Oct. 21, 1941. R. A. PERKINS 2,259,775

CEMENT BAG CUTTING MEANS

Filed Feb. 3, 1941 2 Sheets-Sheet 1

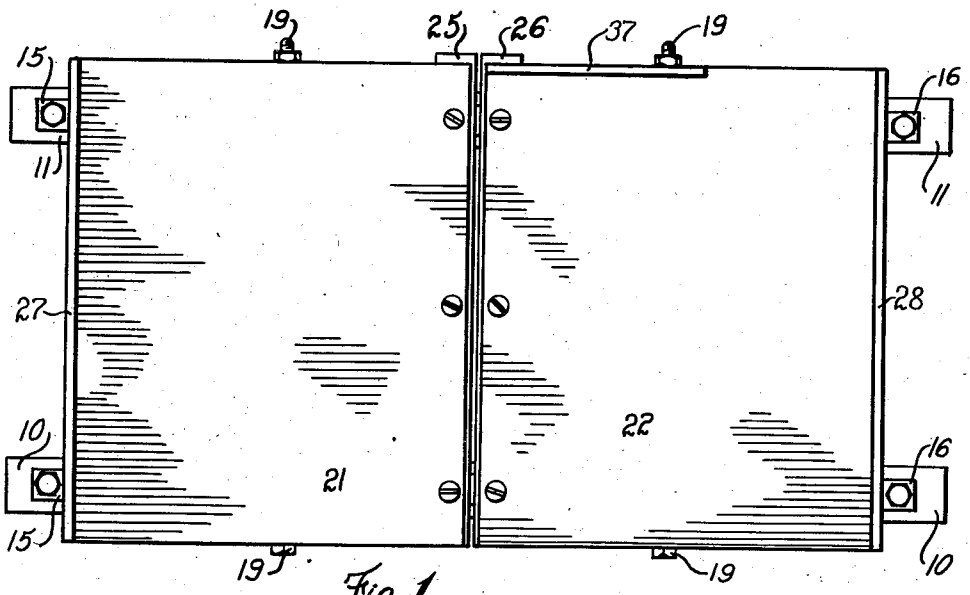


Fig. 1

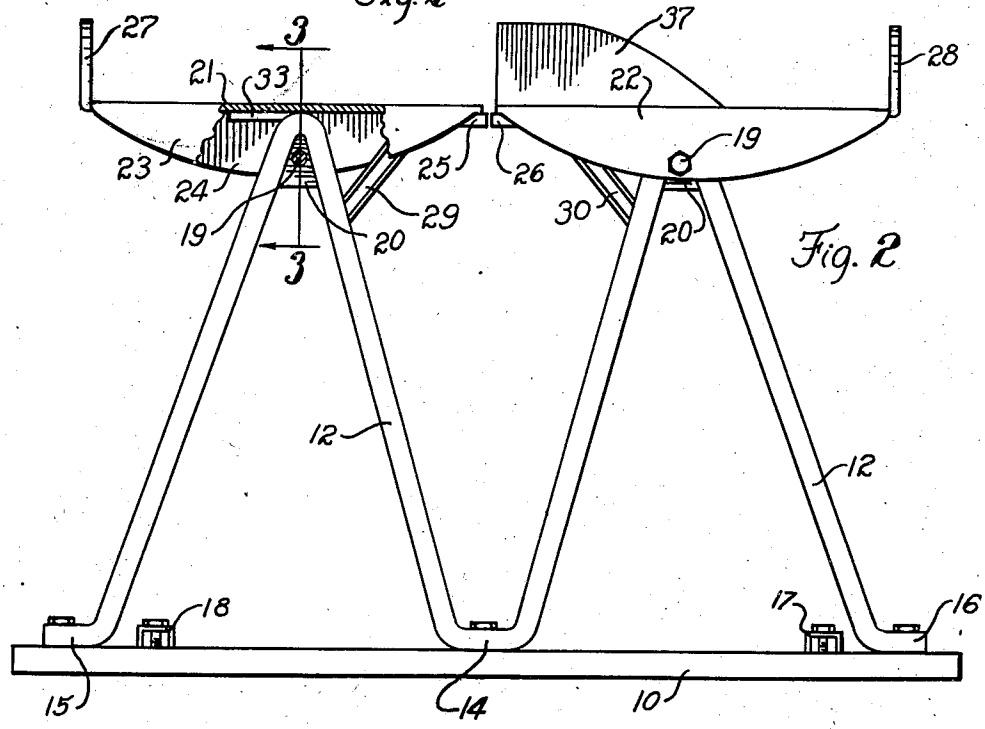


Fig. 2

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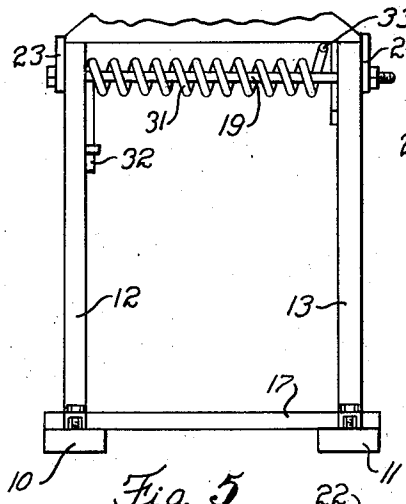


Fig. 5

