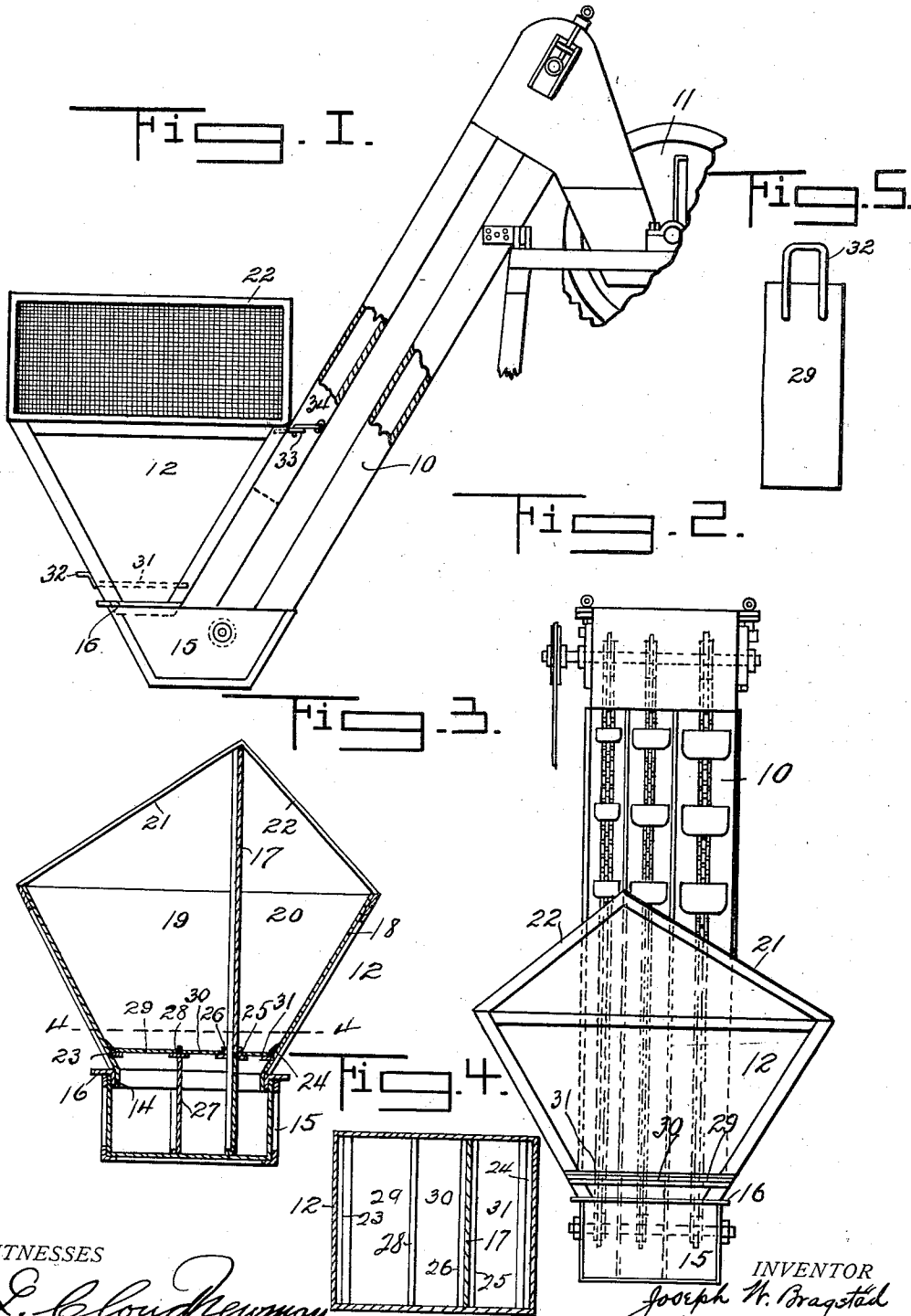


J. W. BRAGSTAD.
 REGULATING HOPPER FOR CONVEYERS.
 APPLICATION FILED APR. 16, 1912.

1,096,149.

Patented May 12, 1914.



WITNESSES

L. C. Cloud
W. E. Lowry

INVENTOR

Joseph W. Bragstad
By J. H. Everett & Co.
 Attorneys

UNITED STATES PATENT OFFICE.

JOSEPH W. BRAGSTÄD, OF CANTON, SOUTH DAKOTA, ASSIGNOR TO BRAGSTAD CONCRETE MACHINERY CO., INC., OF CANTON, SOUTH DAKOTA, A CORPORATION OF SOUTH DAKOTA.

REGULATING-HOPPER FOR CONVEYERS.

1,096,149.

Specification of Letters Patent.

Patented May 12, 1914.

Original application filed December 16, 1910, Serial No. 597,599. Divided and this application filed April 16, 1912. Serial No. 691,193.

To all whom it may concern:

Be it known that I, JOSEPH W. BRAGSTÄD, a citizen of the United States of America, residing at Canton, in the county of Lincoln and State of South Dakota, have invented certain new and useful Improvements in Regulating-Hoppers for Conveyers, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to certain new and useful improvements in regulating hoppers for conveyers, such as are used in connection with concrete mixing machines, and the present application is a division of my application, Serial No. 597,599, filed December 16th, 1910, for portable concrete mixing machines.

