No. 613,948. Patented Nov. 8, 1898.

H. E. TIDMARSH.

SCREEN FOR PAPER PULP.

(Application filed Sept. 1, 1898.)

(No Model.) 2 Sheets—Sheet 1.

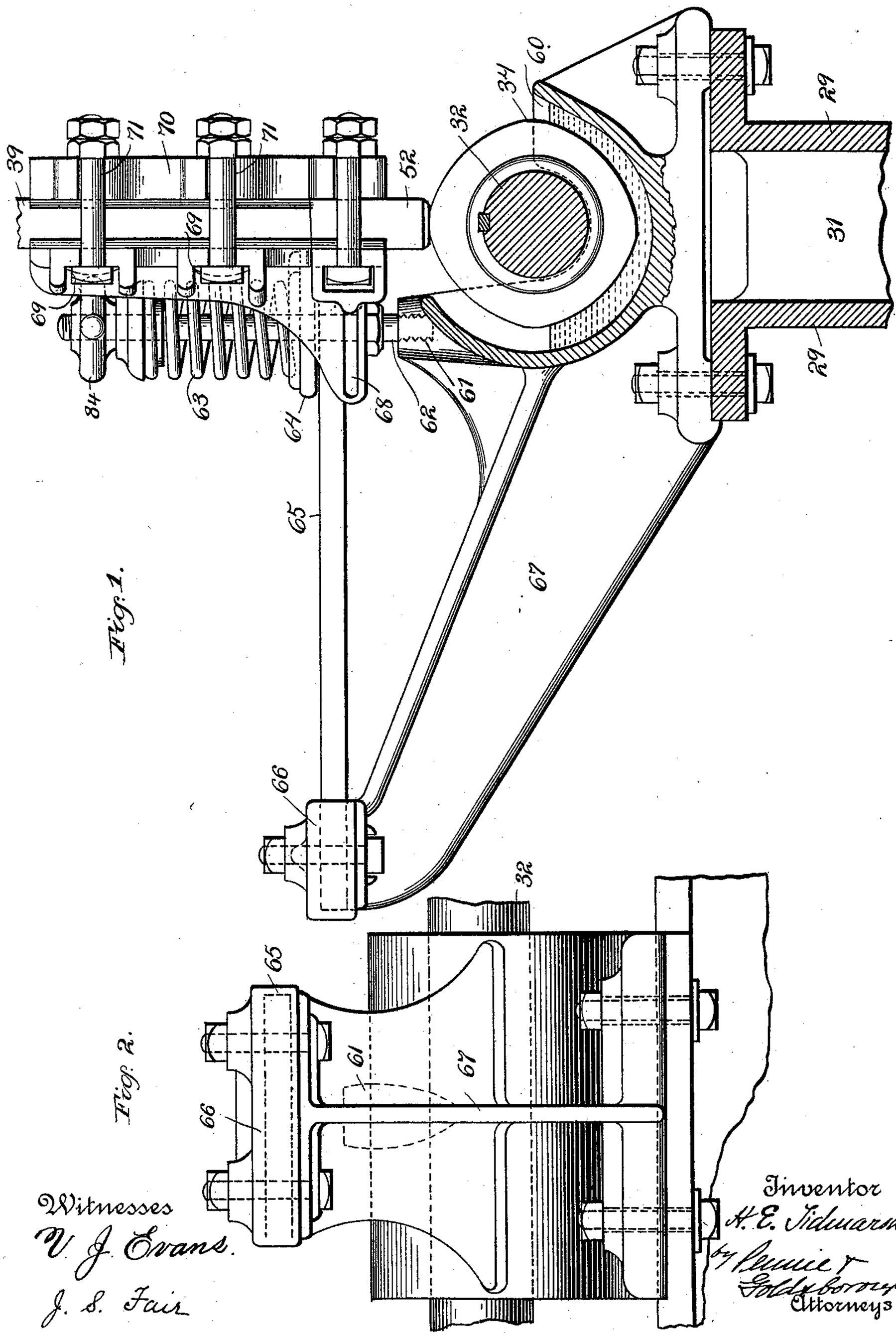

Fig. 1.

Fig. 2.