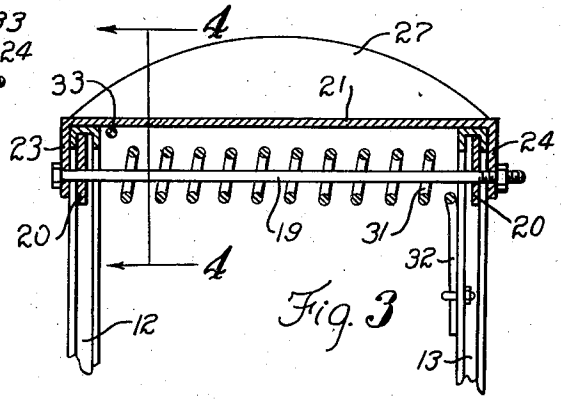


Fig. 3

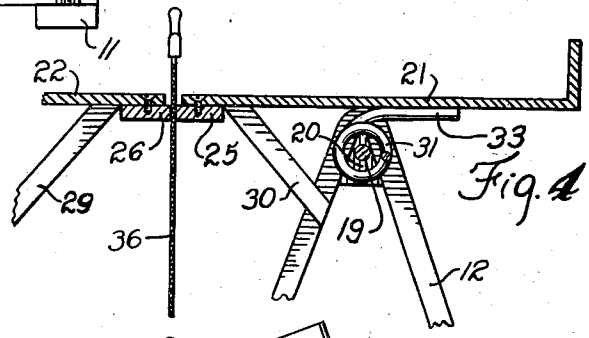


Fig. 4

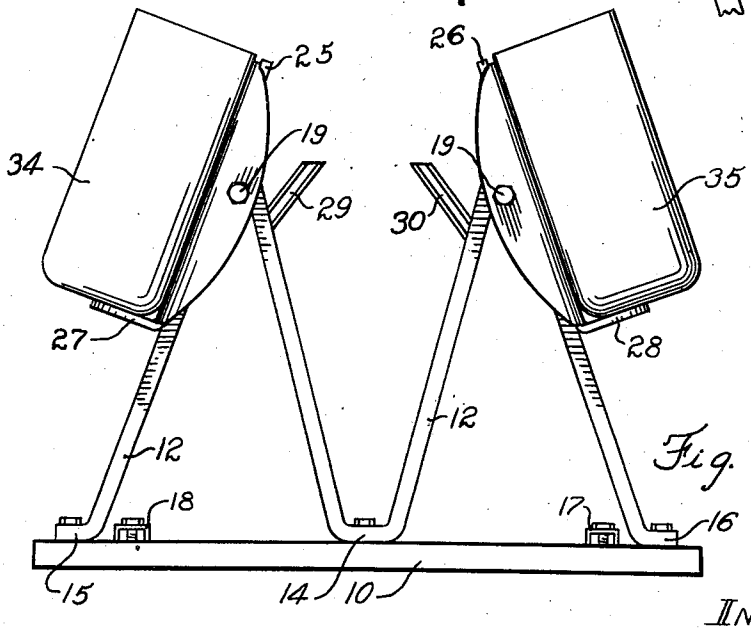


Fig. 6

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CEMENT BAG CUTTING MEANS

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Application February 3, 1941, Serial No. 377,081

