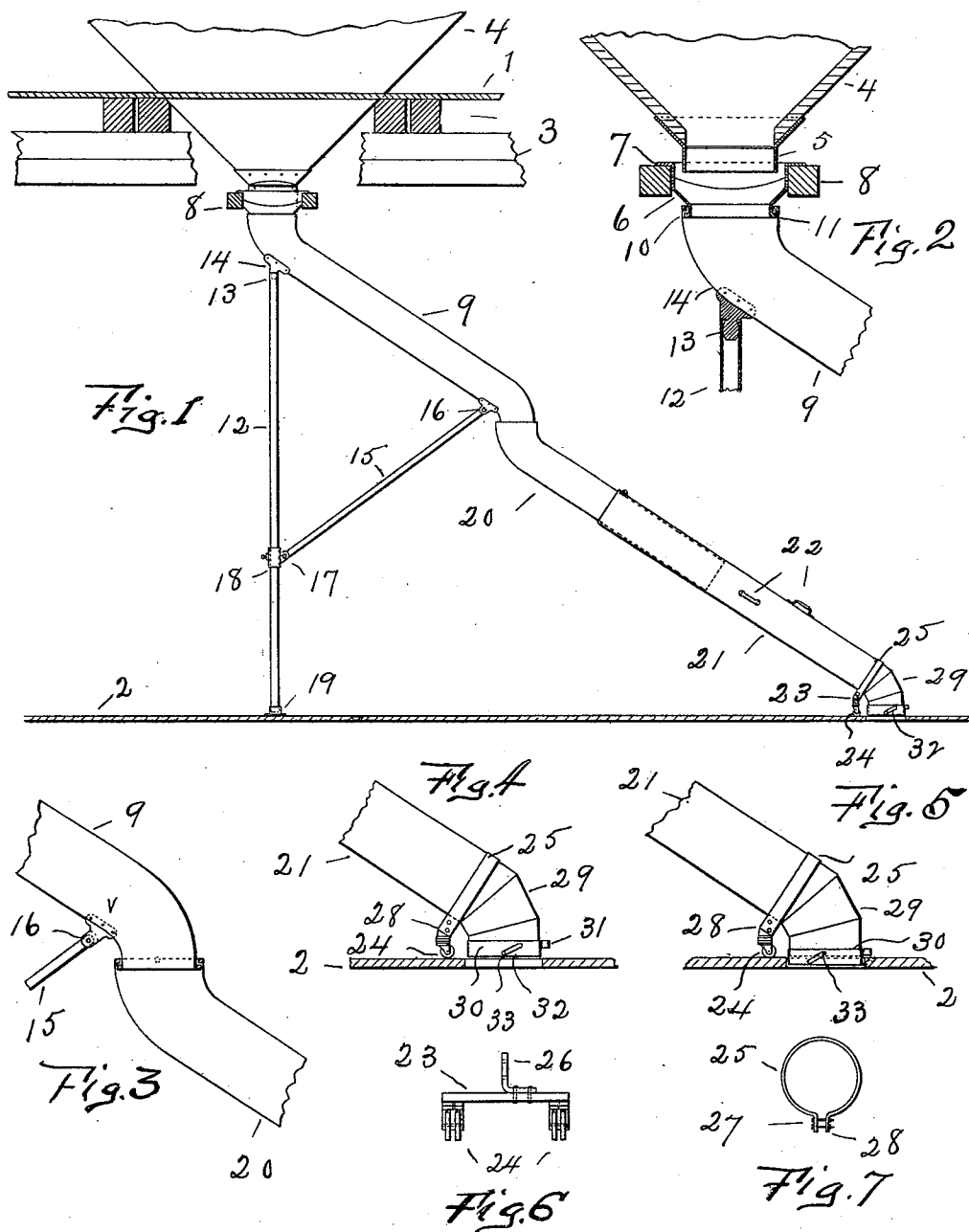


(No Model.)

C. E. BIRD.
ADJUSTABLE SWIVELED GRAIN SPOUT.

No. 582,598.

Patented May 11, 1897.



Witnesses
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UNITED STATES PATENT OFFICE.

CHARLES E. BIRD, OF MINNEAPOLIS, MINNESOTA, ASSIGNOR OF ONE-HALF
TO HONSTAIN BROS., OF SAME PLACE.

ADJUSTABLE SWIVELED GRAIN-SPOUT.

SPECIFICATION forming part of Letters Patent No. 582,598, dated May 11, 1897.

Application filed February 11, 1897. Serial No. 622,999. (No model.)

To all whom it may concern:

Be it known that I, CHARLES E. BIRD, a citizen of the United States, residing in the city of Minneapolis, county of Hennepin, and State of Minnesota, have invented a certain new and useful Improvement in Adjustable Swiveled Grain-Spouts, of which the following is a specification.

My invention relates to the class of adjustable spouts that is used in conveying grain from weighing-hoppers to the openings of a series of conveying-spouts arranged in a floor below at varying distances from the hopper; and the object of the invention is to render the distributing-spout, to which the invention pertains, more readily available for adjustment in respect to its extension or contraction and its movement in arcs, for the purpose of connecting the hopper with the selected bin-spout of the series.

In a general way the invention may be said to comprise a spout composed of sections swiveled together, the lower being preferably formed of telescoping portions, while the upper is connected to the funnel of the hopper in a manner that permits it to be revolved, and a vertical support for the latter member having a connection therewith adapted to permit the necessary up-and-down movement of the spout, and a hinged brace connecting the vertical support to the upper spout member, and the lower end of the lower member being supported by a carriage on casters permitting it to be moved from place to place, and an adjustable hood provided at the bottom for entering the openings in the floor.

