

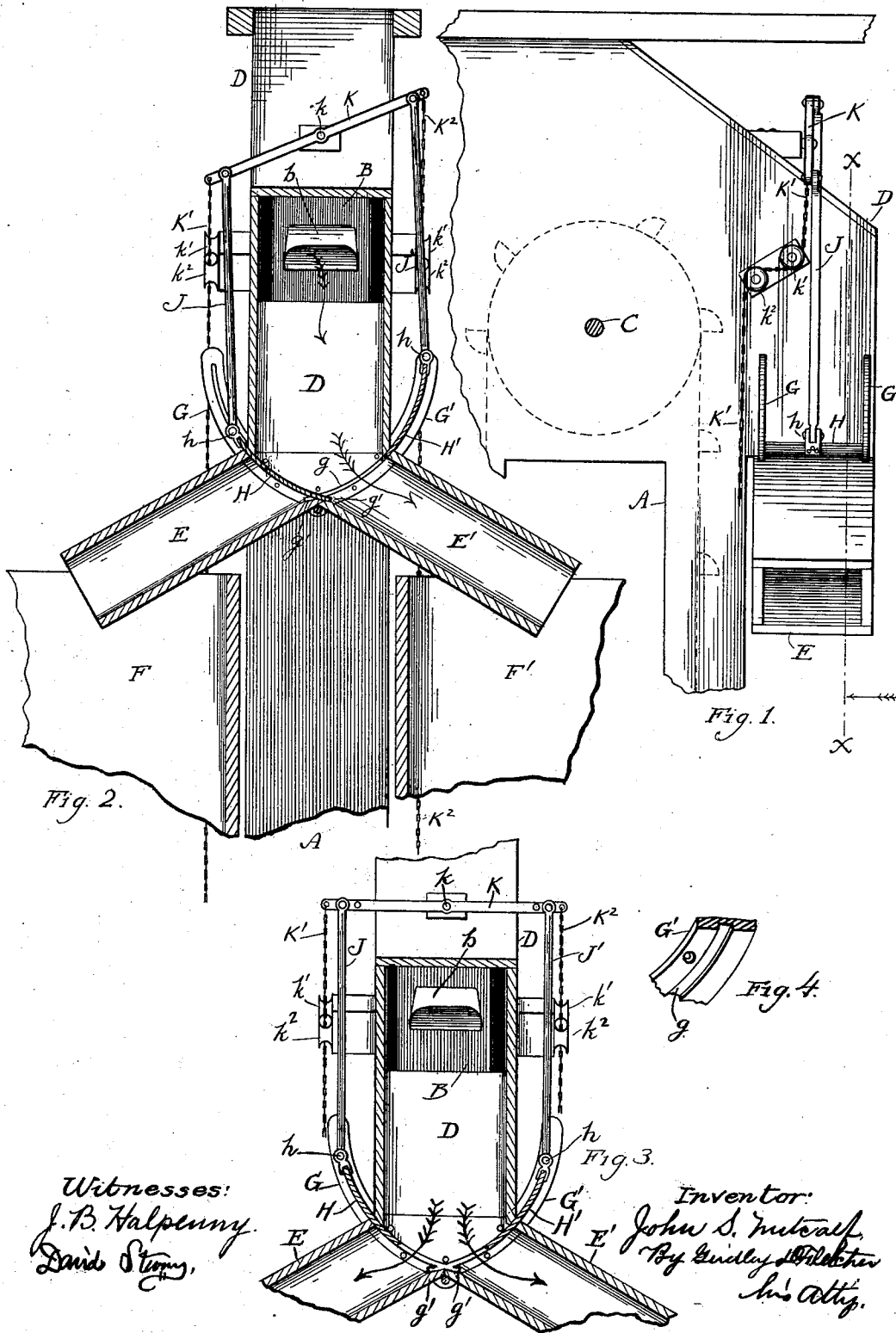
(No Model.)

J. S. METCALF.

SWITCH VALVE FOR ELEVATOR SPOUTS.

No. 389,589.

Patented Sept. 18, 1888.



Witnesses:
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UNITED STATES PATENT OFFICE.

JOHN S. METCALF, OF CHICAGO, ILLINOIS.

SWITCH-VALVE FOR ELEVATOR-SPOUTS.

SPECIFICATION forming part of Letters Patent No. 389,589, dated September 18, 1888.

Application filed April 23, 1888. Serial No. 271,521. (No model.)