5 Claims. (Cl. 214—1)

This invention relates to means for permitting the division of a sack of cement into parts suitable for charging a batch of concrete in the customary small mixer where the batch calls for less than a sack of cement. These smaller mixers, which are in quite general use by contractors, generally will receive a batch in which but one-half of a sack of cement is used. Heretofore it has been customary to take a spade or shovel and chop through the sack, guessing at the line of division to cut the sack into equal parts. Of course, in so doing, there would always be some variation as a rule so that there would be more cement left in one part of the sack than there would be in the other and furthermore, there would always be a considerable amount of the cement spilled out when the sack was cut.

It is an important object of my invention to provide means for automatically determining the central transverse line through a bag of cement so that the bag may be divided very accurately into two equal portions, all without loss of any of the contents. It is a still further important object of the invention to provide for such means in a form that is very simple in construction and also very simple in operation so that the structure embodying the invention may be employed by those using the smaller mixers without undue expense being added.

These and other objects and advantages of the invention, including the novel assembly of the various elements as set forth in the appended claims, will become apparent to those versed in the art in the following description of one particular form of the invention as illustrated in the accompanying drawings, in which

Fig. 1 is a top plan view of a structure embodying the invention;

Fig. 2, a view in side elevation thereof in partial section;

Fig. 3, a detail in transverse vertical section on the line 3—3 in Fig. 2;

Fig. 4, a detail in vertical longitudinal section on the line 4—4 in Fig. 3;

Fig. 5, a view in end elevation of the structure; and

Fig. 6, a view in side elevation thereof illustrating the structure in the operated position to retain the parts of the cut cement bag.

Like characters of reference indicate like parts throughout the several views in the drawings.

Upon a suitable base, herein shown as a pair of runners 10 and 11, is mounted a supporting frame comprising a pair of identical structural form members, generally designated by the numerals 12 and 13, one each mounted respectively on the runners 10 and 11. The members 12 and 13 are identical in shape and each consists, in the present form, of a single length of channel iron formed to have two upwardly extending A-sections with an intervening foot 14 in common and two end feet 15 and 16 for means of adjustment for securing to the runner in each instance. The two runners 10 and 11 are preferably tied together by the transverse ties 17 and 18, herein shown as inverted channel bars.

The axle 19 is supported transversely between and above the runners 10 and 11 well up within the upper ends of each of the A-sections. For supporting the axle, a gusset 20 is secured within the legs of the channel bar, such as by welding thereto, and the axle 19 is passed through those gussets as indicated in Fig. 3 particularly. Tables 21 and 22 are rockably supported across the top ends of the apices of the A-sections of the structural members 12 and 13 by having, in each instance, downturned side aprons 23 and 24 respectively receiving the axle 19 therethrough.

Where the sack of cement is to be cut into two equal portions, both of these tables 21 and 22 are made to have substantially the same identical lengths and to have their inner opposing ends approach each other centrally between the two axles 19. In this regard, there is a space left between the opposing inner edges of these tables and then wood strips 25 and 26 respectively are secured to the under side of the tables 21, 22 to extend inwardly one toward the other by their opposing longitudinal edges to leave a narrow slot therebetween just sufficient to permit an ordinary hand saw to pass through that slot without any appreciable frictional binding. In other words the marginal edges of the tables terminate back of that slot a slight distance as best indicated in Figs. 1 and 2. Preferably these wood strips 25 and 26 extend slightly beyond the respective sides of the tables 21, 22, as indicated in Fig. 1. Furthermore each table 21 and 22 is provided with an upturned outer end apron 27 and 28 respectively.

