T. MULLOWNEY.

BLOWER PIPE ASSEMBLING DERRICK.

APPLICATION FILED JULY 23, 1914.

1,157,248. Patented Oct. 19, 1915.

Fig. 1.

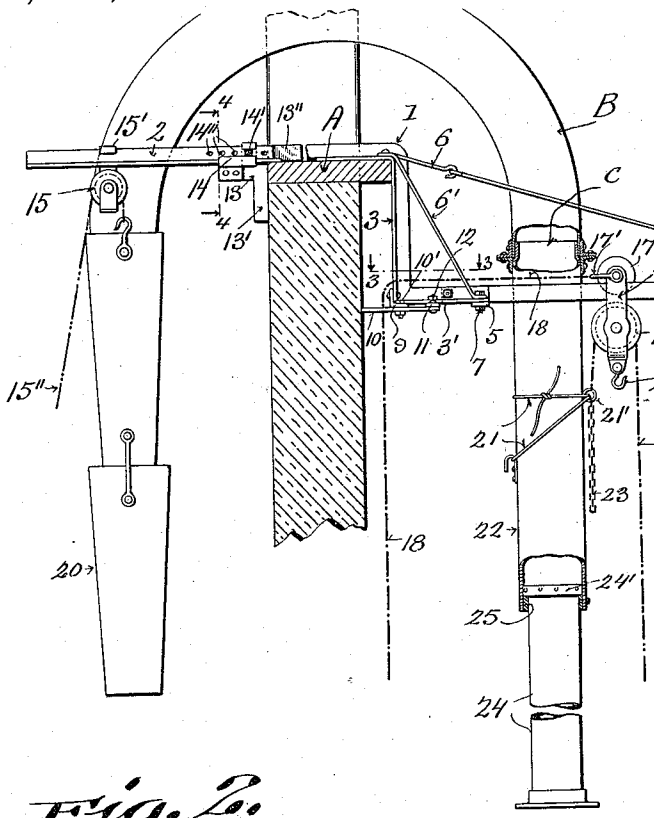


Fig. 3.

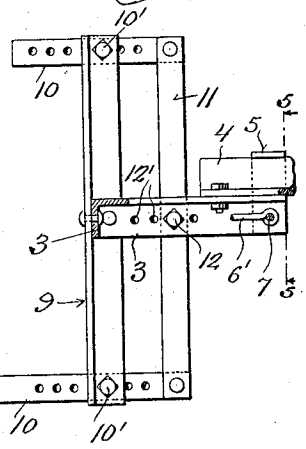


Fig. 2.

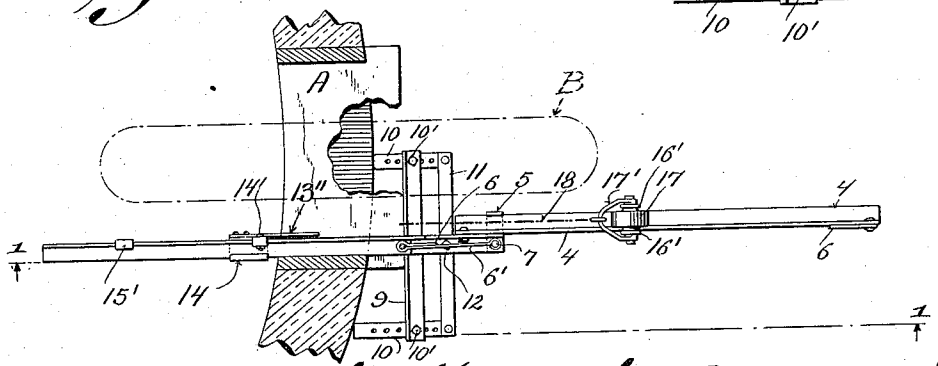


Fig. 4.

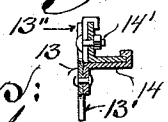
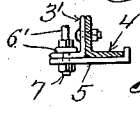


Fig. 5.



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UNITED STATES PATENT OFFICE.

TIMOTHY MULLOWNEY, OF MILWAUKEE, WISCONSIN.

BLOWER-PIPE-ASSEMBLING DERRICK.

1,157,248. Specification of Letters Patent. Patented Oct. 19, 1915.

Application filed July 23, 1914. Serial No. 852,632.

To all whom it may concern:

Be it known that I, TIMOTHY MULLOWNEY, a citizen of the United States, and resident of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Blower-Pipe-Assembling Derricks; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention has for its object to provide a simple, economical and convenient knock-down derrick apparatus attachable to the window casing of a silo or analogous storage building for adjusting and maintaining the conveyer pipe line of a blower, which blower is provided for delivering material such as ensilage or the like product to the silo.

