

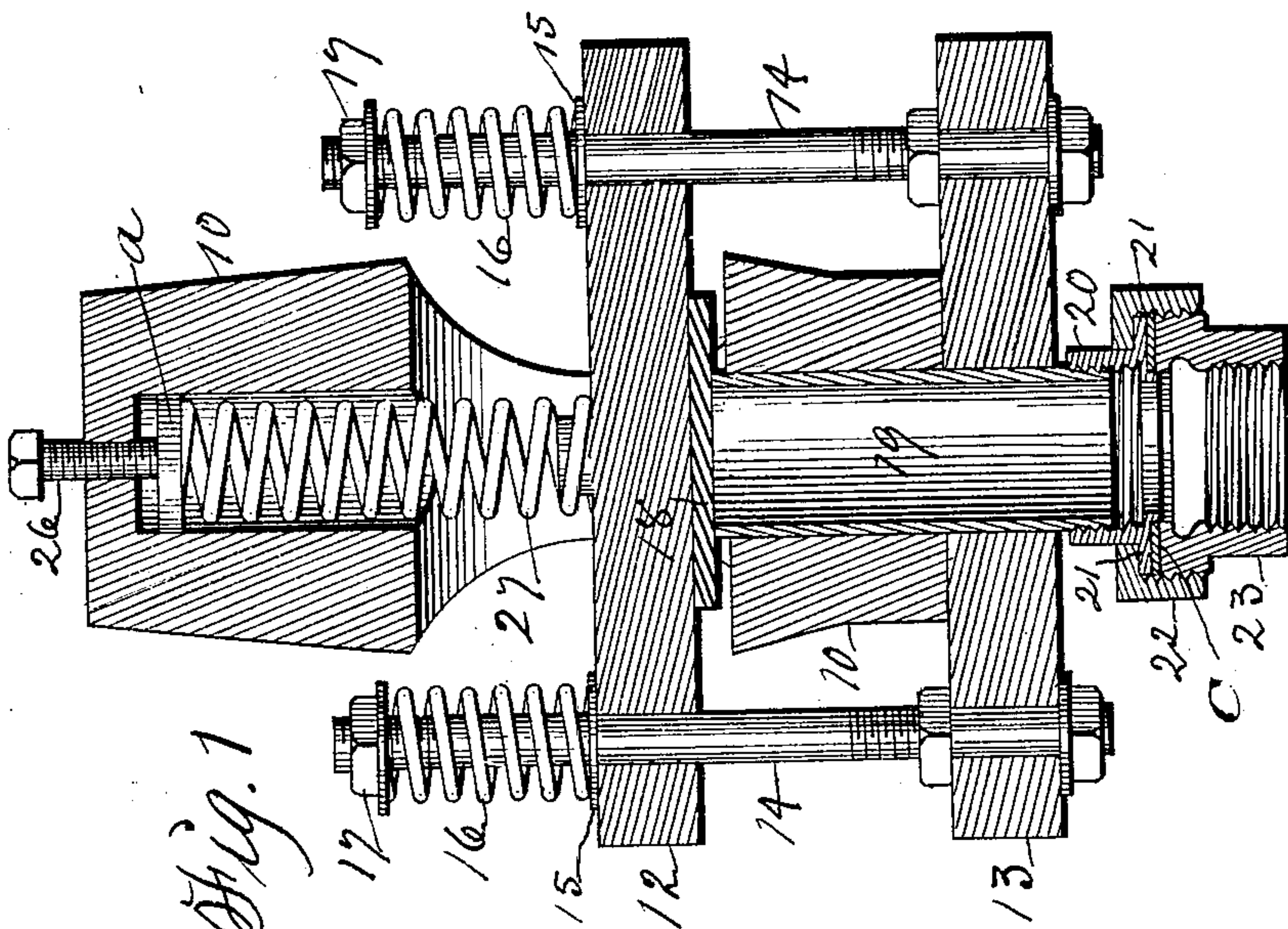
