

May 31, 1927.

1,630,588

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BLOWER PIPE FOR WIND STACKERS

Filed April 20, 1923

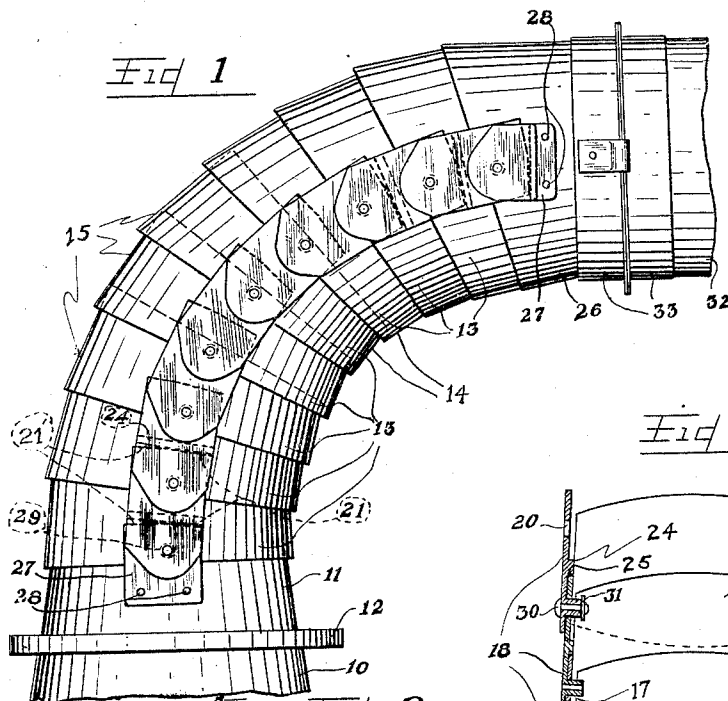
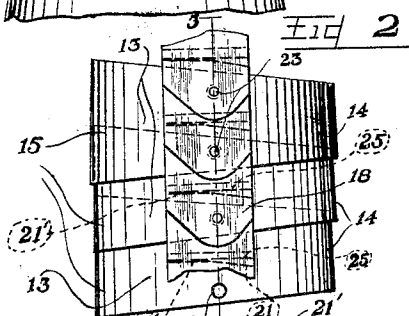
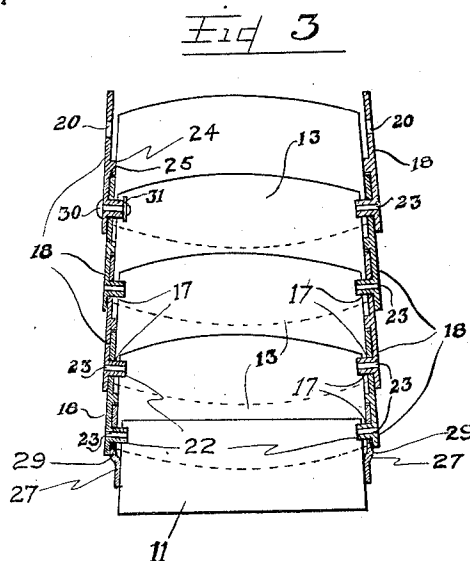
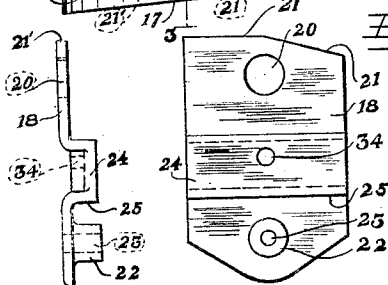
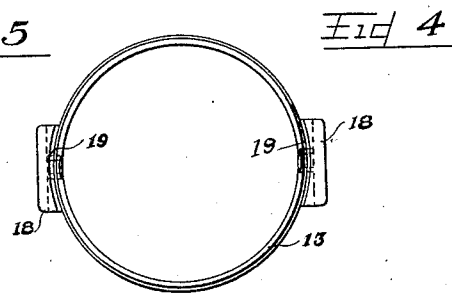


Fig. 6.