With the above objects in view the invention consists in certain peculiarities of construction and combination of parts as hereinafter set forth with reference to the accompanying drawings and subsequently claimed.

In the drawings Figure 1 represents a sectional elevation through a portion of the silo, the same being shown equipped with a derrick embodying the features of my invention, which derrick is illustrated as having sections of the blower pipe line suspended therefrom, the section being indicated by line 1—1 of Fig. 2; Fig. 2, a plan view of the same with a portion of the silo wall shown in section; Fig. 3, a detailed plan sectional view of an adjustable supporting heel for the derrick, the section being indicated by line 3—3 of Fig. 1; Fig. 4, a detailed cross-section through one of the derrick members showing a sill-clamping foot, the section being indicated by line 4—4 of Fig. 1, and Fig. 5, a detailed cross-section through one of the derrick members, the section being indicated by line 5—5 of Fig. 3.

Referring by characters to the drawings, 1 represents an angle-iron base member, the same comprising a horizontally disposed inwardly extended arm 2, which arm is arranged to rest upon the face of the silo window sill A and extend into the silo a predetermined distance. The arm of the base member is merged into a depending vertically positioned leg section 3, which leg section is disposed outside of and parallel to the wall of the silo structure and terminates with an offset horizontally disposed foot 3′. Pivoted to the vertical web of the angle-iron foot 3′ is an angle-iron outwardly extended spar arm 4, the pivoted shank of which arm is supported in a chair-iron 5 that is secured to the horizontal web of the foot 3′ and extends transversely thereof, whereby the spar-arm is supported in approximate horizontal position. Thus the base member as a whole comprises an elbow and the inner or distributing arm 2 of said base section which at its point of intersection with the leg has secured thereto a looped tie-rod 6, one stretch 6′ of which tie-rod extends obliquely downward and is secured to the foot 3′ by a retaining bolt 7, the same also serving to confine the spar sustaining chair-iron 5. The opposite stretch of the tie-rod terminates with an eye or loop for coupling connection with an obliquely disposed truss-rod 8, the same being secured at its outer end to the terminal of the spar arm 4, as shown.

Secured to the intersecting corner between the leg 3 and foot 3′ is an angle-iron transversely disposed heel bar 9, to the ends of which are adjustably secured toe strips 10, the adjustment of the same being effected by heel bolts 10′ which are arranged to engage any one of a series of apertures in the toe-strips. The outer ends of the toe strips 10 are in turn secured to ends of a cross-arm 11, which latter is secured to the foot 3′ by a retaining bolt 12 that is selectively fitted into any one of a series of bolt apertures 12′ formed in the horizontally disposed web of the foot 3′, whereby the toe-strips may be adjusted and secured forwardly or backwardly and, owing to this adjustable connection each toe-strip can be independently shifted back and forth.

By the adjustable arrangement just described the inner ends of the toe strips 10 may be arranged to abut and conform to the circular contour of the silo whereby they serve to resist load strain upon the end of the spar arm, as clearly shown in Fig. 2.

In order to firmly clamp the derrick spar arm 4 to windows having sills varying in width, I provide an adjustable sill-clamping foot 13, which foot is secured to a clip bracket 14, that is slidably mounted upon the inwardly projecting distributer arm 2. The clip bracket is secured in its adjusted position by a retaining bolt 14′, which retaining bolt is arranged to engage any one

of a series of perforations 14'' that are formed in the aforesaid arm. The sill-clamping foot 13 is provided with a vertically depending toe 13' and a second horizontally disposed toe 13'', which toe extends at a right angle to the first mentioned toe. Thus it will be seen, as shown in Fig. 1, that the toes of the foot engage the upper face of the sill and the inner side face thereof whereby load strain upon the arm is resisted and the derrick as a whole is rigidly affixed to the storage structure.

From the foregoing description it is obvious that the derrick elements may be hoisted to the window in knockdown form and after the spar arm is pivotally affixed to the foot 3' the said spar arm is braced by connecting up the truss and tie rods previously mentioned. The sill-clamping foot 13 is then adjusted to grip the derrick between the inner and outer faces of the sill and the toe strips are also adjusted so as to engage the outer circular face of the silo structure, as best shown in Fig. 2. The derrick being now affixed, a distributing sheave block 15 having a hanger 15' is slidably fitted to the arm 2. A hoisting sheave 16 is next fitted to the spar arm 4, which hoisting sheave is provided with a hanger 16' having a trolley 17 secured to its upper end, together with a bail 17'. The trolley is adapted to ride upon the horizontally disposed web of the angle-iron spar arm 4 and a rope or cable 18 is secured to the bail 17' and passed over the heel-bar 9, from which bar the said rope or cable hangs freely downward. The hoisting sheave 16 is equipped with a rope or cable 19 and the sheave-block 15 is also provided with a hoisting cable 15''.