Witnesses
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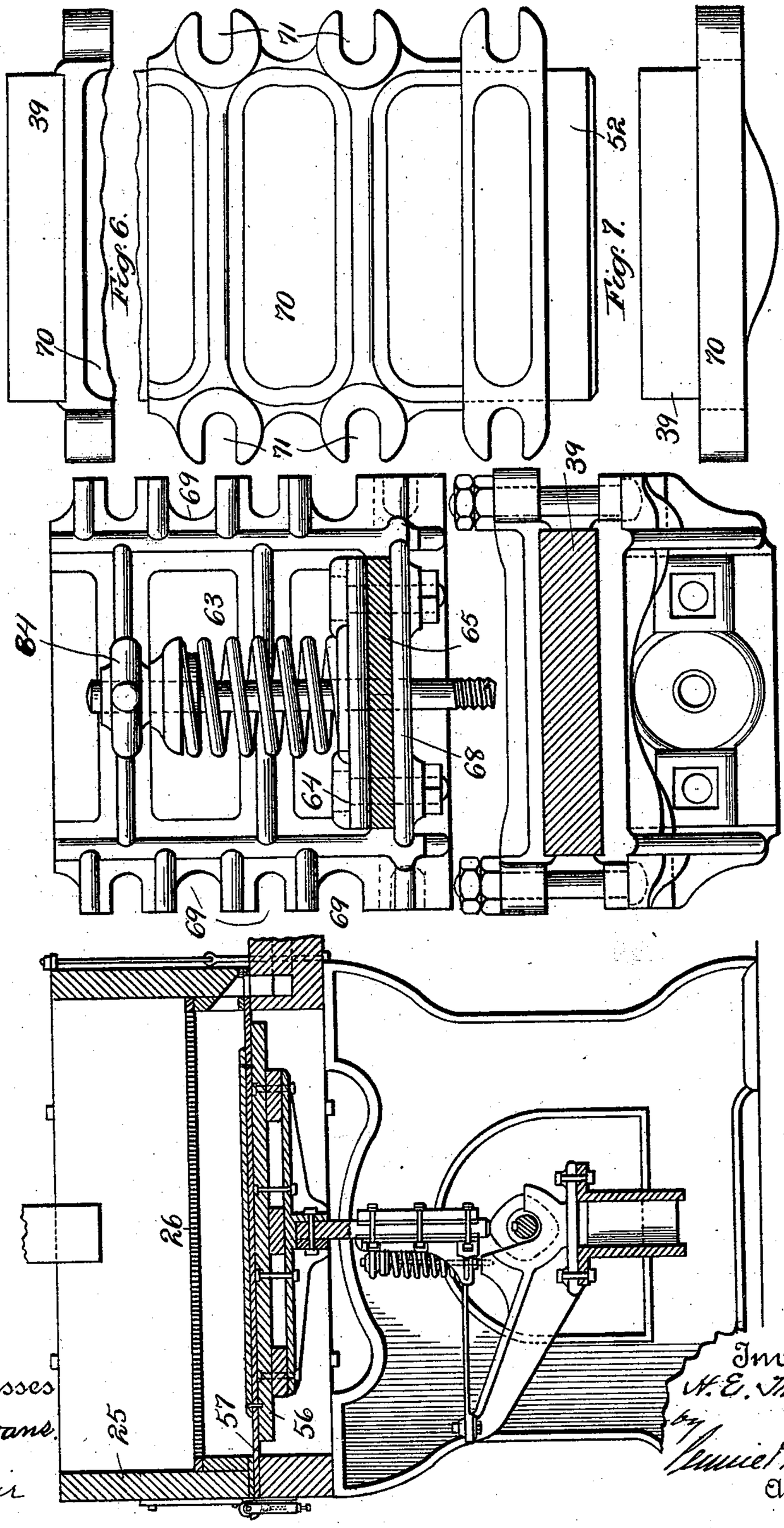

Fig. 5.

Fig. 7.

Fig. 3.

Fig. 4.

Fig. 8.

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UNITED STATES PATENT OFFICE.

HARRY E. TIDMARSH, OF SANDY HILL, NEW YORK.

SCREEN FOR PAPER-PULP.

SPECIFICATION forming part of Letters Patent No. 613,948, dated November 8, 1898.

Original application filed February 24, 1898, Serial No. 671,432. Divided and this application filed September 1, 1898, Serial No. 690,054. (No model.)