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UNITED STATES PATENT OFFICE.

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BLOWER PIPE FOR WIND STACKERS.

Application filed April 20, 1923. Serial No. 633,390.

This invention relates to wind-stackers and more particularly to flexible elbows adapted for use in connection with discharge chutes and the like.

One of the objects of my invention is to provide a device or elbow construction which will not only permit the outer or main chute section to be raised or lowered within a limited range, but will also permit the chute to be swung upwardly so as to assume an absolute vertical position in such a manner that the chute and its stump or stationary portion to which the elbow is hinged may thus be brought into complete alignment so as to form substantially a straight continuous pipe.

A further object of the invention is to provide a novel form of connecting link by means of which the telescoping sections are pivotally connected together and are limited in their pivotal movement with respect to each other.

A still further object of the invention is to provide a construction in which the pins or rivets used for securing each link to its respective section forms the pivotal connection for the adjacent links.

These and other objects are obtained by providing a construction in which the telescoping sections are pivoted together by a link having a boss extending through registering apertures of the adjacent sections.

Referring to the drawings, Fig. 1 is a side elevational view showing my improved flexible elbow swung to its maximum flexed position or in the position in which the elbow is swung substantially through an angle of ninety degrees.

Fig. 2 is a detail side elevational view with the links shown in a vertical position.

Fig. 3 is a cross sectional view taken on lines 3—3 in Fig. 2.

Fig. 4 is a top plan view of a single section showing the manner in which the links are secured to the individual sections.

Fig. 5 is a side elevational view of one of the individual links forming the continuous connection between each of the sections, and

Fig. 6 is an edge view of the link shown in Fig. 5.

In carrying out my invention, I have shown my improved flexible elbow mounted on a stationary chute or stump 10, which ordinarily forms or is secured to a thresher or a machine of like character where the flexible

elbow is employed. Rotatably mounted on the stump 10 and secured to the base section 11 is a rotating gear 12, which is usually geared to a worm and manually operated mechanism, not shown, for rotating the flexible elbow with respect to the chute or stump 10. In carrying out my invention I have provided a plurality of conically formed and telescopically arranged sections 13. Each of these sections is provided with a relatively short side 14 and a relatively longer side 15, as shown in Fig. 2. The shorter sides 14 are positioned and arranged on the smaller arc of the elbow as shown in Fig. 1. Each section is provided with oppositely disposed perforations 17 on each side thereof. Secured to the opposite sides of each section is a link 18 normally curved at 19 to conform to the curvature of each section. See Fig. 4. The link 18 is provided at one end with an aperture 20, a bevelled portion 21 and a straight portion 21'. The other end of the link is provided with an outwardly projecting lug or boss 22 having an aperture 23 extending therethrough. Formed integrally with the link 18 and extending outwardly therefrom is a raised portion 24. The raised portion 24 forms a stop portion at 25 directly above the boss 22 in such a manner that as the adjacent link is connected to the lug 22 by having the lug 22 extending through the aperture 20 of the adjacent link, the bevelled portion 21 as well as the straight portion 21' is adapted to engage the stop 25 of the raised portion 24 of the adjacent link in limiting the pivotal movement of each of the links with respect to each other.

In assembling my improved flexible elbow, it will, of course, be understood that the two end sections, namely, section 11 and section 26 are provided with special end links 27 secured thereto by means of rivets 28. The lower link 27 secured to the section 11 is provided with an aperture 29. The apertures 17 in the section 13 are positioned to register with the apertures 29 in the link 27 after which the lug 22 of the link 18 is positioned in the registering apertures and a rivet and a washer, as shown at 30, 31, respectively, in Fig. 3 is secured. From this construction it will be understood that in each case, the adjacent sections are secured together by the stud of the link secured to one of the sections, protruding through the registering apertures of the adjacent link

and section as well as the aperture in the section to which the link is attached, as clearly shown in the cross sectional view Fig. 3.