The invention has for its object to provide a hopper by means of which the quantities of the various materials delivered to the conveyer can be graduated or regulated as may be desired.

The invention also aims to provide a hopper which can be readily attached to and detached from the conveyer for convenience in handling, and to further provide means for the supplying of different materials to the hopper independently.

With the above and other objects in view, the invention resides in the novel construction, combination and arrangement of parts as will be hereinafter more specifically described and then particularly claimed.

In describing the invention in detail, reference will be had to the accompanying drawings forming a part of this specification and wherein like numerals of reference will be employed to designate like parts throughout the different views, in which:

Figure 1 is a view in elevation of a conveyer with my improved hopper applied in position thereon. Fig. 2 is a front elevation of the same. Fig. 3 is a transverse vertical sectional view of the hopper and of the collecting receptacle of the conveyer on which the hopper is mounted. Fig. 4 is a horizontal sectional view on the line 4-4 of Fig. 3, and, Fig. 5 is a detached plan view of one of the controlling doors of the hopper.

The hopper is shown as connected with a conveyer designated generally 10, which conveyer is employed for carrying material to the concrete mixer 11.

The hopper is designated generally 12, and comprises inclined side walls which form the hopper body, and which at their lower ends terminate in and form a rectangular frame 14 that fits in the open top of a collecting receptacle 15 forming a part of the conveyer 10, and which is fully described in my co-pending application for improvement in conveyers. The said hopper is provided around its lower open end with angle flanges 16 which rest upon the top of the receptacle 15. The hopper is provided with a dividing partition 17 that extends a considerable distance above the upper edge of the walls 18 of the hopper and besides dividing the hopper into compartments 19 and 20 respectively, constitutes a support for the screens 21 and 22. These screens or lids each consist of a frame having a wire mesh body secured thereto, so as to prevent any material of larger size than that desired entering the hopper, and also to permit of viewing the quantity of material within the hopper, screens of course being employed of the mesh desired. The lids are placed at reverse angles to each other so that material can be fed through the screens to both of the chambers 19 and 20.

It will be noted by reference to Fig. 3, that the inclinations of the screens 21 and 22 are at markedly different angles, the latter being much sharper than the former. The object of this arrangement is best to adapt the screens to separate the material thrown upon them and insure effective retention and discharge of any debris present.

The compartment 19 is designed to contain sand and the compartment 20 cement. As will be apparent, sand, owing to its granular form, will pass more readily through a screen than cement, the latter being pulverulent and thus apt to pack and clog the meshes of the screen. Further, sand can be screened in larger bulks than cement owing to the characteristic named. Recognizing the necessity of handling the two materials in different manners in order to secure their effective screening, the arrangement shown has been adopted. By having the sand screen of relatively large area and disposed on a comparatively slight incline, a large quantity of sand may be easily screened while by disposing the cement screen on a comparatively sharp in-

cline, clogging of the meshes will be prevented and segregation and discharge of debris assured.

Within the hopper near the open lower
5 end thereof, are provided a series of guides
for supporting the regulating doors by
means of which the quantity of material
fed from the hopper to the collecting re-
ceptacle 15 is regulated. For this purpose,
10 I provide guides 23, 24 on the opposite side
walls of the hopper, and I also provide
guides 25, 26 on opposite sides of the parti-
tion 17, which guides 25 and 26 are in a
plane with the guides 23, 24. On the upper
15 end of the dividing partition 27 of the col-
lecting chamber 15, I provide a guide 28.
One side of the hopper is provided with
slots through which are inserted the respec-
tive controlling doors 29, 30 and 31. The
20 door 29 is supported by and works upon
guides 23 and 28; the door 30 is supported
by and works upon guides 26 and 28, and
the door 31 is supported by and works upon
guides 24 and 25.
25 Owing to the differences in the nature of
the materials which are used in concrete
mixtures, the chamber 19 of the hopper is
of materially greater capacity than the
chamber 20. According to the character of
30 the material, in chamber 19, either one of
the doors 29 or 30 may be opened, or both
of the doors, the openings controlled by
these doors being of varying sizes to con-
form to the varying compartments in the
35 conveyer, as illustrated in my companion
application on the conveyer. The doors are

provided on their outer ends with suitable
handles or grips 32 for convenience in op-
erating.

The hopper is fitted in the open upper 40
portion of the collecting receptacle 15 and is
supported by said receptacle, with the in-
clined wall of the hopper that is adjacent to
the chute resting on said chute and this wall
of the hopper is provided with suitable eyes 45
as 33 to receive hooks as 34 carried by the
chute 10.

With the construction above described and
as shown, it will be evident that the material
fed to the collecting chamber may be regu- 50
lated in quantities as may be desired, so as
to deliver the desired quantity to the collect-
ing receptacle from whence it is conveyed by
the carriers to the mixing machine.

What I claim is:—

55 The combination with a collecting recep-
tacle, of a removable hopper having a de-
pending flange fitting within the open end
of said receptacle, vertical partitions secured
to the interior of the hopper and removable 60
therewith, said partitions being of such
length as to extend to the bottom of said
collecting receptacle, guides mounted on said
partitions and the hopper walls, and doors
slidable on said guides. 65

In testimony whereof I affix my signature
in the presence of two witnesses.

JOSEPH W. BRAGSTÄD.

Witnesses:

A. B. CARLSON,
A. N. BRAGSTAD.