Now in order to maintain the tables 21 and 22 normally in a common horizontal plane, stops 29 and 30 are provided against which the inner end portions of the respective tables 21 and 22 may swing and rest, as indicated in Figs. 2 and 4. In order to maintain those positions of the respective tables, torsion springs 31 are provided, one on each axle 19 to have one end 32 of the spring, Figs. 3 and 5, secured to the frame 12 or 13, as the case may be in the present instance,

and to have the other end 33 turned outwardly to bear against the under side of the table thereabove, the end 33 in each instance being turned outwardly beyond the vertical plane of the axis of the axle 19. In other words the outer end 33 of the spring in each instance tends to kick upwardly the outer portions of the tables to yieldingly maintain the tables in their horizontally disposed positions resting against the upper ends of the stops 29 and 30.

To use the structure thus defined, a bag of cement is placed on the tables 21, 22 to have the ends of the bag directed respectively toward the upturned aprons 27 and 28. In this regard, the distance between these aprons 27 and 28 is made to be such that a standard paper bag of cement will just fit therebetween without having to be forced but without any appreciable clearance. Then when the bag is longitudinally aligned with the table tops 21 and 22, the operator will take a common ordinary hand saw 36, starting the end of the saw through the slot between the wood strips 25 and 26, starting between the outwardly projecting ends thereof, and saw right on down through the sack. It is surprisingly easy how a sack may be cut in two with such an implement. Moreover by using a saw, the cement seems to be compacted on each side of the cut to form a wall which does not easily break down and allow the powdered cement to flow. When the saw has passed on through the sack, the two tables may be rocked to lower the outer ends thereof whereupon the two portions 34 and 35 of the bag will be supported, as indicated in Fig. 6, to have their cut ends turned upwardly to prevent any accidental spillage of the cement therefrom. One portion of the bag may thus be left on its respective table while the other portion may be removed and carried to the batch of aggregate to form the mixture.

As a stop, a flange 37 is preferably provided along the edge of at least one of the table sections, table section 22 in the present instance. The bag of cement may be pushed across the table against this stop so as to maintain the bag in position during the sawing operation.

While I have herein shown and described my invention in the one particular form, it is obvious that structural variations may be employed without departing from the spirit of the invention and I, therefore, do not desire to be limited to that precise form beyond the limitations as may be imposed by the following claims.

I claim:

1. The combination of a pair of tables; a support, means hingedly carrying the tables on said support to permit the tables to be rocked to bring their upper surfaces into a common plane; the lengths of said tables being such as to leave a transverse gap therebetween when in said plane; means limiting rocking in one direction of the tables to said plane and allowing the tables to swing away from each other toward vertical positions; and a cutter protecting guide along the opposing edges of the tables at said gap.

2. The combination of a pair of tables; a support, means hingedly carrying the tables on said support to permit the tables to be rocked to bring their upper surfaces into a common plane; the lengths of said tables being such as to leave a transverse gap therebetween when in said plane; means limiting rocking in one direction of the tables to said plane and allowing the tables to swing away from each other toward vertical positions; and a cutter protecting guide along the opposing edges of the tables at said gap; the combined lengths of said tables being substantially equal to the length of a cement bag.

3. The combination of a pair of tables; a support, means hingedly carrying the tables on said support to permit the tables to be rocked to bring their upper surfaces into a common plane; the lengths of said tables being such as to leave a transverse gap therebetween when in said plane; means limiting rocking in one direction of the tables to said plane and allowing the tables to swing away from each other toward vertical positions; and a cutter protecting guide along the opposing edges of the tables at said gap; the combined lengths of said tables being substantially equal to the length of a cement bag; and an upturned stop on each table for engaging the bag therebetween.

4. The combination of a pair of tables; a support, means hingedly carrying the tables on said support to permit the tables to be rocked to bring their upper surfaces into a common plane; the lengths of said tables being such as to leave a transverse gap therebetween when in said plane; means limiting rocking in one direction of the tables to said plane and allowing the tables to swing away from each other toward vertical positions; and a cutter protecting guide along the opposing edges of the tables at said gap; and means normally biasing said tables to rest against said limiting means.

5. That method of dividing a filled cement bag into two predetermined parts which consists of placing the bag over a marker to define the line of division; and working a toothed saw through the bag to follow said line to cut through the bag and compact the cement on each side of the saw to form stable walls of cement across the cut, tilting the two bag sections formed by the cut to positions in which the walls formed by the cut are uppermost whereby the bag sections may be utilized without loss of cement by spillage therefrom.

RAYMOND A. PERKINS.