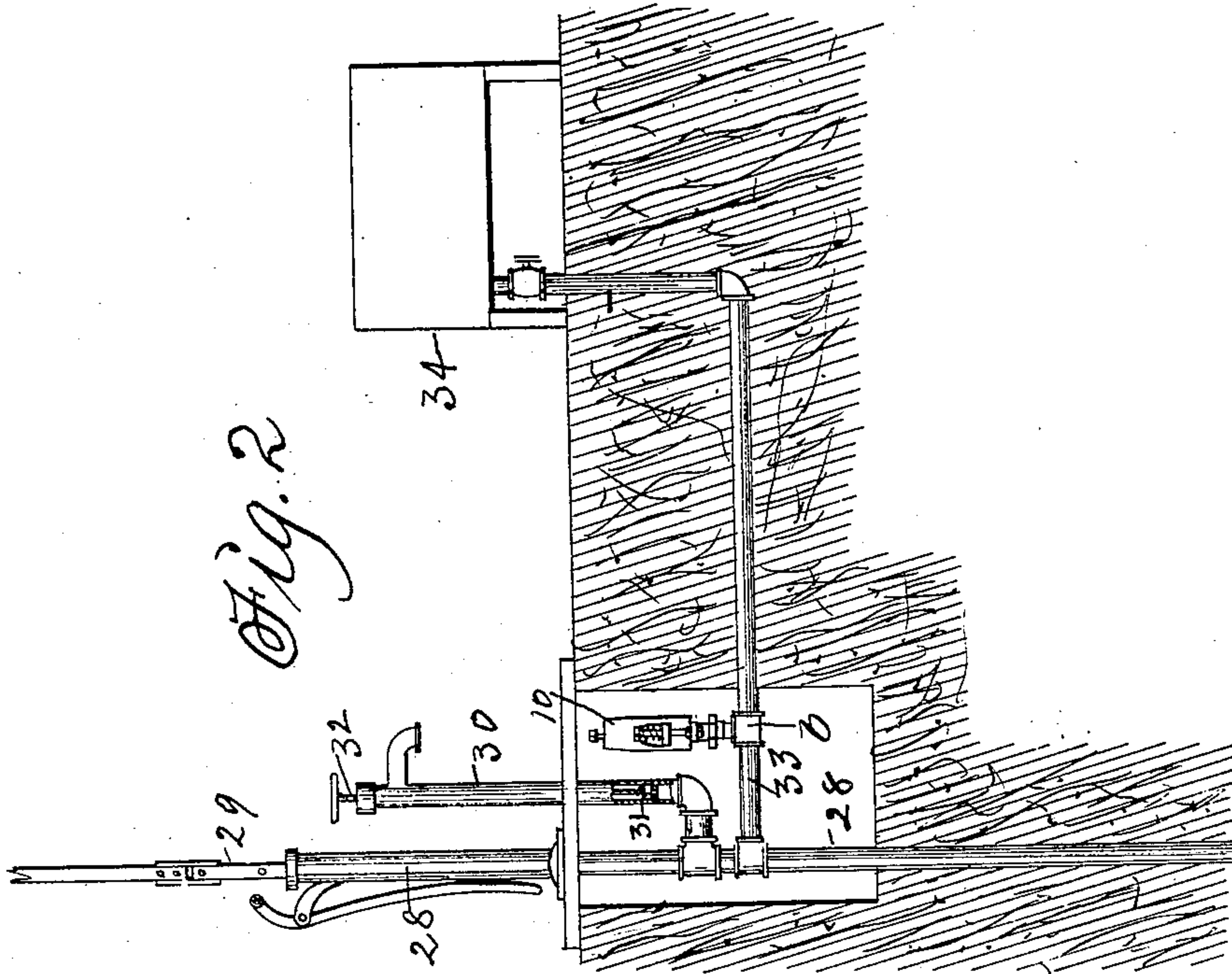
No. 814,607.