A deflector elbow B is first attached to the upper section of a blower delivery pipe and thereafter the elbow, together with the delivery pipe, is hoisted to the position shown in Fig. 1. The operator connects the sectional distributer pipe 20 to the hoisting cable 15'' within the silo and, by proper manipulation, elevates said pipe, whereby its mouth is telescoped within the delivery mouth of the elbow B. In the next operation the suction leg from the blower is assembled and, as shown in Fig. 1, a cinch-rope 21 is wound about the first section 22 of the delivery leg of the blower. The cinch-rope is of such length so as to be tied in a position higher or lower with relation to the delivery mouth *c* of the pipe section, the said cinch-rope carrying a ring 21' having a section of chain 23 that depends therefrom. Thus equipped the pipe section 22 is drawn up to the position shown in Fig. 1 by manipulating the rope or cable 19, whereby a joint is effected between the elbow B and said pipe section. Thereafter this joint is secured by connecting flanges and bolts in the ordinary manner and the load of the delivery leg of the blower is sustained by connecting the chain 23 to a hook member 23' with which the hanger 16' is provided.

In order to make provision for different lengths of the blow pipe delivery leg, whereby the blower may be attached and the leg adjusted to the desired height without a special length or cutting and fitting the pipe sections, I provide the blower pipe section 24 with an outwardly projecting mouth ring 24', which mouth ring is fitted within the upper pipe section 22 and is adapted to have telescopic union therewith. The lower end of the pipe section 22 is provided with an inwardly extended ring 25, whereby the pipe section 24 is confined and thus prevented from being disconnected from the pipe section 22. By this arrangement it is obvious that the pipe section 24 may be shoved up or down to accommodate the distance between the mouth of the blower and the elbow B.

I claim:

1. A derrick for attachment to the sill of a storage structure window comprising an inwardly extended arm adapted to rest upon the window sill having a depending leg arranged to lie against the outer wall of the structure, the leg being provided with a horizontally extended foot, a spar extending from the foot, a truss-rod connecting the arm and spar, an adjustable sill-gripping foot carried by the arm arranged to clamp said sill in opposition to the leg portion of the arm, and strain opposing means associated with the leg for engagement with the outer walls of the structure.

2. A derrick for attachment to the sill of a storage structure window comprising a base member having an inwardly extended arm adapted to rest upon the window sill, the base member being provided with a depending leg and a horizontally extended foot, a spar in pivotal union with the base member foot, a truss-rod connecting said base member and end of the spar, an adjustable sill-gripping foot carried by the arm of the base member arranged to clamp the sill in opposition to the leg portion of the base member, and adjustable toes extending from the base member for engagement with the outer wall of the structure.

3. A derrick for attachment to the sill of a storage structure window comprising a base member having an inwardly extended arm adapted to rest upon the window sill, the base member being provided with a depending leg and a horizontally extended foot, a spar in pivotal union with the base member foot, a truss-rod connecting said base member and end of the spar, an adjustable gripping foot mounted upon the arm of the base member having toes extending therefrom for engagement with the upper face of the sill and the inner side face thereof, a laterally disposed heel-bar carried

by the leg portion of the base member, and wall-engaging toes extending from the heel bar.

4. A derrick attachable to the sill of a storage structure window comprising a base member having an inwardly projecting arm, downwardly extended leg and horizontally extended foot portion, an adjustable gripping foot carried by the arm, adjustable toe strips carried by the foot, a spar in pivotal union with the base member foot, truss-rods for sustaining the spar and foot, and sheave-carrying trolleys supported by the arm and spar.

5. A derrick attachment for window sills comprising an arm extending inwardly from the window, a spar extending outwardly therefrom, means for sustaining the derrick in connection with a window-sill, a load-sustaining shiftable trolley mounted upon the arm, a load-sustaining shiftable trolley mounted upon the spar, and means for adjusting the last mentioned trolley back and forth upon the spar.

In testimony that I claim the foregoing I have hereunto set my hand at Milwaukee in the county of Milwaukee and State of Wisconsin in the presence of two witnesses.

TIMOTHY MULLOWNEY.

Witnesses:
GEO. W. YOUNG,
MAY DOWNEY.

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