The improvements referred to are illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of the devices, showing also a portion of the supporting timbers, floors, &c. Fig. 2 is an enlarged detail view of the swiveled connection between the funnel of the hopper, the upper portion of the spout, and the hinged connection between the latter and its supporting-staff. Fig. 3 shows in elevation the manner of connecting the upper with the lower spout-section and also the connection of the brace-bar with the spout. Figs. 4 and 5 show, respectively, the positions of the adjustable lower end of the lower spout-

section, the former showing its position above the floor-opening and the latter its operative position; and Figs. 6 and 7 show details of the carriage devices by which the lower end of the spout is supported, so as to render it capable of easy lateral movement when not in use.

In said drawings, 1 and 2 designate, respectively, upper and lower floors; 3, the usual timbers for supporting the floor, hopper, &c., and 4 a grain-hopper which may be connected with weighing-scales, if desired. The funnel end 5 of the hopper 4 is arranged to extend downward within a receiver 6 of somewhat funnel shape which is supported by means of flanges 7, resting on transverse beams 8, so that while the discharge-opening of the hopper 4 registers with the receptacle 6 it is free from direct connection with the supporting devices of the latter, and the settling of the building or other causes affecting the relationship of these parts would not be sufficient, under ordinary circumstances, to vary the functional relationship of the respective parts.

The upper section 9 of the spout is somewhat enlarged at the top and connected to the funnel or base portion of the receptacle or hopper 6 by means of an inwardly-projecting flange 10, which rides upon an outwardly-projecting flange 11, supplied by the funnel end of the part 6, so that the spout 9 may be revolved around the funnel as an axis, while the joint between the two is loose and capable of permitting the raising or lowering of the upper end of the spout 9 within desired limits.

An additional means of support for the spout is provided by the staff 12, the upper end of which is hinged, as at 13, to a plate 14, that is riveted to the under side of the upper spout member at or near its curved portion. The hinged connection referred to is preferably that of a somewhat rounded extension projecting downward from the fixed connection 14 into the hollow end of the staff 12, as indicated in Fig. 2, whereby the revolution and raising and lowering of the spout 9 are rendered practicable; and the lower end of the upper spout member 9 is braced by means of an arm 15, that is hinged, as at 16, to a

plate riveted to the spout, and likewise hinged, as at 17, to a sleeve 18, that is arranged to slide up or down on the staff 12 and to be secured by a set-screw, and the staff being stepped, as at 19, is free to turn, and the spout member 9 may not only be revolved about the staff, but may be raised or lowered, as desired, without moving the staff, the brace 15 being adjusted accordingly.

To the curved lower end of the spout member 9 is swiveled the lower section 20, preferably by hanging the latter upon the former in the manner indicated in Fig. 3—that is, similar to the upper joint 10 11; and in order that this lower section may be made capable of extension and contraction to meet the requirements of service an additional telescoping section 21 is provided, so that the length of the lower spout-section as a whole may be regulated as desired. For convenience of operation in telescoping and revolving the spout handles 22 are provided on the lower section.

In order to support the lower end of the spout and permit it to be easily and freely moved from one to another position, a carriage 23, riding on casters 24, is provided and connected to the spout by means of a ring 25, to which the carriage is attached by a lug 26, which is made to pass upward into an opening 27 between the projecting jaws 28 of the ring and fastened by bolts.

The lower end of the spout 20 is of curved or elbow form, as shown at 29, and its extreme lower portion is encompassed by a telescoping short section or hood 30, which may be revolved by means of a handle 31, and having in it an inclined slot 32, within which there projects from the inner pipe-section a pin 33. The hood may be raised when it is desired to move the spout from one position to another and lowered through an opening in the floor by operating the handle 31, as indicated by the positions shown, respectively, in Figs. 4 and 5.

In use, the construction and arrangement of devices being as described, the spout as a whole may be adjusted readily and accu-

ately from one to another position within the limits of its outer circle of movement and any desired position in arcs of circles intermediate that and a circle close to the center of movement. The character of the connections with the discharge-outlet of the hopper, and the jointed and swiveled connections with the supporting staff and brace, and the swiveled and telescoping lower spout member, together with its means of support, are such that the spout as a whole may be extended or contracted or revolved and its lower end inserted in an opening in the supporting-floor to the end of rendering the spout a convenient, practical, and desirable device for use in elevators for conveying grain from a weighing or other hopper to one or another bin or receptacle.

Having described my invention, what I claim is—

1. The combination in an adjustable grain-spout, of upper and lower members having elbowed ends swiveled together so that the latter may revolve in a circle about the former; a swiveled support for the head of the upper member; a staff aiding in the support thereof, and an adjustable hinged brace connected to said staff and to the lower portion of said upper spout-section, substantially as set forth.

2. The combination in an adjustable grain-spout, of upper and lower members having elbowed ends swiveled together so that the latter may revolve in a circle about the former; a swiveled support for the head of said upper member; a staff aiding in the support thereof; an adjustable hinged brace connected to said staff and to the lower portion of said upper spout-section; the lower spout-section being composed of telescoping portions, whereby its length may be regulated as desired, substantially as set forth.

In testimony whereof I have hereunto set my hand this 6th day of February, 1897.

CHARLES E. BIRD.

In presence of—

P. H. GUNCKEL,
R. BLUME.