PATENTED MAR. 6, 1906.

A. JENSEN.

SAFETY ATTACHMENT FOR WINDMILL PUMPS.

APPLICATION FILED APR. 24, 1905.



Witnesses:
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UNITED STATES PATENT OFFICE.

ANDREW JENSEN, OF EXIRA, IOWA.

SAFETY ATTACHMENT FOR WINDMILL-PUMPS.

No. 814,607.

Specification of Letters Patent.

Patented March 6, 1906.

Application filed April 24, 1905. Serial No. 257,774.

To all whom it may concern:

Be it known that I, ANDREW JENSEN, a citizen of Denmark, residing at Exira, in the county of Audubon and State of Iowa, have
5 invented a new and useful Safety Attachment for Windmill-Pumps, of which the following is a specification.

My object is to prevent the damages incident to windmills and pumps used for elevating and delivering water from a well to a tank distant from and in a higher plane than the top of the well.

It frequently occurs that water is frozen in pipes leading from a well-tube to an elevated tank, and when a valve in the pump is closed to prevent water from being discharged through the pump for the purpose of forcing it through a delivery-pipe to a tank and the water freezes in the delivery-pipe and the
20 windmill connected with the pump is put in motion there will be no escape of the water lifted in the well-tube and resistance to the operation of the windmill that causes strain and breakage of the machinery.

My invention consists in the construction, arrangement, and combination of an automatic safety-valve direct with the delivery-pipe and relatively with the well-tube, pump, and a windmill, as hereinafter set forth,
30 pointed out in my claims, and illustrated in the accompanying drawings, in which—

Figure 1 is a side view, partly in section, of my automatic valve. Fig. 2 shows the application of the valve and the arrangement and combination of all the operative parts of the invention relative to a well and tank as required for practical use.

The numeral 10 designates a frame, preferably made of iron. It has a central longitudinal bore in its lower portion and a transverse opening that intersects the bore, through which opening is extended a cross-bar 12 and a corresponding cross-bar 13, fixed to the bottom of the frame. Screw-
45 bolts 14 are fixed in the lower bar 13 and extended up through apertures in coinciding bolt-holes in the ends of the upper bar 12. Washers 15 are placed on the bolts 14 to rest on top of the bar 12, and coil-springs 16 on the bolts are retained thereon by nuts 17 on the tops of the bolts for regulating the tension of the springs.

A leather disk 18 is fixed to the bottom of the bar 12. An open-ended tube 19 is fixed
55 in the bore of the lower end of the frame 10. A coupling for connecting the tube 19 with

a pipe is composed of parts 20, 21, 22, and 23, as shown in Fig. 1, or in any suitable way. A washer *c* is placed between the parts 21 and 23, as shown in Fig. 2. A screw-bolt 26 is
60 seated in the top and center of the frame 10 and extended down to engage a block *a* on the top of a coil-spring 27 for pressing down the bar 12 as required for normally retaining the top of the tube 19 closed. By means
65 of a wrench applied to the square head of the bolt the tension of the spring can be readily regulated.

In a well-tube 28 in a well is a pump-rod 29, designed to be connected with a plunger
70 in a pump-cylinder at the lower end of the well-tube and a windmill at its top in a common way.

A pump-stock 30 is fixed to the well-tube, as shown in Fig. 2, or in any suitable way
75 and provided with a valve 31 at its lower end, that has a stem 32, that is screw-seated at the top of the pump-stock in such a manner that the valve can be opened and closed by
80 rotating the stem.

A service-pipe 33 is fixed to the well-tube 28 and extended to a tank 34, and the safety-valve is connected with said pipe by means of a T-joint *b*, as shown in Fig. 2, or in any
85 suitable way in such a manner that when water freezes in the service-pipe 33 and the valve 31 at the bottom of the pump-stock is closed and the windmill in operation the pressure of the water elevated will force the
90 bar 18 upward to compress the springs on top of the bar 12 as required to lift the bar and to let the water escape and to thereby relieve the machinery from resistance and strain, breakage, and damage.

Having thus set forth the purpose of my
95 invention and the construction, function, and arrangement and combination of all the operative elements, the practical operation and utility thereof will be readily understood by farmers and others familiar with the art to
100 which it pertains.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a safety-valve for windmill-pumps, a frame that has a bore in its lower end portion
105 and a transverse opening at its center, an open-ended tube fitted in the bore, a spring-actuated cross-bar extended through the opening and a leather disk fixed to the under side of the bar to close the top of the tube in
110 the manner set forth, for the purposes stated.

2. In a safety-valve for windmill-pumps, a

frame that has a bore in its lower end portion
and a transverse opening at its center, an
open-ended tube fitted in the bore, a spring-
actuated cross-bar extended through the
5 opening and a leather disk fixed to the under
side of the bar to close the top of the tube, an
extension fixed to the lower end of the tube
and provided with an exterior flange at its
lower end and a pipe-coupling adjustably

connected with the flanged extension by a 10
collar having an internal flange at its top and
an internal screw in its lower portion, in the
manner set forth, for the purposes stated.

ANDREW JENSEN.

Witnesses:

T. M. RASMUSSEN,
LURITZ HANSEN.