5 In order to relieve the telescoping sections of the strain of sustaining the weight of the outer chute or delivery pipe, I have provided a novel construction of a link by means of which the whole weight is sustained on the
10 link instead of being sustained on the sections. This arrangement comprises the bevelled portion 21 of each link adapted to engage a stop portion 25 of the preceding link. In other words, by referring to Fig. 1, it
15 will be seen with the elbow flexed to its maximum angling position that the bevelled portions 21 of each link will engage the stop portions 25 of the adjacent link. The delivery chute, above referred to, is shown at
20 32 connected to a straight section 33, which, in turn is connected to the upper end section 26 of the flexible elbow. In the use of the above described device it will be understood, of course, that the usual mechanism for ad-
25 justing the delivery chute 32 with respect to the stump 10 and flexing the elbow to various positions may be employed.

In connection with my improved link for pivotally connecting the telescoping connections I have provided an additional aperture
30 34 through which an additional rivet may be inserted for more securely fastening the links to their respective sections. However, it is not my intention, nor is it necessary to employ this extra rivet in that the rivet for securing the pivot stud 22 in the aperture
35 20 of the adjacent link is sufficient to permanently secure each of these links to their respective sections. By arranging and overlapping these links in the manner above described I have provided a very simple and
40 efficient as well as durable elbow and one which can easily and quickly be assembled.

While in the above specification, I have
45 described but one embodiment which my invention may assume in practice it will of course, be understood that the same is capable of modification and that modification may be employed without departing from
50 the spirit and scope of the invention as expressed in the following claims.

What I claim as my invention and desire to secure by Letters Patent is:

1. A flexible elbow comprising a plurality
55 of pivoted sections, and means forming the pivotal connection between said sections, said means having stops thereon for limiting the pivotal movement of the sections with respect to each other.

60 2. A flexible elbow comprising a plurality of pivoted telescoping sections, a link secured to each section, the link of one section overlapping and being pivotally connected to the adjacent link and section, and means
65 forming a part of each link for limiting the

pivotal movement of each link with respect to its adjacent link.

3. A flexible elbow comprising a plurality of pivoted sections, a link mounted on each section, the link of one section overlapping
70 and being pivotally connected to the adjacent link and section, and an integral boss on each link forming a part of said connections for pivotally securing adjacent sections.

4. A flexible elbow comprising a plurality
75 of pivoted sections, a link mounted on each section, and means formed as an integral part of each link and extending through adjacent sections for pivotally securing said adjacent sections.

5. A flexible elbow comprising a plurality of pivoted sections, a link mounted on each section, means formed as an integral part of each link for pivotally securing adjacent
80 sections, and means formed on each link for limiting the pivotal movement of each section with respect to the other.

6. A flexible elbow comprising a plurality of telescoping sections, there being registering apertures extending through the tele-
85 scoping portions of the adjacent sections, a link mounted on each section, and a boss formed on each link extending through said registering apertures for pivotally securing said sections together.

7. A flexible elbow comprising a plurality of telescoping sections, a link mounted on each section, there being apertures extending through each link registering with apertures extending through the telescoping por-
90 tions of the adjacent sections, and a boss formed on each link extending through all of said registering apertures.

8. A flexible elbow comprising a plurality of telescoping sections, links mounted on
95 said sections for pivotally connecting said sections together, and means carried by said links for limiting the flexing of said sections whereby the whole weight of the elbow is in its maximum flexed position.

9. A flexible elbow comprising a plurality of telescoping sections, links mounted on said sections for pivotally connecting the sections together, and means including stops carried
100 by each of said links and engageable with the adjacent link for limiting the flexing of said elbow whereby the whole weight of the sections is sustained by said links when the elbow is in its maximum flexed position.

10. A flexible elbow comprising a plurality of pivoted sections, and links forming the pivotal connection between and limiting the pivotal movement of the sections with re-
105 spect to each other.

In testimony whereof I have signed my name to this specification on this 17th day of April A. D. 1923.

HERBERT B. SPERRY.