tie bar taken, respectively, on the lines 2—2 and 3—3 of Figure 1;

Figure 4 is a perspective view of the bar; and

Figure 5 is a plan view of the blank from which the bar is formed.

Referring specifically to the accompanying drawings, in which similar reference characters designate similar parts, in each of the several views, my invention, in its present embodiment, comprises a member M preferably formed from a single sheet of metal, as is illustrated to advantage in Figure 5, and in which is shown a blank 10 substantially U-shaped in plan. The blank 10 comprises a rectangular body portion 11 having lateral extensions 12 and 13 at the ends thereof which are of substantially the same width as the body portion and which are adapted to be bent upon the lines 14 so as to overlie the body portion. The blank 10 is further provided adjacent its ends with substantially rectangular openings 15 and 16 arranged oppositely in pairs in the body portion 11 and the extensions 12 and 13. The confronting sides of the openings 15 and 16 are provided with oppositely inclined edges 17 and 18, for a purpose to be hereinafter described.

To form the completed member as illustrated in Figure 4 from the blank 10 the body portion 11 thereof is bent upon spaced parallel lines 19 to form a rib 20 co-extensive in length with the member, which is tapered in cross section and provided with outwardly extending flanges 21 also co-extensive in length with the member. The lateral extensions 12 and 13 are bent upon spaced parallel lines 22 to form ribs 23 and 24 of tapered cross section which are provided with outwardly extending flanges 25 co-extensive in length with their respective ribs. The lateral extensions 12 and 13 having the ribs 23 and 24 formed therein are then bent upon the lines 14 until the rib 20 is arranged in confronting relation thereto and the flanges 21 and 25 abut and thereby form the completed member.

It will be noted that when the ribs 20, 23 and 24 are formed in the blank, the openings 15 and 16 provide pairs of oppositely disposed recesses 26 and 27 in the ribs adjacent the ends of the member. The oppositely inclined edges 17 and 18 of the openings co-operate to form one side of the recesses 26 and 27 which is inclined with respect to the opposite side of the openings, thus providing wedge shaped recesses which decrease in width from the free edges of the ribs 20, 23 and 24 to the flanges of the ribs.

Referring now to Figure 1, I have herein shown a plurality of the members M in applied position to the walls W and W′ of a concrete mold. The walls W and W′ are preferably of wooden construction and are

composed of sections S arranged edge to edge in superimposed relation. The members M are adapted to be interposed between adjacent sections and in spanning relation to the walls W and W' so that the confronting edges of the sections repose in the recesses 26 and 27 in contacting relation to the flanges 21 and 25, respectively. It will be understood that the thickness of the sections S is in excess of the width of the recesses at their inner ends and by virtue of the fact that the recesses are tapered, the edges of the sections will be wedged thereinto and thereby firmly secure the latter against longitudinal and lateral displacement.

As clearly shown in Figures 1 and 3, the cross section of the member is such that it combines maximum strength against bending when the plastic concrete is poured into the mold, with a minimum area exposed to interfere with a proper filling of the mold, the plastic concrete entirely surrounding the member and completely filling the rib 20, thus forming a solid homogeneous wall.

Although I have herein described and shown only one form of combined spacing and tie bar for concrete forms embodying my invention, it is to be understood that various changes and modifications may be made without departing from the spirit of my invention and the spirit and scope of the appended claims.

I claim as my invention:

1. In a form of the character described having sectional side walls, a spacing member interposed between the sections of the walls and spanning the latter, said member having integral portions defining tapered recesses into which the sections are adapted to be wedged to secure the latter against longitudinal and transverse movement relative to the member.

2. In a form of the character described having sectional side walls, a spacing member interposed between the sections of the walls and spanning the latter, said member having integral portions defining oppositely disposed tapered recesses into which the sections are adapted to be forced for the purposes described.

3. In a form of the character described having side walls comprising sections arranged in superposed relation, a member adapted to be interposed between the sections in spanning relation to the walls of the form, said member having integral portions defining pairs of oppositely disposed recesses into which the confronting ends of adjacent sections are adapted to be forced, said recesses having an inclined surface adapted to engage the sections in a manner to secure the latter against movement longitudinally and transversely of the member.

4. A spacing member for concrete forms formed from a single sheet of bendable material to provide a rib V-shaped in cross section and co-extensive in length with the member, a pair of ribs V-shaped in cross section disposed one at each end of the member and extending longitudinally thereof, said pair of ribs arranged in end to end relation to said first rib to form ribs of diamond-shaped cross section, flanges at the meeting ends of the ribs extending outwardly therefrom and co-extensive in length therewith, and tapered recesses in the ribs adjacent the ends of the member for the purpose described.

5. A spacing member as embodied in claim 9 wherein one of the side walls of the recesses is arranged at right angles to the length of the member and the other of the side walls is inclined toward the first side wall from the open end of the recesses to said flanges.

6. A spacing member adapted to span the side walls of a concrete form wherein the side walls comprise sections arranged edge to edge in superposed relation, said spacing member comprising a bar adapted to be interposed between the sections, said bar having integral portions defining tapered recesses into which the confronting ends of the sections are adapted to be wedged, whereby the sections will be secured against longitudinal and transverse movement relative to the bar.

7. A spacing member adapted to span the side walls of a concrete form wherein the side walls comprise sections arranged edge to edge in superposed relation, said spacing member comprising a bar having vertically disposed ribs of V-shaped cross sections arranged end to end in parallel relation to form a web of diamond shaped cross section, flanges on the ribs extending lengthwise of the bar, and tapered recesses in the ribs adjacent the ends of the bar into which the confronting ends of the sections are adapted to be wedged.

8. A spacing member as embodied in claim 7 wherein said recesses are arranged in pairs, the recesses of each pair being arranged in opposed relation.

9. A spacing member as embodied in claim 7 wherein one of said ribs is cut away medially of the length of the bar.

10. In combination, a concrete form having sectional side walls, a member spanning the walls and interposed between adjacent sections, said member having recesses inclined transversely with respect to the side walls and contacting with the edges of adjacent sections in a manner to secure the sections against longitudinal and transverse movement relative to the member.

11. As a new article of manufacture, a tie bar for concrete forms comprising a member consisting of an integral body having rela-

tively flared surfaces between which wall sections of a mold are adapted to be inserted and jammed so as to cause penetration of certain of said surfaces in said wall sections.

12. As a new article of manufacture, a tie bar for concrete forms comprising a member consisting of an integral body having relatively flared surfaces between which wall sections of a mold are adapted to be inserted and jammed so as to cause direct locking impingement of all of said surfaces against the respective sides of said wall sections.

JOHN H. DODD.