To all whom it may concern:

Be it known that I, HARRY E. TIDMARSH, a citizen of the United States, residing at Sandy Hill, county of Washington, State of New York, have invented certain new and useful Improvements in Screens for Paper-Pulp; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My machine relates to certain new and useful improvements in the operating devices for actuating a pulp-screen diaphragm or an analogous machine element.

In the accompanying drawings, Figure 1 represents a side elevation of the diaphragm-operating devices constituting the invention. Fig. 2 represents an end elevation of a part thereof. Fig. 3 represents a rear view of the lower part of a diaphragm-operating plunger, together with the coiled spring thereof. Fig. 4 represents a plan view of the same, partly in section. Fig. 5 represents a top plan view of the plunger. Fig. 6 represents a side elevation thereof. Fig. 7 represents a bottom plan view thereof. Fig. 8 represents, partly in elevation and partly in section, the diaphragm-operating devices as applied to a paper-pulp screen.

Similar figures of reference indicate similar parts throughout the several views.

Referring to the drawings, 25 indicates the upper swinging frame of a paper-pulp screen provided with the usual screen bottom and having a diaphragm 56 connected to the stationary lower frame by a flexible india-rubber sheet 57, permitting a limited up-and-down movement of the diaphragm for purposes well understood in the art.

The invention claimed in this present application does not relate to any improvements in the parts just referred to, but concerns itself solely with means for operating the flexible diaphragm.

To the diaphragm is connected in any suitable manner the plunger 39, provided with a removable wooden shoe 52 and resting upon the cam 34, which revolves in the oil-well 60 and is keyed upon the power-shaft 32. Within a projection 61 of the wall of the oil-well is screwed the lower end of a vertical stud or pin 62, which stud passes through the interior of a coiled spring 63 and is screw-threaded at its upper end for the reception of a revoluble nut 84, which receives the impact of the upper end of the spring 63 and whereby the tension of the spring may be appropriately regulated. The lower convolution of the spring 63 rests upon a plate 64, which rests upon one end of a spring-plank 65, preferably of wood, the said spring-plank being fixed at its opposite end to the outer extremity 66 of an arm 67, projecting from the wall of the oil-well. The plate 64 and the spring-plank 65 are connected, by means of bolts and nuts, with a flange 68, forming part of a stout casting having a series of recesses 69. The casting referred to and a companion casting 70, having a series of recesses 71, serve to firmly clamp the lower end of the plunger 39, so that when the plunger is raised by the cam it will carry upward with it the two cheek-pieces and will consequently compress the spring 63 and raise the outer end of the spring-plank 65 to the limited extent necessary in apparatus of this character. It is obvious that the reaction of the spring 63 and of the spring-plank 65 will tend constantly to keep the wooden shoe of the plunger in contact with the surface of the cam, and consequently will insure a smooth and uniform reciprocation of the plunger and an appropriate reciprocation of the diaphragm.

In a companion case filed February 24, 1898, Serial No. 671,432, of which the present application is a division, I have claimed the specific construction of the cheek-pieces for connecting the coil-spring to the plunger, and therefore do not claim said specific construction in the present application.

What I claim is—

1. In a pulp-screen, the combination of a fixed support, a plunger, means for operating the plunger, and a spring-plank fixed at one end to the support and connected at the other end with the plunger.

2. In a pulp-screen, the combination of a fixed support, a plunger, means for operating the plunger, a spring-plank fixed at one end to the support and connected at the other end

with the plunger, and a spring opposing the rise of the plunger.

3. In a paper-pulp screen, the combination with a diaphragm-operating plunger, of a cam upon which the lower end of the plunger rests, and a spring-board fixed at one end and opposing at its other end the rise of the plunger.

4. In a paper-pulp screen, the combination with a diaphragm-operating plunger, of a cam for raising the plunger, and spring mechanism for returning it, said spring mechanism including a spring-board, fixed at one end and opposing at its other end the rise of the plunger.

5. In a paper-pulp screen, the combination with a diaphragm-operating plunger, of a cam for raising the plunger, and spring mechanism for returning it, said spring mechanism including a spring-board, fixed at one end and opposing at its other end the rise of the plunger, and a supplementary coiled spring coacting with the spring-board.

In testimony whereof I affix my signature in presence of two witnesses.

HARRY E. TIDMARSH.

Witnesses:
JOHN C. PENNIE,
J. S. FAIR.