To all whom it may concern:

Be it known that I, JOHN S. METCALF, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Switch-Valves for Elevator-Spouts, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification, in which—

10 Figure 1 is a side view of an elevator-head, showing my improved switch-valves connected with the dividing-spouts attached thereto. Fig. 2 is a front sectional view of the same upon the line *x x*, Fig. 1, in which the sliding valves are shown in a position to direct all of the grain in one direction. Fig. 3 is a like view of said head in detail, the valves being shown in position to divide the grain into separate channels; and Fig. 4 is a detail view in perspective of a portion of one of the castings employed to guide the slide-valves.

Like letters of reference in the different figures designate corresponding parts.

My invention relates to grain-elevators, and my object is to so construct a switch-valve for elevator-heads and dividing-spouts that the grain may be readily and easily directed to one or another of different spouts or bins, or the stream divided between the two in such proportion as may be desired, said switch being operated from such point below the elevator-head, or other point where it may be located, as may be found most desirable.

To this end my invention consists in the combination of elements hereinafter more particularly shown, described, and claimed.

A, Figs. 1 and 2, represents the usual grain-elevator, the belt B, Fig. 2, of which is trained over a pulley (indicated in dotted lines in Fig. 1) which is mounted upon a shaft, C.

D represents that part of an elevator-head into which the grain is delivered from the cups *b*.

E E' are spouts which are arranged to convey the grain to separate bins F F'.

Secured to the part D at its junction with the spouts E E' are quadrant-shaped metal plates G G', provided with grooves *g* therein for the reception of slides or valves, which preferably consist of curved metal plates H H', loosely inserted within said grooves, though

it is obvious that both the grooves and plates may be made straight without varying from the principle of my invention. The grooves *g* preferably intersect with each other at the bottom, forming extensions *g'*, which enables the slides to pass by the point of juncture of the spouts and thus prevent leakage. Attached to the tops of said slides, respectively, are lugs *h h*, to which are loosely attached by means of suitable joints, as shown, links J J', which are secured at the top in like manner to a cross bar or beam, K, pivoted at *k* to a block or other suitable support attached to the elevator-head. Secured also to said cross-bar at or near the ends are cords or chains K' K', which are trained, respectively, beneath and over sheaves K' K', attached to suitable supports upon the sides of said elevator-head. The chains K' K' are carried through the floor to any desired part of the building below, and so arranged that upon pulling one or the other the slides may be actuated in the switch. Should it be desired to direct the grain into the spout E', the operator may pull the chain K' and release the other, when the slide H' will be raised and the slide H closed, as shown in Fig. 2. A reversal of the movement will direct the grain into the spout E, or a partial reversal, such as will cause the cross-bar K to assume a horizontal position, will cause each of said slides to be partially closed, as shown in Fig. 3, which will divide the inflowing stream and direct each portion thus divided into separate bins.

One important advantage of said construction is, that the slides sever the inflowing stream of grain by means of a shearing cut, as distinguished from the action of a pivoted shifting partition, which acts against the movement of the stream and can only with great difficulty be regulated to divide it, and that with more or less uncertainty.

It is obvious that said switch may be employed wherever dividing-spouts are required, whether for grain or other material.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A switch-valve for elevator and other dividing-spouts, consisting of two cut-off valves arranged to slide in grooves or guides located at the junction of the dividing-spouts and a

pivoted beam and links for connecting said valves to the opposite ends thereof, whereby the tilting of said beam may cause said slides to move in opposite directions and to direct the stream of grain accordingly, substantially as shown and described.

2. The combination, with the dividing-spouts of an elevator, of sliding valves arranged to move in bisecting paths at the junction of said spouts and a pivoted beam having its opposite ends connected with said valves, whereby the tilting of said beam may actuate said valves in opposite directions, substantially as shown and described.

3. The combination, with the dividing-spouts of an elevator, of sliding valves arranged to move in paths which meet at the junction of said spouts, a pivoted beam having its opposite ends connected with said valves, and chains attached to the respective ends of said beam for actuating the same, substantially as shown and described.

4. The combination, with the dividing-

spouts of an elevator-head, of curved cut-off slides, grooved guides therefor arranged to meet at the junction of the dividing-spouts, a pivoted cross bar, means, as the links J J, for attaching the same to said slides, and means, such as chains in operative connection with said cross-bar, whereby the latter may be actuated from a distance, substantially as described.

5. In a switch-valve for elevator-spouts, the combination of the slides H H' with the plates G G', having grooves g intersecting and passing each other at the bottom, whereby said slides when lowered may be made to overlap and insure a perfect joint, substantially as described.

In testimony whereof I have signed this specification, in the presence of two subscribing witnesses, this 24th day of March, 1888.

JOHN S. METCALF.

Witnesses:

D. H. FLETCHER,
J. B. HALPENNY.